For Members Only
Issue 6

MATERIALS MIND

January - March 2014

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Institute of Materials, Malaysia

Featuring:
Conference Programme

IMTCE2014

9th International Materials Technology Conference & Exhibition

Synergising Industry & Academia: Innovations for Industrial Applications

13th – 16th May 2014

Putra World Trade Centre Kuala Lumpur, Malaysia

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Conference Secretar

INSTITUTE OF MATERIALS, MALAYSIA (IMM)

The Institute of Materials, Malaysia (IMM) is a non-profit society of professionals whose aims are to promote honourable practice and professional ethics and encourage education in materials science, engineering and technology.

Beginning as the Malaysian Materials Science & Technology Society (MMS), the society was registered with the Registrar of Societies on 6th November, 1987. The MMS had been actively promoting the awareness of Materials in Malaysia since 1988. In 1996, with a newly-elected Council, the change of name to the Institute of Materials, Malaysia (IMM) was submitted to the Registrar of Societies and approved on 16th June 1997.

Vision

TO BECOME THE AUTHORITY ON MATERIALS SCIENCE, TECHNOLOGY AND ENGINEERING IN MALAYSIA BY 2020.

Mission

- TO BECOME THE CENTRE FOR MATERIALS INFORMATION IN MALAYSIA.
  Members and the public will be able to source, research, and investigate information on Materials.

- TO PROVIDE THE ROUTE TO ATTAIN PROFESSIONAL STATUS FOR MATERIALS SPECIALISTS IN MALAYSIA
  IMM Professional Members to be able to attain recognised Professional status awarded by local and international governing bodies on professional accreditation.

- TO PROVIDE TECHNICAL SKILLS CERTIFICATION AND EDUCATIONAL PROGRAMMES IN MATERIALS SCIENCE, TECHNOLOGY & ENGINEERING
  IMM aims to provide career advancement opportunities for non-professional members through technical competency certification and educational training courses for skills such as blasting & coating, painting inspection, welding, welding inspection, cathodic protection technology, corrosion control technology, plastic technology, composites fabrication technology, rubber processing technology, ceramics technology, wood technology, concrete technology, metallurgy, advanced materials technology, etc.

Membership of IMM is open to all individuals and companies keen n developing and contributing towards the growth of materials science, technology and engineering in Malaysia. Membership is categorised into 7 different grades:

- Honorary Fellow (Hon FIMM)
- Fellow (FIMM)
- Professional Member (MIMM)
- Company Member (CO)
- Associate Members (AMIMM)
- Ordinary Member
- Student Member
- Affiliate Ordinary Member

In collaboration with Materials Technology Education Sdn Bhd (MTE), IMM regularly conducts courses in Material Science, technology and engineering.

IMM certificates are particularly valuable as they are a means to a successful and enriching career in the Oil and Gas Industry where skilled workers with the right knowledge are in high demand. They are part of the recommended standard for good technical practice to be applied by PETRONAS' in oil and gas production facilities, refineries, gas processing plants, etc. In order to achieve maximum technical and economic benefit from standardisation, IMM certificates are a requirement.

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Message from the President

Happy New Year! This issue is the first of Materials Mind in 2014, so it will be appropriate for this New Year wish to all.

The current issue carries an update of the upcoming flagship event of the Institute of Materials, Malaysia, the 9th International Materials Technology Conference and Exhibition (IMTCE2014). As at the time of writing, IMTCE2014 has a record of 508 abstracts submitted. These consist 232 papers from Malaysians whilst international participants from 46 countries provided 276 papers, which is another record.

Delegates and participants from academia and industry to the IMTCE2014 will be treated to presentations on research, case studies and the latest technology on advanced polymer materials, corrosion, coatings, materials characterisation and testing and metallurgy and welding.

Special lectures at the IMTCE2014 will be presented by 2 distinguished guests. Datuk Mohd Anuar Taib, President – PETRONAS Carigali Sdn. Bhd. and Vice President & Chief Executive Officer, PETRONAS Development & Production, will emphasise "Cost Effectiveness in the Oil & Gas Industry – Quality & Safety Assured" and Ir. Pramod Kumar Karunakaran, Vice President of Infrastructure & Utilities (Gas & Power Business), PETRONAS, Malaysia will cover "Achieving Effective Project Delivery through a Structured QA & QC Approach".

Participants will have the opportunity to learn, interact and discuss with international and local professionals and experienced individuals in the several masterclasses (see details on Page 11) to be held during IMTE2014. These special sessions are a collection of scientific and technical classes/ lectures of multi-disciplinary subjects, designed to cater to the wide and varied needs of industry and academia.

Since "all work and no play makes Jack (and Jill) a dull person", IMTCE2014 caters to participants and delegates some pre-conference events. Lined up are the IMTCE2014 Friendly Golf and Tour to Malacca. Melaka, the local name of Malacca, is situated about 2 hours drive from Kuala Lumpur. It holds many historical treasures and multi-cultural attractions.

Finally, we would seek the full support of sponsors, manufacturers, trading and marketing companies and service providers to seize the opportunity to exhibit and promote their products and services to a targeted audience, or place advertisements in the Programme Book.

We are also glad to advise that IMM and SSPC (The Society for Protective Coatings) of USA have mutually agreed to the IMM Coatings Inspector Certification recognised with immediate effect.

That should set the tone and mood for IMM for the year, and beyond. We look forward to the learning, sharing and enjoyment of the IMTCE2014 and the new activities and ventures.

Prof. Dr. Mohd Kamal Harun
President
Institute of Materials, Malaysia

2014 - 2016
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Pre-Conference Events

IMTCE2014

Conference Friendly Golf

A friendly golf game will be organised on 13th May 2014. This event has been designed to be stimulating, and is carried out at a reasonable fee. The Conference Friendly Golf is open to both locals and foreigners.

Date: 13th May 2014
Time: 7.45 am - 3.00 pm
Price: RM 400 / USD 150
Venue: Templar Park Country Club, Rawang, Selangor, Malaysia

Note:
1) Registration via website or using the manual registration form on page 71.
2) All participants to assemble at Seri Pacific Hotel Lobby at 7.15 am sharp. For any queries please contact Mr. Azman and Mr. Azrie at +603 5882 3574.

IMM Tour to Malacca

Melaka, the local name of Malacca, is known for its historical and its cultural appeal. In the 16th Century, Melaka enjoyed a reputation as the foremost maritime trading centre in the region. So coveted was Melaka by the European powers that it was ruled successively by the Portuguese, Dutch and the British until the Federation of Malaya was formed on 31st August, 1957.

This trip has been designed to be both stimulating and educational, and is carried out at a reasonable fee. This event is open to both locals and foreigners.

Date: 13th May 2014
Time: 9.00 am - 1.00 pm
Price: RM 380.00/USD 140.00

Note:
1) Registration via website or using the manual registration form on page 71.
2) All participants to assemble at Seri Pacific Hotel Lobby at 7.00 am sharp. For any queries please contact Mr. Azman and Mr. Azrie at +603 5882 3574.

Post-Conference Talks

1) IMM - UiTM Mini Symposium
Date : 16th May 2014
Time : 9.00 am - 1.00 pm
Venue : Universiti Teknologi Mara (UiTM)
(By invitation only)

2) Nuclear Materials and Research Seminar
Date : 19th May 2014
Time : 9.00 am - 1.30 pm
Venue : Malaysian Petroleum Club, PETRONAS Twin Towers, Kuala Lumpur
(Registration by 10th May to admin@iomm.org.my)

NUKLEAR MALAYSIA Rolls-Royce

Post-Conference Plant Visit

1) Royal Selangor: World's Largest Pewter Maker
Date : 16th May 2014
Time : 9.00 am - 12.00 noon
Venue : Setapak Kuala Lumpur
(By registration only)

2) TH Heavy Engineering Oil & Gas Fabrication Yard
Date : 16th May 2014
Time : 9.00 am - 12.00 noon
Venue : Pulau Indah, Klang Selangor
(By registration only)

IMTCE2014

IMTCE2014 Conference Programme Preview

The 9th International Materials Technology Conference & Exhibition (IMTCE2014) is scheduled to be held from 13th - 16th May 2014 at the Putra World Trade Centre (PWTC), Kuala Lumpur.

The objectives of the conference are to:

- Provide a platform for the exchange of knowledge and expertise among industrial practitioners, industry's professionals and higher learning institutions.
- Provide a forum for discussion and exchange of views on the opportunities that arise in the challenging Material processing, and applications through collaborations between industry and academia.

With the theme of "Synergising Industry & Academia: Innovations for Industrial Applications", IMTCE2014 invites academics, scientists, engineers, researchers, industrialists and service providers to present their latest research findings in technology and innovation, and current development in Materials Sciences which include metals & alloys, polymers & plastics, rubber & elastomers, ceramics, timber & wood, concrete, minerals, nanomaterials, advanced materials, electronic materials, and textiles. We welcome you to IMTCE2014!

FIVE International Symposiums will be organised under the auspices of IMTCE2014. They are:

1. International Symposium on Advanced Polymeric Materials
2. International Symposium on Materials Characterisation and Testing
3. International Symposium on Coatings Technology
4. International Symposium on Metallurgy and Welding Technology
5. International Symposium on Corrosion & Materials Degradation

IMTCE2014 is also host to other interesting activities:

Pre-Conference Events:

- Conference Friendly Golf
- IMM Tour to Melaka

Conference Activities:

- Materials Lecture Competition
- Green Materials Awards
- Best Poster Awards
- Exhibition
- Special Lectures
- Banquet Dinner & Award Ceremony

Post-Conference Events:

- Masterclasses
- Plant Visits
- IMM-UiTM Mini Symposium
- Nuclear Materials And Research Seminar

Please visit our website www.imtce2014.com for full details.

IMTCE2014
9th International Materials Technology Conference & Exhibition

13th – 16th May 2014
Putra World Trade Centre
Kuala Lumpur, Malaysia
www.imtce2014.com

SPECIAL HIGHLIGHTS

Day 1 of the Conference on 14th May 2014

SPECIAL LECTURES PROGRAM:

5:00 pm:

Special Lecture 1
Datuk Mohd Anuar Taib
President – PETRONAS Carigali Sdn. Bhd.
Vice President & Chief Executive Officer, PETRONAS Development & Production.
Title: Cost Effectiveness in the Oil & Gas Industry – Quality & Safety Assured
Session Chair : Datuk Ir. (Dr.) Abdul Rahim Hj Hashim

5:45 pm:

Special Lecture 2
Ir. Pramod Kumar Karunakaran
Vice President of Infrastructure & Utilities (Gas & Power Business), PETRONAS, Malaysia. **Title: Achieving Effective ry Through A Structured QA & QC Approach**
Session Chair : Datuk Ir. (Dr.) Abdul Rahim Hj Hashim

The Session Chairman for the Special Lectures is Yang Berbahagia, Datuk. Ir. (Dr) Abdul Rahim Hj Hashim who is the Vice Chancellor / CEO of the Universiti Teknologi PETRONAS. Yang Berbahagia is also the current Advisor of the Institute of Materials, Malaysia (IMM).

PLENARY LECTURES PROGRAM:

Day 1: PLENARY LECTURE 14th May 2014: 12 noon - 1.00 pm

Dr. Liane Smith
Director of Woodgroup Intetech Ltd., United Kingdom
Title: Putting Theory into Practice - Lessons Learnt from Oil & Gas Industry
Session Chair : Prof. Dr. Mohamad Kamal Harun

Day 2: PLENARY LECTURE 15th May 2014: 12 noon - 1.00 pm

Prof. Dr. Sabu Thomas
Mahatma Gandhi University, India and Universiti Teknologi MARA, Malaysia
Title: High Performance Epoxy Nanocomposites for Coating Applications
Session Chair : Prof. Dr. Alejandro J. Müller

IMTCE2014

9th International Materials Technology Conference & Exhibition

Masterclasses 2014

16th May 2014

Putra World Trade Centre, Kuala Lumpur

MASTERCLASSES

Participants from IEM Enjoy:
For Conference : 16 CPD hours
For Masterclasses : ½ day class - 4 CPD hours
1 day class - 8 CPD hours

IMTCE2014 Masterclasses are a collection of scientific and technical classes/lectures of multi-disciplinary subjects, designed to cater to the needs of the industry. Masterclasses cover topics related to fundamental/advanced developments and problems/solutions related to specific industries. These classes are specifically designed by professionals and experienced individuals (both international and national) in their respective fields, where participants will be able to learn, interact and discuss matters related to industrial practices.

The official language of the masterclass is English.

MASTERCLASSES ON 16th MAY 2014
Putra World Trade Centre Kuala Lumpur, Malaysia

Title	Trainer	Code	Time	Venue
Performance and Fingerprinting of Epoxy Nanocomposites for Coating	Prof. Dr. Sabu Thomas	MCAPM 1	9.00 am - 1.00 pm	Bilik Negeri Sembilan
Sustainable Materials Research at CSIRO Materials Science and	Dr. Russell J. Varley	MCAPM 2	2.30 pm - 6.30 pm	Bilik Negeri Sembilan
CRA Materials Selection	Dr. Liane Smith	MCCMD 1	9.00 am - 1.00 pm	Bilik Pahang
Quality Control for Coating Inspection Projects	Mr. Thomas A. Jones	MCCT 1	2.30 pm - 6.30 pm	Bilik Pahang
Fundamentals and Application of Rheology	Dr. David Hassell	MCR	9.00 am - 6.30 pm	Bilik Perlis
Microbiologically Influenced Corrosion (MIC): Knowledge and Practice	Dr. Reza Javaherdashti	MCCMD 3	9.00 am - 6.30 pm	Bilik Pulau Pinang
How to Consistently Sustain Quality Welds During Welding Production	Ir. Dr. Edwin Jong Nyon Tchan	MCMWT	9.00 am - 6.30 pm	Bilik Sabah
Coatings and Coatings Technology: Practical and Applications	Prof. Dr. Mohamad Kamal Harun Mr. Frankie Chua	MCCT 2	9.00 am - 6.30 pm	Bilik Sarawak
Practical Fractography	Mr. Ronald J. Parrington	MCMCT	9.00 am - 6.30 pm	Bilik Terengannu
Cathodic Protection Technology	Mr. Kang Kim Ang	MCCMD 4	9.00 am - 6.30 pm	Bilik Selangor

Performance and Fingerprinting of Epoxy Nanocomposites for Coating Applications

Date: 16th May 2014 **Time: 9.00 am - 1.00 pm** **Price: RM 800.00**

Synopsis/Abstract

Lecture 1 & 2

Performance and Fingerprinting of Epoxy Nanocomposites for Coating Applications

Epoxy resins are polyether (cyclic ethers) resins containing more than one three- membered ring, containing an oxygen atom bonded with two carbon atoms, which is commonly known as the epoxy, epoxide, oxirane, glycidyl or ethoxyline group. The carbon atoms in oxirane are trigonally sp2 hybridized and the angle of H-C-H bond is 116.15º. The epoxy ring is highly strained and therefore very reactive either with themselves (homopolymerisation), or with a wide range of co-reactants including polyfunctional amines, acids (and acid anhydrides), phenols, alcohols, and thiols at room temperature or at elevated temperatures. This cross-linking reaction is commonly referred to as curing.

Epoxy resins belong to the most important thermosetting polymers with good heat, moisture and chemical resistance, electrical and mechanical strength and good adhesion to many substrates. The coatings industry is the biggest consumer of epoxy resins mostly as chemical and special purpose coatings and is considered as the first line defence in the protection to resist chemicals, corrosion, and solutions. Corrosion and wear resistant coatings can be used in a variety of industries such as in automobile, power generation, utility, aerospace, defense, optical equipment, magnetic storage devices and bearings, engine parts and seals, etc. But the epoxy coatings are the common victim of surface abrasion and poor resistance to the initiation and propagation of cracks resulting in its localized corrosion.

The incorporation of nanoparticles such as metal oxides, CNT, graphene, nanosilica etc to the epoxy resins can reduce these sorts of difficulties. Nanoparticles can fill up the weak micro-regions of resins to boost the interaction forces at the polymer–filler interfaces. A dramatic increase in the interfacial area between fillers and polymer can significantly improve the properties of the polymer. The reinforcement efficiency is reported to show strong dependence on dispersion of nanoparticles. Well-dispersed nanoparticles can effectively enhance the comprehensive properties of nanocomposites, which are unique and different from any other current composites. We will also discuss phase separation, gelation and vitrification of epoxy nanocomposites. Based on the application we can prepare nanocomposites using different techniques like in situ polymerization, melt intercalation and solution casting. The epoxy nanocomposites can be further toughened by the introduction of of thermoplastics, rubbers and block copolymers. In this talk various types of epoxy formulations for the different types of coating will be discussed. Different characterization procedures will be discussed identify the performance of coatings such as pendulum hardness, scratch test, mandrel bend test, cross hatch test, and FTIR-ATR techniques. Finally new challenges and opportunities on the use of epoxy nanocomposites in the field of coating will be discussed.

Biodata Of Presenter

Prof. Dr. Sabu Thomas

Background

Prof. Dr. Sabu Thomas is the Director of the School of Chemical Sciences, Mahatma Gandhi University, Kottayam, India, and a visiting faculty at and Universiti Teknologi MARA, Malaysia. He is also a full professor of polymer science and engineering and the Director of the Centre for Nanoscience and Nanotechnology of the same university. He is a fellow of many professional bodies. Prof. Dr. Thomas has authored or co-authored many papers in international peer-reviewed journals in the area of polymer processing. He has organized several international conferences and has more than 420 publications, 11 books and two patents to his credit. He has been involved in a number of books both as author and editor. He is a reviewer to many international journals and has received many awards for his excellent work in polymer processing. His h Index is 42. Prof. Dr. Thomas is listed as the 5th position in the list of Most Productive Researchers in India, in 2008.

Institution

Mahatma Gandhi University, Kottayam, Kerala, India

Fields of Research/Expertise

Polymer blends, phase separations and phase transitions, fibre filled polymer composites (macro, micro and nano levels), particulate filled polymer composites: (micro to nano scales), green composites, self assembled polymer systems, ageing and degradation, pervaporation phenomena, sorption and diffusion, interpenetrating polymer systems, recyclability and reuse of waste plastics and rubbers, double networking of elastomers, electrospinning, polymer scaffolds for tissue engineering.

Publications

About 593 publications in international refereed journals and 3 patents, 23 books, more than 200 publications in conference proceedings and more than 150 invited lectures for international conference.

Who Should Attend?

Anyone concerned with polymers and their applications, including bachelor degree through Ph.D. level research chemists, engineers, physicists, or technicians who work in, or are beginning to work in this field. Managers in the polymer industry will greatly benefit from this in-depth, lecture course. No prior knowledge of polymer science is assumed.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)

Title: Performance and Fingerprinting of Epoxy Nanocomposites for Coating Applications I

List of contents:

1. Epoxy – An introduction
    - Synthesis, structure and properties
2. Epoxy based nanocomposites and blends
3. Different application of epoxy nanocomposites and blends
4. Coating applications
5. Benefits of epoxy coating
6. Design and formulations of epoxy coating

Lecture 2 (75 min lecture + 15 min Q&A)

Title: Performance and Fingerprinting of Epoxy Nanocomposites for Coating Applications II

List of contents:

1. Different coating techniques
2. Characterisations
3. Various fields using epoxy nanocomposites for coating applications
    - Construction and civil engineering
    - Electronics
    - Can and coil coatings
    - Oil and gas pipelines
4. Future challenges

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

4 CPD HOURS FOR IEM PARTICIPANTS

Sustainable Materials Research at CSIRO Materials Science and Engineering

Date: 16th May 2014 **Time: 2.30 pm - 6.30 pm** **Price: RM 800.00**

Biodata Of Presenter

Dr. Russell J. Varley

Institution

CSIRO Materials Science and Engineering, Victoria, Australia.

Background

Dr. Russell J. Varley is a Principal Research Scientist at CSIRO Materials Science and Engineering, Australia. He obtained his Ph.D. in Materials Engineering in 1998 from Monash University, investigating the toughening of epoxy resins for advanced composites. Since then he has worked on a range of composite materials related projects with industrial partners focussing upon improving performance and durability. He is currently Head of the High Performance Composite Materials Stream within the Future Manufacturing Flagship at CSIRO as well as a Research Team Leader in Adaptive Composites.

Fields of Research/Expertise

Materials chemistry of advanced composites, nano-composite and nano-structured materials, computational methods for crosslinked polymers, structure/property/durability relationships in engineering polymers, self-healing polymers, polymer rheology, thermoplastic composites.

Who Should Attend?

Anyone interested in the topic and their applications, including graduates with bachelor degree through Ph.D. level, researchers, chemists, engineers, physicists, or technicians from academia and industry who work in or are beginning to work in this field. Managers in this industry will greatly benefit from this in-depth, lecture course. No prior knowledge of the technology covered is necessary.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)

Title: An Introduction to Self Healing Materials: Chemistry, Engineering and Sustainability

List of contents:

This lecture will give an introduction to self healing materials from their inception during the latter part of the 20th Century to the current state of the art. It will the various strategies currently being explored, from damage initiated mechanisms using microencapsulation and vascular networks to thermo-reversible network polymers. Real world applications where self healing materials are starting to be used in industrial applications will be discussed with particular emphasis upon future developments and trends.

Lecture 2 (75 min lecture + 15 min Q&A)

Title: Case Studies in Product Development of New Sustainable Materials from Inception to Outcome

List of contents:

Through engagement with companies of all sizes CSIRO Materials Science and Engineering in Australia has been at the forefront of providing polymeric materials solutions to industrial challenges for many years. This lecture will discuss several successful projects carried out at CSIRO, from their inception to outcome, focussing upon both the innovation and underpinning fundamental science that led to the commercial breakthrough.

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

4 CPD HOURS FOR IEM PARTICIPANTS

CRA Materials Selection

Date: 16th May 2014 **Time: 9.00 am - 1.00 pm** **Price: RM 800.00**

Synopsis/Abstract

Lecture 1

This lecture will overview the constraints that limit the range of available materials for use downhole. It will outline the way that the corrosivity of aggressive environments can be evaluated and define the safe operating envelope of conditions of commonly selected CRA materials used downhole. Key components considered will be the production tubing and Xmas tree material selecton. Conditions will include case studies of high CO2, sour and HPHT conditions.

Lecture 2

The selection of materials for upstream surface facilities will cover the scope of flowlines, piping, vessels and heat exchangers. Materials suitable for a range of conditions covering high CO2 and sour conditions will be discussed and the factors affecting the optimum selection for specific example conditions. Alternative material choices as solid CRAs or various forms of cladding or weld overlaying will be covered.

Biodata Of Presenter

Dr. Liane Smith

Background

Dr. Liane Smith is the Head of Management of Woodgroup Intetech Ltd, which is renowned for its work on Asset Integrity, and acknowledged on an international scale for its specialist expertise in corrosion modeling and material selection of all oil and gas facilities. Dr. Smith has published around 20 pieces of work in international and national refereed journals, and has authored and edited 6 books. She has more than 70 publications in conference proceedings, and has participated as a guest lecturer in over 20 international conferences. Dr. Smith's primary research interests comprise integrity management of wells, corrosion modeling and materials selection, and corrosion resistant alloys in solid and clad form

Institution

Woodgroup Intetech Limited, United Kingdom

Fields of Research/Expertise

Corrosion modelling and material selection for the upstream oil and gas industry

Who Should Attend?

The workshop will be of interest to materials engineers working in the upstream oil and gas industry. It will be especially valuable for young engineers new in the field, but will cover case histories of experience which will be of interest to more experienced engineers. As it is concerned with CRA materials a basic knowledge of metallurgy will be assumed.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)

Title: Selection of CRA Materials for Well Components

List of contents:

1. Factors driving the type of materials used in wells for aggressive production conditions
2. Tubing and completion string components material selection
3. Christmas tree material selection and use of weld overlaying
4. The lecture will include examples of materials selection for a range of conditions including high CO2, HPHT, Sour wells and CO2 injection well design

Lecture 2 (75 min lecture + 15 min Q&A)

Title: Selection of CRA Materials for Surface Equipment

List of contents:

1. This lecture will show how the results of the nanomechanical testing can be used to understand how materials behave in actual applications and lead to the development of materials and coatings with improved properties. It will include case studies on
2. Factors driving the type of materials selected for aggressive production conditions
3. CRA Flowline material options
4. When and how to select CRA materials for facilities piping and major vessels
5. Heat exchanger material selection
6. The lecture will include examples of materials selection for a range of conditions including high CO2 and sour conditions.

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

4 CPD HOURS FOR IEM PARTICIPANTS

Quality Control for Coating Inspection Projects

Date: 16th May 2014 **Time: 2.30 pm - 6.30 pm** **Price: RM 800.00**

Synopsis/Abstract

Lecture 1
Developing Inspection Plans for Protective Coatings Projects

Lecture 2
Inspection Documentation

Biodata Of Presenter

Mr. Thomas A. Jones

Institution:

The Society for Protective Coatings, United States of America

Fields of Research/Expertise:

Mr. Thomas A. Jones is the Senior Development Specialist for SSPC. He is holds the professional certifications for SSPC Protective Coating Specialist and both a SSPC and NACE Level 3 Coatings Inspector with over 35 years' experience in the Marine and Industrial protective coatings industry. He is also a graduate from Texas A&M - Corpus Christ and is based out of Austin, Texas

Who Should Attend?

Anyone interested in the topic and their applications, including graduates with bachelor degree through Ph.D. level, researchers, chemists, engineers, physicists, or technicians from academia and industry who work in or are beginning to work in this field. Managers in this industry will greatly benefit from this in-depth, lecture course. No prior knowledge of the technology covered is necessary.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)
Title: : Developing Inspection Plans for Protective Coatings Projects
List of contents:

1. Navigating Specifications
2. Understanding Requirements
3. Developing a Written Plan

Lecture 2 (75 min lecture + 15 min Q&A)
Title: Inspection Documentation
List of contents:

1. Requirements
2. Organization
3. Form Development
4. Paperless QA

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

4 CPD HOURS FOR IEM PARTICIPANTS

Fundamentals and Application of Rheology

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 1000.00**

Synopsis/Abstract

Lecture 1
Basic explanation of the behavior of a range of fluids, from Newtonian to various forms of Non-Newtonian. This will cover basic concepts such as shear, strain and rate of deformation alongside insights into why these types of behavior are observed.

Lecture 2
Explanation of the manner in which different materials behave under different types of flow conditions, and why this is important in Industrial Engineering applications.

Lecture 3
Highlights the main methodologies and techniques used to measure material properties, including subsequent characterization of the materials and fitting to rheological models.

Lecture 4
Audience participation is required for this lecture, which will look at solving some practical problems relating to Non-Newtonian fluids. This will cover both relatively "simple" models such as those which characterize paints, to more complex models used in the characterisation and modeling of polymers.

Biodata Of Presenter

Dr. David Hassell

Background

Dr. David Hassell is an Associate Professor at the Institut Teknologi Brunei, Brunei, having previously held a similar position at the University of Nottingham Malaysia Campus. He obtained his degree and Ph.D. in Chemical Engineering from Sheffield University, before undertaking research at Cambridge University as part of an international team investigating the behaviour of polymer melt flow. He has published work in international journals on polymer melt flow, polymer instabilities, polymer crystallisation and the behaviour of polymer nanocomposites.

Institution

Institut Teknologi Brunei, Brunei

Fields of Research/Expertise

Rheology and Polymer Processing; Microfluidics

Who Should Attend?

Anyone interested in the topic and their applications, including graduates with bachelor degree through Ph.D. level, researchers, chemists, engineers, physicists, or technicians from academia and industry who work in or are beginning to work in this field. Managers in this industry will greatly benefit from this in-depth, lecture course. No prior knowledge of the technology covered is necessary.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)
Title: Types of Fluid Behaviour
List of contents:
Basic explanation of the behavior of a range of fluids, from Newtonian to various forms of Non-Newtonian. This will cover basic concepts such as shear, strain and rate of deformation alongside insights into why these types of behavior are observed.

Lecture 2 (75 min lecture + 15 min Q&A)
Title: Linear and Non-linear behavior of fluids
List of content:
Explanation of the manner in which different materials behave under different types of flow conditions, and why this is important in Industrial Engineering applications.

Lecture 3 (75 min lecture + 15 min Q&A)
Title: Rheological characterisation of materials
List of content: Highlights the main methodologies and techniques used to measure material properties, including subsequent characterization of the materials and fitting to rheological models.

Lecture 4 (75 min lecture + 15 min Q&A)
Title: Application of rheological measurements to practical examples
List of content:
Audience participation is required for this lecture, which will look at solving some practical problems relating to Non-Newtonian fluids. This will cover both relatively "simple" models such as those which characterize paints, to more complex models used in the characterisation and modeling of polymers.

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

A review of Microbiologically Influenced Corrosion (MIC): Knowledge and Practice

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 3000.00**

Synopsis/Abstract

Lecture 1
In this lecture, a general review of electrochemical principles of microbial corrosion is presented.

Lecture 2
In this lecture, Microbial corrosion in its reality and industrial context is defined so that many questions and misunderstandings surrounding this matter will be answered.

Lecture 3
In this lecture, a practical review of MIC mitigation methods and technologies with their advantages/disadvantages will be addressed and discussed within the routine of oil and gas industry

Lecture 4
More practical aspects of MIC will be discussed including, but not limited to, hydrostatic testing, the different actions of biocides and inhibitors, the relevance of CP and MIC, reliability of intelligent pigging and similar topics of interest.

Biodata Of Presenter

Dr. Reza Javaherdashti

Background

Dr. Reza Javaherdashti has more than 19 years of experience in corrosion management in various industries ranging from oil & gas to power generation, marine industry, mining and food industry in different countries. After working for same years as a senior in the industry then as a principle corrosion and materials engineer. He later joined Curtin University in Western Australia and then work as an Assistant Professor of Corrosion and Materials at Qatar University in Doha.

Institution

Corrosion Consulting-research-education

Who Should Attend?

Corrosion Engineers, Assets Integrity Engineers, Maintenance Engineers, Materials Engineers, Pipeline Engineers, Plant Engineers, Technical Inspectors, The course is designed for the benefit of pipeline industry. The course is of an especial use to Principal and senior assets managers, Engineering managers, Directors, plant engineers, consulting engineers, specialist contractors, asset condition inspectors and overseers, Senior pipeline engineers, materials and senior and principal corrosion engineers.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)
Title: Electrochemical corrosion as the basis of MIC
List of contents:
1. Fundamental definitions
2. Thermodynamics of corrosion
3. The risk matrix and its relevance to MIC
4. Economical/ecological importance of MIC

Lecture 2 (75 min lecture + 15 min Q&A)
Title: Understanding MIC
List of contents:
1. Definition of MIC
2. Classification of microorganisms related to MIC
3. What are SRB?

Lecture 3 (75 min lecture + 15 min Q&A)
Title: Controlling MIC
List of contents:
1. Ways of controlling MIC (chemical, physical, electrical and magnetic)
2. Classification of biocides
3. The impact of design and operation in controlling MIC
4. Pros and cons of MIC mitigation technologies

Lecture 4 (75 min lecture + 15 min Q&A)
Title: How a System Becomes Susceptible to MIC?
List of contents:
1. Pre-Commissioning practices that increase the likelihood of MIC.
2. Post-Commissioning practices that increase the likelihood of MIC
3. Different features of biocides and inhibitors

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

How to Consistently Sustain Quality Welds During Welding Production

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 1000.00**

Synopsis/Abstract

This is one-day Welding Technology Master Course for Technical/Engineering Management Personnel. This course is specially designed for both practicing engineers and technical managers as well as those specifically interested in keeping abreast with the current advancement of welding technology and wishing to gain some knowledge on how a welding procedure specification (WPS) and a welder through welder qualification test (WQT) being qualified and certified accordingly in the Oil and Gas Industry. Furthermore, using the current effective non-destructive/inspection techniques as quality control tools can be applied to ascertain that quality welds are consistently produced/maintained.

Through this course, technical managers and practicing engineers who intend to gain an appreciation on managing WPS/WQT can be realized, and thus to broaden their technical knowledge on welding technology relating to maintenance, inspection, alteration and repair of in-service metallic systems in order to avoid unplanned shutdown and reduce expenses. Essentially, they can make a sound decision on the acceptance of WPS/WQT during welding production and metallic fabrication work.

Biodata Of Presenter

Ir. Dr. Edwin Jong Nyon Tchan

Background

Dr. Edwin Jong is a registered Professional Engineer of Malaysia and a Chartered Engineer of United Kingdom. He is also presently a Council Member and the Welding Committee Chairman of the Institute of Materials. Malaysia. He graduated with a Doctorate of Philosophy (Ph.D) in Materials Engineering, and has seven-years' working experience as a Research Scientist with ICI Advanced Materials Research in UK.

He is presently working for Jurutera Perunding Akal Sdn Bhd, Malaysia, and has over 20 years working experience in the Oil and Gas Industry.

Institution

General Management and Engineering Consultant of Jurutera Perunding Akal Sdn Bhd, Malaysia

Fields of Research/Expertise

Metallurgy & Welding Technology,, Materials and Corrosion Engineering, Inspection Techniques and Risk Based Inspection (RBI)

Who Should Attend?

This course is most beneficial to technical management personnel of all levels including junior and senior engineers, welding inspectors, engineering designers, manufacturers, fabricators, technical managers and practising engineers who involve in the management and planning of welding fabrication works and inspection related activities as well as operations and maintenance activities in upstream and downstream oil & gas sectors including refineries, process plants and petrochemical facilities and other related industries such as ship-building, marine and so forth.

Content of the workshop

Lecture 1 (Full day)

Title: How to Consistently Sustain Quality Welds During Welding Production

List of content:

1. The essence and importance of welding co-ordination in welding production,
2. Technical knowledge on the key tasks and responsibilities including the co-ordination of all welding related activities, adherence to the requirements of relevant welding codes as per the approved WPS.
3. Identification of appropriate welding processes for the targeted materials, ..etc.
4. The essence and application of ISO 3834: "Quality Requirements for Fusion Welding".
5. Emerging organization of Asian Welding Federation (AWF)
6. Welding Technology & Challenges in Malaysia
7. Direct impact on the AWF approach with respect to welder skill training and welder qualification test (WQT) as per ISO 9606 requirements within the Asian country members.

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

Coatings and Coatings Technology: Practical and Applications

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 1000.00**

Presenters

1. Prof. Dr. Mohamad Kamal Harun
2. Mr. Frankie Chua

Synopsis/Abstract

Participants enrolling for this course shall learn the fundamentals of corrosion reactions and how paints provide the barrier protection towards corrosion of metals under coatings. The mechanisms of protection shall be discussed along the functions of the binders, pigments, fillers, extenders and also solvent. The diffusion mechanisms of water and oxygen as well as the ionic transport through coatings shall be dealt in detailed and how they contributed towards paint degradation. The technology section of this lecture will discuss current and future technologies employed in the coating industries. The course will include, introducing participants to new and emerging technologies in paint applications. Industrial paint application approaches and their embedded problems and issues shall be discussed in depth. As coatings can be very complex in nature, a thorough understanding of these mechanisms may provide background knowledge needed for decision makings in obtaining optimum performance from paints.

Biodata Of Presenter

Prof. Dr. Mohamad Kamal Harun

Background

Prof. Dr. Mohamad Kamal is the current President of the Institute of Materials, Malaysia, (IMM). He is also a Fellow of the International Institute of Plantation Management, Chairman of the Malaysian Accredited Certification Body for the Asian Welding Federation, Member of the Industrial Consultative Council, Malaysian Petroleum Resource Cooperation under Pemandu and is currently also the Cluster Head for Industry and Innovation, National Council of Professors. Prof. Dr. Mohamad Kamal earned his Ph.D. from the University of Manchester, and has been awarded the e-science grants, fundamental research grant scheme, university grants and others for his research. He has published more than 60 publications which include journal entries as well as several book chapters, and has also reviewed journals for international publications. Besides teaching and research, Prof. Dr. Mohamad Kamal also contributes his expertise through training and consultancies mainly within the paint industries, government research agencies, and module fabricators for off-shore platforms.

Institution

Deputy Vice Chancellor, Universiti Malaysia Kelantan, Professor of Chemistry, Faculty of Applied Science, Universiti Teknologi MARA. President and Fellow of Institute of Materials Malaysia.

Fields of Research/Expertise

Corrosion, polymeric barrier coatings, adhesion and surface modification, Inhibitors and polymer electrolytes.

Who Should Attend?

This course is most beneficial to technical management personnel of all levels including junior and senior engineers, welding inspectors, engineering designers, manufacturers, fabricators, technical managers and practising engineers who involve in the management and planning of welding fabrication works and inspection related activities as well as operations and maintenance activities in upstream and downstream oil & gas sectors including refineries, process plants and petrochemical facilities and other related industries such as ship-building, marine and so forth.

Content of the workshop

The course is divided into two main parts. The first part deals with the fundamental aspects of corrosion protection by paint, while the second part will focus on the technologies involving application of paints in the industries.

Part I: Fundamentals Aspects of Corrosion Protection by Paints (180 min lecture + 15 min Q&A)

Abstract

This part of the course aims to introduce the fundamentals aspect of electrochemical reactions which govern corrosion, and how coatings and paints provide the barrier actions towards the progress of these reactions. The subject will be developed through an organized approach of specific fundamental topics leading towards and understanding of paint failures. This should allow participants to develop the basic knowledge required in the understanding of application of coatings and paint.

Topics

1. Fundamentals of Corrosion
2. Paint components and types of binders, pigments, fillers and their functions
3. Mechanisms of under film corrosion
4. Requirements for optimum protection
5. Adhesion aspects of paint
6. Failures and type of failures of paints

contd. in next page

8 CPD HOURS FOR IEM PARTICIPANTS

Coatings and Coatings Technology : Practical and Applications (contd)

Biodata Of Presenter

Mr. Frankie Chua

Background

Mr. Frankie Chua has more than 18 years of experience in the paint and coatings industry. He was involved with quality control, technical service as well as research and development works for a few multinational paint manufacturers from 1986 to 1995, holding various positions from Chemist to Technical Director. He founded PLC Laboratory Sdn Bhd in December 1995 and has served as the Chief Chemist and Managing Director of the company since 1995.

Institution

B.Sc. Chemistry, Managing Director / Technical Advisor, PLC Laboratory Sdn Bhd.Fellow, Council Member and past Chairman of Coatings Committee, IMM. Associate Member of Oil & Colour Chemist Association (ATSC) NACE Protective Coatings Specialist, IMM Protective Coatings Specialist.

Fields of Research/Expertise

Formulation, technical service and trouble shooting for coatings applications.

Part 2: Paint Technology and Application (180 min lecture + 15 min Q&A)

Abstract

Current and emerging technologies in paint application depends a lot on the understanding of the fundamentals of corrosion and paint protection behaviour. Fundamental issues in paint application such as surface preparation, choice of binders, control of defects, etc can become the determining factors in ensuring optimum performance and avoidance of premature failures. This part of the course shall dwell on application issues and how to resolve them. Real case studies and examples will be put forward in order to enhance the understanding of participants.

Topics

1. The current trend and new regulations in protective and marine coatings.
2. Identifying coatings composition and application problems.
3. Emerging and technologies in coatings industry.
4. Surface preparation and application tools for optimum paint performance.
5. Coating defects and prevention measures.
6. Why paints fail and what to do about it.

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

Practical Fractography

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 1500.00**

Synopsis/Abstract

Lecture 1-4

Fractography, the science of examining fracture surfaces, is the most valuable tool available to the failure analyst. This short version of the popular 2-day ASM class will provide the participants with a comprehensive overview of fractography with an emphasis on understanding the fundamental principles and identifying fracture features that characterize the important failure mechanisms. Numerous case histories will be used to demonstrate practical tips and techniques for performing fractography on the macro-scale (with the unaided human eye, macro-photography and stereomicroscopy) and on the micro-scale with the scanning electron microscope.

Biodata Of Presenter

Mr. Ronald J. Parrington

Background:

Mr. Ronald J. Parrington, P.E., FASM is the President of IMR Test Labs, a full service materials testing laboratory with sites in North America, China and Singapore. Ron is a graduate of Rensselaer Polytechnic Institute with BS and MS degrees in Materials Engineering. He has over 30 years of experience in failure analysis of metallic and nonmetallic materials, has presented and published numerous papers on failure analysis, teaches the ASM courses (Principles of Failure Analysis, Practical Fractography, and Introduction to Polymers and Polymer Testing), is past chairman of the ASM International Failure Analysis Committee, and is currently the immediate past chairman of the ASM Materials Education Foundation Board of Trustees

Institution

IMR Test Labs

Fields of Research/Expertise

Failure Analysis, Fractography, and Materials Testing

Who Should Attend?

Anyone interested in the topic and their applications, including graduates with bachelor degree through Ph.D. level, researchers, chemists, engineers, physicists, or technicians from academia and industry who work in or are beginning to work in this field. Managers in this industry will greatly benefit from this in-depth, lecture course. No prior knowledge of the technology covered is necessary.

Content of the workshop

Lecture 1 (75 min lecture + 15 min Q&A)

Title: : Introduction to Fractography and Failure Analysis Overview

List of contents:

1. Brief Introduction to Fractography
2. Failure Analysis Overview
3. Specimen Handling and Cleaning

Lecture 2 (75 min lecture + 15 min Q&A)

Title: Macroscale Fractographic Examination

List of contents:

1. Visual Examination of Failures
    - Ductile Versus Brittle Fractures
    - Fracture Surface Orientation
    - Crack Path Analysis
2. Macroscale Fracture Features

Lecture 3 (75 min lecture + 15 min Q&A)

Title: Macroscale Fractography Workshop

List of content:

1. Failure Analysis of Fractures Workshop

Lecture 4 (75 min lecture + 15 min Q&A)

Title: Microscale Fractographic Examination

List of content:

1. Microscale Fracture Features
    - Dimpled Rupture
    - Cleavage
    - Intergranular Fracture
2. Fractography of Metals and Plastics

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

Cathodic Protection Technology

Date: 16th May 2014 **Time: 9.00 am - 6.30 pm** **Price: RM 1000.00**

Synopsis/Abstract

This is a full day training course consisting of lectures, classroom practical, case studies and knowledge assessment. It aims to train participants in the understanding of CP principles, to be capable to go to field ,accomplish periodical surveys, have sufficient troubleshooting skills to handle problems within a CP system.

Biodata Of Presenter

Mr. Kang Kim Ang

Background:

Mr. Kang Kim Ang has spent over 15 years in Corrosion Control, Cathodic Protection, Heavy-duty Coatings, Passive Fire Protection, and Corrosion Inspection in the Oil & Gas, Marine, Petrochemical, Construction and Industrial Sectors in Malaysia, Indonesia and Philippines. He has over 8 years' experience in part-time lecturing on Corrosion Engineering subject at higher learning institutions in Malaysia and over 7 years' experience as an invited trainer for the Institute of Materials, Malaysia for the Cathodic Protection Training & Certification programme. He has served as the Managing Director of Corrtrol Group since 2003.

Institution

Managing Director of CorrTrol Group of companies.

Fields of Research/Expertise

Corrosion Control, Cathodic Protection, Heavy-duty Coatings, Passive Fire Protection, and Corrosion Inspection

Who Should Attend?

Cathodic Protection Technician, Corrosion Engineers, Managers and all involved in the maintenance, design and specifications of cathodic protection.

Content of the workshop

Lecture (1-4) (Full day)

List of content:

1. Corrosion Fundamentals & Principles
2. Cathodic Protection Fundamentals
3. Field Measurements
4. Stray Current Identification
5. Installing Cathodic Protection Components
6. Troubleshooting
7. Basic Design of Cathodic Protection Systems
8. Propoerties and Applications of Sacrificial Anodes & Impressed Current Anodes & Equipment
9. CP Instrumentation & their Applications
10. Soil Restivity Measurements, Pipe & Cable locating & Current Requirement Testing
11. CP Potential Measurements including Close Interval Potential Surveys (CIPS)
12. Datalogging, Mapping with GPS & Coating Defect Surveys (DCVG/ Pearson)
13. Quality Assurance and Quality control
14. Field testing
15. Record keeping

Registration

Fee includes tea/coffee breaks, lunch, course materials and course instruction. Space is limited to the first 50 participants. Online registration can be referred from website of IMTCE2014 (http://www.imtce2014.com/).

8 CPD HOURS FOR IEM PARTICIPANTS

Cathodic Disbonding dominates Rubber/Mild Steel composite failure in Marine Environment

M.K. Harun and I. Ismail
Electrochemical and Corrosion Science Laboratory, Fac of Applied Sc., UiTM

Experiments conducted in the Electrochemical and Corrosion Science Laboratory, UiTM Jalan Othman, Petaling Jaya, indicated that the main cause for rubber/metal composite deadhesionis due to cathodicdisbonding. Samples to emulate the composite were exposed in salt spray chamber for 1000 hours to emulate the marine environment conditions, when in used such as bridges above sea water, offshore structures, jetty fenders, car components and buildings where they are required to either isolate vibrations in between joints or absorb forces imposed on the structures. Results indicates that water and anodic undermining are not dominantthe in the deadhesionprocess. However,the deadhesion is dependent on the alkaline medium caused by oxygen reduction reaction that took place at the cathodic sites in a corrosion process.

Introduction

The use of rubber/metal composite in engineering structures is vast. Numerous examples are found in bridges, offshore structures, car components and buildings where they are used to either isolate vibrations in between joints or absorb forces imposed on the structures. Rubber/metal composites have the advantage of increasing stiffness, which is needed for engineering structures. In most cases, the composites are made of alternating rubber/metal layers, which can improve the mechanical properties of the composites. However, when these are exposed towards aggressive environments such as the marine environment, elevated operational temperatures or the likes, the rubber to metal bonds tend to fail, leading towards a non-functional composites.

A lot of studies were done to understand the cause for the bond failures, however results have been mixed depending on several factors like the types of substrates used, or even the adhesives used. For example, rubber/metal composite constructed using mild steel failed badly when exposed to salt spray test compared to those using stainless steel as substrates. However when the same structure is immersed in 0.01M NaOH or deioniozed water, no disbonding was observed (Muhr et. al, 2006). This phenomenon leads to confusion whether the failure is due to corrosion induced anodic undermining, water hydrolysis or corrosion induced cathodic disbonding (Stevenson 1985). In this work, effort is specifically focused on determining the main cause for rubber/mild steel composite adhesion failure in a marine environment.

Experiment

Bonded rubber/mild steel coupons were prepared by bonding rubber using commercial adhesive on mild steel coated with commercial primer. The assembly was inserted in a compression mold and was then compressed between electrically heated platens of a hydraulic press at 140°C and 100 Psi for 20 minutes.

The coupons were placed in salt spray chamber for 1000 hours. Another sets of coupons were subjected to water immersion test, cathodic induced polarization and anodic induced polarization.

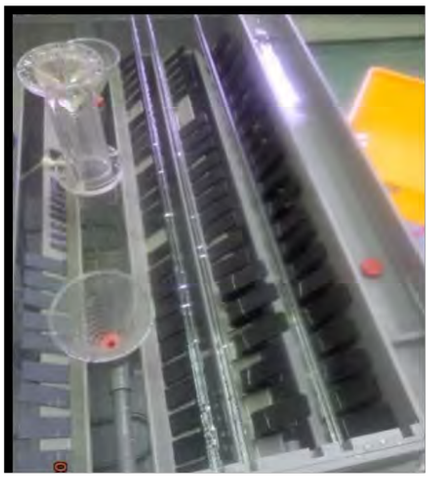

Fig. 1 Salt Spray Test

The cathodic and anodic polarization were potentio-statically induced in a three-electrode system using Ag/AgCl reference electrode at -0.8V and -0.49V respectively (corrosion potential being -0.52V). While failure analysis were conducted using the SEM/EDX, to determine the loci of failure.

Results and discussion

Samples subjected to the salt spray test, experienced corrosion at the exposed edges, and at the same time de-adhere after 25 hours of exposure. The de-adhered surface appears shiny with no residues of carbonaceous polymeric materials. When a wet red litmus paper was placed immediately at the de-adhered area, it turns blue, indicating the region is alkaline. In addition, the analysis performed using the SEM/EDX taken at 60^0 glancing angle on the failed sides of the metal confirmed no traces of organic carbon residue left on the metal surface. This is proven when EDX analysis indicated that the failed substrate's surface has the same weight % composition to the control mild steel (see FIG 2). The failure is interfacial in nature.

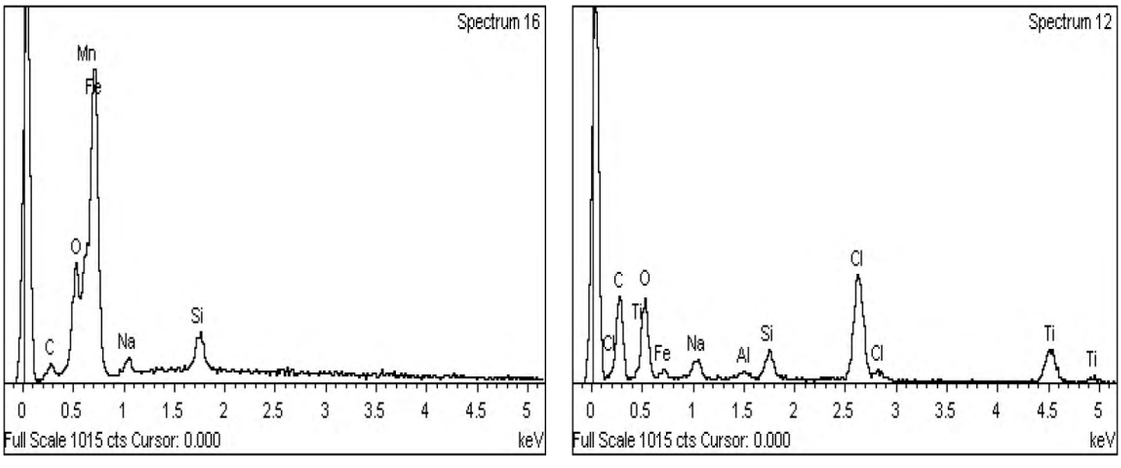

Figure 2, SEM/EDX Analysis on Failed Surfaces of Rubber/adhesive/primer sample after Exposed in Salt Spray

Figure 3

The adhesion failure on the peel test samples showed a characteristic of a picture-frame morphology as shown in Figure 3 (Watts, 2010). The picture-frame morphology indicated that the deadhesion for the bonded rubber failed with adhesive failures. Shiny un-rusted appearance of the "failed area" surface of the metal can be attributed failure due to cathodic disbonding. The schematic of the proposed mechanism is shown in figure 3.

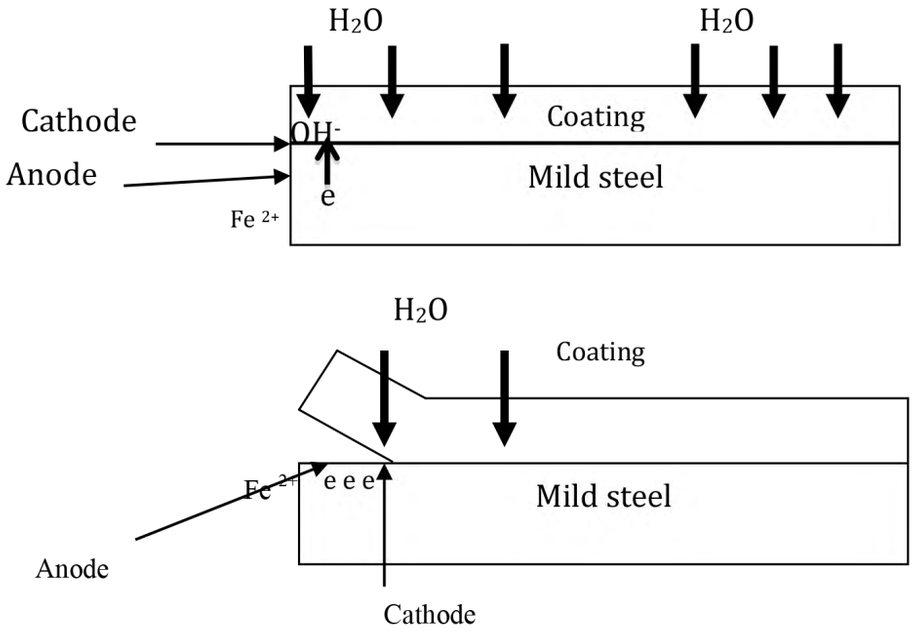

Figure 4

The schematic diagram proposed that while the exposed edge undergoes oxidation (corrosion), the cathodic reduction reaction occurs at interface between the rubber/adhesive/primer and the metal. This leads to the accumulation OH^- ions, an alkaline medium that destructs the interfacial bonds between the primer/metal, leading to adhesion failure. The break down of the interfacial bonds by an alkaline media were confirmed by an alkaline exposure test on the same samples in which a plot of disbonded area versus square root of time produce comparatively equal area within the same time of exposure. (Figure 4).

The anodic undermining deadhesionrate which was done by polarizing the samples at -0.47 V (E_{corr} -0.52V) appears to be much slower when compared to induced cathodic polarization at -0.8V. In anodic undermining the trapped chloride ions between the rubber and its substrate could also induced breakdown of the protective passive layers leading to both a crevice and pitting corrosion. As this was not observed in the salt spray samples, we conclude that the disbondment rate due toanodic undermining did not dominates the deadhesion process.

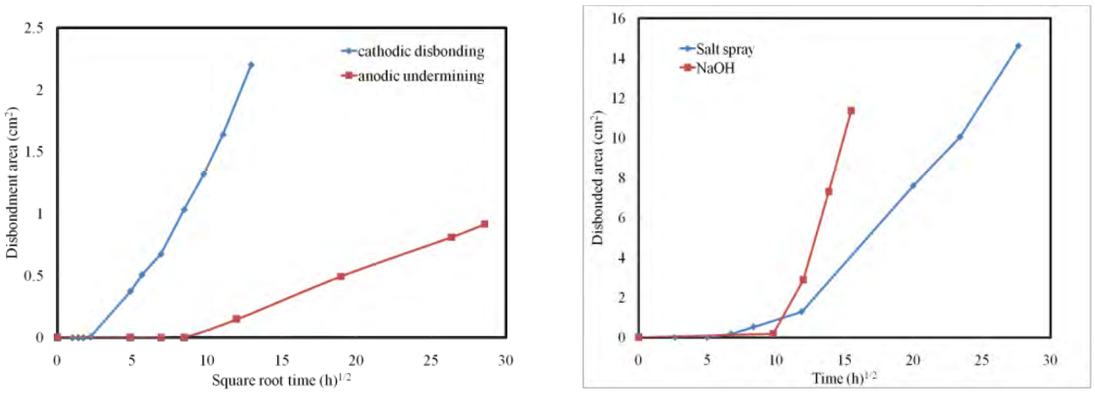

Figure 5 Comparison of disbondment behavior in induced anodic and cathodic polarization, salt spray test and NaOH immersion.

Deadhesion test were also conducted for samples in deaerated nitrogen purged water. The results indicated that no deadhesion occurs even after 218 hour of exposure, and observation of samples confirmed that no corrosion reaction took place. This results indicates that water disbondment also did not dominate the deadhesion process.

Conclusion

In conclusion, this work has managed to bring forward the critical issues related to adhesion failure mechanisms for steel laminates rubber structures using adhesive/ primer coats exposed in marine environment. The most critical issue discovered in this work was the adhesion failure of rubber/metal composite is dominated mainly by the cathodic disbonding.

References

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Watts, J. F. (2010). 3.36 - Role of Corrosion in the Failure of Adhesive Joints. In J. A. R. Editor-in-Chief: Tony (Ed.), *Shreir's Corrosion* (pp. 2463-2481). Oxford: Elsevier.

IMTCE2014

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Participants from IEM Enjoy:
For Conference : 16 CPD hours
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1 day class - 8 CPD hours

IMTCE2014

13th - 16th May 2014

Putra World Trade Centre, Kuala Lumpur

- ⇒ Symposiums
- ⇒ Exhibition
- ⇒ Other Activities

IMTCE2014

9th International Materials Technology Conference & Exhibition

Date: 13th - 16th May 2014
Venue : Putra World Trade Centre (PWTC), Kuala Lumpur, Malaysia
Theme: Synergising Industry & Academia: Innovations for Industrial Applications

Invitation

The 9th International Materials Technology Conference & Exhibition (IMTCE2014) is scheduled to be held on May 2014 at the Putra World Trade Centre (PWTC), Kuala Lumpur. IMTCE2014 will provide a platform for industrial practitioners and academic researchers to showcase their collaborations. These relationships have led to the development of new sustainable innovative products and services in the oil & gas, marine, power, petrochemical, chemical, water resources, transportation, construction, automotive, equipment manufacturing, electrical & electronics, agriculture, food & beverage processing, and furniture industries. IMTCE2014 covers both economic issues and technical aspects on Materials Science, Engineering and Technology, ultimately affecting all industries globally. It intends to highlight the requirement, challenges and uncertainties in 2014 and beyond, for the survival of premium products and services.

The objectives of the conference are to:

- Provide a platform for the exchange of knowledge and expertise among industrial practitioners, industry professionals and higher learning institutions.
- Provide a forum for discussion and exchange of views on the opportunities that arise in the challenging material processing, and applications through collaborations between industry and academia.

The Technical Conference focuses on five symposiums comprising topics of industry and academic interest. The Conference Programme consists of plenary, keynote, invited, oral and poster presentations. Ample time is provided for discussion between industry and academia within each symposium. There will also be Masterclasses, Plant Visits, Award Presentations and a Banquet Dinner.

With the theme of **"Synergising Industry & Academia: Innovations for Industrial Applications"**, IMTCE2014 invites academics, scientists, engineers, researchers, industrialists and service providers to present their latest research findings in technology and innovation, as well as the current development in Materials Sciences which include metals & alloys, polymers & plastics, rubber & elastomers, ceramics, timber & wood, concrete, minerals, nanomaterials, advanced materials, electronic materials, and textiles. Papers are cordially invited from industry and academia.
We welcome you to IMTCE2014!

Please visit our website www.imtce2014.com for full details.

FIVE International Symposiums will be organised under the auspices of IMTCE2014. They are:

1. International Symposium on Advanced Polymeric Materials
2. International Symposium on Materials Characterisation and Testing
3. International Symposium on Coatings Technology
4. International Symposium on Metallurgy and Welding Technology
5. International Symposium on Corrosion & Materials Degradation

CONFERENCE MANAGEMENT COMMITTEE

The IMTCE2014 is organized by the Institute of Materials, Malaysia (IMM) on a biennial basis. It is the signature event of IMM and is now in its 9th session. The event is organised under the purview of the Conference Management Committee by three (3) main Organising Committees, the Technical Symposiums Committee, the Awards Committee and the Events Committee.

- Prof. Dr. Mohamad Kamal Harun, Universiti Malaysia Kelantan / Universiti Teknologi MARA - mkharun@gmail.com
- Prof. Dr. Che Husna Azhari, Universiti Kebangsaan Malaysia - husna.azhari@gmail.com
- Ir. Max Ong Chong Hup, Norimax Sdn Bhd - maxong54@gmail.com
- Ir. Mohd Suradi Yasin, Materials Technology Education Sdn Bhd - msuradiyasin@yahoo.com.sg
- Dato' Dr. Ong Eng Long, Kossan Rubber Industries Bhd - ongelong@gmail.com

IMTCE 2014 ORGANISING COMMITTEE

I. Organising Chairperson – Technical Symposiums

Assoc. Prof. Dr. Chan Chin Han, Universiti Teknologi MARA, Malaysia (cchan_25@yahoo.com.sg)

1. **International Symposium on Advanced Polymeric Materials 2014 (ISAPM 2014)**

   Symposium Co-chairpersons:
   - Assoc. Prof. Dr. Chia Chin Hua (Universiti Kebangsaan Malaysia)
   - Prof. Dr. Sabu Thomas, (Mahatma Gandhi University, India and Universiti Teknologi MARA, Malaysia)
   - Ms. Siti Haslina Ramli (PETRONAS Research, Malaysia)

2. **International Symposium on Materials Characterisation and Testing 2014 (ISMCT 2014)**

   Symposium Co-chairpersons:
   - Eur. Ing. Nigel Brewitt (Norimax Sdn Bhd, Malaysia)
   - Dr. Hasnah Abdul Wahab (SIRIM Berhad, Malaysia)
   - Dr. Andrew Spowage (Woodgroup Intetech, Malaysia)

3. **International Symposium on Coatings Technology 2014 (ISCT 2014)**

   Symposium Co-chairpersons:
   - Assoc. Prof. Dr. Rajkumar Durairaj (Universiti Tunku Abdul Rahman, Malaysia)
   - Mr. David Lim Chee Cheong (ExxonMobil E&P (M) Inc, Malaysia)
   - Ms. Nurul Asni Mohamed (PETRONAS GTS, Malaysia)
   - Mr. Mohd Hawari Hassan (PETRONAS GTS, Malaysia)

4. **International Symposium on Metallurgy and Welding Technology 2014 (ISMWT 2014)**

   Symposium Co-chairpersons:
   - Prof. Dr. A. S. M. A. Haseeb (Universiti Malaya, Malaysia)
   - Ir. Dr. Edwin Jong Nyon Tchan (Jurutera Perunding Akal Sdn Bhd, Malaysia)
   - Mr. M. Hasbi B. A. Razak (PETRONAS Carigali Sdn Bhd, Malaysia)

5. **International Symposium on Corrosion & Materials Degradation 2014 (ISCMD 2014)**

   Symposium Co-chairpersons:
   - Dr. Mahesh Talari (Universiti Teknologi MARA, Malaysia)
   - Pn. Halimah Pit (Shell, Malaysia)

6. **Technical Publications**

   (Chairperson - Dr. Karen Wong Mee Chu, Universiti Tunku Abdul Rahman, Malaysia)

7. **Technical Visits**

   (Chairperson - Dr. Tan Winie, Universiti Teknologi MARA, Malaysia)

8. **Conference Website**

   (Chairperson - Dr. Valliyappan David Natarajan, Universiti Teknologi MARA, Malaysia)

9. **Masterclasses**

   (Chairperson - Mr. Yoga Sugama Salim, Universiti Malaya, Malaysia)

10. **Poster Sessions**

    (Chairperson - Ms. Fatin Harun, Universiti Teknologi MARA, Malaysia)

II. Organising Chairperson – Events
Ir. Abd Razak Abu Hurairah, Morecap Sdn Bhd, Malaysia (razak@morecap.com.my)

Sponsorship
Dr. Aaron Goh Suk Meng (Singapore Institute of Technology, Singapore)
Ir. Lai Kah Chiung (PETRONAS RAPID Project, Malaysia)

Marketing and Promotion
Mr. Kang Kim Ang (CorrTrol Sdn Bhd, Malaysia)
Dato' Ir. Mohd Jai Suboh (Velosi (M) Sdn Bhd, Malaysia)
Datuk Ir. Wahiruddin Wahid (PRA Services Sdn Bhd, Malaysia)
Mr. Frankie Chua (PLC Laboratory Sdn Bhd, Malaysia)
Mr. Harry Woon (Bredero Shaw (M) Sdn Bhd, Malaysia)

Exhibition
Dr. Azmi Idris (SIRIM, Malaysia)

Plant Visits
Ir. Mohd Raziff Embi (Malakoff Power, Malaysia)

III. Organising Chairperson-Awards
Professor Dr Esah Hamzah - Universiti Teknologi Malaysia

1. Materials Lecture Competition (MLC)
Co-Chairpersons:
Professor Dr. Esah Hamzah - Universiti Teknologi Malaysia
Dr. Norakmal Fadil - Universiti Teknologi Malaysia

2. Green Materials Awards
Co-Chairpersons:
Professor Dr Saifollah Abdullah- Universiti Teknologi MARA
Ir. Ab Razak Hurairah - Morecap Sdn Bhd

3. Posters Awards
Co-Chairpersons:
Professor Dr. Esah Hamzah - Universiti Teknologi Malaysia
Professor Dr. Ahmad Fauzi Mohd Nor-Universiti Sains Malaysia

SPECIAL LECTURES

1. 

Datuk Mohd Anuar Taib
President – PETRONAS Carigali Sdn. Bhd.
Vice President & Chief Executive Officer, PETRONAS Development & Production.
Title: Cost Effectiveness in the Oil & Gas Industry – Quality & Safety Assured
Session Chair : Datuk Ir. Dr. Abdul Rahim Hj Hashim

2. 

Ir. Pramod Kumar Karunakaran
Vice President of Infrastructure & Utilities (Gas & Power Business), PETRONAS, Malaysia.
Title: Achieving Effective Project Delivery Through A Structured QA & QC Approach
Session Chair : Datuk Ir. Dr. Abdul Rahim Hj Hashim

The Session Chairman for the Special Lectures is Yang Berbahagia, Datuk. Ir. (Dr) Abdul Rahim Hj Hashim who is the Vice Chancellor / CEO of the Universiti Teknologi PETRONAS. Yang Berbahagia is also the current Advisor of the Institute of Materials, Malaysia (IMM).

PLENARY SPEAKERS

1. 

Prof. Dr. Sabu Thomas
Mahatma Gandhi University, India and Universiti Teknologi MARA, Malaysia
Title: High Performance Epoxy Nanocomposites for Coating Applications
Session Chair : Prof. Dr. Alejandro J. Müller

2. 

Dr. Liane Smith
Director of Woodgroup Intetech Ltd., United Kingdom
Title: Putting Theory into Practice - Lessons Learnt from Oil & Gas Industry
Session Chair : Prof. Dr. Mohamad Kamal Harun

KEYNOTE SPEAKERS FOR SYMPOSIUMS

1. International Symposium on Advanced Polymeric Materials (ISAPM 2014)

1. 
Prof. Dr. Abdul Kariem Arof
Centre for Ionics University Malaya, Physics Department, Faculty of Science, Universiti Malaya, Malaysia
Title: Chitosan-Based Polymer Electrolytes and Their Potential Application in Dye Sensitized Solar Cells

2. 
Prof. Dr. Alejandro J. Müller
1) University of the Basque Country (UPV-EHU), SPAIN
2) USB Polymer Group, Materials Science Department, Simón Bolívar University, Caracas 1080-A, Venezuela
Title: The Effects of Confinement on the Nucleation and Crystallization of Polymer Chains

3. 
Prof. Dr. Jas Pal Badyal,
Durham University, United Kingdom
Title: Functional Nanocoatings

4. 
Prof. Dr. Seng Neon Gan
Department of Chemistry, Universiti Malaya, Malaysia
Title: Environmental Friendly Coating Resins from Palm Oil

5. 
Dr. Kong Chin Chew
Head of Long Term Development Asia Laboratory, Beckers Group, Malaysia
Title: Hitting the Target: Getting the Right Cure for Coatings and the Methods to Analyse it

6. 
Dr. Mustafa Kansiz
Agilent Technologies, Australia
Title: Novel Applications of FTIR & FTIR Chemical Imaging Microscopy - Simultaneous Spatial and Chemica ion at the Micron Level

7. 
Dr. K. H. Leong
PETRONAS Research, Malaysia
Title: Maximising the Benefits of Composites and Polymers to Combat Corrosion in Oilfield Pipelines an Risers

8. 
Dr. Russell J. Varley
CSIRO, Australia
Title: : Novel Approaches to Sustainable Materials Development using Synthetic, Simulation and Self-healing Strateg

2. Inte ymposium on Materials Characterisation and Testing (ISMCT 2014)

1. 
Prof. Dr. David Rugg
Rolls-Royce PLC, UK
Title: The Industrial Application of University Based Materials Science

2. 
Dr. Badrol Bin Ahmad
General Manager, Performance Analyses & Diagnostics, Tenaga Nasional Berhad, Malaysia
Title: Electricity Delivery Infrastructures: Integrity Management Issues and Challenges

3. 
Dr. Hasnah Abdul Wahab
Head of Joining & Inspection Services, Technical Services Division, SIRIM Berhad, Malaysia
Title: Failure Analysis in Asset Integrity Management

4. 
Mr. Mohamad Azmi Noor
Head Asset Integrity Division HSE, Asset Integrity Division, EPHSE, EVP'S Office, E&P Business, PETRONAS
Title: Asset Integrity Management

5. 
Mr. Robert A. Burn
Technical Integrity Manager, Murphy Oil Malaysia, Malaysia
Title: Failure of Welded Structures in the Oil and Gas Industries

6. 
Mr. Ronald J. Parrington
President ,IMR Test Labs, The United of America States (USA)
Title: Visual Examination of Failures

3. International Symposium on Coatings Technology (ISCT 2014)

1. 
Prof. Dr. Khiam Aik Khor
Director, Research Support Office and Bibliometrics Analysis, Nanyang Technological University, Singapore
Title: Global Research Trends in Surface Coatings Technology Analysed with I ics Tools

2. 
Prof. Dr. Rupert Schreiner
Ostbayerische Technische Hochschule Regensburg, Germany
Title: MEMS Vacuum Sensors for Application in Coating Technology

3. 
Mr. Abdul Rashid
J. Ray McDermott Batam Fabrication Yard
Title: Performance Requirements for Coatings in The Gas and Oil Industry

4. 
Ms. Nurul Asni Mohamed
Principal Engineer (Corrosion), Group Technical Solutions, Technical & Engineering Division, PETRONAS GTS, Mala
Title: Coatings Fingerprinting

4. International Symposium on Metallurgy and Welding Technology (ISMWT 2014)

1. 
Prof. Dr. Yu-Ichi Komizo
Joining and Welding Research Institute, Osaka University, Japan
Title: Status & Prospects of Advanced Structural Steel and its Weldability

2. 
Assoc. Prof. Dr. G. D. Janaki Ram
Indian Institute of Technology Madras, Chennai, India
Title: New Possibilities With Friction Deposition – from Overlay Coatings to Buttering to Additive Manufact

3. 
Mr. Chee Pheng Ang
Secretary General, Asian Welding Federation, Singapore
Title: AWF CWCS & MOS

4. 
Mr. Hasbi Razak
PETRONAS Carigali Sdn Bhd, Malaysia
Title: Welding Inspection

5. 
Mr. Hideaki Harasawa
The Japan Welding Engineering Society, Japan
Title: Significant Role of Welding Engineer to Enhance Weld Integrity -Contribution of J W E S Certifica am in Asian Industries

5. International Symposium on Corrosion and Materials Degradation (ISCMD 2014)

1. 
Dr. Reza Javaherdashti
Parscorrosion Consultants, Perth, Australia
Title: Clostridia: (perhaps) the Least Known Corrosion-Related Bacteria in Industry

2. 
Dr. T. S. N Sankara Narayanan
Chonbuk National University, South Korea
Title: Controlling the Corrosion Rate of Magnesium and its Alloys by Surface Treatments for the Developn gradable Implants: Prospects and Challenges

3. 
Pn. Halimah Pit
Team Lead MCI-KL Deepwater Office, Projects & Technology, Upstream Major Project (East), Sabah Shell Pet td, Malaysia
Title: Corrosion Integrity

4. 
Tuan Haji Mohd Kamal Azam Ibrahim
Senior Manager, Materials/Corrosion Facilities Engineering Department, PETRONAS Carigali Sdn Bhd, Malaysia
Title: Corrosion and Materials Degradation

Summary of participation in IMTCE2014 (as at 31st March 2014)

Table 1: Total Submission of Abstract

SYMPOSIUM TITLE	TOTAL SUBMISSION
International Symposium on Advanced Polymeric Materials 2014 (**ISAPM 2014**)	189
International Symposium on Materials Characterization and Testing 2014 (**ISMCT 2014**)	122
International Symposium on Coatings Technology 2014 (**ISCT 2014**)	59
International Symposium on Metallurgy and Welding Technology 2014 (**ISMWT 2014**)	72
International Symposium on Corrosion & Materials Degradation (**ISCMD 2014**)	103
Delegates of 9th International Materials Technology Conference and Exhibition (**IMTCE 2014**)	9
TOTAL:	554

Table 2: Abstract by Categories

Symposium	Plenary	Keynote	Invited	Oral	Poster	TOTAL
ISAPM 2014	1	8	70	35	75	189
ISMCT 2014	0	6	9	82	25	122
ISCT 2014	0	4	5	36	14	59
ISMWT 2014	0	5	8	50	9	72
ISCMD 2014	1	4	35	46	17	103
TOTAL:	2	27	127	249	140	545

Table 3: Academia - Industry Submissions

Symposium	Academic papers	Industry papers	TOTAL	Local papers	International papers	TOTAL
ISAPM 2014	179	10	189	80	109	189
ISMCT 2014	96	26	122	80	42	122
ISCT 2014	50	9	59	33	26	59
ISMWT 2014	58	14	72	31	41	72
ISCMD 2014	71	32	103	31	72	103
TOTAL:	454	91	545	255	290	545

Table 4: Submission by Countries

No	Country	Total submission
1	Algeria	2
2	Australia	7
3	Austria	1
4	Bangladesh	2
5	Belgium	1
6	Botswana	1
7	Brazil	1
8	Bulgaria	1
9	Canada	2
10	China	13
11	Czech Republic	1
12	Denmark	1
13	Egypt	3
14	France	8
15	Germany	7
16	Greece	2
17	India	65
18	Indonesia	4
19	Iran, Islamic Republic of	18
20	Iraq	5
21	Italy	4
22	Japan	22
23	Jordan	2
24	Korea, Republic of	23
25	Kuwait	2
26	Libyan Arab Jamahiriya	4
27	Malaysia	255
28	Netherlands	5
29	Nigeria	6
30	Oman	3
31	Pakistan	4
32	Philippines	1
33	Poland	2
34	Portugal	1
35	Russian Federation	2
36	Saudi Arabia	6
37	Singapore	7
38	Slovakia	1
39	Slovenia	1
40	South Africa	2
41	Spain	2
42	Sri Lanka	1
43	Taiwan	10
44	Thailand	6
45	Turkey	8
46	United Arab Emirates	4
47	United Kingdom	8
48	United States	5
49	Venezuela	2
50	Vietnam	1
	Total	545

International Symposium on Advanced Polymeric Materials List of Invited Speaker

No	Full Name	Affiliation	Title
1	Prof. Dr. Basim Abu-Jdayil	UAE University, United Arab Emirates	Date Pits-Based Heat insulator Composites
2	Prof. Dr. Guoping Chen	National Institute for Materials Science, Japan	Manipulation of Stem Cell Functions by PVA-Micropatterned Surfaces
3	Prof. Dr. Hyoung Jin Choi	inha University, Korea	Graphene Oxide/Polymer Composites and Their Electrorheological Characteristics
4	Prof. Dr. Allan Coombes	international Medical University, Malaysia	Design and in Vitro Evaluation of Biopolymeric Carriers for Oral Delivery of Drug-Loaded Nanoparticles to The Colon for Tumour Targeting
5	Prof. Dr. Rusli Daik	Universiti Kebangsaan Malaysia	Biodegradable Polyesters From Oil Palm Empty Fruit Bunch Prepared Via Enzymatic Polymerization
6	Prof. Dr. Dinesh Desai	L. D. Engineering College, India	The Advancements in Fiber-Polymer Composites
7	Prof. Dr. Thierry Djenizian	University of Aix-Marseille, France	Conformal Electrodeposition of Polymer Electrolyte in Titania Nanotubes for The Fabrication of All-Solid-State Li-Ion Microbatteries
8	Prof. Dr. Paolo Ferruti	Università Degli Studi Di Milano and INSTM, Florence, Italy	Updating Synthesis, Properties and Applications of Polyamidoamines
9	Prof. Dr. Khashayar Ghandi	Mount Allison University, Canada	Free Radicals on The Surface of Nanoparticles
10	Prof. Dr. Erik Heeres	University of Groningen, Netherlands	Starch Modifications in Supercritical Carbon Dioxide
11	Prof. Dr. Mahesh Hosur	Tuskegee University, United State of America	Synthesis and Characterization of Bio-Based Polyester Resin with Tung Oil Additive for Potential Styrene Replacement
12	Prof. Dr. Jun-ichi Kadokawa	Kagoshima University, Japan	Preparation of Chitin Nanocomposite Materials Through Gelation with Ionic Liquid
13	Prof. Dr. Yang Ke	China University of Petroleum, China	Nanocomposite Material Application Principles, Techniques and Technologies, and Nanoeffects in Oil and New Energy Field
14	Prof. Dr. Pawan Khanna	Diat, Drdo, India	Polymerization of Pyrrole Via in-Situ formation of Metal-Nanoparticles and Their Application as Gas Sensor
15	Prof. Dr. Dukjoon Kim	Sungkyunkwan University, South Korea	Sulfonated Poly(Arylene Ether Ketone) Membranes for Fuel Cell
16	Prof. Dr. Sang Ouk Kim	Kaist	Tailored assembly of Chemically Modified/Doped Carbon Nanotubes and Graphene
17	Prof. Dr. Philippe Knauth	Aix Marseille University-Cnrs, France	Ionic Conducting Polymers for Electrochemical Energy Applications
18	Prof. Dr. Joachim Koetz	University of Potsdam, Germany	pH-Dependent Tuning of Nanocomposites in Presence of Alternating Polyampholytes
19	Prof. Dr. Doo Sung Lee	Sungkyunkwan University, Korea	Block Copolymer Hydrogels for Biomedical Applications
20	Prof. Dr. Hazizan Md Akil	Universiti Sains Malaysia, Malaysia	Properties of Multiwalled Carbon Nanotubes-Alumina (MWCNT-Al2O3) hybrid / Polydimethlsiloxane (PDMS) Nanocomposites
21	Prof. Dr. Kuen Park	Seoul National University of Science and Technology, Korea	Applications of Ultrasonic Imprinting Lithography to Micropattern Replication on Thermoplastic Polymer Films
22	Prof. Dr. Francesco Picchioni	University of Groningen, Netherlands	Thermally reversible interactions as designing tool for novel polymeric materials
23	Prof. Dr. Zhaobin Qiu	Beijing University of Chemical Technology, China	Crystallization Behaviour, Morphology and Properties of Biodegradable Polymers
24	Prof. Dr. Carmen S. Renamayor	Uned, Spain	Fractionation of Polyacrylamide in Lamellar Mesophases
25	Prof. Dr. Christophe Serra	University of Strasbourg, France	Application of microfluidic-engineered polymer micro and nanoparticles
26	Prof. Dr. ashok Sharma	Deenbandhu Chhotu Ram University of Science & Technology, Murthal, Sonepat, India	Nano-structured Conducting Polymer based Electrodes for Energy Storage Devices
27	Prof. Dr. Sudha Srivastava	Tata Institute of Fundamental Research, Mumbai	NMR methodology: Application to polymeric materials
28	Prof. Dr. Sarat Kumar Swain	Veer Surendra Sai University of Technology, India	Effect of Nano Boron Nitride on The Thermal and Gas Barrier Properties of Biopolymers
29	Prof. Dr. Isao Takahashi	Kwansei Gakuin University, Japan	Controlling the molecular orientation and crystallinity in the ultrathin films of biodegradable Poly(lactide) stereocomplex, Poly(3-hydroxybutyrate) and polymer blends
30	Prof. Dr. Poonam Tandon	University of Lucknow, India	Study of Structure, Dynamics and Electronic Properties Conducting Polymers Using Quantum Chemical Calculations
31	Prof. Dr. Hiroshi Uyama	Osaka University, Japan	Green Composites Based on Plant Oils
32	Prof. Dr. Jin-Ye Wang	Shanghai Jiaotong University, China	Cell Adhesion on Zein Films Under Shear Stress Field
33	Prof. Dr. Jinying Yuan	Tsinghua University, China	Carbon Dioxide Stimuli-Responsive Polymer

34	Prof. Dr. Sarani Zakaria	Universiti Kebangsaan Malaysia, Malaysia	Production of Bio-based Phenolic Resin from Oil Palm Empty Fruit Bunch
35	Prof. Dr. Qian Zhou	China University of Petroleum, China	Study on The Preparation of Nucleating Agents for Polymer by Using Organic Modified Heavy Residual Oil
36	Assoc. Prof. Dr. Azura A Rashid	Universiti Sains Malaysia, Malaysia	Utilization of Waste Natural Rubber Latex as Laminated Mold Cleaning Compound Application
37	Assoc. Prof. Dr. Yoshito Ando	Kyushu Institute of Technology, Japan	Enhancement of Compatibility Based on Vapor-Phase assisted Surface Polymerization (VASP) Method for Polymer Composites with Agricultural Wastes
38	Assoc. Prof. Dr. Michel Bouquey	Uds/Icpees, France	in Situ Polymerization of Styrene into A PMMA Matrix by Using An Extensional Flow Mixing Device: A New Experimental Approach to Elaborate Polymer Blends
39	Assoc. Prof. Dr. Wen Shyang Chow	Universiti Sains Malaysia, Malaysia	Biobased Epoxidized Vegetable Oils Termosetting Materials: Greener Blends and Nanocomposites
40	Assoc. Prof. Dr. Md Enamul Hoque	University of Nottingham Malaysia Campus	Gelatin Electrospun Nanofibre Scaffold for Potential Wound Healing Application
41	Assoc. Prof. Dr. Lai Har Sim	Universiti Teknologi MARA, Malaysia	Thermal and Conductivity Study on Blends of Poly(Ethylene Oxide), Polyacrylates and Lithium Salt
42	Assoc. Prof. Dr. Omar Soliman	Jazan University, Saudi Arabia	Adhesion of Nanoparticles-Stabilized Food Emulsion to Packaging Sheets
43	Assoc. Prof. Dr. Tin Wui Wong	Universiti Teknologi MARA, Malaysia	Microcrystalline Cellulose-Less Alginate Spheroids Designed by Extrusion-Spheronization Technique
44	Dr. Deewan Akram	Jazan University, Saudi Arabia	Bionanocomposites for Corrosion Protective Coatings: Physico-Mechanical and Potentiodynamic Polarization Measurements Studies
45	Dr. Dusan Berek	Polymer Institute, Slovak Academy of Sciences, Slovakia	Size Exclusion Chromatography – A Blessing and Curse of Polymer Science and Technology
46	Dr. BIRENDRA Bindhani	Kiit University, Bhubaneswar, Odisha, India	Green Synthesis and characterization of silver/ montmorillonite/ chitosan bionanocomposites using Ocimum sanctum L. (Tulsi) and their antibacterial activity
47	Dr. Sandhyarani Biswas	National Institute of Technology, Rourkela, India	Effect of Fiber Loading and Orientation on Mechanical Behaviour of Jute Fiber Reinforced Epoxy Composites
48	Dr. Aik Hwee Eng	Ansell Shah Alam, Malaysia	Non-Rubbers in Natural Rubber
49	Dr. Kheng Lim Goh	Newcastle University, United Kingdom	Nanostructured Particulates Reinforcing Biopolymer Composites
50	Dr. Saber Ibrahim	National Research Center, Egypt	Encapsulated Carbon Back through Miniemulsion Polymerization in Presence of Nanoparticles of Modified Silica as Surfactant
51	asst. Prof. Dr. S. Jayabal	A.C.College of Engineering and Technology, India	Optimization of Impact Behaviour of Bio Particulated Coir-Vinyl Ester Composites Using Simulated Annealing Algorithm
52	Dr. Kishore Ginjupalli	Manipal College of Dental Sciences, Manipal, India	Preparation and evaluation of PLGA 50:50 and β-TCP scaffolds with internal microclimate controlling additives
53	Dr. Samantha Kartick	Central Institute for Research on Cotton Technology (CIRCOT), India	Hydrophobic Functionalization of Cellulosic Substrates using atmospheric Pressure Plasma
54	Dr. Anupama Kumar	Visvesvaraya National Institute of Technology, India	Dummy-Template Molecularly Imprinted Polymers for Removal of 2, 4-Dichlorophenol
55	Dr. Hong Ngee Lim	Universiti Putra Malaysia, Malaysia	Morphological Effect of Graphene-Based Nanocomposites on Supercapacitance
56	Dr. Grzegorz Luka	Institute of Physics Polish Academy of Sciences, Poland	Hybrid Organic-inorganic Electronics Based on Zinc Oxide
57	Dr. Leon Mishnaevsky Jr.	Technical University of Denmark, Denmark	Computational Micromechanics of Nanoreinforced Composites for Wind Energy Applications
58	Dr. Valliyappan David Natarajan	Universiti Teknologi MARA, Malaysia	Performance Evaluation of Polyurethane-Kenaf Foam Composites for Shock Cushioning and Packaging Applications
59	Dr. Bryan Pajarito	University of The Philippines - Diliman	Diffusion in Polymer Composites Reinforced with Flakes and Triangular-Shaped Fillers
60	Dr. Christina Papenfuss	Hochschule Für Technik Und Wirtschaft, Germany	Theoretical description of orientational order in carbon nanotube suspensions and resulting polymers
61	Dr. Chantara Thevy Ratham	Malaysian Nuclear Agency, Malaysia	Effect of devucanizing agents on the radiation induced crosslinking and degradation of Ethylene Vinyl Acetate/Waste Tire Dust blends

62	Dr. Dr. Azzuliani Supangat	University of Malaya, Malaysia	The Fabrication of P3HT:VOPcPhO Composite Nanorods Arrays via Template-assisted Method
63	Dr. Winie Tan	Universiti Teknologi MARA, Malaysia	Hexanoyl Chitosan/Polystyrene Blend Polymer Electrolytes: Conductivity by Correlated Barrier Hopping
64	Dr. Wei Boon Teo	Perkinelmer, Singapore	Advanced IR Analytical Technique for Polymeric Material Characterization
65	asst. Prof. Dr. Kim Yeow Tshai	University of Nottingham Malaysia Campus	Flammability and Smoke Density of Kenaf and Oil-Palm Fibre Composites
66	Dr. Sachin Waigaonkar	Bits Pilani K K Birla Goa Campus, India	Simulation of Rotational Moulding of Plastics for a Rock and Roll Rotational Moulding Machine using ROTOSIM

International Symposium on Materials Characterisation and Testing List of Invited Speaker

No	Full Name	Affiliation	Title
1	Prof. Azemi Samsuri	Universiti Teknologi MARA, Malaysia	Filler Reinforcement in Natural Rubber
2	Prof. Chris Grovenor	University of Oxford, United Kingdom	Characterization of Grain Boundary Segregation in Metals Using High-Resolution Imaging by Nanosims
3	Dr. Fabien Silly	CEA Saclay, France	Engineering Multicomponent Organic Nanoarchitectures Based on Perylene Derivatives Taking Advantage of Molecular Self-assembly
4	Dr. Kaushik Pal	Aristotle University of Thessaloniki, Greece	Simple Synthetic Strategy of Few Layer Graphene and Nanomaterials Architecture Based Microscopy Studies
5	Dr. Le May Iain	Metallurgical Consulting Services Ltd., Canada	Failure Analysis: Some interesting Cases
6	Dr. Martin Kogelschatz	University Joseph Fourier, France	Reliability of Gate Oxide Stacks Studied by Scanning Probe Microscopy Under Ultrahigh Vacuum
7	Mr. Nigel Brewitt	MTIS Sdn. Bhd., Malaysia	Stress Corrosion Cracking in A Stainless Steel Heat Exchanger

International Symposium on Coatings Technology List of Invited Speaker

No	Full Name	Affiliation	Title
1	Prof. Ill-Soo Kim	Mokpo National University, Korea, Republic of	A Study on Welding Quality for the Automatic Overlay Welding Process Based on MD Technology
2	Prof. Mario Ferreira	University of Aveiro, Portugal	Active Anticorrosion Coatings with inhibitor Nanocontainers
3	Assoc. Prof. Rajkumar Durairaj	Universiti Tunku Abdul Rahman, Malaysia	Rheological test method for characterising modern paint systems for protective and decorative coatings industry
4	Dr. Juergen Konys	Karlsruhe Institute of Technology, Germany	Evaluation of Coating Processes for The Development of Aluminum-Based Barriers for Fusion Applications
5	Dr. Ramesh Kasi	University of Malaya, Malaysia	Development of Organic Coatings Using Polyaniline-Tio2 Blended with Acrylic-Silicone Resins

International Symposium on Metallurgy and Welding Technology List of Invited Speaker

No	Full Name	Affiliation	Title
1	Prof. AmirHossein Kokabi	Sharif University of Technology, Islamic Republic of Iran	Improvement of wear resistance and surface coefficient of materials using Friction Stir Processing method
2	Prof. P. S. Wei	National Sun Yat-Sen University, Taiwan	Analysis of Defects Encountered in Keyhole Welding
3	Assoc. Prof. Dheerendra Kumar Dwivedi	Indian Institute of Technology Roorkee, India	Advances in Aluminium Joining Technologies: Challenges and Opportunities
4	Assoc. Prof. Gobboon Lothongkum	Chulalongkorn University, Thailand	Effects of Nitrogen and Hydrogen in Argon Shielding Gas on Weld Bead Profile, ï□¤-Ferrite and Nitrogen Contents of The Pulsed-TIG Welds of AISI 316L Stainless Steels
5	Assoc. Prof. Hiroshi Nishikawa	Joining and Welding Research Institute, Osaka University	Microstructural Modifications of Sn-Bi/Cu Joints Soldered by Laser Process
6	Dr. Jian Luo	Chongqing University, China	A New Electronic Current Aided Friction Stir Welding Method and Process Simulation
7	Dr. Zakaria Md Qadir	University of New South Wales, Australia	Applications of Advanced Electron Microscopy Techniques in Academic and industrial Research
8	Mr. Ngai Mun Chow	Shell (China) Project and Technology, China	Some Energy Dispersive X-Ray (EDX) Analysis, Elemental Composition Mapping, and Metallurgical Study for Welding Dissimilar Metals Between Stainless Steel and Titanium Alloy

International Symposium on Corrosion and Materials Degradation List of Invited Speaker

No	Full Name	Affiliation	Title
1	Prof. Abeer Al Bawab	University of Jordan , Jordan	Preparation of Different Dispersions formulation for Consolidation of Jordanian Basaltic Artifacts
2	Prof. Anand Sawroop Khanna	Indian Institute of Technology, India	Pipeline integrity Through Coatings
3	Prof. Flavio Deflorian	University of Trento, Italy	innovative Coatings for Corrosion Protection Based on Nanostructured Organic and Hybrid Layers
4	Prof. Han Seung Lee	Hanynag University, Republic of Korea	Development of The Zn-Sn Thermal Metal Arch Spraying Method for Anti-corrosion of Steel Structures
5	Prof. K. Mondal	Materials Science and Engineering, Iit Kanpur, India	Passivation Behavior of Modified Ferritic-Pearlitic Railway Axle Steels
6	Prof. Mumtaz Quraishi	Indian Institute of Technology (Banaras Hindu University), India	Green Corrosion inhibitors: Phenomenology Development and Applications
7	Prof. Raja Srinivasan Vngaranahalli	Indian Institute of Technology Bombay, India	Development of Environmentally assisted Cracking of Mg Alloys: The Role of Localized Corrosion
8	Prof. Sachiko ono	Kogakuin University, Japan	Recent Advances in Sealing of Anodic Oxide Films formed on Aluminum
9	Prof. Stefano Rossi	Department of industrial Engineering, University of Trento, Italy	innovative Organic Powder Coatings with Corrosion inhibitors
10	Prof. Taleb Ibrahim	American University of Sharjah, United Arab Emirates	Rosemary and Cypress leaves Extract-Green Corrosion inhibitors for Hydrochloric Acid Solution of Mild Steel
11	Prof. Tseng-Chang Tsai	National University of Kaohsiung, Taiwan	Application of Silica Based Film for Metal Protection
12	Prof. Yeh Jui-Ming	Chung Yuan Christian University, Taiwan	From Biomimetic Superhydrophobic Surfaces to Corrosion Protection Coatings
13	Assoc. Prof. Marjorie Valix	The University of Sydney, Australia	Designing Polymeric Protective Lining Materials for Sewer Pipes Based on Service Life Models
14	Assoc. Prof. Nikolai Boshkov	Institute of Physical Chemistry, Bulgaria	Corrosion Resistant Metal Nanocomposite Coatings
15	Dr. Artoto Arkundato	Physics Department, Faculty of Mathematical and Natural Sciences, Jember University, indonesia	Corrosion of Iron in High-Temperature Molten Liquid Lead and Lead-Bismuth: Modelling and Its inhibition Using Molecular Dynamics Simulation Method
16	Dr. Gadadhar Sahoo	R & D Center for Iron and Steel, Steel Authority of India Ltd., India	Corrosion of Steel Reinforcement in Concrete and Its Prevention
17	Dr. Hussain Almahamedh	SABIC, Saudi Arabia	Impact of Microorganisms in Petrochemical industries
18	Dr. Mohammad Hasan Ramesht	Islamic Azad University - Central Tehran Branch, Islamic Republic of Iran	Effects of Corrosion on Flexural Behavior of Reinforced Concrete
19	Dr. Nalini Dhandapani	PSGR Krishnammal College for Women, India	Hypothetical Facts Relating Practical Observations for Corrosion inhibitors
20	Dr. Prakash Periakaruppan	Post Graduate & Research Department of Chemistry, Thiagarajar College,, India	Corrosion Mitigation with Environmentally Safe inhibitors
21	Dr. Ralph Baessler	BAM, Federal Institute for Materials Research and Testing, Germany	Materials Evaluation for Geothermal Applications
22	Dr. Ramesh Babu N	National Institute of Technology Tiruchirappalli, India	Development of Corrosion Resistant and Bioactive Coatings on Metallic Implant Materials by Plasma Electrolytic Oxidation
23	Dr. Robert Nuttall	PETRONAS Carigali Sinderian Berhad, Malaysia	Heterogeneities and Corrosion Management
24	Dr. Saleh Abusuilik	Hitachi tool Engineering Ltd, Japan	Corrosion Resistance of Crn-Based Hard Coatings Deposited by Cathodic Arc Physical Vapor Deposition for Precision Components
25	Dr. Shingo Kanehira	Ecotopia Science Institute, Nagoya University, Japan	Hydrogen Generation for Fuel Cells Via Corrosion Process of Aluminum
26	Dr. Sumana Ghosh	CSIR-Central Glass and Ceramic Research Institute, India	Glass-Ceramics as Gas Turbine Coatings
27	Dr. Veronique Vitry	University of Mons, Belgium	Corrosion Protection of Steel and Aluminium Alloys by Electroless Nickel-Boron and Duplex Electroless Nickel-Phosphorous/Nickel-Boron Coatings
28	Dr. Xiaolong Zhang	TNO, Netherlands	Corrosion of Steels in CO2 Storage Environments
29	Dr. Yunping Li	Tohoku University, Japan	Effects of Partially Substituting Cobalt for Nickel on the Corrosion Resistance of a Ni-16Cr-15Mo Alloy to Aqueous Hydrofluoric Acid
30	Dr. Zahiraniza Mustaffa	Universiti Teknologi PETRONAS, Malaysia	Dealing with Randomness of Corrosion Data
31	Mr. Ashri Mustapha	PETRONAS, Malaysia	offshore Pipeline Rehabilitation System
32	Mr. Izzudin Khairulannuar	Centre of Corrosion Research, PETRONAS, University of Technology, Malaysia	Electrochemical Noise Technique in Monitoring Co2 Corrosion in High Pressure and High Temperature Environment

33	Mr. Mohana Murali Adhyatmabhattar	Boruoge Pte Limited, United Arab Emirates	Extending The Life of Oil and Gas Pipelines Using Polyethylene Materials
34	Mr. Sadeq Hooshmand Zaferani	Petroleum University of Technology/ Pars Oil and Gas Company, Islamic Republic of Iran	investigating The Effective Factors on Modeling and Simulations assessment of Corrosion Protection Abilities for Organic Coatings
35	Mr. Salah Elkoum	Libyan Arab Jamahiriya	Corrosion of Duplex Stainless Steel Control Valves in Man-Made River Project in Libya

International Symposium on Advanced Polymeric Materials List of Oral Presenters

No	Full Name	Affiliation	Title
1	Assoc. Prof. Dr. Mohd Azmuddin Abdullah	Universiti Teknologi PETRONAS, Malalysia	Cytotoxic Effects of Drug-Loaded Hyaluronan-glutaraldehyde Cross-Linked Nanoparticles
2	Assoc. Prof. Dr. Ebrahim Abouzari-Lotf	University Teknologi Malaysia, Malaysia	Heat-Resistant, Highly Refractive, and Solution Processable Polyamides Containing Noncoplanar Ortho-Linked Structure
3	Assoc. Prof. Dr. Hanumanthappa Somashekarappa	University of Mysore, India	Study on Micro structural and Electrical Properties of $FeCl_3$ Doped HPMC/PVP Polymer Blend Films
4	Dr. Abdul-Aziz Al-Hashmi	Sultan Qaboos University, Oman	Use of Back-Produced Polymer Solutions from Polymer EOR to Decrease the Viscosity of Heavy Crude Oils by Emulsification
5	Dr. Tina Lefakane	Protechnik Laboratories, Republic of South Africa	Suitability and Permeation Studies of Selected Polymer Swatches Against Potent Organophosphonates and Toxic Industrial Chemicals
6	Dr. Abdul Malek	Universiti Kuala Lumpur-Malaysian Institute of Aviation Technology, Malaysia	Kenaf/Glass fiber Epoxy Composites Potential Application
7	Dr. Peter Ndibewu	Tshwane University of Technology, South Africe	Improved Road Stabilization using Polyelectrolytic Polymers
8	Dr. Samir Siddhanta	Bhawanipur E S College, Kolkata, India	Electrically Conducting Hydrogel
9	Dr. Albert Uchenna Ude	Universiti Kebangsaan Malaysia, Malaysia	Impact Behaviour of Bombyx Mori Silk Fibre Composite Face-sheet Sandwiched Coremat
10	Mr. John Olabode Akindoyo	Universiti Malaysia Pahang, Malaysia	Ultrasound Enhanced Natural Fiber Delignification: Case Study on Oil Palm Empty Fruit Brunch Fibre Reinforced Poly (Lactic) Acid Composite
11	Mr. Abubakar Umar Birnin-Yauri	Kebbi State University of Science and Technology, Aliero, Nigeria	Development of Borax Modified Starch-Based Plastics
12	Mr. Wei Kit Chee	Universiti Putra Malaysia, Malaysia	Preparation of Polypyrrole/Graphene/Zinc Oxide Nanocomposite as Supercapacitor Electrode
13	Ms. Hanna J. Maria	Mahatma Ghandi University, India	The Role of Nanoclay in Harmonizing the Properties of Immiscible and Incompatibile Natural Rubber/Nitrile Rubber Blends
14	Mr. Jithin Joy	Mahatma Gandhi University, India	Biological Preparation of Isora Nanofibers and Development and Characterization of Natural Rubber Nanocomposites
15	Mr. Umesh Kumar Parida	School of Biotechnology, KIIT University, Bhubaneswar, Odisha, India	Properties of Chitosan Nanoparticles - Coated PLGA Complex: A Sustained Drug Release Strategy with Improved Anticancer Effect *in Vitro* and *in Vivo* Studies
16	Mr. Rasidi Roslan	Universiti Kebangsaan Malaysia, Malaysia	Curing Kinetics of Bio-Based Phenol-Formaldehyde on Wood Joints with Dynamic Mechanical Analysis
17	Ms. Aneela Sabir	University of Punjab, Pakistan	Influence of Polyethylene Glycol 600 on Cellulose Acetate Membranes for Reverse Osmosis Desalination Process
18	Mr. Yoga Salim	Universiti Teknologi MARA, Malaysia	Influence of Rubbery Phase to Kinetics of Isothermal Crystallisation of Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)

International Symposium on Materials Characterisation and Testing List of Oral Presenters

No	Full Name	Affiliation	Title
1	Prof. Lee Jung Ju	Korea Advanced Institute of Science and Technology, Republic of Korea	FEM Analysis of Dmage Process of Bi-Materials of CFRP / Aluminum Beam Under Bending Load
2	Prof. Osman Adiguzel	Firat University, Turkey	Structural Characterization of Martensite in Copper Based Shape Memory Alloys
3	Assoc. Prof. Farouk S. Mjalli	Sultan Qaboos University, Oman	Ionic Solvents for the Deep Desulfurization of Liquid Fuels
4	Assoc. Prof. Noor Asmawati Mohd Zabidi	Universiti Teknologi PETRONAS, Malaysia	Performance of Cu/ZnO Catalyst in Hydrogenation of CO_2 to Methanol: Effect of Catalyst Support
5	Assoc. Prof. Satoshi Ohara	Osaka University, Japan	Fabrication of Metal-DNA and Metal-CNT Hybrid Nanostructures
6	Assoc. Prof. Talal Khamis Al Wahaibi	Sultan Qaboos University, Oman	Effects of Nano-Particles on Viscosity Reduction of Heavy Crude by Oil-Water Emulsion
7	Dr. Boon Kar Yap	Universiti Tenaga Nasional, Malaysia	Characterization Study for Polymer Core Solder Balls Under AC and TC Reliability Test
8	Dr. Cheng Tung Chong	Universiti Teknologi Malaysia, Malaysia	Physical Properties of Carbon Nanotubes Derived from Premixed Propane/Air Flame Synthesis
9	Dr. Harihara Venkataraman	BITS-Pilani, Hyderabad Campus, Hyderabad, India, India	Fabrication and Characterization of Samarium Ion Doped Barium Bismuth Niobate Ferroelectric Materials for Non-Volatile Random Access Memory Device Applications
10	Dr. Jin Hoe Foo	Universiti Teknologi Malaysia, Malaysia	Nanostructure Control via Electron-Bean Irradiation in Amorphous Carbon Coatings
11	Dr. Kun-Lin Lin	National Nano Device laboratories (NDL), Taiwan	Phase Identification Using Analytical Transmission Electron Microscopy
12	Dr. Mohd Azman Abdullah	Universiti Teknikal Malaysia Melaka, Malaysia	the Analysis of Natural Rubber as the Vibration Absorber for Handheld Machine
13	Dr. Mohd Zuli Jaafar	Universiti Teknologi MARA, Malaysia	Comparison of Variable Selection Methods to Classify Cooking Oils Using Ft-Nir Spectral Data
14	Dr. Muharrem Pul	KÃƒâ€žÃ‚±rÃƒâ€žÃ‚±kkale University, Turkey	Production of Al-B4C Composites by Pressure infiltration and Examination of Structural Properties
15	Dr. Saleh Alhajeri	the Public Authority for Applied Education and Training, Kuwait	the Effect of Strain Reversal on Aluminium and Titanium Alloys During Processing by High Pressure torsion
16	Dr. Thar M. Badri Albarody	Universiti Teknologi PETRONAS, Malaysia	Materials Characterization and Testing of Corroded offshore Risers
17	Dr. Wirach Taweepreda	Prince of Songkla University, Thailand	Characterization of Crosslinked Latex Film From Natural Rubber (Nr) Blending With Carboxyalted Styrene Butadiene Rubber (Xsbr) Using X-Ray Absorption Spectroscopy
18	Mr. Airee Afiq Abd Rahim	Universiti Kebangsaan Malaysia, Malaysia	Life Prediction of Oil and Gas Pipeline by Using Strain Gauge During Actual Operation
19	Mr. Amir Arifin	Universiti Kebangsaan Malaysia, Malaysia	Powder injection Moulding of Hydroxyapatite/Titanium Alloy Ti6Al4V Composite Using Palm Stearin as Based Binder
20	Mr. Ashafi`E Mustafa	Universiti Teknikal Malaysia Melaka, Malaysia	Pre-Materials Selection for Eco-Aware Lightweight Friction Material
21	Mr. Azmizam Manie @ Mani	Universiti Malaysia Sabah, Malaysia	Characteristic of ZnO Thin Films Deposited by Rf Powered Magnetron Sputtering
22	Mr. Basri Din Kamar	University Malaya, Malaysia	Effect of Tin Content in Cadmium-Free Ag-Cu-Sn Brazing Filler Metals on Wettability, Shear Strength and Microstructure
23	Mr. Chai Teck Jung	Politeknik Kuching Sarawak, Malaysia	Performance of Concrete Slabs Containing Recycled industrial Timber Ash (Rita) as Aggregate Replacement
24	Mr. Dinesh Kumar	Indian Institute of Technology Kharagpur, India	Effect of Cooling Rate on the formation of Thermal Î±` and Îµ Martensite in Fe-20Mn-0.35C-1.5Al TWIP Steel and Its Correlation With Mechanical Properties
25	Mr. Dzul Fahmi Mohd Husin Seria	Universiti Malaysia Sabah, Malaysia	Spray-Deposited Tips-Pentacene Organic Thin-Film on Pmma for Organic Transistor Applications
26	Mr. Hiroshi Tomizawa	Tosoh Asia Pte Ltd, Japan	Fundamental Properties of Newly Developed Ultra-High-Temperature Gpc System and Its Application.
27	Mr. Kevin Alvin Eswar	Universiti Teknologi MARA, Malaysia	Precursor Molarity Effect on ZnO Nanostructures Growth on Porous Silicon via Solution-Based Synthesization
28	Mr. Mohamad Faizal Abdullah	Universiti Kebangsaan Malaysia, Malaysia	Compering the Strain Signal of AZ31B and Impacter on Impact Test Using Signal Processing
29	Mr. Mohd Asyrak	Faculty of Industrial Sciences & Technology, Malaysia	Synthesis and Characterization of Ru Supported ZSM-5 Catalyst for Liquid Phase Selective Oxidation of Model Primary C-H Bond
30	Mr. Mohd Husairi Fadzilah Suhaimi	NANO-SciTech Centre (NST), Institute of Science, Malaysia	Effect of Immersion Time to ZnO Nanostructures Deposited on PSiNs Template
31	Mr. Mudassir Hasan	Yeungnam University, Republic of Korea	Synthesis and Characterization of Polyvinyl Chloride (PVC) - Titanium oxide (TiO2) Blend by Simple Solution Evaporation Technique
32	Mr. Safaa Saud	Universiti Teknologi Malaysia, Malaysia	Effects of Alloying Elements on Phase Transformation Behavior and Microstructure of Cu-Al-Ni Shape Memory Alloys
33	Mr. Sanyasiah Garimella	PETRONAS Carigali Sdn Bhd, Malaysia	Ball Valve Type Acceptance Test (Tat) Â€“ Assurance of Soft Seating Material Selection
34	Mr. Subhanarayan Sahoo	Trident Academy of Technology, India	Effect of Sintering on Sensitivity of CaTiO3 Nano Ceramics for NTCR Thermistor : A Realization Through Steinhart-Hart Model

35	Mr. Takeaki Nadabe	The University of Tokyo, Japan	Numerical Analysis on Effect of High Temperature for Compressive Strength of Cross-Ply Laminate of Composite Materials
36	Mr. Tim Freeman	Freeman Technology Ltd, United Kingdom	Powder Characterisation for Powder Metallurgy and Additive Manufacture
37	Mr. Ivan Lim	Tosoh Asia Pte Ltd, Japan	High-Throughput Sec Analysis Using Semi-Micro Column Packed With Mono-Disperse Polystyrene Particle Which Has a Broad Pore Size Distribution
38	Mr. Umar Shehu	Ahmadu Bello University (ABU), Zaria;, Nigeria	Poly(Lactic Acid)/Guinea Corn Husks Particulate Bio- Composites: influence of Different Treatments on the Tensile Strengths.
39	Mr. Umar Faruk Shuib	Universiti Malaysia Sabah, Malaysia	Modelling and Simulation Approach for Organic Thin Film Transistor: The Effects of Contact Resistance and Gate Voltage Dependent Mobility.
40	Mr. Yueh Seng Chew	Polytechnic Kuching, Malaysia	Flank Wear of Cryogenic and Non-Cryogenic Cutting Tools in Machining Assab 718hh
41	Ms. Che Rosmani Che Hasan	Universiti Teknologi MARA, Malaysia	The Properties of Polymer Poly (3-Hexylthiophene) P3HT by Heat Treatment
42	Ms. Fara Naila Rusnan	University Malaysia Sabah, Malaysia	Soluble 6,13-Bis(Triisopropylsilylethynyl) (Tips-Pentacene) Organic Semiconductor Layer Thin Film Analysis on Transparent Substrate
43	Ms. Farah Lyana Shain	University Malaysia Sabah, Malaysia	Characterization of Ga : Zno Thin Film Fabricated by RF Magnetron Sputtering
44	Ms. Helen Dugdale	Rolls-Royce Plc, United Kingdom	Materials and Manufacturing Opportunities for New Nuclear Build
45	Ms. Maureen Mudang	Universiti Teknologi Malaysia, Malaysia	High Temperature Creep Behavior of Incoloy 800H
46	Ms. Mui Li Lam	University Malaysia Sabah, Malaysia	Effect of Sputtering Pressure on the Structural and Optical Properties of ZnO Thin Films Deposited on Flexible Substrates
47	Ms. Nabila Farhana Azrin Shah	University of Malaya, Malaysia	Extrusion and injection Moulded Aramid/Carbon Hybrid Composite: Effect of Mapp on Dsc, Dma and Mechanical Properties
48	Ms. Ng Guat Peng	TNB Research Sdn Bhd, Malaysia	Failure Analysis of Aluminium Electrical Connectors
49	Ms. Nor Ain Syuhada Zuhaimi	Universiti Malaysia Pahang, Malaysia	Effect of Different Pretreatments on Physico-Chemical Properties of Gypsum Based Catalyst
50	Ms. Nor Nisa Balqis Mohammad	Universiti Teknologi Malaysia, Malaysia	Mechanical, Morphological and Thermal Properties of Polylactic Acid/Natural Rubber Composites Compatibilized by Maleic Anhydride
51	Ms. Nur Amierah Mohd Asib	NANO-SciTech Centre, Malaysia	Optical Studies on the Effect of Molarity of TiO2 as Seeded-Template to Nanostructured ZnO
52	Ms. Nurul Asikin	Universiti Putra Malaysia, Malaysia	Development of Green Nano-Cao Catalyst by Using Low Cost Clamshell
53	Ms. Nurul Afaah Abdullah	Universiti Teknologi MARA, Malaysia	ZnO Nanostructures Obtained by Mist-Atomization Method Growth on Different Au-Seeded Substrates Temperature
54	Ms. Nurul Nabihah a. Hamid	Tokyo University of Science, Japan	Mechanical and Damage Behaviour of Quasi-Isotropic Cfrp Laminates With Small Fibre Angle Mismatch
55	Ms. Nurul Nadiah Mahmud	Ritsumeikan University, Japan	Preparation of Sic/YSZ Composites With High Strength And High Toughness
56	Ms. Suazlina Mohd Ali	Universiti Teknologi Mara Malaysia, Malaysia	The Effects of Nanoparticle Addition in Bi-2212 Superconductors
57	Ms. Sujanuriah Sahidi	Politeknik Kuching Sarawak, Malaysia	Microstructure Properties of Al 6061 and Stainless Steel 304 for Friction Stir Welding Process
58	Ms. Ying Ci Wee	Universiti Teknologi Malaysia, Malaysia	Study of Phase Transformation and Microstructural Evolution of Cu-Al-Ni-Co SMAs
59	Ms. Zainurul Atikah Zakaria	Universiti Teknologi MARA, Malaysia	Annealing Assisted Sol-Gel Synthesis and Photoluminescence of LaPO4:Li'+
60	Mrs. Farah Diana Mohd Daud	Universiti Sains Malaysia, Malaysia	Influences of Temperature on Properties of Ca(OH)2 Sorbent Synthesized via Wet Chemical Route in N,N Dimethylformamide and Their CO_2 Capture Performance
61	Mrs. Hafsa Omar	Universiti Teknologi MARA, Malaysia	The Influence of H_2O_2 Concentration to the Structural Properties of Silicon Nanowire by Immersion Etching
62	Mrs. Hauwa Sidi Aliyu	University Putra Malaysia, Malaysia	Visible-Light Photodegradation of Nitrobenzene Over Microwave Synthesized Ag-Zno Nanocomposite
63	Mrs. Kurnia Hastuti	Universiti Teknologi Malaysia, Malaysia	influence of Ageing Treatment on the Deformation Behaviour of Ti-50.7at.%Ni Shape Memory Alloy
64	Mrs. Nur Zahidatul Fathinah Mukhtar	Universiti Teknologi MARA, Malaysia	Effect of Milling Speed on Nanozeolite Produced by Wet Milling Process
65	Mrs. Nur Zalikha Binti Khalil	Ritsumeikan University, Japan	Microstructure and Mechanical Properties of Sic Compacts Produced by Mechanical Milling and Spark Plasma Sintering

66	Mrs. Tze Mi Yong	Universiti Teknologi Malaysia, Malaysia	the Deposition of Nanocrystalline Diamond Bilayer With Various Seeding Methods Deposited via Hot Filament Chemical Vapor Deposition Method
67	Mrs. Ying Wu	China University of Petroleum (Beijing), China	Surface Treated Polypropylene Fibers for Reinforced Repair Mortar

International Symposium on Coatings Technology List of Oral Presenters

No	Full Name	Affiliation	Title
1	Prof. Farhad Golestanifard	Iran University of Science and Technology, Islamic Republic of Iran	Development of Oxide Composite Coatings by Micro Arc Oxidation Method
2	Prof. Yoshio Kobayashi	College of Engineering, Ibaraki University, Japan	Stabilization of Silica-Coated Silver Iodide Nanoparticles by Ethanol-Washing
3	Prof. Zahra Ranjbar	Institute for Color Science and Technology, Islamic Republic of Iran	Electrocoating, a Unique Application Method for Automotive Coatings
4	Prof. Zhenchen Zhong	Nanchang Hangkong University, China	The Processing of TiO2 -Enhanced Composite Coatings Deposited on the Sintered Ndfeb Magnets
5	Assoc. Prof. Alfred Tok	Nanyang Technological University Singapore, Singapore	3-Dimensional Nanostructures by Atomic Layer Deposition
6	Dr. Asep Ridwan Setiawan	Institut Teknologi Bandung, Indonesia	Cobalt Oxide Coating Through Electrospinning Method on Ferritic Stainless Steel for intermediate Sofc interconnect
7	Dr. Cosmas Muiva	Botswana international University of Science and Technology, Botswana	Compositional Dependence of Optical Properties of Amorphous Ternary Se90-Xin10sbx Chalcogenide Alloys
8	Dr. Mohd Firdaus Yhaya	Universiti Sains Malaysia, Malaysia	RAFT and Click Chemistry as Valuable Tools for Surface Modification
9	Dr. Muhamad Azizi Mat Yajid	Universiti Teknologi Malaysia, Malaysia	Bond coats investigation in thermal barrier coating systems for high temperature applications
10	Dr. Nor Akmal Fadil	Universiti Teknologi Malaysia, Malaysia	Effect of Externally Applied Stress on Tin Whiskers formation and Growth for Immersio Tin Surface Finish
11	Dr. Pooneh Kardar	Institute for Color Science and Technology, Islamic Republic of Iran	Curing and Mechanical Properties of a Pigmented UV-Curable Coatings Having Multifunctional Acrylate Monomers
12	Dr. Raden Dadan Ramdan	Faculty of mechanical and aerospace engineering Institut Teknologi Bandung, Indonesia	The Effect of Carbon Nanotube Intermediate layer on the Hydroxy Apatite coating of Titanium Alloy by High Velocity Oxy -fuel Process
13	Mr. Abdelsalam Ahdash	Universiti Teknologi Malaysia, Malaysia	Characterizations of Microcapsules of Zeolite, Polyaniline and Zeolite/Polyaniline as Antifouling Materials for Marine Applications
14	Mr. Hilman Nordin	Centre of Advanced Manufacturing and Material Processing, Malaysia	Development of Mesoscopic Analytical Imaging System for Preliminary Surface Coating inspection
15	Mr. Jiri Kotlan	Czech Technical University in Prague, Faculty of Electrical Engineering, Czech Republic	Suspension Precursor Plasma Spraying as a Technique for Preparing Calcium Titanate Coatings
16	Mr. Junaidy Abdullah	Norimax Sdn Bhd, Malaysia	Thermal Spray Coating Systems for Corrosion Under insulation Mitigation
17	Mr. Kamilu Bello	International Islamic University Malaysia, Malaysia	Electroless Deposition of Nickel-Phosphorous Layer on Hbn for High-Temperature Solid Lubricant Application
18	Mr. Kim Ang Kang	Corrtrol Group, Malaysia	Impressed Current Cathodic Protection for internal of Aboveground Storage Tank Containing Hydrocarbon Fume Â€“ Precautions and Recommendations
19	Mr. Mhd Nasir Omar	Norimax Sdn Bhd, Malaysia	Quality Control & Assurance of Fluorocarbon Coating Bolts and Nuts
20	Mr. Michael Melampy	Hi-Temp Coatings, United States	Coatings for High Temperature Service and Preventing Corrosion Under insulation
21	Mr. Mohammad Sedighi	Shiraz University, Islamic Republic of Iran	Antibacterial Organic Protective Coating Containing Epoxy Paint and Titanium Dioxide Nanoparticles
22	Mr. Mohd Rais Sabiyah	Corrtrol Group, Malaysia	Managing Pipeline integrity by touch-Less Pipeline inspection Â€“ a Breakthrough inspection tools for the Unpiggible Pipeline
23	Mr. Mohd Shamsul Farid Samsudin	PETRONAS Research, Malaysia	Development of a Polyethylene Adhesive via Melt Reactive Extrusion
24	Mr. Moinuddin Mohammed Quazi	University of Malaya, Malaysia	Hard Anodizing of Aerospace Al7075-T6 Alloy for Improving Hardness and Wear Resistance
25	Mr. Muhammad Mehran Qadir	University of Malaya, Malaysia	Enhancing the Mechanical Properties of Magnetron Sputtered Cr/ Craln Coatings Deposited on Aerospace Al7075-T6 Alloy
26	Mr. Muhammad Rashid Mahmud	Universiti Teknologi MARA, Malaysia	Corrosion Performance in 3.5 % Nacl of Acrylate/Carbon Nanotubes Nanocomposites Coating on Mild Steel
27	Mr. Muzammil Mat Akhir	Universiti Teknologi MARA, Malaysia	The Morphology Structure Effect of Annealing Temperature on ZnO Nanostructures Layer Coated on Mild Steel Substrate
28	Mr. Si Jung Park	Yonsei univeristy, Republic of Korea	Study for Growth of Al2O3 Tubular Structures Using Powder Source in CVD
29	Ms. Anouska Nithyanandan	University College London, United Kingdom	Template-Assisted Electrohydrodynamic Atomisation of Biopolymer and Bioceramic Surface Patterns onto Metallic Substrates for Orthopaedic Implant Applications

30	Ms. Intan Syaqirah Mohd Zulkifli	Universiti Teknologi Malaysia, Malaysia	Maerogel Agglomeration for Coating Application
31	Ms. Rohana Jaafar	PETRONAS, Malaysia	Coating Application for Cooling Water Exchangers
32	Mrs. Emiliana Rose Binti Jusoh Binti Jusoh @ Taib	Universiti Putra Malaysia, Malaysia	UV Radiation Curing of Epoxidized Jatropha Oil Acrylate for Surface Coatings
33	Mrs. Nidhi Rana	Indian Institute of Technology, Roorkee, India	High Temperature Cyclic Oxidation Behaviour of 80%Ni-20% Cr coatings at 900áµ'C for Power Generation Components.
34	Mrs. Sariah Saalah	Universiti Putra Malaysia, Malaysia	Physical, Mechanical and Thermal Properties of Vegetable Oil Based Waterborne Polyurethane Dispersion
35	Mrs. Yusliza Yusuf	Universiti Teknikal Malaysia Melaka, Malaysia	The influence of the Substrate Properites to the Duplex Caoating Performance

International Symposium on Metallurgy and Welding Technology List of Oral Presenters

No	Full Name	Affiliation	Title
1	Prof. Weite Wu	National Chung Hsing University, Taiwan	Residual Stress Relaxation of Electron Beam Welded SAE4130 Plate Under Different Heat Treatment Condition
2	Assoc. Prof. Farag Soul	Elmergib University, Libyan Arab Jamahiriya	Prediction of Temperature and Residual Stress Behavior in Longitudinal Welded Al-Alloy Cylinder with Moving Cooling Spot
3	Assoc. Prof. Michele Chiumenti	the International Center for Numerical Methods in Engineering, Spain	Stress Accurate Framework for the Numerical Simulation of FSW Processes
4	Assoc. Prof. Prashant Parhad	Kavikulguru Institite of Technalogy and Science, Ramtek., India	The Optimization of the Isothermal Transformation Time with Emphasis on the Microstructure of Austempered Ductile Iron
5	Assoc. Prof. R. Madhusudhan	Andhra University, India	Effect Pin profile on Mechanical Properties of Dissimilar Aluminium Alloy Friction Stir Welds
6	Assoc. Prof. Zuhailawati Hussain	Universiti Sains Malaysia, Malaysia	Weldability of Al5052 Aluminum Alloy of Similar Thickness by Resistance Spot Welding
7	Dr. Charudatta Pathak	Sinhgad College of Engineering Pune INDIA, India	On Effect of Residual Stresses on Mechanical Behaviour of Duplex Stainless Steel Weld Joint
8	Dr. Fahmida Gulshan	Bangladesh University of Engineering and Technology, Bangladesh	A Comparative Study on the Effects of Input Currents on the Structure, Hardness and Impact Resistance of Two TIG Welded Al-Alloys
9	Dr. Hendra Hermawan	Universiti Teknologi Malaysia, Malaysia	Friction welding of AZ31-SS316L for partially-degradable orthopedic pins
10	Dr. Jian Luo	Chongqing University, China	Study on Negative Pressure for Arc Behavior of Tungsten Inert Gas Arc Welding Hybrid a Longitudinal Electric Magnetic Field
11	Dr. Mahadzir Ishak	Universiti Malaysia PETRONAS, Malaysia	Filler Metal Influence on Weld Metal Structure of a 6061 Aluminum Alloy
12	Dr. Muhammad Hussain Ismail	Universiti Teknologi MARA, Malaysia	Effect of Heat Input on Microstructure and hardness Profile of Welded Duplex Stainless Steel A790 UNS S31803
13	Dr. Nallu Ramanaiah	Andhra University, India	Effect of Process Parameters on AA5083 Alloy Friction Stir Welds
14	Dr. Narendra Dhokey	College of Engineering, India	Sinterability and Mechanical Properties Response of Prealloyed and Premix Al-Alloy Powder
15	Dr. Nur Izan Syahriah Hussein	Universiti Teknikal Malaysia Melaka, Malaysia	Investigation of Microstructure And Microhardness 308L Stainless Steel Single Bead Clad Deposited using Gas Metal Arc Heat Source
16	Dr. Raoelison Rija	Université de Technologie de Belfort Montbéliard, France	Magnetic pulse welding of dissimilar metals pairs: the emerging issues on the weldability
17	Dr. Sandeep Butee	College of Engg. Pune, India	Getting Range of Mechanical Properties in 38MnSiVS5 grade Microalloyed Steel through Microstructure Control
18	Dr. Zhenying Liu	Beijing ARC Xinxing Science & Technology Co., Ltd., China	Applications of HardfacingÂ /Additive Manufacturing Technology in Cement, Power and Mining Industries
19	Mr. Abdollah Bahador	University Technology Malaysia, Malaysia	Effect of filler metals on the mechanical properties of dissimilar welding of stainless steel 316L and carbon steel A516 gr 70
20	Mr. Alireza Samimi	NYCO, Iraq	International standards for welder qualification "ISO 9606 series " : Non-Conformities
21	Mr. Axel Bã–Rnert	SLV Halle GmbH, Germany	Modern ways in welding education using computer-based training systems
22	Mr. Bruno Coelho	UFOP - Universidade Federal de Ouro Preto, Brazil	Laser Welding of AISI 304 and AISI 316 Stainless Steels
23	Mr. Ghazali Md Zin	PETRONAS Carigali Sdn Bhd, Malaysia	Optimization of offshore welding using automatic machine
24	Mr. Lim Yee Kai	Politeknik Kuching Sarawak, Malaysia	Mechanical Properties and Failure Mechanisms of Dissimiliar Aluminum Alloy/Stainless Steel Joints Prepared by Friction Stir Spot Welding (FSSW)
25	Mr. Maeda Takafumi	Ibaraki University, Japan	Effects of Reductant Concentration and Reducing Regent Temperature in Synsesis of Metallic Copper Nanoparticles on Their Metal-Metal Bonding Properties

26	Mr. Majid Eslami	Islamic Republic of Iran	Fabrication of Al/Al2O3 Functionally Graded Composites via Centrifugal Method by using a Polymeric Suspension
27	Mr. Min-Ho Park	Mokpo National University , Republic of Korea	A Study on Effect of Shielding Gas on Dilution in Robotic GMA Welding Process
28	Mr. Mohamed Ackiel Mohamed	Universiti Teknologi MARA, Malaysia	Effect of Process Parameters on Joint Quality And Mechanical Properties of Friction-Stir-Welded AA6061
29	Mr. Mohammadamin Ezazi	University of Malaya, Malaysia	Enhancing the Strength of Laser Beam Welding Between low Carbon Steel and Aluminum Alloy Dissimilar Joints
30	Mr. Mohd Amin Farhan Zaludin	Universiti Malaysia Perlis, Malaysia	Study of Microstructure and Corrosion Resistance of Magnesium-5 Wt. % Zinc/ 45s5 Bio-Glass Composite
31	Mr. Moslem Paidar	Islamic Azad Unuversity, Islamic Republic of Iran	Effect of Pin Geometry on Static Strength and Hook Formation of Friction Stir Spot Welded AA2024-T3 Sheet
32	Mr. Muhammed Azeez Sadiq	Ghulam Ishaq Khan Institute of Engineering Sciences and Technology, Pakistan	Modeling and Simulation of Free Surface in Stationary Gas Tungsten Arc Welding (GTAW)
33	Mr. Raza Moshwan	University of Malaya, Malaysia	Finite Element Simulation of Residual Stresses in Friction Stir Welded AA 5052 Plates
34	Mr. Sarizam Bin Mamat	University Malaysia Kelantan, Malaysia	Variant Analysis of Bainite Phase Transformation in Heat Affected Zone of Cr-Mo Steel
35	Mr. Sujan Kumer Ghosh	University of Malaya, Malaysia	Metallic Nanoparticle Doped Flux for Controlling the Interfacial Intermetallic Compounds Between Solder and Substrate During Microjoining of Electronic Components
36	Ms. Ai Ting	Universiti Malaya, Malaysia	Formation of Intermetallic Compound on Sn-Ag-Cu Solders Joints at Different Ultrasonic Vibration Time
37	Ms. Noor Syahadah	Universiti Teknologi MARA, Malaysia	Static Design Analysis of a Welded Structure using Analytical and Finite Element Method (Z88Aurora)
38	Ms. Nur Ain Amelia Sathari	Universiti Malaysia Pahang, Malaysia	Investigation of Single-pass/Double-pass Techniques on Friction Stir Welding of Aluminium
39	Ms. Nur Fakhriah Mohd Noordin	Universiti Malaysia Pahang, Malaysia	Feasibility Study on Joining AA6061 And AA7075 Dissimilar Aluminum Alloys By Tig Welded Method
40	Ms. Nur Farhana Zainal Ariffin	Universiti Malaysia Pahang, Malaysia	Parameter Optimization of Dissimilar Friction Stir Welding using the Taguchi Method
41	Ms. Nurul Hidayah Othman	Universiti Malaysia Pahang, Malaysia	Investigation on Aluminum Friction Stir Welding Using Single And Double Passes Method
42	Mrs. Maisarah Lutfi	Universiti Malaya, Malaysia	Effect of Microwave Hybrid Heating on the Formation of Intermetallic Compound of Sn-Ag-Cu Solder Joints
43	Mrs. Shamini P.Janasekaran	Universiti Malaya, Malaysia	The Effect Of Laser Welding Parameters on Butt Joint of Stainless Steel 304 Using Low Power Fibre Laser

International Symposium on Corrosion and Materials Degradation List of Oral Presenters

No	Full Name	Affiliation	Title
1	Prof. Mohamed Ismail	Hanynag University, Republic of Korea	Nondestructive Structural Health Monitoring of Reinforced Concrete Members by Using Chloride Ion Monitoring Sensor
2	Prof. Nivin Ahmed	National Research Center, Egypt	New Eco-Friendly Anticorrosive Core-Shell Pigments
3	Assoc. Prof. Ahmed Khater	Jazan University, Saudi Arabia	Some Factors Affecting on the Passive Oxide Film Formed on Indium Electrode in Na2B4O7 Solutions.
4	Dr. Abdulghani Jaralla	Technip, Malaysia	Corrosion Control of Steel Under Controlledconditions of
5	Dr. Costanza Ronchetti	Roma Tre University, Italy	Parameter Calibration for Glass Strength Prediction Model Considering the influence of Environment
6	Dr. Hendra Hermawan	Universiti Teknologi Malaysia, Malaysia	Online Degradation Monitoring of Biodegradable Metals by Means of Modified Electrochemical Noise
7	Dr. Iftikhar Ahmad	Arabian Gulf Oil Company, Libyan Arab Jamahiriya	Corrosion Mitigation and inspection Strategy for Protection of Assets in Oil and Gas Production Facilities: An Experience of Nafoora Oilfield
8	Dr. Kok Chong Yong	Malaysian Rubber Board, Malaysia	Corrosion Inhibiting Behavior of Epoxidized Natural Rubber-Polyaniline Dodecylbenzenesulfonate Blends
9	Dr. Maria Isabel Specht Sanchez	PDVSA INTEVEP S.a, Venezuela	Material Testing and Corrosion Experience in Crude Upgrader Atmospheric Distillation Unit
10	Dr. Martin Fatah	Wood Group Integrity Management, Indonesia	Safe Seabed Storage of Subsea Facilities for Long Periods in Deep Water - An Overview
11	Dr. Norinsan Kamil Othman	Universiti Kebangsaan Malaysia, Malaysia	Extract of Paddy Residue as a Green Corrosion inhibitor for Carbon Steel in Acidic Medium.
12	Dr. Shashank Shekhar	IIT Kanpur, India	Machining as a Route to Modulate Corrosion and Oxidation Behavior

13	Dr. Sironmani Palraj	Central Electrochemical Research Institute, India	Seasonal and Kinetics of Atmospheric Corrosion of Mild Steel in Marine and Rural Environments
14	Dr. Sundeep Dhawan	CSIR-National Physical Laboratory, India	Development of Highly Hydrophobic and Anticorrosive Conducting Polymer Composite Coating for Corrosion Protection in Marine Environment
15	Dr. Suriani Mat Jusoh	Universiti Malaysia Terengganu, Malaysia	Potentials of Mangrove Bark Condensed Tannins (Rhizophora Apiculata) as Natural inhibitor for Mild Steel in Seawater.
16	Dr. Truong-Linh Chau	Danang University of Science and Technology, Vietnam	Service Life of Reinforced Earth Wall (MSE Wall): From Real Degradation to Physical and Numerical Modelling of Steel Reinforcement Corrosion
17	Dr. Yuli Panca Asmara	Universiti Malaysia Pahang, Malaysia	Analysis of Corrosion Prediction Software for Detection Corrosion in Oil and Gas Environment Containing Acetic Acid, CO_2 and H_2S Gases
18	Dr. Zalilah Sharer	Universiti Teknologi Malaysia, Malaysia	Effect of Elevated Temperature Changes on the Impedance Behaviour of Epoxy Coated Metal
19	Mr. Esteban Morales Murillo	Saudi Basic Industries Corporation (SABIC), Saudi Arabia	Corrosion Investigation of Repeated Leakages in An 18" Brine Pipeline
20	Mr. Hee Yau Phoon	KNM Renewable Energy Sdn Bhd, Malaysia	Specialised Design and Materials Application for Corrosive Environment in Waste to Energy Boilers
21	Mr. Mohammad Bagher Ghasemian Amiri	PETRONAS CARIGALI SDN BHD, Malaysia	Glass-Fiber Reinforced Plastic (GRP) Piping System Â€“ Material Selection
22	Mr. Mohammad Karim Nazemi	the University of Sydney, Australia	Accelerated Testing of Acid Permeation Through industrial Epoxy a and Novolac Coatings for Wastewater Structures
23	Mr. Mohd Fauzi Abd Karim	Universiti Teknologi PETRONAS, Malaysia	Quantitative Study on the Effect of Pipe Lining on Metal Magnetic Memory Signals.
24	Mr. Muhamad Hafiz Abd Malek	Universiti Teknologi MARA, Malaysia	Performance Analysis of 99.5% Aluminium Alloy as a Sacrificial Anode for Subsea Structure
25	Mr. Muhammad Firdaus Suhor	Universiti Kebangsaan Malaysia, Malaysia	Effect CO2-H2S on Corrosion of API 5L X-65 Carbon Steel in High Pco2 Environments
26	Mr. Muhammad Ihsan	PETRONAS, Malaysia	Axisymmetric Method for Corrosion Simulation Using Boundary Element Method
27	Mr. Muhammadu Masin Muhammadu	Universiti Teknologi Malaysia, Malaysia	A Novelty Method to Determine Flow Accelerated Corrosion and Computational Fluid Dynamics Simulation in the Elbows
28	Mr. Rupika Sendanayaka Achchige	The University of Sydney, Australia	Understanding the Role of Substrate Properties for Enhanced Adhesion of Epoxy Liners on Concrete
29	Mr. Saeid Kakooei	Centre for Corrosion Research, Malaysia	Surface Ph Measurement During CO_2 Corrosion by a Microelectrode Ph Probe
30	Mr. Vincent Shantha Kumar	Visvesvaraya National Institute of Technology Nagpur, India,	Investigation on Corrosion Behavior of $Cu_{60}Zr_{20}Ti_{20}$ Metallic Glass
31	Mr. Zaifol Samsu	Malaysian Nuclear Agency, Malaysia	High Temperature Oxidation Behavior of Low Alloy Steel Coated by Hot Dipping in Al-La Alloy
32	Ms. Anitha Andiappan	RAG-Austria, Austria	Investigation of Plugging and Scaling Processes on Ceramic Sand Screens, the New Approach for Sustainable Oil and Gas Production
33	Ms. Isha Agarwal	NIT Warangal, India	Active Corrosion Protection Using Zno Nanocontainers in Anti-Corrosive Coatings
34	Ms. Kulnaree Rithdang	Chulalongkorn University, Thailand	Under-Deposit Corrosion Rate Evaluation in Cooling Water System by Weight Loss, Profilometric and Electrical Resistance Techniques
35	Ms. Razieh Shahpir	University of Isfahan , Iran, Islamic Republic of	Multi-Channel Optical Fibre Sensor for Multipoint Corrosion Monitoring
36	Mrs. Asma Kamarul Asri	Universiti Teknologi Malaysia, Malaysia	Mitigation of Microbiological influenced Corrosion of Concrete Using Functionalized Zeolite Coatings
37	Mrs. Azzura Ismail	Universiti Tun Hussein Onn Malaysia, Malaysia	Corrosion Behavior of 25Cr Duplex in High Sulphate Content
38	Mrs. Hemapriya Venkatesan	PSGR Krishnammal College for Women, India	Experimental and Quantum Chemical Studies on Corrosion inhibition Performance of Benzothiazole Derivatives for Mild Steel in 1N H2SO4
39	Mrs. Masoome Rashvand	Institute for Color Science and Technology, Islamic Republic of Iran	Mechanical and Corrosion Properties of Epoxy Nano Composites Reinforced With Graphene Nano Plates
40	Mrs. Noraziana Parimin	Universiti Teknologi Malaysia, Malaysia	Influence of Solution Treatment on the Oxidation Behavior of Fe -Ni-Cr Alloy
41	Mrs. Rafida Ahmad Jaal	Universiti Teknologi PETRONAS, Malaysia	A Study of Compatibility Between Corrosion Inhibitor and Biocide in Offshore Application
42	Mrs. Saranya Jagadeesan	PSGR Krishnammal College for Women, India	Experimental and Quantum Chemical Studies on the Inhibition Potential of Some 1,4-Dihydroquinoxaline-2,3-Dione Derivatives for Mild Steel in Acid Media.
43	Mrs. Sarini Mat Yaakob	Universiti Teknologi PETRONAS, Malaysia	Indentification and Characterization of Corrosion Scale of Cooler Heat Exchanger
44	Mrs. Suraya Mohamad Nadzir	Tenaga Nasional Berhad Research Sdn Bhd, Malaysia	Comparative Study of Creep Behavior Between Grade T23 and T92 Steels

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International Symposium on Advanced Polymeric Materials List of Poster Presenters

No	Full Name	Affiliation	Title
1	Assoc. Prof. Memet Vezir Kahraman	Marmara University, Turkey	Fluorine Containing Cyanate Ester-Nano Diamond Composites
2	Assoc. Prof. Seyfullah Madakbas	Marmara University, Turkey	Polypyrrole Containing Thiol-Ene Based Composites
3	Assoc. Prof. Dr. Shehab Mansour	Menofia University, Egypt	Thermal Stability Study of Polystyrene/Graphite Microcomposites in Comparison With Polystyrene /Carbon Nanocomposites
4	Asst. Prof. Dr. Ht Ananda	University of Mysore, India	Microstructural Parameters of HPMC/Gly: Na2SO4 Polymer Composite Using X-ray Diffraction Studies
5	Dr. Emad Al-Mulla	University of Kufa, Iraq	Properties of Cement-Matrix Modified by Natural Clay
6	Dr. Tarak Assaleh	Zawia University, Libyan Arab Jamahiriya	Ultimate Elastic Wall Stress (UEWS) Test Under Biaxial Loading for Glass-fibre Reinforced Epoxy (GRE) Pipes
7	Dr. Soner Cubuk	Marmara University, Turkey	Photocrosslinked Molecularly Imprinted Hydrogels for adsorption Gold ions in Aqueous Solution
8	Dr. Louis Daniel	University of Groningen, The Netherlands	Starch As Protective Colloid in Emulsion Polymerisation of Vinyl Acetate for Adhesive Applications
9	Dr. Nabila Haddadine	University, USTHB, Algeria	Synthesis of Monodisperse Polymer Spheres for Photonic Applications
10	Dr. Shanti Navaratnam	Universiti Teknolgi MARA, Malaysia	Conductivity Studies of Biopolymer Electrolyte Based on Potato Starch/Chitosan Blend Doped With Licf3so3
11	Dr. Sanjay Palsule	Indian Institute of Technology-Roorkee, India	Jute Fiber Reinforced Chemically Functionalized High Density Poyethylene (Jf/Cf-Hdpe) Composites by Palsule Process
12	Dr. Mek Zah Salleh	Malaysian Nuclear Agency, Malaysia	The Production of Hyperbranched Curable Palm Oil Oleic Acid
13	Dr. Guoliang Zhang	China University of Petroleum, Beijing, China	Preparation, Structure and Properties of Poly (Allyl-COPNA Resin-Co-BMI)/MMT Nanocomposites
14	Ms. Noor Farisha Abd. Rahim	Universiti Putra Malaysia, Malaysia	Bio-Based Monomers From Oleic and Linoleic Acids for Greener Polyester
15	Ms. Nur Azmyra Abdul Aziz	Universiti Teknologi Malaysia, Malaysia	Effect of Chitosan Grafted Poly (Methyl Methacrylate) Content on Mechanical Properties and Thermal Degradation of Poly (Vinyl Chloride) Composites
16	Ms. Siti Rozana Abdul Karim	Universiti Teknolgi MARA, Malaysia	Morphology and Electrical Properties of Poly(Ethylene Oxide)/Poly(Methyl Methacrylate) Blend Nanocomposite Polymer Electrolyte
17	Ms. Nor Syazana Abdullah Sani	Universiti Teknolgi Mara, Malaysia	Synthesis of A Compatibilizer (PLA-G-MA and NR-G-MA) and The Effects of Monomer Concentrations
18	Ms. Woo Jin Ahn	Inha University, Korea	Pickering Emulsion Fabricated Polymer Composite Magnetic Nanoparticles and Their Magnetorheological Characteristics
19	Mr. Ahmed A. Al-Dulaimi	Universiti Sains Malaysia, Malaysia	A New Promising Application for Nanocrystalline Cellulose Over Improve The Processability of Conductive Polypyrrole
20	Mr. Umar Adli Amran	Universiti Kebangsaan Malaysia, Malaysia	Glass Fiber Reinforced Bio-Based Phenol formaldehyde Resin Composite: Preparation, Characterization and Evaluation of Composite Properties
21	Mr. Kabiru Aujara	Jigawa State Polytechnic, Dutse, Nigeria	Synthesis and Properties of Novel Three-Armed Star-Shaped Glassy Liquid Crystal Containing Biphenyl Esters
22	Mrs. Nurulhusna Azmi	Universiti Teknolgi MARA, Malaysia	Mechanical, Thermal and Characterization of Polycaprolactone/Tapioca Starch Composite Films Compatibilized by Chitosan
23	Ms. Jeong Eun Baek	Korea Advanced Institute of Science and Technology, Korea	Transferrable Block Copolymer Self-Assembled Nanopattering on Chemically Modified Graphene for Flexible Devices
24	Mr. Martijn Beljaars	University of Groningen, Netherlands	Biobased and Renewable Polymeric Materials
25	Mr. Chee Keong Chai	Malaysian Nuclear Agency, Malaysia	Epoxidized Natural Rubber Latex: A Comparasion Study
26	Mrs. Aslı Beyler-Çiğil	Marmara University, Turkey	Preparation and Properties of Xylanase Immobilization With Functionalized Polyimide Membrane
27	Ms. Rashmita Das	Jadavpur University, India	Polymerized Tung Oil Based Quartz Crystal Microbalance Sensor for The Detection of Amines Vapours
28	Mr. Mohd Haziq Dzulkifli	Universiti Teknologi Malaysia, Malaysia	Development of Rigid Bionanocomposite Polyurethane Foam for Load Bearing Application
29	Ms. Elif Merve Eminoğlu	Marmara University, Turkey	Fabrication of Photo Cross-Linked Acrylated and Maleated Polythiophene Based Nanofibers
30	Mr. Umer Farooq	University of Science and Technology, Korea	Enhanced Electrochemical Performance of Li-Ion Batteries With Cu-SPB As Conductive Agent
31	Mr. Subir Ghosh	Universiti Malaya, Malaysia	Tribological Behavior of Albumin and Globulin on Ceramic-on-Polyethylene Joint Prosthesis

32	Mr. Chi Hoong Chan	Universiti Kebangsaan Malaysia, Malaysia	Low Filler Cellulose Nanocrystals and Graphene Oxide Reinforced Polylactic Acid
33	Mr. Soon Wei Chook	Universiti Kebangsaan Malaysia, Malaysia	Antibacterial Regenerated Bio-Based Polymers Embedded With Silver-Graphene Oxide Nanocomposites
34	Ms. Cintil Jose Chirayil	Mahatma Ghandi University, India	Nanocellulose Reinforced Unsaturated Polyester Nanocomposites: Mechanical, Dynamic Mechanical and Rheological Properties
35	Ms. Fatin Harun	Universiti Teknolgi MARA, Malaysia	Effect of Molecular Weight on Thermodynamics and Ionic Conductivity of Poly(Ethylene Oxide):Lithium Perchlorate Solid Polymer Electrolytes
36	Ms. Jing He	China University of Petroleum Beijng, China	Liquid Phase Deposition Silica Film
37	Ms. Izwaharyanie Binti Ibrahim	Universiti Putra Malaysia, Malaysia	Preparation of Polypropylene Filter Incorporated With Titanium Oxide and Reduced Graphene Oxide for Water Treatment
38	Mr. Ibrahin Inuwa	Universiti Teknologi Malaysia, Malaysia	Synergistic Effect of Exfoliated Graphite Nanoplatelets/ Carbon Nanotube Hybrid Fillers on The Mechanical and Thermal Properties of Reinforced PET Nanocomposites
39	Ms. Nurul Ain Jamaludin	Universiti Teknologi Malaysia, Malaysia	Effects of Halloysite Nanotubes on Mechanical and Thermal Properties of Poly(Ethylene Terephthalate)/ Polycarbonate Nanocomposites
40	Ms. Asilah Jamil	Universiti Putra Malaysia, Malaysia	Synthesis of Graphene Oxide/Polyaniline Composite for Detection of H2O2
41	Ms. Hayoung Kim	INHA University, Korea	Synthesis of Copolyaniline Coated Poly(Methyl Methacrylate) Nanoparticles by Graft Polymerization and Their Electrorheology
42	Ms. Siaw Cheng Lau	Universiti Putra Malaysia, Malaysia	Lipase Supported on Chitosan/Graphene Oxide Beads for Esterification
43	Ms. Chiau Yeng Lee	University Teknologi Malaysia, Malaysia	Thermal and Tensile Properties of Phb/Sepiolites Nanocomposites
44	Ms. Xiau Yeen Lee	Universiti Teknologi Malaysia, Malaysia	Synthesis of Elastic Biodegradable Polyester by Polycondensation With Tunable Properties
45	Ms. Norjulia Ahmad Mahir	Universiti Sains Malaysia, Malaysia	Curing Characteristics, Tensile, Morphological and Aging Properties of Mangoesteen (Garcinia Mangostana) Peel Powder Filled Natural Rubber Compounds
46	Ms. Sneha Mohan	International and Interuniversity Centre for Nanoscience and Nanotechnology, India	Stable Efficient Cdse/Cds/Zns Core Multi-Shell and Cdse/Zns Coreshell Quantumdot Nanophosphers Fabricated Through A Green Route and Its Transparent and Fluorescent Polymer Nanocomposites
47	Mr. Debi Prasanna Mohanty	Centurion University Technology and Management, Orissa, India	Synthesis and Characterization of PCL/Cloisite 30B (MMT) Nanocomposite as Versatile Layered Material: Controlled Release of Anticancer Drug Curcumin
48	Ms. Nooratiqah Mohamad Fauzi	Universiti Teknologi Malaysia, Malaysia	Characterization and Properties of Polyamide 6(PA6)/ Etyhlene Vinyl Acetate(EVA)/Sepiolite Nanocomposites
49	Mr. Mohamad Haafiz Mohamad Kassim	Universiti Teknologi Malaysia, Malaysia	Preparation and Properties of Poly (lactic acid) Nanocomposites filled with Cellulose Nanowhiskers Isolated from Oil Palm bio-Mass Microcrystalline Cellulose
50	Ms. Nuradibah Binti Mohd Amer	Universiti Malaysia Perlis, Malaysia	Degradation of Low Density Polyethylene/ Thermoplastic Soya Spent Powder Blends
51	Mrs. Siti Mashitah Mohd Razalli	Universiti Teknolgi MARA, Malaysia	Effect of Lithium Salt on Conductivity Studies of Cellulose Acetate Based Polymer Electrolyte
52	Ms. Nur Syuhada Mohd Shahril	Universiti Teknologi MARA, Malaysia	Conductivity and Dielectric Studies of Hexanoyl Chitosan/Polystyrene doped with LiCF3SO3
53	Mr. Soo Ah Nam	Korea Advanced Institute of Science and Technology, Korea	Performance Enhancement in Organic Solar Cells with Cabon Nanotubes
54	Ms. Chi Huey Ng	Universiti Putra Malaysia, Malaysia	Development of Flexible Graphene/Polypyrrole/ Manganese Oxide-Based Supercapacitor
55	Mr. Hon Ming Ng	Universiti Malaya, Malaysia	Synthesis and Characterization of PVPVAC-Based Quasi -Solid Electrolyte for Dye-Sensitized Solar Cells
56	Mr. Jungjae Oh	Korea Advanced Institute of Science and Technology, Korea	Flexible Field Emission by Vertically Aligned Transparent Zno Nanowires Grown on Reduced Graphene Oxide/ PDMS Substrate
57	Mr. Essolé Padayodi	UTBM, IRTES-SeT, France	Physical and Mechanical Characterization of A Recycled Polystyrene Matrix Reinforced With Cottonseed Hull
58	Mr. Jin Luen Phua	Universiti Malaysia Perlis, Malaysia	A Comparison Study of Carbon Black (CB) used as Conductive Filler in Epoxy and Polymethymethacrylate (PMMA)
59	Ms. Neelam Pundhir	Ambedkar University, Agra, India	Effect of BaCO3 Nanoparticle on Thermal Stability of Polyvinylidene fluoride (PVDF) polymer, Thermal Studies of Barium Sulphate/PVDF and Barium Carbonate/PVDF Polymer Nanocomposite
60	Mr. B Raneesh	Mahatma Gandhi University, India	Fabrication of ErMnO3 Nanoparticles Incorporated PCL Fibers via Electrospinning

61	Mr. Mohd Shaiful Sajab	Universiti Kebangsaan Malaysia, Malaysia	Graphene Oxide Loaded Regenerated Cellulose As Dye Adsorbent
62	Ms. Siti Maizatul Farhain Salehuddin	Universiti Teknologi Malaysia, Malaysia	Thermal Stability and Biocompatibility Properties of Feather Fiber Composite for Dental Post Application
63	Ms. Siti Zuliana Salleh	Universiti Sains Malaysia, Malaysia	Influence of Metal Oxides on the Properties of Natural Rubber/Recycled Chloroprene Rubber (NR/rCR) Blends
64	Ms. Norshahida Sarifuddin	Universiti Sains Malaysia, Malaysia	Low Density Polyethylene (LDPE)/Thermoplastic Sago Starch (TPSS) Blends Reinforced with Kenaf Core Fiber (KCF)/Halloysite Clay (HC) Hybrid Fillers: Effect of Natural Weathering
65	Mr. Tiak Chuan Soh	Universiti Teknikal Malaysia Melaka	Optimization of Fracture Properties of Rubber Mat Compound – Two Factors Modelling Using Response Surface Methodology
66	Ms. Nursyazwani Sukri	UiTM, Malaysia	Conductivity and Dielectric Studies of PEMA/ENR-50 blends with LiCF3SO3 salt
67	Ms. Guat Yee Toh	Universiti Malaysia Perlis, Malaysia	Studies on Mechanical and Thermal Properties of Low Density Polyethylene/Titanium Dioxide Composites in Binary System and Ternary System: Effect of Graphene Oxide
68	Ms. Norzita Yacob	Malaysian Nuclear Agency, Malaysia	Preparation of Superadsorbent from Modified Sago Starch for Heavy Metal Removal
69	Ms. Mazlita Yahya	Universiti Malaya, Malaysia	Chemical Conversion of Lignocellulosic Biomass to Nano-Cellulose
70	Ms. Duygu Yüksel	Marmara University, Turkey	Preparation, Characterization and Cell Growth on Electrospun Nanofibers
71	Mr. Taeyeong Yun	Korea Advanced Institute of Science and Technology, Korea	Chemically Modified Graphene as substrate for DNA Origami Nanopatterning

International Symposium on Materials Characterisation and Testing List of Poster Presenters

No	Full Name	Affiliation	Title
1	Prof. Soon-Ku Hong	Chungnam National University, Republic of Korea	Structural Characterization of GaN-based LEDs and SiC for Power Devices by TEM
2	Assoc. Prof. Hasmaliza Mohamad	Universiti Sains Malaysia, Malaysia	Antibacterial Tiles: Effect on the Properties of Titania
3	Assoc. Prof. Talib Ria Jaafar	Universiti Teknologi MARA, Malaysia	Friction and Wear Characteristics Cu-based Powder Metallurgy Friction Materials with Addition of Fe and C
4	Dr. Lee Siang Chuah	Universiti Sains Malaysia, Malaysia	Effect of Anodization Conditions on the Synthesis of ZnO Nanoflakes
5	Dr. Mazlina Mustafa Kamal	Malaysian Rubber Board, Malaysia	Processability Behaviour of Dual Filler Systems Reinforced Epoxised Natural Rubber
6	Dr. Olawale Olatinsu	University of Lagos, Nigeria	Industrial Rock Characterization using Nuclear Magnetic Resonance (NMR) â€“ a Case Study of Ewekoro Quarry, Southwest Nigeria.
7	Dr. Shanti Navaratnam	Universiti Teknologi MARA, Malaysia	Synthesis and Characterization of Lithium Nickel Vanadate Doped With Magnesium As Cathode Material
8	Mr. Daniel Lee	Koea Minjok Leadership Academy, Republic of Korea	An Analysis of Chirping Sound on Steel Ball Collision
9	Mr. Lim Joon Hoong	Universiti Malaysia Perlis, Malaysia	Thermoelectric Properties of Al-doped ZnO Pellet and Thin Film
10	Mr. Ming Kun Yew	University of Malaya, Malaysia	Effects of Aspect Ratio and Volume Fraction on The Mechanical Properties of Polyvinyl Alcohol Fibre-Reinforced Oil Palm Shell High Strength Lightweight Concrete
11	Mr. Mohd Khari Omar	Universiti Teknologi MARA, Malaysia	Conductivity and Ionic Mobility Studies of Binary Electrolyte (Li2WO4-LiI) Doped With Ceramic Filler (TiO2)
12	Mr. Shen-Hung Wei	National Chiao Tung University, Taiwan	Interfacial Characterizations of the Brazed Kovar/Alumina Joint Using a Cu/Ti Interlayer for Feedthrough Application
13	Mr. Taha Sheikh	Zhcet(Aligarh Muslim University), Aligarh, U.P, India	Study of Various Properties and Wide Applications of Nano-Materials
14	Mr. Ivan Lim	Tosoh Corporation, Japan	Novel Applications to Polyolefin and Super Engineering Plastics Using Newly Developed Ultra-High-Temperature Gpc System
15	Mr. Tomizawa Hiroshi	Tosoh Corporation, Japan	High-Throughput Sec Analysis With Conbination of Dedicated Gpc System and Semi-Micro Sec Columns
16	Ms. Azlini Aziz	Universiti Teknologi MARA, Malaysia	Electrical and Structural Study of MgI2-Mg3 (PO4)2 Based Solid Electrolyte
17	Ms. Fadhilah Shikh Anuar	Universiti Teknikal Malaysia Melaka, Malaysia	Thermophysical Properties of Copper-Water Nanofluid as Working Fluid for Engine Cooling System
18	Ms. Noorazimah Ab Llah	University Malaysia Perlis, Malaysia	In Vitro Bioactivity Behavior of Mg-Zn/Bioglass in Simulated Body Fluid

19	Ms. Norsri Kurniati Achmad	University Malaysia Perlis, Malaysia	Preparation and Characterization of Biodegradable High Density Polyethylene With Palm Oil Leaves As Biocomposites
20	Ms. Vidhyaa Paroo Indran	Fakulti Sains Dan Teknologi Industri, Malaysia	Green Synthesis of Glycerol Carbonate from Glycerol Catalysed by Boiler Ash
21	Mrs. Normawati @ Nadzirah Abu Samah	Universiti Selangor, Malaysia	Effect on Size Reduction of Polygonum Minus Nanoparticles Using Hydrothermal Method

International Symposium on Coatings Technology List of Poster Presenters

No	Full Name	Affiliation	Title
1	Prof. Ghenadii Korotcenkov	Gwangju Institute of Science and Technology, Republic of Korea	Metal Oxide-based Nanocomposites and Hybrid Compounds Synthesized by SILD method: Characterization and Prospects for Application
2	Dr. Jamarosliza Jamaluddin	Universiti Teknologi Malaysia, Malaysia	Tensile Properties of Polyacrylamide Hydrogel Coated Pineapple Leaf Fiber
3	Dr. Kaushik Pal	Aristotle University of Thessaloniki, Greece	Simple Synthetic Strategy of few Layer Graphene and Nanomaterials Architecture Based Microscopy Studies
4	Dr. Nadia Adrus	Universiti Teknologi Malaysia, Malaysia	Novel Green Photoinitiator for Water-based UV LED Hydrogel Coating Formulation
5	Dr. Pooneh Kardar	Institute for Color Science and Technology, Islamic Republic of Iran	The Effect of Temperature and Light Intensity on the Polymerization Behavior of a Pigmented UV Curable System
6	Dr. Shahab Khameneh Asl	Tabriz Univeristy, Islamic Republic of Iran	Characterization of Structure and Mechanical Properties of Mg and F on Nano Calcium Phosphate
7	Mr. Kung Shiuh Lau	University of Malaya, Malaysia	A Novel Photoelectrode: (Anodic Growth Of TiO2 Nanotubes on Ti Foil) Â€“ A Bridge To Sustainable Energy Economy
8	Mr. Muhammad Mehran Qadir	University of Malaya, Malaysia	Mechanical Properties of Cr/CrAlN PVD Coatings Deposited on Aerospace Al7075-T6 Alloy
9	Mr. Teck Chaw Chai	Universiti Teknologi Malaysia, Malaysia	Effect of Pre-Treatments on The Cutting Edge Profile and Performance of Diamond Coated Tungsten Carbide inserts
10	Ms. Ai Loon Ooi	Universiti Teknologi Malaysia, Malaysia	Cutting Performance of Hfcvd Diamond Coated and Uncoated Tungsten Carbide Inserts on Stainless Steel Workpiece
11	Ms. Ainmardiana Ahmad Basri	Universiti Malaysia Perlis, Malaysia	Study the Thermal Behaviour and Thickness of the new Natural Organic Surface Finish based on Natural Rubber for Coating
12	Ms. Aisyah Nor Hasnan	Universiti Teknologi MARA, Malaysia	Adhesion and Curing of Polyol-Dammar Silver Nanoclay Coating System
13	Ms. Nooririnah Omar	Univerisiti Teknikal Malaysia Melaka, Malaysia	High Pressure Cold Spray Prosess for Corrosion Treatment

International Symposium on Metallurgy and Welding Technology List of Poster Presenters

No	Full Name	Affiliation	Title
1	Assoc. Prof. Jeong-Min Kim	Hanbat National University, Republic of Korea	Mold Filling Ability and Hot Cracking Sussceptibility of Al-Fe-Ni Alloys for High Conductivity Applications.
2	Dr. Anasyida Abu Seman	Universiti Sains Malaysia, Malaysia	Microstructural Evolution of A357 in Casting and Semisolid by Addition of Grain Refiner
3	Dr. Michael Urzynicok	ZELKOT, Poland	Application of Epri P87 in Dissimilar Austenitic-Martensitic Welded Joints of Tempaloy A-3 and T91
4	Mr. Abdul Rohim Said	Tenaga Nasional Berhad REMACO, Malaysia	Life Extension of Gas Turbine Blade
5	Mr. Alborz Fathi	MAPNA Turbine Engineering & Manufacturing Co. (TUGA), Iran	Failure Analysis of a Fuel Oil Pipe in MGT-70 Gas Turbine Auxiliary System
6	Mr. Alborz Fathi	MAPNA Turbine Engineering & Manufacturing Co. (TUGA), Iran	The Effect of Heat input on Weld Pool Geometry of Martensitic Stainless Steel Electron Beam Weld
7	Mr. Hazrull Ab Dulhamid	UniKL MIMET, Malaysia	Experimental Study on The Effect of tool Pin Profile on Dissimilar Grade of Aluminium Alloy Friction Stir Welded Butt Joints
8	Mr. Meor Iqram Meor Ahmad	Universiti Malaya, Malaysia	Detection of Cracked Position Due to Cyclic Loading for Ferromagnetic Materials Based on Magnetic Memory Method
9	Mr. Mohd Fauzi Mamat	Universiti Teknologi Malaysia, Malaysia	Effect of Edge Shape Design on The Microstructure and Mechanical Property of Shielded Metal Arc Welded Low Carbon Steel

International Symposium on Corrosion and Materials Degradation List of Poster Presenters

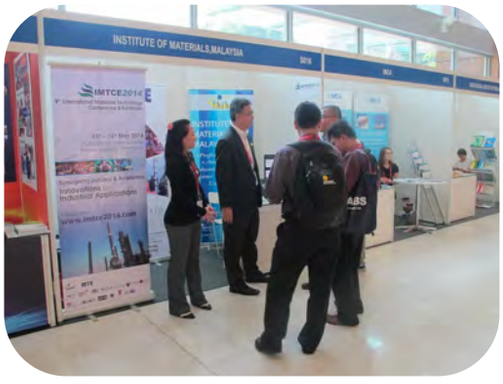
No	Full Name	Affiliation	Title
1	Prof. Abeer Al Bawab	University of Jordan, Jordan	Effect of Surfactant Tail Structure on Phase Behavior of Branched and Linear Alkylbenzene Sulfonate in Water and Oil Ternary Systems
2	Prof. Nathir Al-Rawashdeh	United Arab Emirates University, United Arab Emirates	Magnetic Field Effect on the inhibition of Aluminum and Iron Corrosion with Surfactants in Acidic Solution
3	Prof. Zahra Ranjbar	Institute for Color Science and Technology, Iran	The Effect of Substrate on Anti-Corrosion Properties of Cathodic Electrodeposition Coatings As Revealed by EIS Test
4	Assoc. Prof. Osama Alyousif	Kuwait University, Kuwait	Hydrogen Embrittlement Mechanism of Sensitized Types 304, 316 and 310 Austenitic Stainless Steels in Boiling Saturated Magnesium Chloride Solutions
5	Dr. Abdulghani Jaralla	Technip, Malaysia	Protection of Reinforced Steel Using innovative Corrosion inhibitors
6	Dr. Nalini Dhandapani	PSGR Krishnammal College for Women, India	Enhanced Corrosion Resistance of Mild Steel in Sulphuric Acid Medium by Imidazole Derivative: Experimental and Computational Studies
7	Dr. Shahab Khameneh Asl	Tabriz Univeristy, Iran	Oxidation Mechanism of C in MgO Based Refractories
8	Dr. T.S. Sidhu	Shaheed Bhagat Singh State Technical Campus, India	Investigation on Process Parameter Optimization for Surface Roughness and Micro Hardness of Cold Sprayed Coatings
9	Dr. Yuan-Hsiang Yu	Fu Jen Catholic University, Taiwan	Polystyrene/Graphene-Based Nanocomposites with Advanced Anticorrosive Properties Prepared Using In Situ Miniemulsion Polymerization
10	Mr. Salah Elkoum	Libyan Arab Jamahiriya	Possible Causes of Pre Stressing Steel Wires Failure in the Pre Stressed Concrete Cylinder Pipes for the Man Made River Project (MMRP), Libya
11	Ms. Kiruthika Ayyasamy	PSGR Krishnammal College for Women, India	Corrosion Inhibition Performance of Polyester-Bentonite Clay Composite
12	Mrs. Masoome Rashvand	Institute for Color Science and Technology, Iran	Preserving Anti-Corrosion Properties of Polyurethane Based Coatings Exposed to Humidity and UV-Radiation Using Nano Titania
13	Mrs. Sounthari Eswaran	PSGR Krishnammal College for Women, India	Investigation on The Corrosion Resistance of Polymer-Rice Husk Composite for Mild Steel in 1M H2SO4

Schools' Participation in IMTCE2014

IMTCE2014 is one of several initiatives of IMM to create awareness and interest in, and promote education in Materials Science. IMM is streamlining initiatives to reach out to school students by organising career fairs in conjunction with IMTCE2014, in order to help them gain an insight into the engineering, diploma and vocational courses in Material Sciences available to them after they leave school.

The Institute of Materials, Malaysia (IMM) is inviting school students and teachers from the Klang Valley to visit exhibition booths in the 9th International Materials Technology Conference & Exhibition (IMTCE2014) which will be held on 14th and 15th May 2014, Putra World Trade Centre, Kuala Lumpur, Malaysia. The goals of the School Visit to IMTCE2014 are to:

- Expose students to the research activities and current development in Materials Science via visiting poster presentation by participants of IMTCE2014.
- Expose students to the programme of Materials Science offered by public and private universities in Malaysia.
- Provide insight on career opportunity after school by courses offered by IMM.



IMTCE2014

Conference Programme Time Table

DATE	DAY	AM				PM								
		7.00-8.00	8.00-9.00	9.00-10.00	10.00-11.00	11.00-12.00	12.00-1.00	1.00-2.00	2.00-3.00	3.00-4.00	4.00-5.00	5.00-6.30	6.30-7.30	7.30-11.00
13-MAY	TUE			CONFERENCE FRIENDLY GOLF (Templar Park Country Club, Rawang, Selangor, Malaysia)										
		COUNTER INFRONT OF REGISTRATION Dewan Tun Dr. Ismail, Hall 2, B (Level 2)		IMM TOUR TO MALACCA										
14-MAY	WED			SYMPOSIUM			PLENARY 1 Dewan Tun Hussein Onn (Level 2)	LUNCH	SYMPOSIUM					OPENING CEREMONY/ BANQUET DINNER/ GREEN AWARDS/MLC AWARDS Dewan Tun Hussein Onn (Level 2)
				EXHIBITION Dewan Tun Dr. Ismail (Level 2)							TEA BREAK & EXHIBITION	SPECIAL LECTURE/ COCKTAILS Dewan Tun Hussein Onn (Level 2)		
								MATERIALS LECTURE COMPETITION Grand Ballroom 2, Hotel Seri Pacific, Kuala Lumpur						
				POSTER SESSION 1 Dewan Tun Dr. Ismail (Level 2)				POSTER SESSION 2 Dewan Tun Dr. Ismail (Level 2)						
15-MAY	THU			SYMPOSIUM			PLENARY 2 Dewan Tun Hussein Onn (Level 2)	LUNCH	SYMPOSIUM					
				EXHIBITION Dewan Tun Dr. Ismail (Level 2)										
				POSTER SESSION 3 Dewan Tun Dr. Ismail (Level 2)							CLOSING CEREMONY/ POSTER AWARD Dewan Tun Hussein Onn (Level 2)			
16-MAY	FRI			MASTERCLASSES										
				PLANT VISITS										

International Symposium on Advanced Polymeric Materials (ISAPM 2014)

under the auspices of 9th International Materials Technology Conference and Exhibition (IMTCE2014)

Date: 14th – 15th May 2014
Venue: PUTRA WORLD TRADE CENTRE, KUALA LUMPUR, MALAYSIA

Introduction:
The International Symposium on Advanced Polymeric Materials 2014 (ISAPM 2014) is a joint international symposium on polymeric materials between Institute of Materials, Malaysia (IMM), Malaysia and Mahatma Gandhi University (MGU), India under the auspices of the 9th International Materials Technology Conference and Exhibition (IMTCE 2014). The primary purpose of this symposium is to bring together state-of-the-art developments on all aspects related to the research and development, processing and fabrication, testing and characterisation, monitoring and inspection, durability and performance of advanced polymeric composite materials. The symposium will provide an international forum for scientific discovery, professional networking, research collaboration, interdisciplinary education, and dissemination of our most recent scientific advances to the academia and industrialist. The Plenary, Keynote and Invited papers from leading-edge academia and industrialist, in related areas, will provide comprehensive overview of the current status and potential directions for future research in search for diverse applications of advanced polymeric materials.

We welcome you to ISAPM 2014!

Theme:
Polymers and Composites as Alternative Engineering Materials

Aims of Symposium:
1. To disseminate and showcase advances in the understanding of polymeric materials innovation technology and application in industry.
2. To gather stakeholders from academia and industries for the sharing of innovative and sustainable ideas, collaboration and networking opportunities.

List of Topics:
1. Polymer composite and nanocomposite
2. Advances in polymer synthesis, processing and characterisation
3. Application of polymer composites in industry
4. Biological, biomedical and environmental-friendly polymers
5. Polymeric materials for clean and sustainable energy
6. Multi-techniques of polymer characterisation
7. Failure and solution
8. Monitoring and inspection
9. Durability and performance

Symposium Chairpersons:
1. Assoc. Prof. Dr. Chia Chin Hua (Universiti Kebangsaan Malaysia)
2. Prof. Dr. Sabu Thomas (Mahatma Gandhi University, Kottayam, India and University Teknologi MARA, Malaysia)
3. Ms. Siti Haslina Ramli (PETRONAS Research, Malaysia)

Technical Committee:
1. Assoc. Prof. Dr. Sim Lai Har (Universiti Teknologi MARA, Malaysia)
2. Dr. Azizol Wahab (PETRONAS, Malaysia)
3. Dr. Lim Hong Ngee (Universiti Putra Malaysia, Malaysia)
4. Dr. Lee Siang Yin (International Medical University, Malaysia)

International Advisory Panel:
1. Prof. Dr. Aji P. Mathew - Luleá University of Technology, Sweden
2. Prof. Dr. Dominique Durand - University of Le Mans, France
3. Prof. Dr. Ho Chee Cheong - Universiti Tunku Abdul Rahman, Malaysia
4. Prof. Dr. Manfred Stamm - Leibniz Institute of Polymer Research Dresden, Germany
5. Prof. Dr. Paula Moldenaers - University of Leuven, Belgium
6. Prof. Dr. Suresh Narine - University of Trent, Canada
7. Prof. Dr. Suresh Valiyaveetil - National University of Singapore, Singapore
8. Prof. Dr. Yang Chuan Ke - China University of Petroluem, China
9. Prof. Dr. Yves Grohens - University of South Brittnay, France
10. Dr. K. H. Leong - PETRONAS Research Sdn. Bhd., Malaysia
11. Dr. Maya Jacob - CSIR, Port Elizabeth, South Africa
12. Dr. Russell John Varley - CSIRO Materials Science & Engineering, Australia

Keynote Speakers for Symposium
1. Prof. Dr. Abdul Kariem Arof, Universiti Malaya, Malaysia
2. Prof. Dr. Alejandro J. Müller, Simón Bolívar University, Venezuela
3. Prof. Dr. Jas Pal Badyal, Durham University, United Kingdom
4. Prof. Dr. Seng Neon Gan, Department of Chemistry, Universiti Malaya, Malaysia
5. Dr. Kong Chin Chew, Beckers Group, Malaysia
6. Dr. Mustafa Kansiz, Agilent Technologies, Australia
7. Dr. K. H. Leong, PETRONAS Research, Malaysia
8. Dr. Russell Varley, CSIRO, Australia

IMTCE2014

International Symposium on Materials Characterisation and Testing (ISMCT 2014)

under the auspices of 9th International Materials Technology Conference and Exhibition (IMTCE2014)

Date: 14th – 15th May 2014
Venue: PUTRA WORLD TRADE CENTRE, KUALA LUMPUR, MALAYSIA

Introduction:
Today's asset integrity management is demanding an ever-increasing fundamental understanding of materials science. Understanding the way materials behave under adverse operating conditions found in all major industries is key to controlling the safe operation and effective life of industrial plant. Materials characterization and testing techniques are a prerequisite to gaining the knowledge required to achieve better materials choice, better application of materials and better plant inspection. This symposium is a forum to demonstrate advances made in all aspects of materials characterization and testing from the fundamental scientific research to application in the field. Non-destructive testing onshore and offshore, topside and deep water, surface and subsurface will all be discussed. Professionals from power generation, oil and gas, aerospace , nuclear and all other engineering industries will be meeting at the symposium to give their expert opinions both on stage and off. Key members from major industries and world renowned academic institutions will be discussing how university/industry collaborations have brought about major changes in the way engineers and academics perceive material behavior and inspection methods. Understanding materials behavior and particularly the failure mechanisms of innovative materials is of paramount importance to any failure investigation. Leading failure investigation experts will be showing how all aspects of materials characterization, testing and application increase their understanding of material behavior in the field. In all, this symposium delivers an exciting mix of professions, expertise and engineering sciences.
We welcome you to ISMCT 2014!

Theme:
Technologies & Innovations in Materials Asset Integrity

Aims of Symposium:
This symposium provides opportunities for a broad base of delegates to exchange ideas, learn about the latest advancements and gain insights from application experiences in order to establish business or research relations and to find global partners for future collaboration.

List of Topics:
The application of characterization and testing techniques to:

1. Forensic materials engineering
2. Materials failure analysis
3. Materials structure property relationships
4. Root cause analysis
5. Advanced materialogical fundamental understanding
6. Performance assessment
7. Sub-sea inspection
8. Aerospace

The development of characterization and testing methodologies for:

1. Rheological properties
2. Physical, mechanical and chemical properties
3. Microstructural/structural characteristics
4. Radiation effects

Advances in instrumentation and equipment for:

1. Spectroscopy
2. Optical microscopy and measurement
3. Imaging
4. Destructive and non-destructive testing
5. Scanning and transmission electron microscopy
6. Auv/rov inspection
7. Laser/x-ray imaging
8. Crystallography
9. Nanoindentation

Industry/University collaborations in:

1. Nuclear materials
2. Aerospace materials
3. Oil and gas plant materials
4. Nanomaterials

Symposium Chairpersons:
1. Dr. Hasnah Abdul Wahab (SIRIM Berhad, Malaysia)
2. Eur. Ing. Nigel Brewitt (Norimax Sdn Bhd, Malaysia)
3. Dr. Andrew Spowage (Woodgroup Intetech, Malaysia)

Technical Committee:
1. Assoc. Prof. Dr. Liang Meng Suan (Universiti Tunku Abdul Rahman, Malaysia)
2. Dr. Lim Ching Liang (Metacos, Malaysia)
3. Mr. Kenneth Way (Perkin, Malaysia)
4. Mr. Ku Chan (KL Analytics, Malaysia)
5. Mr. Lee Jiin Woei (The University of Nottingham Malaysia Campus, Malaysia)
6. Mr. Mazlan Shah (DNV, Malaysia)
7. Ms. Salina Saidin (Nusatek Shah Alam, Malaysia)

International Advisory Panel:
1. Prof. Dr. Aude Simar - Département de Mécanique,Université catholique de Louvain, Belgium"
2. Prof. Dr. Chris Grovenor - C.R.M. Grovenor -University of Oxford, Oxford, UK
3. Prof. Dr. David Rugg - Rolls-Royce, UK
4. Prof. Dr. Paul Munroe - University of New South Wales, Sydney, Australia
5. Assoc. Prof. Dr. Heung Nam Han - Department of Materials Science & Engineering, Korea
6. Dr. Ben Beake - Mirco Materials, UK
7. Dr. Derek O. Northwood - University of Windsor
8. Dr. Iain Le May, P.Eng. - Metallurgical Consulting Services Ltd., Canada
9. Mr. Jim Oswald - Oswald Consultancy Ltd, UK
10. Mr. Jonathan Byon - Oxford Instruments, Taiwan
11. Mr. Loke Chee Kiong - Shimadzu, Singapore
12. Mr. Robert Anthonie Burn - MSc, CEng, Nace Senior corrosion Technologist, Murphy Oil Corp., Malaysia
13. Mr. Thomas N. Ackerson (PE) - IMR Metallurgical Services, USA

Keynote Speakers for Symposium
1. Prof. Dr. David Rugg, Rolls-Royce PLC, Derby, UK
2. Dr. Badrol Bin Ahmad, General Manager, Performance Analyses & Diagnostics, Tenaga Nasional Berhad, Malaysia
3. Dr. Hasnah Abdul Wahab, Head of Joining & Inspection Services, Technical Services Division, SIRIM Berhad, Malaysia
4. Mr. Mohamad Azmi Noor, Head Asset Integrity Division HSE, Asset Integrity Division, EPHSE, EVP'S Office, E&P Business,PETRONAS
5. Mr. Robert A. Burn, Technical Integrity Manager of Murphy Oil Malaysia, Malaysia
6. Mr. Ronald J. Parrington, IMR Test Labs, The United of America States (USA)

International Symposium on Coatings Technology (ISCT 2014)

under the auspices of 9th International Materials Technology Conference and Exhibition (IMTCE2014)

Date: 14th – 15th May 2014
Venue: PUTRA WORLD TRADE CENTRE, KUALA LUMPUR, MALAYSIA

Introduction:
The International Symposium on Coatings Technology (ISCT 2014) organised under the 9th IMTCE 2014, features contribution to both fundamental and applied research and development on the technological advances in coating process, science and technology. Good coating technologies contribute significantly in reducing corrosion costs especially in the Oil & Gas, Energy, Marine and Construction industries. The key focus areas include new coating development, surface preparation, application of coating, quality, selection and inspection. The ISCT 2014 symposium provides a forum for academics and industrialists to share information on the recent advances in coatings with a focus in asset integrity and safety in the development of coatings.

The technical symposium will be held over two days during which keynote lectures from prominent scientists and practitioners as well as technical paper presentations and poster sessions will be presented along with other events.

We welcome you to ISCT 2014!

Theme:
Assuring Integrity & Safety in Coatings Development

Aims of Symposium:
1. To disseminate and showcase advances in the research, development, and application of the new and/or greener technologies for paints & protective coatings.
2. To introduce new Health, Safety & Environmental painting concepts and standards and initiatives from Academic Research Institutions, Standards Institution, and Regulatory bodies.
3. To gather research and technical papers from academia and industry for the exchange of ideas, collaborations and networking opportunities.

List of Topics:
The symposium topics include but are not limited to:
1. Smart and nano coatings
2. High temperature coatings
3. Bio coatings
4. Composites
5. Coating quality assurance and quality control standards
6. Coating inspection and maintenance program
7. Coating equipment
8. Green coatings
9. Rheology of coatings/complex fluid
10. Surface engineering
11. Organic coatings and inhibitors for corrosion control
12. Polymer coatings
13. Thin film coatings for electronics packaging
14. Coating processes and techniques
15. Environment, health and safety
16. Coating performance
17. Risk assessment and integrity management
18. Health concerns in coatings
19. New regulatory/standards and trends affecting the coatings industry
20. Asset integrity in coatings

Symposium Chairpersons:
1. Assoc. Prof. Dr. Rajkumar Durairaj (Universiti Tunku Abdul Rahman, Malaysia
2. Mr. David Lim Chee Cheong (ExxonMobil E&P (M) Inc, Malaysia)
3. Ms. Nurul Asni Mohamed (PETRONAS GTS, Malaysia)
4. Mr. Muhd Hawari Hassan (PETRONAS GTS, Malaysia)

Technical Committee:
1. Prof. Dr. Misni Misran (Universiti Malaya, Malaysia)
2. Prof. Dr. Ramesh Singh (Universiti Malaya, Malaysia)
3. Assoc. Prof. Dr. Ramesh T.Subramaniam (Universiti Malaya, Malaysia)
4. Dr. Ramesh Kasi (Universiti Malaya, Malaysia)
5. Dr. Satesh Namasivayam (Taylors University, Malaysia)
6. Mr. Aaron Williams (Total Schidmt, Malaysia)
7. Mr. Chong Horng Yih (Valspar, Malaysia)
8. Mr. Frankie Chua Cheng Huat (PLC Laboratory Sdn Bhd, Malaysia)
9. Mr. Junaidy Abdullah (Norimax Sdn Bhd, Malaysia)
10. Mr. Lim Wai Bin (KCC Paint Sdn Bhd, Malaysia)
11. Mr. Muhammad Hawari Hassan (PETRONAS, Malaysia)
12. Mr. Ting Lai Liong (Dutech, Malaysia)

International Advisory Panel:
1. Prof. Dr. Mohd. Kamal Harun - Universiti Teknologi MARA, Malaysia
2. Prof. Dr. Stuart Lyon - University of Manchester, UK
3. Prof. Dr. Ismail Fidan - Tennessee Tech University, USA
4. Mr. Chris Kettle - Sarawak Shell Berhad, Malaysia
5. Mr. Thomas A. Jones - SSPC, USA

Keynote Speakers for Symposium
1. Prof. Dr. Khiam Aik Khor,Director, Research Support Office and Bibliometrics Analysis, Nanyang Technological University, Singapore
2. Prof. Dr. Rupert Schreiner (Ostbayerische Technische Hochschule Regensburg, Germany)
3. Mr. Abdul Rashid, SSPC (The Society for Protective Coatings), USA
4. Ms. Nurul Asni Mohamed (PETRONAS GTS), Malaysia

IMTCE2014

International Symposium on Metallurgy and Welding Technology (ISMWT 2014)

under the auspices of 9th International Materials Technology Conference and Exhibition (IMTCE2014)

Date: 14th – 15th May 2014
Venue: PUTRA WORLD TRADE CENTRE, KUALA LUMPUR, MALAYSIA

Introduction:
This symposium seeks to keep abreast of the current advancements in metallurgy and welding technology. With the ever increasing demands from industry to improve quality, performance and productivity, ensure sustainability, and reduce cost, it is essential to continuously innovate leveraging on the rapid technological advances of the 21st century. This symposium is intended to bring in academia and industry experts on a common platform to share their experience and to create awareness of new research findings, technology, equipment and materials. While the symposium will deal with the broader areas of metallurgy, it will put a special emphasis on welding this year. Specific programmes will be dedicated to recent advances in welding technology through the joint efforts from Asian Welding Federation (AWF). This two-day symposium will feature plenary lectures, invited and contributed papers, and posters from prominent researchers, engineers, academia and practitioners.
We welcome you to ISMWT 2014!

Theme:
Facility Safety through Welding Integrity

Aims of Symposium:
1. To disseminate and showcase advances in the understanding and application of metallurgy, welding and related technologies.
2. To gather stakeholders from academia and industries for the sharing of innovative and sustainable ideas, collaboration and networking opportunities.

List of Topics:
You are cordially invited to submit technical papers in relevant areas pertaining to metallurgy and welding technology and allied processes. Topics to be covered in the symposium will include, but not necessarily limited to, the following:
1. Welding processes, weld design, quality control, safety through conventional and advanced ndt techniques, and welding equipment
2. Structure-property relationships
3. Metal fabrication and forming
4. Advanced processing technologies
5. Solidification
6. High performance alloys
7. Hard materials and surface modification
8. Sustainable technologies and recycling of metals
9. Nanotechnology in metallurgy and metal joining
10. Metal matrix composites
11. Simulation and modeling

Symposium Chairpersons:
1. Ir. Dr. Edwin Jong Nyon Tchan (Jurutera Perunding Akal Sdn. Bhd., Malaysia)
2. Prof. Dr. A. S. M. A. Haseeb (Universiti Malaya, Malaysia)
3. Mr. M. Hasbi B. A. Razak (PETRONAS Carigali Sdn Bhd, Malaysia)

Technical Committee:
1. Prof Dr. Esah Hamzah (Universiti Teknologi Malaysia, Johor, Malaysia)
2. Prof Dr. Qumrul Ahsan (Universiti Teknikal Malaysia, Melaka, Malaysia)
3. Dr. Mahesh Talari (Universiti Teknologi MARA, Malaysia)
4. Dr. Mohammad Abul Fazal (University of Malaya, Malaysia)
5. Dr. Samsul Bahar (PETRONAS, Malaysia)
6. Dr. Wong Yew Hoong (University of Malaya, Malaysia)
7. Dr. Zuhailawati Hussain (Universiti Sains Malaysia, Malaysia)
8. Haji Ghalib Tham (Universiti Teknologi MARA, Malaysia)
9. Mr. Abdul Ghani Ismail (PETRONAS, Malaysia)
10. Mr. Abu Bakar Mohd Ariff (PETRONAS Carigali, Malaysia)
11. Mr. Barry Edmonds (United Technology, Malaysia)
12. Mr. Ismail Abu Bakar (SHELL, Malaysia)
13. Mr. Khoo Kee Tong (KTAR, Malaysia)
14. Mr. Md. Hafidzuddin Bin Mohd Salleh(Leeden, Malaysia)
15. Mr. Tan Yew Min (PETRONAS, Malaysia)
16. Mr. Thomas Teo (All Alloy, Singapore)

International Advisory Panel:
1. Prof. Dr. Lee Bo Young - Korean Welding & Joining Society, Korea
2. Prof. Dr. Suck Joo Na - Korean Welding & Joining Society, Korea
3. Asoc. Prof. Dr. G. D. Janaki Ram - Indian Institute of Technology Madras, Chennai, India
4. Dr. Dedi Priadi Endang Rahman - Indonesian Welding Society(IWS), Depok. Indonesia
5. Dr. Heng Keng Wah - Singapore Welding Society, Singapore
6. Dr. Hiroshi Nishikawa - Osaka University, Japan
7. Dr. Huijun Li - University of Wollonggong, Australia
8. Dr. Ir. Winarto - Indonesian Welding Society, Indonesia
9. Achdiat Atmawinata - University of Indonesia, Indonesia
10. Mr. Ang Chee Pheng - Singapore Welding Society, Singapore
11. Mr. Chow Ngai Mun - Singapore Welding Society, Singapore
12. Mr. Efren B. Ibanez - Sumitomo Metal Mining – THPAL Nickel Corp Training Center, Philippines
13. Mr. Hideaki Harasawa - The Japan Welding Engineering Society, Japan
14. Mr. Suchin Katavut - Thai Welding Society, Thailand
15. Mr. Than Tun Zaw - International Welding Engineer, IIW, SLV-Duisburg, Germany

Keynote Speakers for Symposium
1. Prof. Yu-Ichi Komizo, Joining and Welding Research Institute, Osaka University, Japan
2. Assoc. Prof. Dr. G. D. Janaki Ram - Indian Institute of Technology Madras, Chennai, India
3. Mr. Ang Chee Pheng, Asian Welding Federation, Singapore
4. Mr. Hasbi Razak, PETRONAS, Malaysia
5. Mr. Hideaki Harasawa - The Japan Welding Engineering Society, Japan

International Symposium on Corrosion & Materials Degradation (ISCMD 2014)

under the auspices of 9th International Materials Technology Conference and Exhibition (IMTCE 2014)

Date: 14th – 15th May 2014
Venue: PUTRA WORLD TRADE CENTRE, KUALA LUMPUR, MALAYSIA

Introduction:
The Corrosion and Materials Degradation Symposium is dedicated to provide an interactive platform to share knowledge, ideas, information and experience in the field of materials selection and degradation due to corrosion. Today's asset integrity management is demanding an ever-increasing fundamental understanding of materials science. Understanding the way materials behave under adverse operating conditions found in all major industries is key to controlling the safe operation and effective life of industrial plant. This symposium is a forum to demonstrate advances made in all aspects of corrosion characterization and testing from the fundamental scientific research to application in the field. Conventional and latest methods in corrosion control and protection and choice of materials that promise flexibility, safety and environmental friendlessness such as corrosion resistant alloys (CRA), corrosion inhibitors, coatings and cathodic protection technique will be discussed by experts, practicing engineers and academic researchers. Non-destructive inspection methods to evaluate corrosion rate, life assessment and asset integrity management will be key issues that will be addressed during the symposium. Deepwater insulation, microbial induced corrosion (MIC) protection and corrosion protection techniques in onshore and offshore, topside and deep water, surface and subsurface conditions will be given special attention.

Professionals from power generation, oil and gas, aerospace, nuclear and all other engineering industries will be meeting at the symposium to give their expert opinions both on stage and off. Key members from major industries and world renowned academic institutions will be discussing how university/industry collaborations have brought about major changes in the way engineers and academics perceive material's corrosion behaviour, corrosion inspection an protection methods. The symposium will last for two days during which keynote lectures, invited lectures as well as oral & poster presentations from academic researchers, technology inventors, industry practitioners and products developers will take place. The organization committee cordially invites managers, engineers, scientists, and students involved in managing corrosion and selecting the appropriate material to attend this technical symposium and share their experiences with respect to corrosion behaviour, protection techniques and materials integrity.

Theme:
Sustaining Technical Integrity through Improved Corrosion Protection Technologies

Aims of Symposium:
1. To disseminate and showcase advances in the understanding of corrosion and materials degradation and application of the corrosion protection techniques.
2. To gather corrosion practitioners from academia and industry for sharing of ideas/knowledge, collaboration and networking opportunities.

List of Topics:
1. Material selection
2. Degradation mechanisms
3. Corrosion research
4. Accelerated corrosion testing
5. Corrosion of steel reinforced concrete
6. Corrosion inhibitors
7. Cathodic protection
8. Corrosion monitoring
9. External corrosion direct assessment
10. Corrosion modelling
11. Microbiological induced corrosion
12. Pipeline corrosion
13. Marine corrosion
14. Stray current & interference

Symposium Chairpersons:
1. Pn. Halimah Pit (Shell, Malaysia)
2. Dr. Mahesh Kumar Talari (Universiti Teknologi MARA, Malaysia)

Technical Committee:
1. Mr. Adnan bin Hussain (Shell Project and Technology, Malaysia)
2. Mr. Afzalleh Jilleh (Universiti Teknologi MARA, Malaysia)
3. Ms. Elizah binti Samat (Shell Project and Technology, Malaysia)
4. Mr. Hafiz Zakaria (Shell, Malaysia)
5. Mr. Johar bin Juhari (Shell Project and Technology, Malaysia)
6. Mr. Kang Kim Ang (CorrTrol, Malaysia)
7. Nor-Aida Hussin (Shell, Malaysia)
8. Mr. Ong Wei Rex (Corrodynamic, Malaysia)
9. Ms. Rafidah Razuan (Universiti Teknologi MARA, Malaysia)
10. Ms. Siti Sarah bte Mohd Pauzi (Universiti Teknologi MARA, Malaysia)
11. Ms. Syarifah Nazliah (ETC - CP, Malaysia)

International Advisory Panel:
1. Dr. Kamachi Mudali - DAE Indira Gandhi Centre for Atomic Research, India
2. Dr. Lee Chee Hong - NACE, Malaysia
3. Dr. Liane Smith - Woodgroup Intetech, UK
4. Dr. Reza Javaherdashti - Parscorrosion Consultants, Australia
5. Dr. T. S. N. Sankara Narayanan - FECSI, FSAEST, South KoreaW
6. Ir. Dr. Mokhtar B Che Ismail - Universiti Teknologi PETRONAS, Malaysia
7. Mr. Christopher Kettle - Shell, Malaysia
8. Mr. Hasbullah Abu Hassan - PETRONAS, Malaysia
9. Mr. Marc Wilms - Shell, USA
10. Ms. Michelle Lau - NACE, East Asia
11. Mr. Mohamad Adaham Abdullah - Sarawak Shell Berhad, Malaysia
12. Mr. Mohd Hasbi - PETRONAS Carigali, Malaysia
13. Mr. Raghu Damodaran - Shell, USA
14. Pn. Hajah Maimunah Ismail - Lloyds, Malaysia

Keynote Speakers for Symposium
1. Dr. Reza Javaherdashti, Parscorrosion Consultants, Perth, Australia
2. Dr. T. S. N Sankara Narayanan, Chonbuk National University, South Korea
3. Pn. Halimah Pit ,Team Lead MCI-KL Deepwater Office, Porjects & Technology, Upstream Major Project (East), Sabah Shell Petroleum Co Ltd, Malaysia
4. Tuan Haji Mohd Kamal Azam Ibrahim, Senior Manager, Materials/Corrosion Facilities Engineering Department, PETRONAS Carigali Sdn Bhd, Malaysia

Contd.

IMTCE2014

Contd.

LANGUAGE
The official language of the conference is English.

LANGUAGE IN PAPERS
UK or US English (depending on the specific requirement of the publisher) is to be used throughout. To avoid errors, you are strongly advised to use the 'spell-check' and 'grammar-check' functions of your word processor. Authors who feel that their papers may require editing to eliminate possible grammatical or spelling errors to conform to proper scientific English are encouraged to seek professional service for this purpose. Papers which do not conform to the above requirement will not be considered for publication in the journals/books listed.

AUTHOR ENQUIRY
For enquiries relating to the submission of papers, please visit the website of IMTCE2014 at www.imtce2014.com.

PROGRAMME BOOK OF IMTCE2014
The programme book will consist of the abstracts of plenary and keynote lectures, as well as the tentative programme. The format of the abstracts can be found from the website of IMTCE2014 at www.imtce2014.com.

ABSTRACT BOOK OF IMTCE2014
The abstract book will consist of abstracts of invited, oral and poster presenters and will be present as a soft copy in the website www.imtce2014.com as well as in the pen-drive which will be handed out as conference proceedings.

Important note:
The abstract and a brief biography (in MS Word format), must be submitted online in the specific format. The templates for abstract and biographical data are provided in the website at www.imtce2014.com.

DISTRIBUTION OF FULL PAPERS/PRESENTATION (PDF or PPT) IN PEN-DRIVE DURING THE REGISTRATION OF THE CONFERENCE
Authors (from industry and academia) who wish to have their full papers included into a pen-drive to be distributed during the IMTCE2014 must submit full papers by 1st April 2014. Papers submitted after this date will not be included into the conference pen-drive.

Important note:
- All full papers in this pen-drive can be resubmitted (within 2 weeks after the conference) to any of the listed journals as identified for IMTCE2014. Please note that the papers in this pen-drive are merely compilation of papers without going through the actual reviewing process.
- Each registered author is entitled to a submission of one full paper to one journal.

Disclaimer:
Please take note that the organisers of IMTCE2014 shall not be responsible for any copyright issues, usage of materials in the pen-drive without permission or other related frauds. We advise presenters to take special precaution to avoid any undesirable incidences. No pre-screening or review will be carried out for the papers submitted for compilation in the pen-drive to be distributed during the conference.

SUBMISSION OF PAPER TO PEER-REVIEWED AND/OR SCOPUS-INDEXED JOURNALS

Submission of Paper to Peer-Reviewed and/or Scopus-Indexed Journals or conference proceedings will be coordinated by the Technical Publications Chairperson of IMTCE2014 [Dr. Karen Wong Mee Chu, Universiti Tunku Abdul Rahman] at imtce2014@gmail.com.

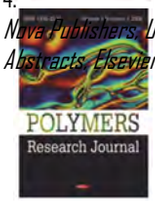
Papers that are intended for publication in journals must be submitted online within 2 weeks after the conference (*i.e.* before 31st May 2014).

Selected papers may be published in identified journals listed below:

1. 
International Journal of the Institute of Materials Malaysia (IJIMM) *(Publisher: Institute of Materials, Malaysia) (Full paper)*

2. 
Journal of Science and Technology in the Tropics *(Publisher: Academy of Sciences Malaysia, Malaysia) (Full paper)* (*Scopus-Indexed)*

3. 
Jurnal Teknologi (Science and Engineering) *(Publisher: Penerbit UTM Press) (Full paper) (Scopus-Indexed)*

4. 
Polymers Research Journal *(Publisher: Nova Publishers, USA.)* (It is indexed in Chemical Abstracts, Elsevier, Genamics) (Full paper)*

5. 
Composite Interfaces *(Publisher: Taylor & Francis Group)* (Impact factor in 2011: 0.438) (Full paper)*

6. 
One book on "Advanced Polymeric Materials II: Macro to Nanoscales"* *(Publisher: Apple Academic Press, Canada)* (Book chapter) (The publication of the book chapter is free of charge. All chapter contributors will get a free soft copy of the book)*

7. 
Journal of Pigment and Resin Technology *(Publisher: Emerald Group Publishing Ltd.)# (Full paper) (Thompson ISI)*

8. 
Science Letters (*Publisher: Faculty of Applied Sciences, UiTM, Shah Alam, Malaysia*) *(Full paper)°*

*Note: Submission of paper (journals 4, 5 & book 6) is limited to the participants of ISAPM2014 only. Full papers are to be submitted to Dr. Lee Siang Yin (Head - Scientific & Publication Committee of ISAPM 2014) at isapm.publication@yahoo.com.

#Note: Submission of paper (journal 7) is limited to the participants of ISCT 2014 only. Full papers are to be submitted to Assoc. Prof. Dr. Rajkumar Durairaj (Co-chairman of ISCT 2014) at raj.durairaj@gmail.com.

°Note: Submission to Dr. Tan Winie, Universiti Teknologi MARA (UiTM) at scienceletter@salam.uitm.edu.my.

All intending authors should select only one journal/book from the list above. The organizers will not be responsible for the decision of submission to any of the journals/book listed above on behalf of the authors.

In the case whereby the intending author does not select a journal using the Full Paper Submission Form (please download from the conference website) (except journal 7 with no Full Paper Submission Form), the paper will not be submitted/considered for publication in any of the journals/book listed above.

Important note:
One registered author is entitled to one submission of full paper to one journal.

ORAL PRESENTATION

The time allocated for special lectures, plenary, keynote, invited and oral lectures, including a 5-min discussion, will be 45, 45, 30, 20 and 15 minutes, respectively.

Instruction to Oral Presenters

The length of presentation should be in accordance with your time allocated. Presenters are requested to load your Power Point presentation or other presentation materials before the session starts.

We recommend you to bring at least 2 soft copies of your presentation to the session in case of any technical error. Thumb Drives and hard disk are acceptable.

Audio Visual Equipment Available

All meeting rooms are equipped with the following audio-visual equipment:

- 1- LCD Projector
- 1- Windows-based PC with Microsoft Office
- 1- Screen
- 1- Laser Pointer

If the use of own laptop is preferred, the speakers are advised to check if the MS PowerPoint slides can be displayed before presentation.

Guidelines for Presentation

Be considerate to the other speakers and audience by keeping your presentation within your allocated time slot. The allocated time for your presentation includes a discussion and changeover to the next speaker. Session Chairs will hold you to the allocated time. This is essential to ensure adequate time for questions and discussion as well as adherence to the schedule. Please discuss the same materials as reported in your abstract submission.

POSTER PRESENTATION

The dimensions of the poster boards are as follows:

- Size of the construction: 2.5 m (height) × 1 m (width)
- Maximum allowable size of the poster: 1200 mm (height) × 900 mm (width) in portrait

Sticking materials (pins and double-sided adhesive tapes) will be made available at the area for posters. However one can bring one's own materials if so preferred. The poster should be easily read from a distance of 2 meters.

Conference staff will be available to assist the poster presenter during the time of mounting. The poster boards will be numbered, and can be found in the final programme.

Specific times will be allocated for poster presentations. Authors will be notified by IMTCE 2014 Secretariat in advance on the time slots. All poster authors must be present at their post during the allocated time.

BEST POSTER AWARD

The prizes for the Best Poster Award are as follows:

1st Prize Winner	RM 1000.00
2nd Prize Winner	RM 500.00
3rd Prize Winner	RM 300.00

Poster Competition Rules:

1) The poster must include the following:

a) Title
b) Name of author(s) and affiliated organisation(s)
c) Abstract (a brief summary of objectives, methods, results and conclusions)
d) Background information
e) Project Objectives
f) Materials and Methods
g) Results (micrographs, tables, graphs, charts)
h) Conclusions
i) Future work (optional)

2) Poster topic is to be related to any of the five symposiums' scopes and also shall be relevant to the conference theme "Synergising Industry & Academia".

3) Poster size (maximum allowable): 1.2 m (height) x 0.9 m (width). All illustrations and texts must be readable from a distance of 2 meters.

4) There will be three poster presentation sessions during the conference (subject to change):

a) Session A : **Wednesday**, *14th May 2014* will be from ***10.00 am - 12.00 pm***
b) Session B : **Wednesday**, *14th May 2014* will be from ***2.30 pm - 4.30 pm***
c) Session C : **Thursday**, *15th May 2014* will be from ***10.00 am -12.00 pm***

Poster presenters are expected to be at their positions beside the posters to describe their work and answer questions from the judges during their assigned session.

5) Posters should be set up on the day corresponding to your session from 8.30 am to 9.30 am and must be removed from 5.00 pm to 6.00 pm.

6) Judging will be based on overall marks and a comparison of comments from a panel of judges. Judges will spend time (maximum of 15 minutes for each poster) asking questions and listening to the contestants' description of the research work.

7) The Best Poster Award will be based on the following criteria:
a) Content (appropriateness to the conference topics and themes)
b) Appeal/ Overall Impact (eye-catching appeal, visual attractiveness and ability to draw the viewer)
c) Clarity (the content can stand alone without lengthy explanation)
d) Organisation (format, grammar etc)
e) Creativity/ Originality

8) The Best Poster Award will be announced during the Closing Ceremony on the 2nd day of the conference, Wednesday 15th May 2014.

9) Judges are selected from amongst academia and industrial practitioners by the Organising Committee.

10) The decision by the judges is final. No appeal will be allowed.

IMM GREEN MATERIALS AWARDS

The IMM Green Materials Award is an initiative by IMM organised under the auspices of the 9th International Materials Technology Conference and Exhibition (IMTCE2014). It aims to encourage research, manufacture and the utilisation of green materials under six (6) product categories. Winners of the IMM Green Materials Award shall be awarded at the IMTCE2014 Banquet Dinner which will be held on Wednesday 14th May 2014 at Putra World Trade Centre, Kuala Lumpur.

a) Category:

Three categories of participants have been identified for the award:-

- Research Institute (RI) or Institute of Higher Learning IHL [Public and Private Sectors]
- Local Manufacturing company including Multinational Companies manufacturing in Malaysia
- Company utilising green materials for their business activities

b) Product Category and its criteria:

The five product categories and the criteria are:

The six (6) product categories are:

- Development of green materials
- Coating Materials
- Insulation Materials
- Packaging Materials
- Corrosion Control
- Building Materials

c) Competition Rules:

1. Submissions must fall within the Product Category listed above.
2. Applicant must submit one (1) application for each product. One product eligible for one Product Category only.
3. This competition is confined to producers and users of Materials as defined in the product categories.
4. The submission of application is free of cost for both IHL/RI and the industry. Application closes on 14th December 2013.
5. The shortlisted applicants shall be advised before 14th January 2014. Shortlisted applicant from industry sector will be charged a fee of RM 500.00 for the 2nd round evaluation.

Applications:

Please send applications addressed to the Chairman of the IMM Green Materials Committee, Prof. Dr. Saifollah Abdullah at email: ssbs2013m@gmail.com, with a copy to the Secretary Ir. Abd Razak Abu Hurairah (email: razak@morecap.com.my) and the IMTCE2014 Secretariat (email: iomm@po.jaring.my). The form may be obtained from the website at www.imtce2014.com. or request from the Secretariat of IMM at Tel: +603 5882 3574.

MATERIALS LECTURE COMPETITION

Background and Aim of the Competition

The Materials Lecture Competition (MLC2014) is jointly organised by the Institute of Materials, Malaysia (IMM) and Institute of Materials Minerals and Mining, Malaysia Branch (IOM3-MB) and organised under the auspices of the 9th International Materials Technology Conference and Exhibition (IMTCE2014), scheduled on 14th May 2014 at Putra World Trade Centre, in Kuala Lumpur. The Materials Lecture Competition is an initiative intended to enhance awareness among young Material Scientists and Engineers in Malaysia, on the importance of Materials Engineering, Innovations in Materials and sustainability in the advancement of Technology and humankind.

Competition Rules and Eligibility

The Materials Lecture Competition (MLC2014) is open to all students from Universities in Malaysia (except academic staff) who must deliver a 15-minute presentation on a topic related to Materials or Minerals Science and Engineering. The topic may be on the student's current research work or project from the following areas of interest (but not limited to) Materials Development, Characterization, Processing and Applications, Minerals and Geologically related disciplines. Applicants should be under the age of 28 on 1st August 2014.

Submission Procedure

To take part in the MLC2014 competition, please send an e-mail with your name, a copy of IC (Malaysian Student) or Passport (International Student), phone number and e-mail details as well as an abstract of a maximum of 150 words, to your university's representative. The top five winners of the semi-final will compete in the MLC2014 finals.

Cash prizes of RM 3000, RM 2000 and RM 1000 will be awarded to the first, second and third winners of the MLC2014 final competition (National Level). Additionally, the 4th and 5th finalists will receive cash prizes of RM 500 each. Lastly, the first prize winner of the MLC2014 (National Level) will represent Malaysia at the IOM3-UK Annual Young Persons Lecture Competition (YPLC).

Important Dates

Description	Date
Submission of names to participate in MLC 2014 (University level)	15th December 2013
Submission of the name of the University winner to MLC 2014 committee	28th February 2014
MLC 2014 Semi-final (at UiTM, Shah Alam)	3rd April 2014
MLC 2014 Finals (at PWTC, Kuala Lumpur)	14th May 2014

- Structure of the presentation and clarity of explanation and argument
- Standard of presentation
- Personal enthusiasm for the subject
- Ability to deliver presentation spontaneously
- Technical content of the presentation
- Clarity and relevance of any visual aids used
- Ability to deliver a concise and meaningful summary at the end of presentation
- Ability to present within the specified time allocated
- Ability to handle judges questions

The decision of the judges is final, and is not subject to negotiation or appeal. If you require additional information, please contact the MLC2014 committee:

No	Name	Email	Contact No.
1.	Professor Dr. Esah Hamzah	esah@fkm.utm.my	07-5534855 / 019-7607364
2.	Dr. Norakmal Fadil	norakmal@fkm.utm.my	019-7373983
3.	Dr. Muhammad Adil Khattak	adil@fkm.utm.my	017-8272871
4.	Dr. Bee Chin Ang	amelynang@um.edu.my	03-79675258

IMPORTANT DATES

Submission of Abstract	1st July 2013 - 30th April 2014
Notification of Acceptance	1 month after submission
Full Paper/Presentation (PDF or PPT) Submission for Pen-drive	1st Jan - 1st April 2014
Full Paper Submission for Journal	16th May - 31st May 2014

REGISTRATION
Please register online at http://www.imtce2014.com/online_registration.php

SUBMISSION OF ABSTRACT
Submission of abstract is to be made online at IMTCE2014 website: http://www.imtce2014.com/online_submission.php under the following codes:

1. International Symposium on Advanced Polymeric Materials **ISAPM 2014**
2. International Symposium on Materials Characterisation and Testing **ISMCT 2014**
3. International Symposium on Coatings Technology **ISCT 2014**
4. International Symposium on Metallurgy and Welding Technology **ISMWT 2014**
5. International Symposium on Corrosion and Materials Degradation **ISCMD 2014**

SUBMISSION OF FULL PAPER/PRESENTATION (PDF or PPT) FOR PEN-DRIVE DURING THE REGISTRATION OF THE CONFERENCE (BY 14TH FEB 2014)
Full papers submitted for pen-drive for the Conference will not be reviewed, and will be added to a pen-drive. Late submissions will be omitted from inclusion in the pen-drive.

Disclaimer:
Please take note that the organisers of IMTCE2014 shall not be responsible for any copyright issues, usage of materials in the pen-drive without permission or other related frauds. We advise presenters to take special precautions to avoid any unpleasant incidents. No pre-screening or review will be carried out for the papers submitted for compilation in the pen-drive to be distributed during the conference.

SUBMISSION OF FULL PAPER FOR JOURNAL AFTER THE CONFERENCE (WITHIN 2 WEEKS AFTER THE CONFERENCE)
Only selected papers will be published in journals. Updated submission guidelines is shown in the website at http://www.imtce2014.com/publication.php

TRAVEL/IMMIGRATION REQUIREMENT
Please refer to the IMTCE2014 website for more details. http://www.imtce2014.com/visa_information php

TRAVEL & ACCOMMODATION
Please refer to website www.imtce2014.com/venue_and_location.php for further details.

REGISTRATION FEES
1. Notes:
   *Students - Please provide evidence of studentship.
2. Fee includes attendance to all Conference Sessions, Exhibition, Materials Lecture Competition Grand Final, Banquet Dinner and Farewell Cocktail, tea & coffee breaks and lunches.
3. Sixth participant enjoys free admission when five (5) participants from the same organisation are registered in one registration form (except for student participants).

Category	IMM Members	Non Members	Students*
Regular	MYR 1,500 / USD 550	MYR 1,600 / USD 580	MYR 800 / USD 290
On-site	MYR 1,875 / USD 688	MYR 2,000 / USD 725	MYR 1,000 / USD 363

PAYMENT
Full payment must be made online at www.imtce2014.com or by other modes of payment on or before 13th April 2014. The organisers reserve the right to prohibit presenters who fail to do so, from presenting at the conference. The information on other modes of payments is available at www.imtce2014.com./mode_of_payment.php

Important note:
Allocation of presentation slot for invited/oral lecture or poster session and inclusion of abstract in the programme book will only be given after full payment of registration fees has been received by the due date. Otherwise, please provide proof of attendance with supporting documents (e-ticket of flight and hotel reservation confirmation) by 13th April 2014.

We will only be able to allocate poster session to participants who pay on-site. At least 200 copies of the abstract shall be provided to the Conference Committee for the distribution to other participants.

MODE OF PAYMENT

Payments may be made using credit card, inter-bank transfer, direct debit, cheque, Cash Deposit Machines (CDM), Interbank GIRO vide ATM, Local Orders (LO), Letter of Guarantee (LG) or telegraphic transfer. Payment in cash or local cheque at the registration counter is available.

Credit Card

Online payment by Credit Card is processed by **Paypal.** Upon completion of payment transaction, you will receive an electronic receipt immediately and a copy sent to you. The name of **Paypal** will be shown on your Credit Card / Bank Statement.

Telegraphic Transfer

Please pay to:
Materials Technology Education Sdn Bhd
Bank: Hong Leong Bank (M) Bhd
Level 1, Wisma Hong Leong,
18 Jalan Perak, 50450 Kuala Lumpur, Malaysia
A/C NO: 00100311204
Swift Code: HLBBMYKL
Please send via email a scanned copy of Proof of Payment with details (name of organisation/participant & invoice number) for the attention of Ms. Shanti at finance@mte.com.my

Remittance via ATM, CDM & Interbank Transfer

Please pay to:
Materials Technology Education Sdn Bhd
Bank: Hong Leong Bank (M) Bhd
Level 1, Wisma Hong Leong,
18 Jalan Perak, 50450 Kuala Lumpur, Malaysia
A/C NO: 00100311204

Please send via email a scanned copy of Proof of Payment with details (name of organisation/participant & invoice number) for the attention of Ms. Shanti at finance@mte.com.my

Payment by Cheque or Bank Draft

All crossed cheques and bank drafts to be payable and sent to:
Materials Technology Education Sdn Bhd
No 10-1, Jalan Bandar 3, Pusat Bandar Puchong
47160 Puchong, Selangor Darul Ehsan, MALAYSIA
Tel: +603-5882 3574 Fax : +603-5882 3524

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Tel: +603-5882 3574 Fax : +603-5882 3524
Attn: Ms. Shanti (finance@mte.com.my)

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Presenters who are not able to utilise any of the mode of payment available are to notify the organiser in writing by 13th Apr 2014. Please include supporting documents such as visa, confirmed airticket and hotel reservation when making the request. Failure to comply may result in the organisers exercising the right to prohibit presenters from presenting at the Conference.

Payment in cash must be in exact amount in only Malaysian Ringgit or US Dollars. No other denominations will be accepted. No change will be made available. An official receipt will be issued immediately. No invoice will be issued. If an invoice is required, it will only be available 2 weeks after the conference.

No payment by cheques will be accepted at the registration counter during the conference.

Credit Card at counter

Conference Venue

Putra World Trade Centre (PWTC)
41, Jalan Tun Ismail
50480 Kuala Lumpur
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Location of Advertisement	RM	USD
Back outside cover page (Colour)	5,000.00	2,000.00
Front inside cover page (Colour)	4,000.00	1,600.00
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Terms & Conditions

- Booking on a first-come-first-serve basis.
- Please submit your positive/negative film to the Conference Secretariat (MTE).
- Final date for submission: 15th March 2014.

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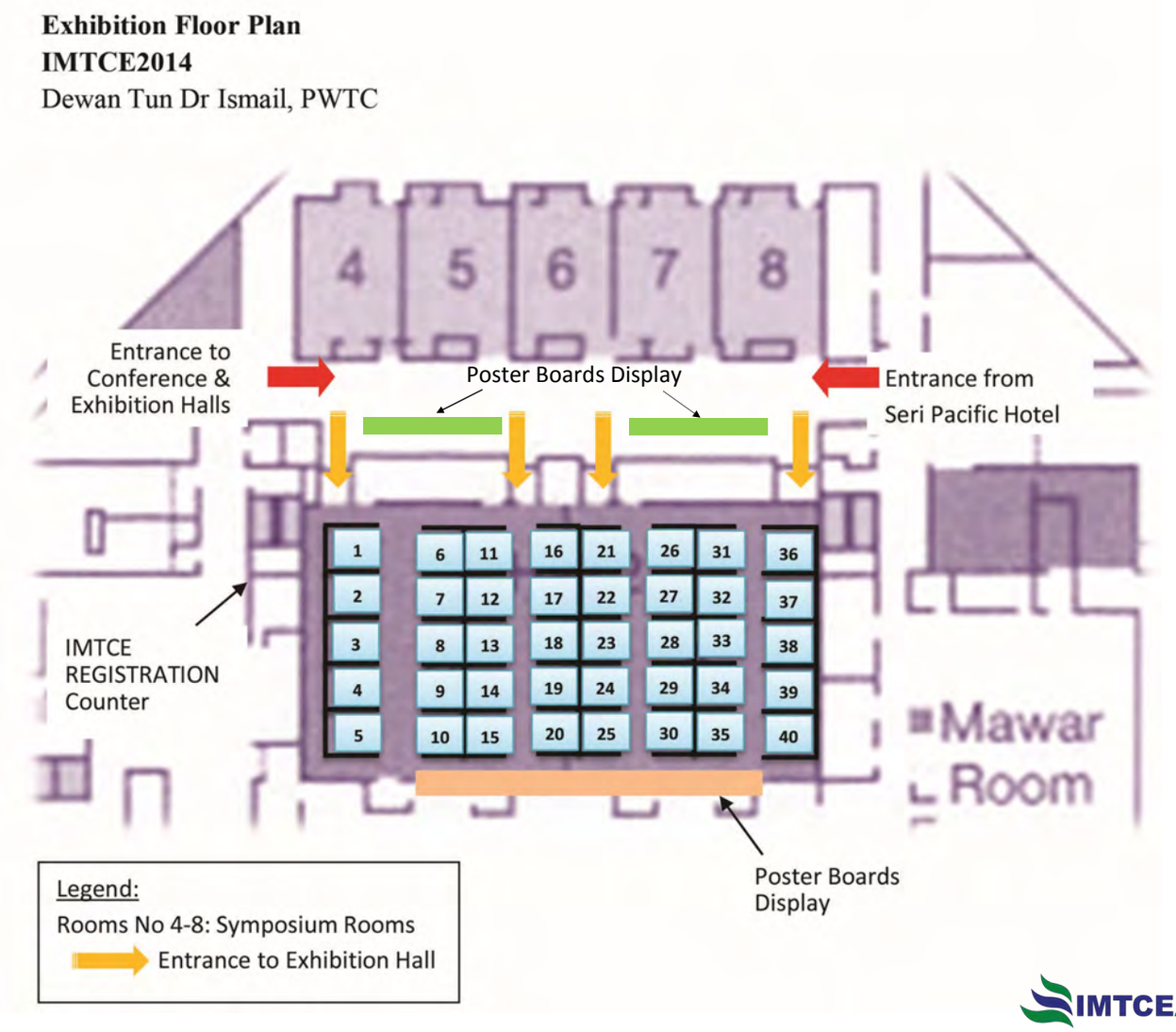
Exhibition floor plan



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Category	Benefits
BANQUET DINNER RM50,000.00	• 5 delegate passes for Conference & Banquet Dinner • 1 exhibition booth (3m x 3m) • 1 full page colour advertisement in the Souvenir Programme • 2 VIP dinner tables at the Banquet Dinner • 1 invitation to the Banquet Dinner with seating at the VVIP Table • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
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PLATINUM RM30,000.00	• 3 delegate passes for Conference & Banquet Dinner • 1 exhibition booth (3m x 3m) • 1 full page colour advertisement in the Souvenir Programme • 2 VIP dinner table at the Banquet Dinner • 1 invitation to the Banquet Dinner with seating at the VVIP Table • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
GOLD RM20,000.00	• 2 delegate passes for Conference & Banquet Dinner • 1 exhibition booth (3m x 3m) • 1 full page colour advertisement in the Souvenir Programme • 1 VIP dinner table at the Banquet Dinner • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
SILVER RM10,000.00	• 2 delegate passes for Conference & Banquet Dinner • 1 free full page colour advertisement in Souvenir Programme • 1 VIP dinner table at the Banquet Dinner. • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
BRONZE RM5,000.00	• 1 delegate pass for Conference & Banquet Dinner • 1 free full page colour advertisement in Souvenir Programme • 5 seat tickets to the Banquet Dinner • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
CONFERENCE BAGS RM10,000.00	• 2 delegate passes for Conference & Banquet Dinner • 1 full page colour advertisement in the Souvenir Programme • 1 VIP dinner table at the Banquet Dinner • The sponsor's name and company logo will be printed on the bag . • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
4GB PEN-DRIVES **for Conference Papers** RM15,000.00	• 2 delegate passes for the Conference & Banquet Dinner • 1 full page colour advertisement in the Souvenir Programme • 1 VIP dinner table at the Banquet Dinner • The sponsor's name & company logo will be printed on the pen-drive. • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
LUNCH SPONSOR **(Plenary Lecture)** RM15,000.00 (2 sponsorships available)	• 2 delegate passes for the Conference & Banquet Dinner • 1 full page colour advertisement in the Souvenir Programme • 1 VIP Table at the Plenary Lecture Lunch • The sponsor's name & company logo will be highlighted during the Lunch and Opening Ceremony
DELEGATE LANYARD RM5,000.00	• 1 delegate pass for the Conference & Banquet Dinner • 1 full page colour advertisement in the Souvenir Programme • The sponsor's name & company logo will be printed on the lanyard • The sponsor's name and company logo will be highlighted during the Banquet Dinner -cum- Opening Ceremony
BANQUET DINNER TABLE RM1,500.00	• 1 standard dinner table for 10 persons

IMTCE2014

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QUASI-S
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Agilent Technologies

UNIVERSITY OF MALAYA

Total Schmidt

Venue and Location

Putra World Trade Centre (PWTC)

International Materials Technology Conference and Exhibition 2014 (IMTCE2014) is held at the Putra World Trade Centre (PWTC) and Seri Pacific Hotel, Kuala Lumpur which is situated in the center of Kuala Lumpur and provides fast and easy access to and fro KTM Railway Station, KLIA Airport, major financial and business institutions and entertainment centres. It proudly boasts a spacious multi-purpose facility, state of the art audiovisual technology and exceptional food & service.

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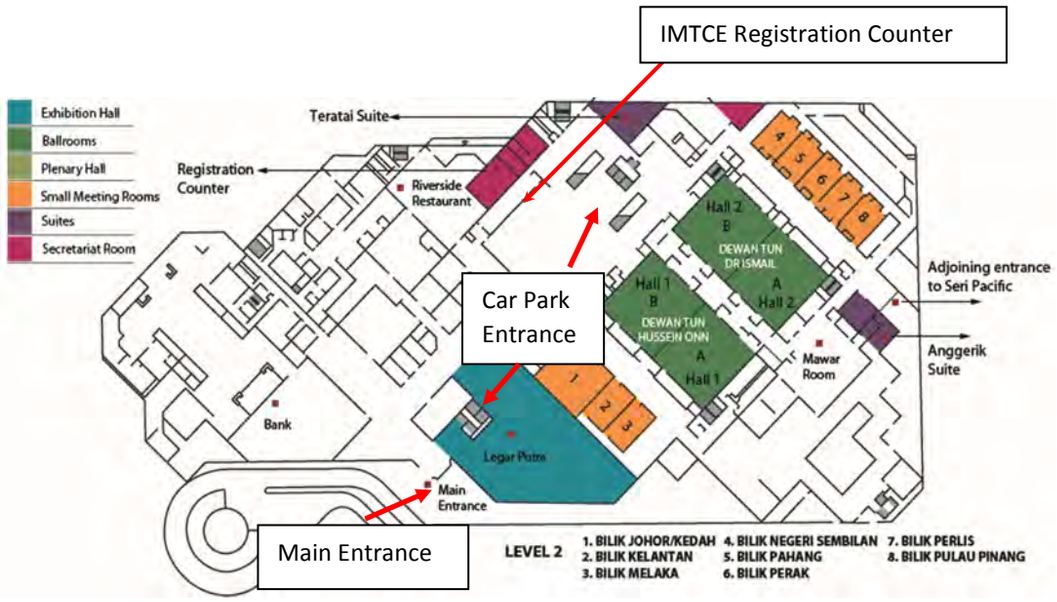
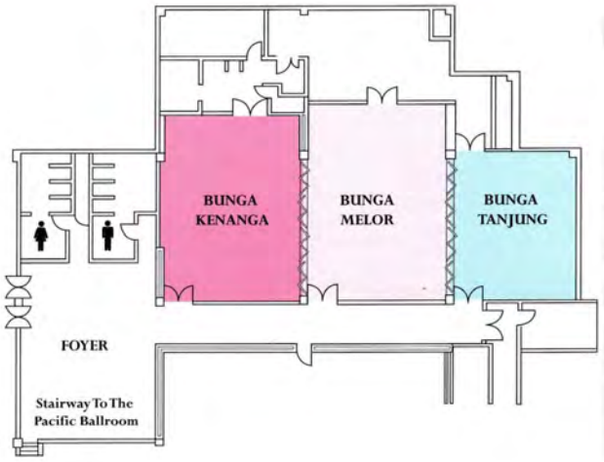


Level 3:

Seri Pacific Hotel, Kuala Lumpur

Level 3:



IMTCE2014

CONTACTS

SYMPOSIUM CHAIRPERSONS

1. **International Symposium on Advanced Polymeric Materials 2014 (ISAPM 2014)**
   - Academia Co-chairperson : Assoc. Prof. Dr. Chia Chin Hua (Universiti Kebangsaan Malaysia, Malaysia) (chiachinhua@yahoo.com)
     Prof. Dr. Sabu Thomas (Mahatma Gandhi University, India and Universiti Teknologi MARA, Malaysia) (sabuchathukulam@yahoo.co.uk)
   - Industry Co-chairperson: Ms. Siti Haslina Ramli (PETRONAS Researvh, Malaysia) (sitihaslina@petronas.com.my)

2. International Symposium on Materials Characterisation and Testing 2014 (ISMCT 2014)
   - Academia Co-chairperson: Dr. Hasnah Abdul Wahab (SIRIM Berhad, Malaysia) (hasnah@sirim.my)
   - Industry Co-chairperson: Eur. Ing. Nigel Brewitt (Norimax Sdn Bhd, Malaysia) (junigel@yahoo.com)
     Dr. Andrew Spowage (Woodgroup Intetech, Malaysia) (andyspowage@hotmail.com)

3. International Symposium on Coatings Technology 2014 (ISCT 2014)
   - Academia Co-chairperson: Assoc. Prof. Dr. Rajkumar Durairaj (Universiti Tunku Abdul Rahman, Malaysia) (rajkumar@utar.edu.my)
   - Industry Co-chairperson: Mr. David Lim Chee Cheong (ExxonMobil E&P (M) Inc, Malaysia) (david.cc.lim@exxonmobil.com)
     Ms. Nurul Asni Mohamed (PETRONAS GTS, Malaysia) (asnimo@petronas.com.my)
     Mr. Muhd Hawari Hassan (PETRONAS GTS, Malaysia) (hawari@petronas.com.my)

4. International Symposium on Metallurgy and Welding Technology 2014 (ISMWT 2014)
   - Academia Co-chairperson: Prof. Dr. A. S. M. A. Haseeb (Universiti Malaya, Malaysia) (haseeb@um.edu.my)
   - Industry Co-chairperson: Ir. Dr. Edwin Jong Nyon Tchan (Jurutera Perunding Akal Sdn Bhd, Malaysia) (edwin_jong@yahoo.co.uk)
     Mr. M. Hasbi B. A. Razak (PETRONAS Carigali Sdn Bhd, Malaysia) (hasbi@petronas.com.my)

5. International Symposium on Corrosion & Materials Degradation 2014 (ISCMD 2014)
   - Academia Co-chairperson: Dr. Mahesh Talari (Universiti Teknologi MARA, Malaysia) (talari@gmail.com)
   - Industry Co-chairperson: Pn. Halimah Pit (Shell, Malaysia) (H.Pit@shell.com)

6. Technical Publication Chairperson: Dr. Karen Wong Mee Chu (Universiti Tunku Abdul Rahman, Malaysia) (mcwong@utar.edu.my)

CONFERENCE SECRETARIAT (MTE)

1. Conference Manager - Mr. Kirk Keng Chuan (mte5475@gmail.com)
2. Technical Programme Manager - Ms. Talat Anwar (talat@mte.com.my)
3. Operation & Logistics - Mr. Anas bin Kamarundzaman (anask@mte.com.my)
   - Ms. Putri Salma Binti Megat Said (putrisalma@mte.com.my)
4. Design & Typeset - Ms. Ellia Ab Rahim (ellia@mte.com.my)
5. Exhibition - Mr. Noor Azman Che Murad (iomm@po.jaring.my)
   - Mr. Norazrie Abu Samah (azrie@mte.com.my)
6. Finance - Ms. Shanti C Varasamy (finance@mte.com.my)

IMTCE2014 Registration Form

Date: 13th - 16th May 2014 | Venue: Putra World Trade Centre, Kuala Lumpur

Please complete this registration form and return to Azman Murad via email: admin@iomm.org.my or Fax to: +603-5882 3524 by 21st April 2014.

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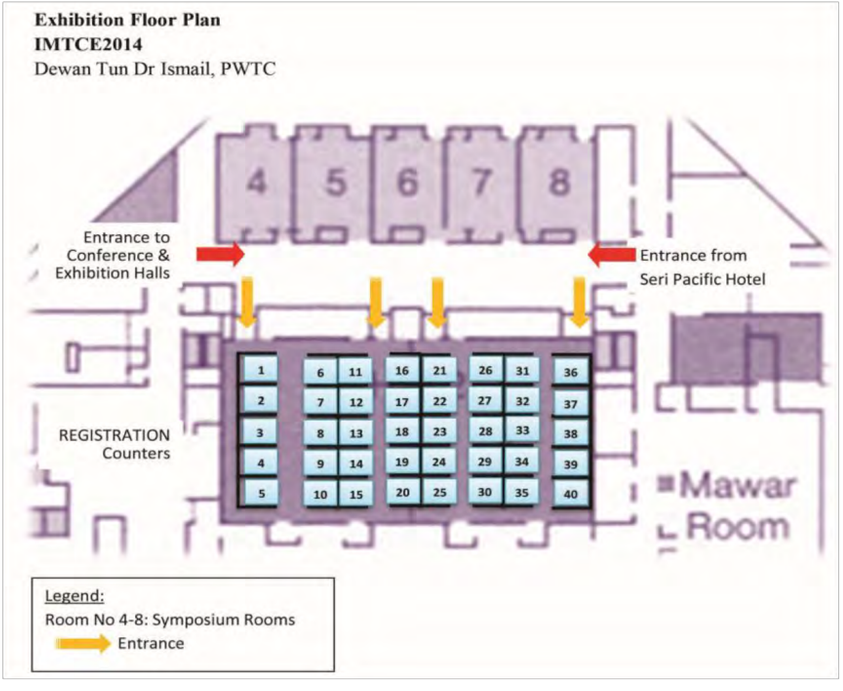
First Name:		**Last Name:**	
Address:			
Email:		**Mobile Phone:**	
Company:			
Contact Person: (if required)			
Name of Participant:	1)	4)	
	2)	5)	
	3)	6)	
IMM Membership Number:			

SECTION 2: EXHIBITION FLOOR LAYOUT

IMTCE2014
Floor Layout
Dewan Tun Dr Ismail



SECTION 3: RATES
1) Masterclass #

TITLE	CODE	TIME	FEE PER PERSON	
			RM	USD
Performance and Fingerprinting of Epoxy Nanocomposites for Coating Applications	MCAPM 1	9.00 am - 1.00 pm	800	286
Sustainable Materials Research at CSIRO Materials Science and Engineering	MCAPM 2	2.30 pm - 6.30 pm	800	286
CRA Materials Selection	MCCMD 1	9.00 am - 1.00 pm	800	286
Quality Control for Coating Inspection Projects	MCCT 1	2.30 pm - 6.30 pm	800	286
Fundamentals and Application of Rheology	MCR	9.00 am - 6.30 pm	1,000	358
Microbiologically Influenced Corrosion (MIC): Knowledge and Practice	MCCMD 3	9.00 am - 6.30 pm	3,000	1,072
How to Consistently Sustain Quality Welds During Welding Production	MCMWT	9.00 am - 6.30 pm	1,000	358
Coatings and Coatings Technology: Practical and Applications	MCCT 2	9.00 am - 6.30 pm	1,000	358
Practical Fractography	MCMCT	9.00 am - 6.30 pm	1,500	536
Cathodic Protection Technology	MCCMD 4	9.00 am - 6.30 pm	1,000	358

2) Symposiums

Category	IMM Members	Non Members	Students*
Regular	MYR 1,500 / USD 550	MYR 1,600 / USD 580	MYR 800 / USD 290
On-site	MYR 1,875 / USD 688	MYR 2,000 / USD 725	MYR 1,000 / USD 363

Notes:
* Students – Please provide evidence of studentship.

SECTION 4: PAYMENT

NO.	DESCRIPTION		CATEGORY	RATE		QTY	AMOUNT (RM/USD)
				RM	USD		
1	Symposium Participation Fee		IMM Member	1,500	550		
			NON Member	1,600	580		
			Student *2	800	290		
2	#Masterclass	Code:	Participant	#	#		
3	Plant Visit (Pls tick one)	THHE	Participant	120	50		
		Royal Selangor					
4	Advertising		Back outside cover page	5000	2000		
			Front inside cover page	4000	1600		
			Back inside cover page	3000	1200		
			Full Page	1500	600		
			Half Page	1200	480		
5	Banquet Dinner		Extra Diner	200	75		
6	Banquet Dinner Table		Table for 10pax	1500	650		
7	Exhibition		Booth no.	4500	1610		
8	IMM Tour Melaka		Tour	380	140		
9	Conference Friendly Golf		Player	400	150		
	TOTAL AMOUNT						

(please see table on page 71 for rate)

Telegraphic Transfer ☐	Payment by Credit Card via Paypal ☐
Pay to: Materials Technology Education Sdn Bhd	Please register in the website http://www.imtce2014.com/index.php to pay via Paypal. (Full details available in the website)
Account No: 00100311204	
Swift Code: HLBBMYKL	
Bank Name: Hong Leong Bank Berhad	
Address: Level 1, Wisma Hong Leong, 18, Jalan Perak, 50450 Kuala Lumpur	For exhibition/advertisement please email finance@mte.com.my and iomm@po.jaring.my and attach a soft copy of this form.

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IJIMM is published twice a year, in January and July. The inaugural issue has been published in January 2014. IMM aims to obtain a Scopus indexing for IJIMM by December 2016 and welcome contribution of good quality manuscripts to ensure timely publication of IJIMM. As an effort to introduce, promote and uphold the quality of

For the Author's Guide, please visit www.iomm.org.my/ijimm or email to admin@iomm.org.my for enquiries.

MLC Semi Finals 3rd April 2014

Materials Lecture Competition 2014 Semi-Final

Universiti Teknologi MARA (UiTM), Shah Alam 3rd April 2014

The Materials Lecture Competition 2014 (MLC 2014) Semi-Final was successfully held to select the top five finalists to compete in the final. The competition received participation by 13 candidates each represents different universities in Malaysia. The five finalists which was announced during the same day are Mr. Gregory Thien Soon How from (UM), Ms. Leong Chee Huan (UKM), Mr. Mohd Saidina bin Dandan Satia (USM), Mr. Kudzai Nigel Chitewe (APU) and Ms. Losini Amarasan (MMU). The finalist will compete against each other again on the MLC 2014 Final on 14th May 2014 at Seri Pacific Hotel, Kuala Lumpur in conjunction with the 9th International Materials Technology Conference and Exhibition (IMTCE2014). The competition is jointly organised by the Institute of Materials, Malaysia (IMM) and the Institute of Materials, Minerals and Mining, Malaysian Branch (IOM3-MB) and sponsored by PETRONAS. The first prize winner will represent Malaysia at the IOM3's annual Young Persons World Lecture Competition (YPWLC).

Leong Chee Huan

Gregory Thien Soon

Mohd Saidina bin Dandan Satia

Losini Amarasan

Kudzai Nigel Chitewe

Semi-Final for Materials Lecture Competition 2014

JOIN IMM FOR FREE

The IMM continues to encourage members of other professional societies and associations to join as Ordinary Members with no annual subscriptions. Materials Science & Technology is essential to everyone and IMM welcomes the sharing of knowledge & experience amongst professionals from all disciplines (medical, dental, nursing, architectural, engineering, science, arts, physics, biology, chemistry, banking, finance, accounting, legal, insurance, marine, oil & gas, petrochemical, geology, etc).

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IMM aims to bring greater awareness of Materials Science & Engineering to all sectors of industry and academia and encourages everyone to join and share their knowledge, experience and expertise for the benefit of the nation. Just log-on to www.iomm.org.my and download the application from for Free Ordinary or Company Membership or call +603-58823574/84.

The Case For Safety

5th Regional Process Safety Seminar

22 April 2014

Miri Marriot Resort & Spa, Miri, Sarawak, Malaysia

Over the recent years, we have continued to be soberly reminded of the risks of working at both onshore and offshore hazardous facilities through news of major accidents occurring abroad and locally. It is undeniable that many companies have invested resources in terms of effort and finance in ensuring heightened awareness of implementing safety at such facilities. The question is how much is enough to enable management of these facilities that the next major accident will not be reported from their assets?

Keynote speaker:

Judith Hackitt CBE CEng FIChemE, Head of HSE Britain

Paper presentations by:

Dr Bea Ponnudurai, Head Group HSE Division, PETRONAS.

Roger Ainsworth CEng CSci CEnv FIChemE, General Manager, Megamas Training Company Sdn Bhd.

Willem Peuscher, Safety Delivery Manager, Sarawak Shell Berhad.

Martin Iverson AFIChemE, HSSE/OA Manager, Talisman Malaysia Limited.

Paul Heierman-Rix, Principal Consultant, MMI Engineering (M) Sdn. Bhd.

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Email: nzainuddin@icheme.org

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The Institute of Materials, Malaysia and Faculty of Applied Sciences, Universiti Teknologi MARA present

Fingerprinting III 2014

Final Forum on "Towards Fingerprinting of Polymeric Coatings" III

Objective

Each year, oil & gas companies worldwide spend multi-million dollars on polymeric coatings for corrosion protection of steel structures and pipelines for the transportation of crude oil and gas. The frequent failures of the polymeric coatings lead to the corrosion of steel structures and pipelines and thus, leakage of crude oil and gas to the environment. These pose a severe inventory loss to the companies and serious threat to the environment, and also cause many safety issues to plant, personnel and surrounding public. Since mid 90s, PETRONAS, Shell Malaysia, ExxonMobil Malaysia and other oil companies have called for a "mill certification" of the supply of polymeric coatings from local paint manufacturers for the quality assurance of the coatings supplied. However, there was widespread perception within the oil and gas industry that certification of polymeric coatings was not possible because the expertise on spectroscopic analyses and interpretation of results for such purpose was not available back then. Hence, the provision of **Coating Fingerprint Certificate** for polymeric coatings supplied to the oil and gas companies did not materialize.

The Malaysian oil & gas industry had been focusing on the paint quality control inspection, surface preparation (abrasive blasting) and paint spraying application techniques & skills since 1990 to improve coating performance. Despite efforts to improve quality in these 3 skill sets, coating failures continue to get worse. Thus, the oil & gas industry now realizes that the coating materials can be another factor causing the failures. Since materials testing technology, particularly on non-metallic materials, has improved significantly over the past decade, it is timely for the industry to focus on the testing of the coating materials in the same way as metals are tested and issued with a mill certificate.

Forum on "Towards Fingerprinting of Polymeric Coatings" I held on 22nd March 2013, highlighted the prime concerns of the local paint manufacturers, e.g. the protection of product formula, lack of expertise on spectroscopic analyses and interpretation of results. On the other hand, the users of the oil & gas companies suffer from high cost of repainting the steel structures and pipelines when the coatings fail.

A Task Force on Coatings Fingerprinting was set up under IMM in April 2013 to look into the issues brought out by various parties. The end deliverable of this Task Force is to enhance the overall painting coating quality assurance with the aim of ensuring all protective coatings manufacturers supply products according to specifications.

On 11th October 2013, Forum on "Towards Fingerprinting of Polymeric Coatings" II was held. Presentation of the draft of the **Coating Fingerprint Certificate** by Chairperson of the Task Force, Ms. Nurul Asni Mohamed from PETRONAS GTS, was attempted. Refining on the **Coating Fingerprint Certificate** based on the feedbacks during Forum II and periodic meetings of the Task Force will be persistently carried out. The objective of the final Forum on "Towards Fingerprinting of Polymeric Coatings" III is to present the **Coating Fingerprint Certificate** of polymeric coatings, which will be

IMM

UNIVERSITI TEKNOLOGI MARA

- **Date**: Friday, 20th June 2014
- **Time**: 2.30 pm – 7.00 pm
- **Venue** : Glenmarie Golf and Country Club, Shah Alam Selangor
- **Jointly organized by**:

1. IMM Polymer Committee
2. IMM Coatings Committee
3. Universiti Teknologi MARA, Faculty of Applied Sciences, Shah Alam, Malaysia

- **Co-sponsors** :

1. Agilent Technologies Sales (M) Sdn bhd
2. Perkin Elmer Sdn Bhd
3. PPG Sigma Coatings
4. Research Instruments (M) Sdn Bhd

Qualification for New Maintenance Painting System and Products for Offshore Application

Mr. Muhd Hawari Hassan,
PETRONAS GTS Dept

Abstract

Corrosive external environment at offshore poses a great deal of challenges for the operators to sustain high integrity and reliability of equipment and piping. Visual inspection reveals that protective coatings failures occur after relatively short span of application. There are many areas for improvement for conventional paint application. This paper highlights the initiative to improve the coating performance through setting up new requirement for testing and qualification prior to site application. Among discussion points are limited surface preparations, simulation of real conditions during applications, testing protocol, challenges and opportunity.

Biodata

Mr. Mohd. Hawari Hasan has been with PETRONAS for over 17 years. After 10 years in refinery, he was transferred to PETRONAS Group Technical Solutions (GTS) and got promoted to Technical Professional position. Under GTS, he serves all PETRONAS OPUs (downstream and upstream sectors, local and abroad) providing technical consultancy especially in Corrosion matters. His responsibilities include PETRONAS Technical Standard Corrosion Discipline Custodian, Development of Corrosion Management Program (CMP), Corrosion Design Basis Memorandum (CDBM) and Asset Integrity Limit (AIL), Pipeline Corrosion Assessment for Process Optimization & Fitness for Service, Corrosion Study for PETRONAS Risk Based Inspection, and Selection and qualification of Protective Coating and Integrity Chemical Injection. He is also the PETRONAS Coating

FTIR Spectroscopic Method for Laboratory Analysis of Polymeric Coatings

Ms. Renee Teo Yong Yin,
Research Instruments (M) Sdn Bhd

Abstract

The oil & gas Industry has raised the concerns of polymeric coatings quality and seeks to establish a fingerprinting method to ensure polymeric coatings supplied to the industry can be effectively monitored. The Fourier Transform Infra-Red or FTIR Spectrometer can analyze polymeric coatings to create a base fingerprint which can then be used as a pass-fail reference for daily batch production of polymeric coatings in a paint factory. This presentation will highlight the many trials conducted on various epoxy coatings used in the oil & gas industry. The simplicity of sample analysis by FTIR and interpretation of results with the assistance of FTIR software on epoxy resins and hardeners will be unveiled subsequently. In conclusion, fingerprinting of epoxy resins and hardeners using the FTIR spectrometer in the paint laboratory is possible, reliable and can be accurately reproducible.

Biodata

Ms. Renee Teo has worked in production sector as a Quality Control and also in commercial lab as a Chemist. She is experienced in handling various analytical instruments such as FTIR, Raman, NIR, ICPMS and UV Spectrophotometer. Currently, she works as an Application Chemist in Research Instruments, and specializes in Thermo Fisher Scientific FTIR, NIR and Raman. She is responsible for installation, application training and troubleshooting.

Advanced Technology for Polymeric Coatings – What is FTIR Mobile Measurement?

Ms. Chow Mee Ling,
Agilent Technologies Sales (M) Sdn Bhd

Abstract

Traditionally, polymeric samples are removed and brought to a laboratory for Fourier transform infrared spectroscopy (FTIR) molecular analysis. The rationale for the development of FTIR mobile measurement approach is to enable the analyzer to be brought directly to the site of the polymeric samples, enabling the conditions of the polymeric samples to be assessed non-destructively.

Here, the portable, handheld non-destructive testing analyzers based on FTIR technique as well as some applications on epoxy coatings will be discussed.

Biodata

Ms. Chow graduated with Master of Philosophy (Chemistry) in University of Malaya. She began her career as QA/QC chemist and later on as laboratory manager at Transformer Oil Analysis Laboratory.

Currently, she is the Spectroscopy Product Specialist in Agilent Technologies (M) Sdn Bhd and delivers technical expertise for molecular and atomic spectroscopy solution implementation to the customer, based on application, method development and technical support.

Coating Fingerprint Certificate for Every Batch of Paint Manufactured

Ms. Nurul Asni Mohamed,
PETRONAS GTS, Malaysia

Abstract

The Task Force on Coatings Fingerprinting was set up in April 2013 with the ultimate objective to ensure that protective coatings manufacturers supply products according to specifications. Available standards and specifications requiring fingerprinting of polymeric coatings in the oil & gas Industry were reviewed. Reliability, reproducibility, short duration of analysis (roughly 1 min) and simple data interpretation of FTIR for fingerprinting of raw materials were concluded. Product formulation, which is of prime concern of the paint manufacturers, will be kept secret. Lastly, the template of the Fingerprint Certificate for every batch of paint manufactured will be presented.

Biodata

Ms. Nurul Asni Mohamed is the Principal Engineer (Corrosion) with 14 years of experience in PETRONAS Group Technical Solutions. She has an M. Eng. (Materials Science and Engineering) from Imperial College of Science, Technology and Medicine, United Kingdom. She currently works as an Internal Technical Consultant to PETRONAS upstream and downstream business units based in the headquarter office where she is responsible for the in-house CMP software development and deployment to PETRONAS upstream and downstream facilities as well as the CMP documents development for PETRONAS Terengganu Refinery (PPTSB) Condensate Fractionation Unit, Naphtha Hydrotreating Unit and Mercury Removal Unit. Her other responsibilities include Corrosion Management Plan for PETRONAS, Technical Lead for Sea Cooling Water (SCW) System CMP development for Malaysia LNG (MLNG) plant, Root Cause Failure Investigations & Other Consultancy Services.

Final Forum on "Towards Fingerprinting of Polymeric Coatings" III

Friday, 20th June 2014

Glenmarie Golf and Country Club, Shah Alam Selangor

Programme

1:30 pm : Registration & Tea/Coffee

2:50 pm : Welcoming address by *Prof. Dr. Mohd. Kamal Harun,* President, IMM

3:00 pm : Opening Remarks by *Prof. Dr. Khudzir Hj. Ismail,* Dean of Faculty of Applied Sciences, *Universiti Teknologi MARA*

3.10 pm : Qualification for New Maintenance Painting System and Products for Offshore Application (*Mr. Muhd Hawari Hassan, PETRONAS GTS*)

3:30 pm : FTIR Spectroscopic Method for Laboratory Analysis of Polymeric Coatings (*Ms. Renee Teo Yong Yin, Research Instruments Sdn Bhd*)

3:50 pm : Advanced Technology for Polymeric Coatings – What is FTIR Mobile Measurement? (*Ms. Chow Mee Ling, Agilent Technologies Sales (M) Sdn Bhd*)

4:10pm : Tea break

4:25 pm : Demonstration of Fingerprinting of Epoxy Coatings by FTIR (bench top and handheld)

4: 45 pm: Coating Fingerprint Certificate for Every Batch of Paint Manufactured (*Ms. Nurul Asni Mohamed, PETRONAS GTS)*

5:05 pm : Q & A

5:35 pm : Summary & Wrap-up by *Assoc. Prof. Dr. Chan Chin Han,* Chairperson, IMM Polymer Committee / *Universiti Teknologi MARA*

5:50 pm : Closing Remarks by *Ir. Pau Kiew Huai,* Head, PETRONAS Group Technical Solutions

6:00pm : Refreshments & Networking.

7:00pm : Adjourn.

Prior Registration required

Free-of-Charge for IMM Members and their Guests

Non-members : RM 40.00

Institute of Materials, Malaysia

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Pusat Bandar Puchong,
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Email : admin@iomm.org.my

Please register with the IMM secretariat at admin@iomm.org.my by 1st June 2014

COMMITTEE MEMBERS OF THE TASK FORCE ON COATING FINGERPRINTING

Chairperson	Ms. Nurul Asni Mohamed, PETRONAS GTS
Deputy chairperson	Ms. Elizah Samat, Sarawak Shell Bhd
Advisors	Prof. Dr. Mohamad Kamal Hj. Harun, President, IMM
	Ir. Max C. H. Ong, Chairman, IMM Education Committee
	Mr. David Lim Chee Cheong, ExxonMobil E & P, Malaysia
	Mr. Zamaluddin Ali, PETRONAS GTS
	Pn. Halimah Pit, Shell Deepwater MalaysiaAssoc.
	Assoc. Prof. Dr. Chia Chin Hua, Universiti Kebangsaan Malaysia
	(Chairperson of the Forum on "Towards Fingerprinting of Polymeric Coatings" I, II & III)
	Assoc. Prof. Dr. Chan Chin Han, Universiti Teknologi MARA, Shah Alam
	Secretary of the Forum on "Towards Fingerprinting of Polymeric Coatings" I, II & III)
	Dr. Tan Winie, Universiti Teknologi MARA, Shah Alam
	(Committee for Publicity of the Forum on "Towards Fingerprinting of Polymeric Coatings" I, II & III)
Secretary	Ms. Talat Anwar, Assistant Manager, MTE (M) Sdn Bhd
Committee members	Mr. Abdul Aziz Haron, Head of Paint Testing Laboratory, SIRIM
	Mr. M Shahril Atiqi B M Sharip, PETRONAS GTS
	Ms. Rohana Jaafar, PETRONAS GTS
	Mr. Lim Chuan Gee, Senior Researcher, SIRIM
	Mr. Kenneth Way, Sales Manager, Perkin Elmer (M) Sdn Bhd
	Ms. Jasmine Ooi, Team Leader, Research Instruments (M) Sdn Bhd
	Ms. Renee Teo, Application Chemist, Research Instruments (M) Sdn Bhd
	Ms. Chow Mee Ling, Spectroscopy Product Specialist, Agilent Technologies Sales (M) Sdn Bhd
	Mr. Frankie Chua Cheng Huat, Director, PLC Laboratory Sdn Bhd
	Mr. Terence Wee, Technical Manager, PPG-Sigma Coatings (M) Sdn Bhd
	Mr. Vincent Y. S. Tan, General Manager, Jotun (M) Sdn Bhd
	Mr. Wong Ing Chiew (alternate), National Sales Manager, Jotun (M) Sdn Bhd
	Mr. Ahmad Badli Shah Aziz, Business Development Manager, International Paints (M) Sdn Bhd
	Mr. Ricky Szeto (alternate), Manager, International Paints (M) Sdn Bhd
	Mr. Lewis Yee (alternate), Engineering Sales Manager, International Paints (M) Sdn Bhd
	Mr. Selvandran, Technical Service Manager, Hempel (M) Sdn Bhd
	Mr. Liew Shann Ching (alternate), Deputy General Manager, Hempel (M) Sdn Bhd
	Mr. Tan Ying Teck, Kansai Coatings (M) Sdn Bhd
	Ms. Lim Suat Ping (alternate), Kansai Coatings (M) Sdn Bhd
	Mr. Robert Lo, General Manager for Heavy Duty Coating Division, KCC Paints Sdn Bhd
	Mr. Theng Soo Siang (alternate), Technical Manager, KCC Paints Sdn Bhd

Forum on "Towards Fingerprinting of Polymeric Coatings" I, II & III

COMMITTEE MEMBERS:

Chairperson	Assoc. Prof. Dr. Chia Chin Hua, Universiti Kebangsaan Malaysia
Secretary	Assoc. Prof. Dr. Chan Chin Han, Universiti Teknologi MARA, Shah Alam
Publicity	Dr. Tan Winie, Universiti Teknologi MARA, Shah Alam
Member	Mr. Casey Teh King Chong, Director, TenAsia Corporation Sdn Bhd
	Ir. Yeoh Eng Huei, Manager, Nippon Paints Marketing Co. (M) Sdn Bhd
	Mr. Shamsul Farid Samsudin, PETRONAS Research
	Mr. Imizan B A Bakar, Polymer specialist cum Manager at PETRONAS Chemicals Polyethylene Sdn Bhd.
	Dr. Chew Khoon Hee, Head of Materials Engineering Division, School of Technology Tunku Abdul Rahman College University

Organiser

Event Organiser

Registration Form

INSTITUTE OF MATERIALS, MALAYSIA

Contact and Email us at:

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Website: www.iomm.org.my

Contact Person: Mr. Azman

Final Forum on "Towards Fingerprinting of Polymeric Coatings" III

Friday 20th June 2014
Glenmarie Golf and Country Club, Shah Alam Selangor
2.30 pm - 7.00 pm

Contact and Personal Information

Name:	**Mobile No.:**
Company/Organisation:	
Title/Designation:	**Email Address:**
Address:	

Participant List

No.	Name	Designation	IMM Membership No.	Non – Member (RM40.00)
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2				
3				
4				
5				
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21	TEMASEK COATINGS	PASIR GUDANG, JOHOR
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INSTITUTE OF MATERIALS, MALAYSIA

ANNUAL REPORT OF THE COUNCIL FOR THE FINANCIAL YEAR ENDING 31ST DECEMBER 2013

Dear IMM Members,

On behalf of the IMM Council, I am pleased to present the Report of the activities of IMM covering the period from 1st January 2013 to 31st December 2013 plus activities prior to this AGM in early 2014.

I. IMM COUNCIL AND IMM MANAGEMENT COMMITTEE MEETINGS.

For the year under review, the IMM Council held 4 meetings while the IMM Management Committee held 5 meetings.

DATE	EVENT
11-Jan-2013	Council Meeting no.4
18-April-2013	Management Committee
19-Apr-2013	Council Meeting no. 5
26-April-2013	Management Committee
19-June-2013	Management Committee
28-Jun-13	Council Meeting no. 6
23-Aug-2013	Management Committee
04-Oct-2013	Council Meeting no. 7
03-Dec-2013	Management Committee
10-Jan-2014	Penultimate Council Meeting
07-March-2014	Final Council Meeting no.9

During the Penultimate Council Meeting held on 10th January 2014, the IMM Council conducted elections from within the Council, in accordance with Clause no. 3.3.2.2 of the IMM RULES for the posts of Deputy President, Honorary Secretary and Honorary Treasurer for the 2014-2016 Council Term.

The following were elected:-

Deputy President: En. Mohd Azmi Mohd Noor (IMM Membership no: F-3820)
proposed by Mr. Nigel Brewitt (F-2932) and seconded by Ir. Lai Kah Chung (O-3821).Honorary Secretary: Ir. Abd Razak Hurairah (IMM Membership no: F-3041)
proposed by Ir. Max Ong (F-088) and seconded by Tungku Nor Manira (M-1250).

Honorary Treasurer: Ir. Mohd Suradi Yasin (IMM Membership no: F-010)
proposed by Ir. Max Ong (F-088) and seconded by Ir. Abd. Razak Hurairah (F-3041).

The IMM Council congratulates the above elected officials and look forward to their contribution towards the development of Materials Technology through the IMM.

II. THE ACTIVITIES CARRIED OUT BY THE VARIOUS IMM WORKING COMMITTEES AND REGIONAL CHAPTERS ARE LISTED BELOW:-

In addition to the above committee & regional chapter

DATE	ACTIVITY	COMMITTEE
7 – 15 Jan	JWES Welding Engineer & Senior Welding Engineer Course at Seri Pacific Hotel, K.L.	IMM Welding Committee
18 Jan	IMM Materials Lecture Competition MLC2013 Briefing to all participating universities at UTM, Jalan Semarak Campus, K.L.	MLC Organizing Committee
22-March	Forum on Toward Fingerprinting of Polymeric Coating I (FP1)	Polymer Committee & Coatings Committee
22-March	IMM 23rd Annual General Meeting	Secretariat
28 March	IMM-IEM Sabah Seminar on Materials in the Oil & Gas Industry at SSTC, Kota Kinabalu	IMM Sabah Chapter
3-April	Talk on Materials Science, Engineering and Technology with Application in the Oil & Gas Industry at UTAR	Education Committee
16-17 April	IMM-SSTC Exhibition booth at 2nd Sabah Oil & Gas Conference & Exhibition, Kota Kinabalu, Sabah.	IMM Sabah Chapter
26 April	IMM Task Force on Fingerprinting of Coatings 1st meeting.	Polymer Committee & Coatings Committee
30 April	IMM Examinations, Certification & Accreditation Panel Meeting at IMM Secretariat office.	IMM Education Committee
30-May	1st International Materials Symposium	Technical Publications
30-May	Materials Lecture Competition	Education Committee
31 May	Coatings Fingerprinting Task Force Meeting no.2 at 3pm-5pm at KGNS	Polymer Committee & Coatings Committee
18-May	IMM Golf Invitational Tournament 2013	Golf Committee

12-Jun	Talk on Self Healing Materials (CSIRO) at UTAR Campus, K.L.	Advanced Materials & Composites Committees
14-Jun	Forum on Specialty Polymers for High Temperature and High Pressure Application in the Oil & Gas Industry	Polymer Committee
28 June	IMM Fingerprinting Coatings Task Force Meeting no.3 at Holiday Villa Hotel, Subang Jaya, Selangor.	Polymer Committee & Coatings Committee
8-9 July	Workshop on Characterization of Nanomaterials held in AMREC, SIRIM, Kulim, Kedah	Nanomaterials Committee
1st August	IMTCE2014 Organizing Committee meeting at Holiday Villa Hotel, Subang Jaya, Selangor.	IMTCE2014
16 August	Official appointment ceremony for Y.Bhg Datuk Ir. (Dr) Abdul Rahim Hashim as the new IMM Advisor for 2013-2015 at the Malaysian Petroleum Club.	IMM Council
4-Sep	Jointly organised Seminar with MOGSC Seminar on new Innitiative in Materials, Corrosion & Inspection	East Coast Chapter
12-Sep	2nd International Materials Symposium	Technical Publications
12 Sep	4th Regional Materials Technology and Exhibition (4RMTCE)	Miri Chapter
17-20 Sept	IMM Kuching Chapter & Politeknik Kuching Conference & Exhibition in Kuching, Sarawak.	IMM Kuching Chapter
23 Sept – 3 Oct	IMTCE2014 Technical Symposium Organizing Committee meetings with each symposium group.	IMTCE2014 Conference
4-Oct	NOU Signing with Politeknik Kuching	Kuching Chapter
11-Oct	Forum on Toward Fingerprinting of Polymeric Coating II (FP2)	Polymer Committee & Coatings Committee
24-Oct	Visit to Technip Duco Plant	Corrosion & Materials Degradation Committee
2-Nov	Half-day Paint Workshop in Bintulu, Sarawak	Bintulu Chapter
14-16 Nov	IMM hosts Collaboration meeting of Asian Welding Federation (AWF) and American Welding Society (AWS) in Kuala Lumpur.	IMM Welding Committee
20-Nov	Participating in UTM OGFEST 2013	Secretariat
20-22 Nov 2013	IMTCE2014 Promo Visits to Johor. Presented Talk titled " Corrosion Control Technologies in Oil & Gas : Industry – Academia Collaboration Considerations " at Universiti Teknologi Malaysia, Johor Campus, Malaysia.	IMTCE2014 Organizing Committee
27-29 Nov 2013	IMTCE2014 Promo Visit to Bintulu, Sarawak.	IMTCE2014 Organizing Committee.
10 Jan 2014	IMM MLC Organizing Committee meeting at Kelab Golf Negara Subang	MLC Organizing Committee
10 Jan 2014	IMM Penultimate Council Meeting no.8 at Kelab Golf Negara Subang	IMM Council
16-17 Jan 2014	IMTCE2014 roadshow to Kota Kinabalu, Sabah to promote to Universiti Malaysia Sabah, Petronas, Shell, etc.	IMTCE2014 Organizing Committee
23 Jan 2014	Launch of IMM Vibration Specialist Certification Course at JW Marriot Hotel, K.L.	IMM Vibration Committee
24 Jan 2014	Coatings Fingerprinting Committee meeting at Kelab Golf Negara Subang	Polymer Committee & Coatings Committee
24 Jan 2014	IMTCE2014 Technical Symposia Organizing Committee Meeting at Kelab Golf Negara Subang	IMTCE2014 Technical Symposia Organizing Committee
7 Feb 2014	IMM Welding Committee meeting at Petronas GTS office Dayabumi K.L.	Welding Committee
13-14 Feb 2014	IMTCE2014 roadshow to Miri & Brunei	IMTCE2014 Org Committee
14 Feb 2014	1st Meeting of the Materials & Asset Integrity Committee at IMM Secretariat office.	Materials & Asset Integrity Committee
20-21 Feb 2014	IMTCE2014 roadshow to Johor	IMTCE2014 Org Committee
25 Feb 2014	IMTCE2014 roadshow to TNB Research Centre, Bangi	IMTCE2014 Org Committee
27-28 Feb 2014	IMTCE2014 roadshow to Bintulu	IMTCE2014 Org Committee
3 Mar 2014	IMM Coatings Committee meeting at Spring Garden, KLCC	Coatings Committee
7 March 2014	IMM Council Meeting no.9 at Kelab Golf Negara Subang	IMM Council

14 March 2014	IMM Education Committee Meeting at Kelab Golf Negara Subang	IMM Education Committee
14 March 2014	Coatings Fingerprinting Committee Meeting at Kelab Golf Negara Subang	Polymer Committee & Coatings Committee
14 March 2014	IMTCE2014 Conference Organizing Committee Meeting	IMTCE2014 Organizing Committee
20 March 2014	Semi-Finals of the Materials lecture Competition at UiTM, Shah Alam, Selangor	MLC Organizing Committee
21 March 2014	Materials & Asset Integrity Seminar cum IMM AGM	Materials & Asset Integrity Committee

schemes such as the IMM Coating Inspector Course, IMM Blaster & Painter Scheme, JWES Welding Engineer Course, the new IMM Corrosion Technician Certification Course, and many others were held in 2013. Many of these certifications are mandatory requirements in the Malaysian Oil & Gas Industry. IMM, through its subsidiary company, Materials Technology Education Sdn. Bhd. (MTE) organized these activities and MTE will present a separate report to members.

III. HIGHLIGHTS OF ACTIVITIES IN 2013

(3.1) IMM MATERIALS LECTURE COMPETITION (" MLC ")

The 2nd IMM Materials Lecture Competition ("MLC") for university undergraduate and postgraduate students in the field of Materials Science & Engineering was held on 30th May 2013 in conjunction with the 1st International Materials Symposium ("IMS") at Seri Pacific Hotel, Kuala Lumpur. The event was sponsored by PETRONAS.

Under the chairmanship of Professor Dr. Esah Hamzah, the 2nd IMM Materials Lecture Competition event was participated by 10 students from Universiti Teknologi Malaysia (UTM), Universiti Sains Malaysia (USM), Universiti Putra Malaysia (UPM), Universiti Teknologi PETRONAS (UTP), UNIMAP Perlis, UiTM Shah Alam, University of Nottingham Malaysia Campus, Asia Pacific University of Technology (APU), Universiti Teknologi Melaka (UTeM), and Universiti Malaya. The students had 15 minutes each to present their technical research to an audience from industry and academia followed by one question from each judge. The students were judged not only on their technical content but more importantly on their communications skills and confidence level in answering questions.

The winners were:-

First prize: Cik Farahani Irna Nazari (UTeM) won RM3,000 cash.

Second prize: Mr. Yap Meng Wei (Universiti Malaya) won RM2,000 cash.

Third prize: En. Muhammad Idham Mohd Ibrahim (UiTM Shah Alam) won RM1,000 cash.

The winner, Cik Farahani, represented Malaysia at the IOM3 Young Persons World Lecture Competition (YPWLC) Grand Finals in Hong Kong in October 2013 under the sponsorship of the Institute of Materials, Minerals & Mining UK (IOM3), PETRONAS and IMM.

The 3rd MLC Semi-Finals will be held on 20th March 2014 at UiTM Shah Alam (Selangor) to select the 5 Finalists for the MLC Finals on 14th May 2014 at the Seri Pacific Hotel, Kuala Lumpur (held in conjunction with IMTCE2014 at PWTC).

(3.2) IMM INTERNATIONAL MATERIALS SYMPOSIUM & IJIMM

The 1st International Materials Symposium under the chairmanship of Dr. Karen Wong was held on 30th May 2013 at Seri Pacific Hotel, Kuala Lumpur in conjunction with the 2nd IMM Materials Lecture Competition and attracted 10 presenters from throughout Malaysia. Selected papers from this symposium will be published in the International Journal of the Institute of Materials, Malaysia ("IJIMM"). The IMS1 Symposium was attend by 100 participants comprising university lecturers, undergraduate & postgraduate students, and industry representatives.

The 2nd International Materials Symposium ("IMS2") was held on 12th September 2013 at the Eastwood Golf Club in Miri and attracted 10 papers from industry and academia. The IMS2 was held in conjunction with the 4th Regional Materials Technology Conference (RMTC) organized by the IMM Miri Chapter.

The International Journal of the Institute of Materials, Malaysia ("IJIMM") will select papers from the IMTCE and IMS events and welcome authors to submit papers throughout the year. The IMM Technical Publications Committee has targeted the IJIMM journal to achieve SCOPUS Index within 3 years from 2013.

(3.3) COATING FINGERPRINTING INITIATIVE

The IMM Polymer Committee, chaired by Associate Professor Dr. Melissa Chan Chin Han from UiTM, in association with the IMM Coatings Committee, led by

Puan Nurul Asni from PETRONAS, initiated an exercise to establish a Fingerprinting Procedure for Paints & Coatings for the Oil & Gas, Energy & Marine Industries. Two Public Forums have been held in March 2013 in Kuala Lumpur and in October 2013 in Johor. A third Forum has been scheduled on 20th June 2014 at the Holiday Inn Hotel, Glenmarie, Shah Alam (Selangor) where the " Coating Fingerprint Certificate " will be unveiled by the Coating Fingerprinting Task Force chaired by Puan Nurul Asni. These Forums have raised greater awareness amongst the players in these industries that "Fingerprinting" of polymeric materials such as paints & coatings is possible and can be carried out in the production plants efficiently and economically to provide quality assurance to customers.

(3.4) IMTCE2014

The 9th International Materials Technology Conference & Exhibition "IMTCE2014" will be held at the Putra World Trade Centre, Kuala Lumpur from 13th – 16th May 2014. The conference theme is " Synergizing Industry and Academia – Innovations for Industrial Applications " in Materials Science & Engineering.

To-date, over 500 abstracts have been received with over 50% submissions from international authors. Special Lectures, Plenary Lectures, Keynote Lectures, Invited Presenters, Oral Presenters and Posters forming the 5 Technical Symposiums will be the highlights of the Conference. Besides the 5 Symposiums, there will be 11 Masterclasses covering various aspects of materials science & engineering presented by local and international experts. Selected papers will be reviewed and published in various international journals and the International Journal of the Institute of Materials, Malaysia (IJIMM). Secondary schools have also been invited to bring their students to expose them to the career opportunities in materials science & engineering by visiting the posters and exhibition booths. The IMTCE2014 Technical Symposiums Organizing Team led by Associate Professor Dr. Melissa Chan Chin Han has worked extremely hard to secure the targeted 500 abstracts and embarked on related educational activities for industry, academia and school students.

The IMTCE2014 Awards Organizing Committee led by Professor Dr. Esah Hamzah has organized 3 major awards namely, the IMM Materials Lecture Competition, the Green Materials Awards, and the Conference Poster Awards. The prizes for these awards will be presented to the winners during the IMTCE2014 Banquet Dinner.

Non-technical Events such as the Friendly Golf Game, Tour of Melaka, Plant Visits, Banquet Dinner, and the Exhibition Booths for products &services will be organized by the IMTCE2014 Events Organizing team led by Ir. Abd Razak Hurairah.

(3.5) IMM STUDENT CHAPTERS

The IMM Student Chapters Board, overseen by the IMM Education Committee, has established the IMM-UTAR Student Chapter and the IMM-Kuching Polyteknik Student Chapter. The student chapters for Universiti Malaya, Universiti Teknologi MARA, University-College Tunku Abdul Rahman, and Universiti Teknologi Malaysia are under review for approvals by the respective university departments.

The IMM Student Chapters Board conducts visits to the universities to offer career talks, industry seminars and assist in placements for industrial training for the students.

The Student Chapters Board will embark on student awards with the various Student Chapters in the coming term.

(3.6) IMM CORROSION TECHNICIAN CERTIFICATION SCHEME

The IMM introduced the IMM Corrosion Technician Certification Scheme in November 2013. This program had been initiated many years ago but the committee finally completed the course materials and training presentations. This training & certification program is for corrosion technicians involved in the operations of corrosion monitoring and cathodic protection monitoring tools including access fittings and high pressure retrieval tools. This certification requirement has been emplaced in the oil & gas company specifications and will attract many candidates in the coming years. Over 50 corrosion technicians have been trained and certified since November 2013.

(3.7) IMM VIBRATION SPECIALIST CERTIFICATION SCHEMES

The IMM Vibration Committee in association with Serba Dinamik Bhd launched the IMM Vibration Specialist Certification Program on 23rd January 2014 at JW Marriot Hotel, Kuala Lumpur. This program had

been initiated many years ago but the committee finally completed the course materials and training presentations. The IMM look forward to the successful implementation of this course in 2014.

IV. MEMBERSHIP

Total number of members as at 31st December 2013 = 5025

The IMM continues to encourage members of other professional societies and associations to join as Ordinary Members with no annual subscriptions. Materials Science & Technology is essential to everyone and IMM welcomes the sharing of knowledge & experience amongst professionals from all disciplines (medical, dental, nursing, architectural, engineering, science, arts, physics, biology, chemistry, banking, finance, accounting, legal, insurance, marine, oil & gas, petrochemical, geology, etc).

The IMM also offers free "Company Membership" to Companies who are company members of other Trade Associations such as MOGSC (Malaysian Oil & Gas Services Council), MOCA (Malaysian Offshore Contractors Association), MOGEC (Malaysian Oil & Gas Engineering Council), FMM (Federation of Malaysian Manufacturers) and others, free-of-annual subscriptions.

IMM aims to bring greater awareness of Materials Science & Engineering to all sectors of industry and academia and encourages everyone to join and share their knowledge, experience and expertise for the benefit of the nation.

The IMM Council thank all members of the Working Committees, Regional Chapters, and staff of the IMM Secretariat at the office of Materials Technology Education Sdn. Bhd. (MTE) in Puchong, Selangor for their continuing efforts to promote and fulfill the objectives of the IMM.

On behalf of the Council
Ir. Max Ong
Honorary Secretary

Date : 21st March 2014

24TH Annual General Meeting and Seminar on Materials & Asset Integrity

The IMM held its 24th Annual General Meeting on Friday 21st March 2014 at Kelab Golf Negara Subang, Selangor. It was attended by 103 members and guests.

In conjunction with the AGM, a seminar on Materials & Asset Integrity was held on the same day at the same venue. The seminar attracted much interest as Asset Integrity is a very vital factor in every industry to ensure sustainability and safety.

The Chairman of the IMM Materials & Asset Integrity Committee, En. Mohd Azmi Mohd Noor from PETRONAS, opened the seminar with a presentation of the key issues relating to technical integrity of assets and process safety to protect personnel and ensure efficient and sustainable performance of facilities. Presentations on various aspects of asset integrity management were delivered by Hajah Maimunah Ismail (retired from Shell), En. Nor Fazri Nordin (Lloyds Register) and Mr. Gary Lee (Shell Malaysia).

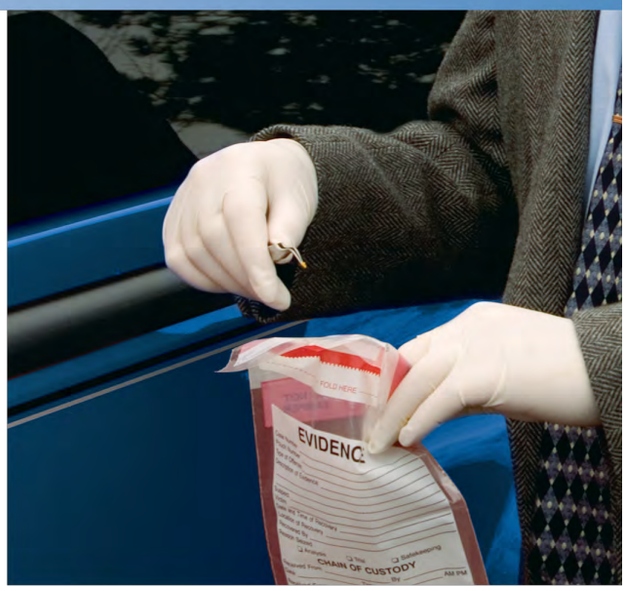
ANNUAL GENERAL MEETING AND MATERIALS & ASSET INTEGRITY

Analyzing Automotive Paints With Extended Range ATR: 1800–100 cm^{-1}

Application Note 52410

Key Words

Automotive Paint, Far-infrared, Forensic Science, Infrared Spectroscopy, Inorganics, Paint Analysis



Infrared (IR) spectroscopy is used extensively to characterize the chemical composition of trace evidence such as paints, fibers and adhesives as well as seized drugs and related chemicals. We have recently introduced the Thermo Scientific™ iS™50 ATR module, a novel, extended-range attenuated total reflectance (ATR) module that is integrated into the Nicolet™ iS50 FT-IR spectrometer. This insures that the ATR module is always available for rapid analysis of unknown materials even with another accessory mounted in the sample compartment. The built-in ATR combines an optimized optical design with a diamond ATR crystal and a broad range DTGS detector to provide high-sensitivity infrared spectroscopy from 4000 cm^{-1} to 100 cm^{-1}. The enhanced stability, resulting from mounting the ATR within the sealed section of the spectrometer, makes it possible to acquire spectra down to 200 cm^{-1} even with a desiccated system.

Infrared spectroscopy is one of the few analytical techniques considered by the forensic science community to have the highest discriminating power required to provide confirmatory evidence about the chemical composition of a material. FT-IR is used extensively in most forensics laboratories to identify materials such as seized drugs and possible evidence from a crime scene. One area where FT-IR has proven particularly valuable is analyzing automotive paint chips. A number of forensics laboratories have reported the significance of the infrared spectral range below 400 cm^{-1} in helping to identify specific inorganic pigments or minerals in a paint sample.[1-5] Traditionally these measurements have been performed with a diamond compression cell or diffuse reflectance accessory on an FT-IR system that uses Cesium Iodide (CsI) optics to acquire spectra down to 225 cm^{-1}. Suzuki et.al. have published a paper in the Journal of Forensic Science describing the application of extended range FT-IR to the analysis of pigments in automotive paint.[4] Dr. Suzuki has also created a library of more than 50 infrared reference spectra. The library; "An Infrared Spectral Library of Automotive Paint Pigments (4000–250 cm^{-1})" was developed at the Washington State Crime Laboratory and can presently be downloaded from the SWGMAT.org website. Another excellent resource for analyzing automotive paints and pigments is the "International Forensics Automotive Paint Data Query (PDQ) database" developed by the Royal Canadian Mounted Police Forensics Laboratory Services. Much of the infrared spectral data in this database contains peak information down to 225 cm^{-1}.[6]

Thermo SCIENTIFIC

While the advantages of extended range FT-IR may be clear, obtaining high-quality transmission spectra requires a great deal of experience and careful sample preparation. The CsI optics typically used to scan this range are delicate and hydroscopic, so great care must be taken to maintain a low humidity environment within the instrument and handle the beamsplitter with extreme caution. Also, preparing a paint sample that is sufficiently thin and fringe-free to work in a diamond anvil cell form can be challenging to an inexperienced examiner. The diamond windows not only compress the sample but are transparent in both the mid- and far-IR spectral region.

In this application note, we will discuss a novel feature of the Nicolet iS50 FT-IR spectrometer that provides a rapid, easy way to acquire spectra down to 100 cm^{-1}. The system that we used was configured with the built-in iS50 ATR module and an iS50 ABX Automated Beamsplitter exchanger. With this configuration, both a mid-IR and far-IR spectrum can be acquired from a sample with a single operation. In this report, extended range far-IR spectra were acquired from 1800 cm^{-1} to 100 cm^{-1} with the solid substrate beamsplitter and the integral diamond ATR shown in Figure 1 below. High-quality spectra were acquired at 4 cm^{-1} resolution in a couple of minutes.

Figure 1: The Nicolet iS50 FT-IR spectrometer configured with the iS50 ABX Automated Beamsplitter exchanger, the built-in iS50 ATR module, and the iS50 Raman module

Infrared Spectroscopic Analysis of Inorganic Pigments: ATR Spectra from 1800 to 100 cm^{-1}

As mentioned, one of the important advantages of extended range FT-IR is the ability to detect the peaks from inorganic pigments and fillers found in many paints, coatings, and plastics. In this example, we downloaded the spectra that Dr. Suzuki made available on the SWGMAT.org website and created a custom spectral library that could be used with the Thermo Scientific OMNIC™ search software. The first sample analyzed was a small piece of white plastic. The best match found with the spectral search was the spectrum of rutile, which is a TiO_2 compound used as a whitener. Figure 2 shows a comparison of the ATR spectrum and the transmittance reference spectrum from the Washington State Crime Laboratory (WSCL) library. The two reference peaks described in Dr. Suzuki's paper for rutile are clearly present in this sample

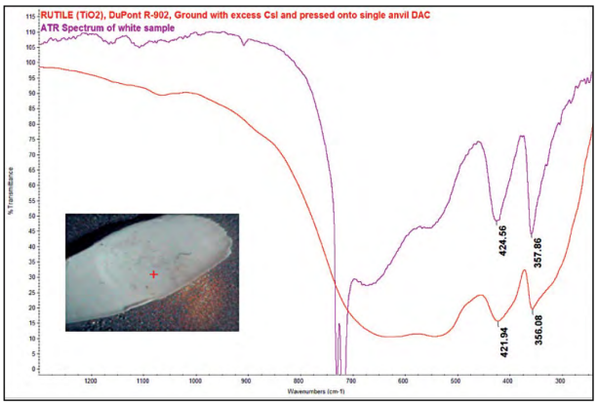


Figure 2: Extended range ATR spectrum compared to reference rutile spectrum acquired in transmittance with a diamond anvil cell

A second example is actually a bright yellow plastic material with two large peaks below 400 cm^{-1}. While it may be possible to identify the calcite with the peaks above 400 cm^{-1}, as in Figure 3, the only peak in the reference spectrum of cadmium yellow is near 250 cm^{-1} and matches nicely with the strong feature in our extended range ATR spectrum.

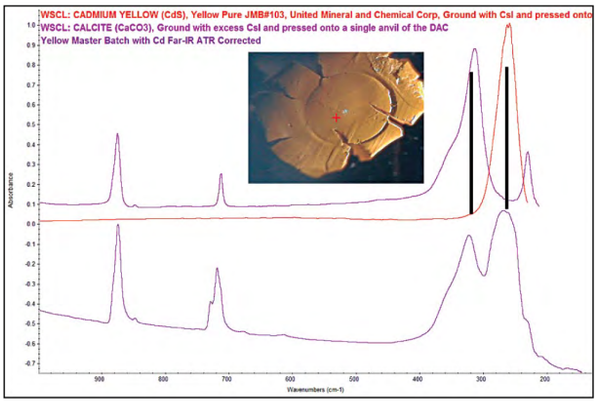


Figure 3: Comparing the spectrum from a yellow material to reference spectra of calcite and cadmium yellow

The Analysis of Automotive Paint with Extended Range FT-IR: ATR Spectra from 1800–100 cm^{-1}

One unique feature of ATR spectroscopy is the limited depth of penetration into the sample. The depth of penetration is dependent on the wavelength of the infrared light and the refractive index of the sample. While the depth of penetration in the far-IR region may be several microns, this may still be smaller than the thickness of the paint layers. Figure 4 shows the spectra acquired from both sides of a paint sample. The spectra from the two sides are clearly different, indicating that we have at least two paint layers present in the sample. Spectral subtraction can often be employed to sort out the different spectral features and avoid having to manually separate the paint layers. Because all of the components in the built-in ATR module were optimized specifically for the Nicolet iS50 spectrometer, the sensitivity is excellent. Although the Nicolet iS50 instrument is not designed as a micro-spectrometer, excellent infrared spectra can be rapidly obtained from samples smaller than 1 mm. This sensitivity is shown in the ATR spectra from a small sliver of paint in Figure 5.

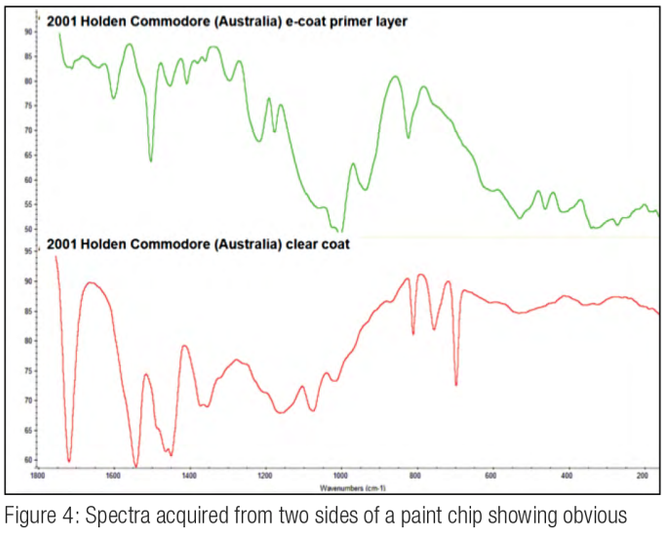


Figure 4: Spectra acquired from two sides of a paint chip showing obvious differences

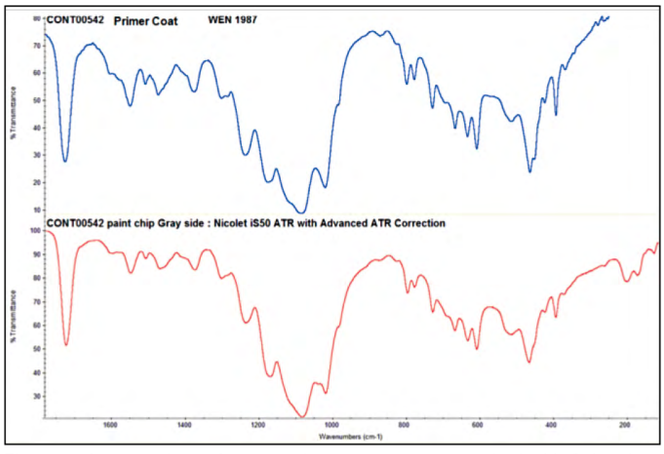


Figure 5: A comparison of a transmittance spectrum acquired with CsI optics to a spectrum acquired with the built-in Nicolet iS50 ATR and the solid substrate beamsplitter

Comparing ATR and Transmission Spectra

A spectrum acquired with the extended range, built-in ATR from a second paint chip is compared to the corresponding transmission spectrum. Although the sample preparation methods were different as well as the measurement techniques, the spectra are quite similar after applying the OMNIC software advanced ATR-correction function. In addition, the ATR spectrum shows a few significant features below the 220 cm^{-1} cutoff of the transmittance spectrum acquired with CsI optics.

Conclusion

In this report, we have shown a number of spectra acquired with the Nicolet iS50 spectrometer and the new extended range, built-in ATR module. The integrated ATR module makes it easy to rapidly obtain infrared spectra all the way down to 100 cm^{-1} from small amounts of sample. This report demonstrates that a high-sensitivity extended range, built-in ATR can play a significant role in the forensics laboratory.[7] We believe that with proper validation the extended range ATR can provide a complementary method to characterize materials of interest to the forensic scientist. Building the Nicolet iS50 spectrometer with the integrated iS50 ATR module offers the user an instrument with two sampling stations. The sample compartment remains available for transmission analysis or for inserting other accessories and modules. Combining the built-in ATR with the Nicolet iS50 Raman module with an infrared microscope creates a strong foundation for molecular spectroscopy in the forensics laboratory.[8]

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SSPC Protective Coating Inspector Course in Kuala Lumpur

SSPC (The Society for Protective Coatings of USA) will hold its Protective Coating Inspector (PCI) Course in Kuala Lumpur on April 28 to May 3, 2014.

There are no pre-requisites for the 5-day PCI Level 1 course. Those who passed the PCI Level 1 may proceed to sit for the PCI Level 2 exam on the sixth day. In an agreement with SSPC, IMM Certified Level 2 Coating Inspectors will get exemption to the 5-day SSPC PCI Level 1 course (USD1,395 members / USD1595 non -members). They can go straight to sit for the SSPC PCI Level 1 exam and on to the Level 2 exam after they passed Level 1. The exam fee for SSPC PCI Level 1 is USD250 (member) USD450 (non-member) and SSPC PCI Level 2 is USD350 (member) USD550 (non-member).

IMM graduates who passed with 80% marks will get a 20% discount from the exam fees. For enquiries please contact Azman Murad at admin@iomm.org.my or (603) 5882 3574.

Launching of Vibration Certification Programs by IMM

Kuala Lumpur, 23rd January 2014

The Institute of Materials, Malaysia (IMM) has officially launched the latest training course, IMM Vibration Certification Course. The course is organised by the IMM Vibration Committee headed by the Committee Chairman, En. Noor Hisham Ab. Hamid, in collaboration with Serba Dinamik Sdn. Bhd.. En. Noor Hisham started the opening ceremony with a speech followed by another speech by the President of IMM, Prof. Dr. Mohd. Kamal Harun. Several videos were played during the event to introduce the new course. The Group CEO of Serba Dinamik Group, Dr. Ir. Hj. Mohd. Abdul Karim Abdullah who was a special guest for the event presented a speech and closed the ceremony.

IMTCE2014 Road Shows

IMTCE Organizing Committee members conducted several Road Shows to promote IMTCE2014. These road shows were organized in different parts of Malaysia including industries, companies, universities and research organizations. The Organizing Committee members met with representatives of organizations and canvassed about the profile and various activities of IMM followed by the IMTCE2014 montage presentation and a brief description of IMTCE2014, soliciting for papers and delegates to be a part of this much awaited international conference.

Road shows were organised in Kuala Lumpur, Selangor, Johor, Miri, Kuching, Bintulu, Terrenganu, Kerteh etc. - in companies like PETRONAS, MMHE, Titan Polymer, Tanjung Bin etc. , research organizations like PETRONAS Research, Tenaga Nasional Berhad Research etc. and universities like University Technology Malaysia, University Technology Mara, University Malaysia Sabah etc.
The road shows were enthusiastically received by Heads of Departments as well as executives and all employees who attended and many contributions to IMTCE2014 in the form of papers, delegates etc. are being received by IMM.

IMTCE ROADSHOW

ABOUT IMM

Institute of Materials, Malaysia (IMM) is a non-profit professional society that promotes honourable practice, professional ethics and encourages education in materials science, technology and engineering. Engineers, academicians, technicians, skilled workers and professionals are amongst its members exceeding 4000.

Registered with the Registrar of Societies on 6th November 1987, the Malaysian Materials Science & Technology Society (MMS) changed its name to the Institute of Materials, Malaysia (IMM) on 16th June 1997. The objectives of the IMM include the training and development of individuals and companies in Malaysia to attain professional recognition in various fields of materials science, technology and engineering.

IMM is administered by a council of 30 members, with volunteers leading 12 materials committee, and 7 regional chapters, and supported by a secretariat with full time staff.

Membership of IMM is categorised into 7 different grades and open to anyone above the age of 17 years - individuals and companies keen in developing and contributing towards the growth of materials science, technology and engineering in Malaysia.

Over the years, IMM have conducted courses on coatings, corrosion and welding in support of the oil and gas industry in Malaysia. Over 600 Coating Inspectors have been trained and certified as well as 2,500 Blasters & Painters, supervisors and Corrosion technicians. Its certification programmes are recognized by PETRONAS and all oil & gas operators. Since January 2011, 42 Associate Welding Engineers, 33 Welding Engineers and 8 Senior Welding Engineers were trained and certified.

IMM has also organised 8 International Materials Technology conferences (IMTCE) on a biennial basis, and numerous technical seminars, educational programmes, technical visits, and materials awareness programmes since 1988.

Public courses, such as Microbiologically Influenced Corrosion (MIC) and Welding Technology for Non-Welding Personnel, are been offered occasionally. Training on materials awareness has also been conducted in public listed companies.

The courses and programmes are being organised by Materials Technology Education Sdn Bhd (MTE), a joint-venture between IMM and InterMerger Group.

Collaborations with the Asian Welding Federation, American corrosion society SSPC, Sabah Skills Technology Centre (SSTC), and local universities continue to be part of IMM's vision and long term mission to educate, train and serve the materials fraternity

IMM
INSTITUTE OF MATERIALS MALAYSIA

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Professional Member (MIMM) - Associate Member (AMIMM)
Company Member - Ordinary Member - Student Member
** Details and forms are available in IMM website*
** Term and condition apply for each grade of membership*

CATEGORY/FEE	A	B	C	D
Fellow (F.I.M.M)	-	RM 300.00	RM 10.00	RM 150.00
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Company Member	RM 50.00	-	-	RM 200.00
Associate Member (A.M.I.M.M)	-	RM 150.00	RM 10.00	RM 80.00
Ordinary Member	RM 20.00	-	-	RM 40.00
Student Member	RM 10.00	-	-	RM 10.00

Note: (A) Entrance (B) Processing (C) Transfer (D) Annual Subscription
For membership details, contact the Secretariat at:
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IMM COURSES

COATINGS COURSES	DURATION (DAYS)
▪ Diploma of Applied Science (Coatings Technology)	10
▪ Coatings Quality Control Technician (QC)	2
▪ Blasting & Painting Supervisor	2
▪ Corrosion Control by Protective Paint	2
▪ Marine Painting Inspection	3
▪ Coatings Inspection Certification Scheme	4
▪ Protective Coatings Technician Certification Scheme	1
▪ Thermal Spray Coatings Applicator	2
▪ Thermal Spray Coatings Inspector	4

WELDING COURSES	
▪ Welding Inspection Scheme	5
▪ Associate Welding Engineer (JWES) *	7
▪ Welding Engineer (JWES) *	7
▪ Senior Welding Engineer (JWES) *	8
▪ Calculation of Strength of Welded Members	1
▪ Cost & Estimation of Welding Projects	1
▪ Interpretation of Weld Quality by Welding Codes	1
▪ Interpretation of Weld Quality by Radiographic Method	1

CORROSION COURSES	
▪ Corrosion Control By Cathodic Protection	2
▪ Cathodic Protection Technologist	4
▪ Corrosion Technician	4

VIBRATION SPECIALISTS
▪ Level 1 - 4

COURSES AVAILABLE UPON REQUEST	
▪ Blasting & Painting Course	5
▪ Welding – SMAW, GMAW, GTAW (1G - 6G)	5
▪ API-570 Piping Inspector	
▪ API-510 Pressure Vessel Inspector	
▪ API-653 Above Storage Tank Inspector	
▪ Microbiologically Influenced Corrosion (MIC)	2
▪ Management of MIC	1
▪ Welding and Joining Technology for Non Welding Personnel	1

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NUCLEAR MATERIALS AND RESEARCH SEMINAR

Date
19th May 2014

Time
9.00 am– 1.30 pm

Venue
Malaysian Petroleum Club, Level 42, PETRONAS Twin Tower 2, KLCC, Kuala Lumpur

Programme

8.30 am : Arrival of Guests & Registration/ Tea & Coffee
9.30 am : Welcome Remarks - Y.Bhg Dato' Dr. Muhamad Bin Lebai Juri (*Director General, Malaysian Nuclear Agency, Malaysia)*
9.40 am : Opening Remarks - TBA (*Rolls-Royce PLC, UK*)
9.50 am : Nuclear Materials - Advanced Material Characterisation and Modelling *(Prof. Dr. David Rugg, Rolls-Royce PLC, UK)*
10.50 am : Tea/Coffee Break
11.05 am : Nuclear Power and Materials: An Overview of Malaysian Status *(Dr. Muhd Noor Muhd Yunus, Malaysian Nuclear Agency, Malaysia)*
11.45 am : Thermal Residual Stress of SiC-6H, SiC-3C and Si phase of Reaction-Sintered Silicon Carbide Using Neutron Diffraction and Finite Element Modeling *(Dr. Muhammad Rawi Mohamed Zin, Malaysian Nuclear Agency, Malaysia)*
12.05 pm : Q&A
12.50 pm : Closing Remarks - TBA *(Rolls-Royce Malaysia Sdn Bhd, Malaysia)*
1.05 pm : Lunch
2.05 pm : Adjourn

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Please register with the IMM secretariat at admin@iomm.org.my by 10th May 2014

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