



## THE INDIAN INSTITUTE OF METALS TIRUCHIRAPPALLI CHAPTER

### Honorary Secretary's Report for the Year 2012-2013

*Respected Chairman, immediate past chairman, past chairmen, Vice – Chairmen, executive committee members, fellow members, invitees, friends from media, Ladies and Gentlemen,*

*A pleasant evening to you. It is a unique honour and privilege for me to present a brief report on the activities of our chapter for the year 2012-2013.*

*The year 2012-2013 has been a very eventful year in the annals of the chapter. While traversing back through the year 2012-2013, I feel we can have full satisfaction over the achievements and the tasks accomplished. The major highlights of the year are as follows:*

- ***211 new members including 17 new life members were added during the year, which resulted in 22.32 % addition of new members over last year and 8.6% net increase in membership. During this year the chapter breached the 1000 members' barrier and moving ahead.***
- ***The chapter annexed the Best Chapter Award for its overall performance among the largest chapters of the Institute for the record 13<sup>th</sup> time and four times in a row.***
- ***One more student chapter at CARE College and two more student affiliate chapters at JJ College of engineering & technology and at M Kumarasamy college of Engineering, Karur were added during this year.***
- ***The chapter has conducted model examination for +2 students and more than 719 students enrolled for the examinations.***
- ***For the first time, we have conducted model exams at Palayamkottai in Tirunelveli district.***
- ***Rs. 8000 was distributed as prize money for the subject toppers.***
- ***Two of our nominees were elected as National Council Members for the year 2012 – 2013.***
- ***Dr. S. Suresh, former General Manager, WRI and Plant Labs, BHEL, Tiruchirappalli, the renowned National Centre of Excellence in welding and the Plant Laboratory – an NABL accredited Testing laboratory that caters to Production of boiler components of BHEL, was conferred with the Dr. G. V. Memorial Award 2012 during AGM 2012.***
- ***M. Namasivayam Memorial IIM Merit Award for academic excellence to the wards of our members. Rs. 8000/- was awarded as prize money for the meritorious students.***
- ***Two Exclusive courses on "Processing of 9 Cr-Mo (Grade 91&92) Steels" and "Processing of 9 Cr-1Mo (Grade 91) Materials" conducted by the chapter.***
- ***Nominated 11 student chapter members for a two day National Workshop on Non Destructive Testing – NDT on January 5 & 6, 2013 at PSG, Coimbatore by IIM, Coimbatore Chapter.***
- ***Nominated student chapter members for the Mettle 2013 from other colleges.***
- ***Doorstep lecture programmes were conducted by the chapter for the benefit of student chapter members at their respective colleges.***
- ***Nominated 14 student chapter members for a One day Workshop on "Process and Quality Improvement Through Arc Welding Signature Analysis on February 23, 2013 conducted by IIW, Tiruchirappalli branch.***

- *The paper on "Preparation of NdFe alloy by metlothermic reduction process" presented by Dr. L. John Berchmans at the IIM-NMD-ATM 2012 conference which was held during 16-19<sup>th</sup> November 2012 at Jamshedpur received the 2<sup>nd</sup> prize with cash award (oral) for the paper. The paper was co-authored by Dr. G. Sreedhar, Dr. A. Visuvasam and Dr. S. Angappan.*
- *Dr. N. Raju, our associate member received the Excel Award of BHEL for his significant contributions.*
- *The book on "Functional Materials: A Chemist's Perspective" by Vijayamohanan K Pillai Director, CECRI & Meera Parthasarathy by Universities Press through IIM Series in Metallurgy and Materials Sciences" was released during the NMD at Jamshedpur.*
- *Dr. N. Palaniswamy, Chief Scientist has been awarded the prestigious "SWADESHI VIGYAN PURASKAR 2013" award from Swadeshi Science Movement of India-Delhi for gaining outstanding credentials in his R & D pursuit in the area of Corrosion Protection.*
- *Dr. Sheela Berchmans, Senior Principal Scientist and Head, Electrodictics and Electrocatalysis Division of CSIR-CECRI, Karaikudi, has been awarded one of the Prestigious Awards 'MRSI MEDAL' for her significant contributions to the field of Materials Science and Engineering by Materials Research Society of India*
- *Chapter represented by 5 delegates in the NMD held at Jamshedpur.*
- *METTLE 13 – a mega national level student event was conducted in association with the student chapter of National Institute of Technology, Tiruchirappalli.*
- *TMAQ XII, the mega quiz programme to select teams for BPMMQ 12 was conducted in three phases. Preliminary written round was conducted at seven centres. 309 students from 54 schools situated in the 19 districts of Tamil Nadu participated in the event. Rs. 24400/- was the prize money pocketed by the winners of TMAQ XII.*
- *In the chapter level essay competition, 32 students were participated and Rs. 2000/- was awarded as prize money.*
- *22 students from 11 schools participated in the written quiz for the 9<sup>th</sup> and 10<sup>th</sup> standard students. The students were allowed to watch the finals of TMAQ XII.*
- *The Executive committee met 7 times.*
- *Five Lecture programmes were conducted at the institute premises.*
- *Lectures were conducted at student chapters and polytechnic colleges.*
- *National Metallurgists Day was celebrated at Chapter Office.*
- *AGM of 2012-13 was conducted on 09<sup>th</sup> May 2012 and the reports were sent to HQ on the same day by E mail.*
- *In Mettle 13, a new event "Venari Materia" was introduced. This is an event in which the participants are required to select a material which best fits a given application by identifying the properties that the application demands. The chapter sponsored the prizes for the winners.*

### 1.0 MEMBERSHIP

The IIM, Tiruchirappalli Chapter has completed its thirty one years of continuous and significant service to the metallurgical fraternity, an achievement, which it can really be proud of. The membership status of our chapter is as follows.

Category	As on April 1, 2012	As on March 31, 2013
ASM	06	26
LF	01	01
LM	82	104
OM	315	309
PM	01	01
ST	540	585
<b>Total</b>	<b>945</b>	<b>1026</b>

During the year, the chapter has enrolled 211 new members including 17 new life members and sent Rs. 318100/- to HQ as subscription realised from the members.

### 2.0 STUDENT CHAPTERS' ACTIVITIES

#### 2.1 METTLE 2013

As in the Past, Mettle 2013 was organised by the NIT Student Chapter of IIM, Tiruchy during 15 – 16, 2013 at the NIT complex. The event was organised in association with the Dept. of Metallurgical Engineering of NIT. In Mettle 13, a new event “Venari Materia” was introduced. This is an event in which the participants are required to select a material which best fits a given application by identifying the properties that the application demands. The chapter sponsored the prizes for the winners. The chapter conducted the materials quiz contest, as part of Mettle 2013. Mr. N. Rajasekaran, Mrs. A. Santhakumari and Mr. N. Parameswaran conducted the quiz contest. Overall, more than 120 students from all over the country participated in the 2day programme. Mettle '13 was inaugurated by Dr. Prof. B S Murty, IITM, Chennai in the presence of Dr. A. K Bakthavachalam, Head (T & P), NITT.

The chapter also provided an opportunity to the student members of other institutions to participate in Mettle 13, by sponsoring them. In total 06 student members were nominated by the chapter.

#### 2.2 WORKSHOP ON “SCANNING ELECTRON MICROSCOPY & X RAY DIFFRACTION” BY CARE STUDENT CHAPTER

On 28<sup>th</sup> February 2013 and March 1, 2013, the student chapter at CARE institute has organised a two day National Workshop at the Institute premises in association with Department of Material Science and Engineering, CARE Group of Institutions, Tiruchirappalli. Besides supporting the event through sponsorship, the chapter nominated delegates for the workshop.

#### 2.3 LECTURE PROGRAMMES

The student chapters / student affiliate chapters organized several lecture programmes on various topics related to engineering in the respective colleges.

### 2.4 INAUGURATION OF 2<sup>nd</sup> STUDENT CHAPTER AT CARE SCHOOL OF ENGINEERING

The 2<sup>nd</sup> student chapter of our chapter has been inaugurated at CARE School of Engineering, Tiruchy. 15 Students of the department of materials Science & Engineering enrolled as student members of the institute and two faculties got joined as life members. On 17<sup>th</sup> July 2012, launching of the student chapter commenced with a guest lecture by Dr. Raman Sankaranarayanan, HOD, NIT, Tiruchy and our Joint Secretary. The chapter was inaugurated by our beloved Chairman Mr. P Soundararajan in the august presence of Mr. B. PrativeChend, CEO of CARE and our vice chairmen Mr. R Easwaran, prod. Dr. S. Natarajan, Dr. A. Raja, Dr. A L Santra, Dean CARE, Mr. G. Rajendran, Hon. Secretary, Mr. N. Rajasekaran, Hon. Treasurer, Mr. N. Parameswaran, Past Secretary & Dr. R Vaideeswaran, Joint Secretary of the chapter. Mrs. A Santhakumari, Mr. K E Rajgopalachari and other EC members of the chapter graced the occasion. The office bearers of the student chapter were installed during the function.

### 2.5 INAUGURATION OF STUDENT AFFILIATE CHAPTERS AT JJCET, TIRUCHY AND MKCE, KARUR

This year the chapter added another feather in the cap by inaugurating two more student chapters at JJ College of Engineering and Technology, Tiruchirappalli and M. Kumarasamy College of Engineering, Karur.

On 29<sup>th</sup> August 2012, the 5<sup>th</sup> Student Affiliate Chapter of ours was inaugurated by our Vice Chairman Mr. R. Easwaran in the presence of prof. K. Ponnusamy, Chairman JJ group institutions, Dr. V. Shanmuganathan, Advisor JJ group of institutions, Dr. T Sivasankaran, ED, JJ group of Institutions, Dr. S Sathiyamoorthy, Principal JJCET, Dr. R. Pavendhan, HOD (MME) JJCET, Dr. A. Raja and Dr. S. Natarajan Vice chairmen, Dr. R Vaideeswaran, Joint Secretary of the chapter and our EC members. Dr. Raman Sankaranarayanan, HOD (MME) NITT and our Joint Secretary delivered the technical lecture. The office bearers of the student chapter were installed during the occasion. 39 students joined as member of the institute.

The 6<sup>th</sup> student affiliate chapter was inaugurated by our Hon. Treasurer, Mr. N. Rajasekaran on 18<sup>th</sup> September 2012 at M. Kumarasamy College of Engineering, Karur. This is the first satellite student affiliate chapter for us. Dr. D. Valavan, Principal, Prof. C. Ramesh, HOD, MKCE and Mr. N. Parameswaran, Past Secretary & Dr. R Vaideeswaran, Joint Secretary of the chapter along with Mr. K E Rajgopalachari and other EC members of the chapter graced the occasion. Dr. G M Balamurugan, Dean MKCE is the key person in launching of the chapter. Dr. R Vaideeswaran, Joint Secretary of the chapter delivered the technical lecture.

### 2.6 DOOR STEP LECTURE PROGRAMMES AT STUDENT AFFILIATE CHAPTERS

The chapter organised the following doorstep lecture programmes at the following colleges.

- Lecture on “Experimental Investigation on FCAW of AISI 316 L(N) Austenitic Stainless Steel” by Dr. D Katherasan, our EC member on 5<sup>th</sup> February 2013.
- On 16<sup>th</sup> March 2013, our executive committee member, Mr. K. Radhakrishnan delivered a lecture on “The Concept and Working of High Pressure Boilers” at MAMCE and MAMCET. More than 200 students attended the programme.
- On 24<sup>th</sup> September 2012, Dr. R. Vaideeswaran our Joint Secretary delivered a lecture “Basic Metallurgy of Iron-Carbon Alloys”. Mr. V. Mohan Raj president of IIM Student’s Chapter welcomed the gathering. Mr. V. Balasubramanian staff Advisor presided over the function. Mr. S. Jaison Samuel secretary of IIM Student’s Chapter thanked the gathering. Mr. B. Arunjunai Rajan Joint secretary of IIM Student’s Chapter made the Arrangements for the lecture. More than 40 students attended the lecture programme.

- At MKCE, Mr. Lucky Gaur of WRI made a presentation on “Friction Stir Welding” on 1<sup>st</sup> February 2013. More than 100 students and faculty members attended the programme.

### 2.7 INSTALLATION OF OFFICE BEARERS OF STUDENT CHAPTERS

The office bearers of the student chapter at NIT and student affiliate chapters at JJCET, MAMCE, MAMCET, and SACET were installed at the respective colleges. At JJCET, they were installed on 5<sup>th</sup> February 2013.

### 3.0 ANNUAL GENERAL MEETING

In the 32<sup>nd</sup> Annual General Meeting of the IIM, Tiruchirappalli Chapter, Mr. P. Soundrararajan, General Manager (Valves) was elected as Chairman of the Tiruchirappalli chapter of the Indian Institute of Metals for the year 2012 – 13.

The AGM which met at the Institutions building on 09<sup>th</sup> May 2012 unanimously elected him as chairman and elected the following also for various posts. Dr. S Suresh, then GM (WRI), Mr. R Easwaran, then AGM (QC), Dr A Raja, AGM (WRI) and Prof. Dr. S. Natarajan, NIT Tiruchy as vice chairmen, Mr. G Rajendran, then Sr. Manager (OP & C) as Hon. Secretary, Mr. N. Rajasekaran, then Manager (WRI) as Hon. Treasurer. Along with them Mr. K. Raja then Manager (PE, FB) was elected as Joint Treasurer and Dr. Raman Sankaranarayanan, HOD (MME, NIT), Mr. A Meyaappan, then Manager (SCM), Dr. R Vaideeswaran, then Manager (Plant lab) and Dr. John Berchmans of CECRI as joint secretaries.

Installing the office bearers in the AGM which was attended by 91 members, Mr. A V Krishnan, Executive Director, BHEL and Patron of IM, Tiruchirappalli chapter, complimented the chapter for its yeomen services being rendered in creating awareness on material science among school children, courses on contemporary topics like grade 91 materials, lecture programmes, workshops / seminars, lecture at polytechnic colleges, etc. Further he said, “The good work done by team IIM brings laurels every year. I congratulate the chairman Mr. P. Nainar and his team for creating bench marking performances during the year 2011-12. The task ahead of Mr. P. Soundrararajan is to surpass the record growth achieved by Mr. Nainar and to set new bench marks”.

Earlier addressing the gathering, Mr. Nainar said, “I am thankful to my vice chairmen, secretary, treasurer and the all EC members for getting the best chapter ward for 12<sup>th</sup> time, the international Bram Prakash Memorial Quiz Award 2012 for the fourth time in a row and the national elocution contest, etc. On seeing the presentation of our activities in the annual meeting held at Hyderabad, many chapters started to appreciate our good work”. He thanked Dr Natarajan for mobilizing more members to the chapter and Dr. S Suresh for the foundry tech 2011 conference and Mr. Easwaran for the TMAQ quiz.

He conveyed his best wishes to the incoming chairman and his team. Earlier Mr. R Easwaran vice chairmen welcomed the gathering. Mr. N. Rajasekaran, Hon. Secretary presented the annual report for the year 2011-12, which highlighted a quantum jump in membership growth by more than 30%. The secretary report was proposed by Mr. P. Chellappandian and seconded by Mr. Ravi Bharath. The AGM unanimously adopted the report. Mr. G. Rajendran, Hon. Treasurer submitted the audited accounts of the chapter for the year 2011-12. Mr. K. Radhakrishnan proposed and it was seconded by Mr. G. Uma Shanker. The AGM adopted the accounts. Mr. M T Sambandam conducted the elections. The list of newly elected EC is attached to this report as annex.

Addressing the AGM, Mr. P. Soundrararajan said, “It gives me a great feeling to be the chairman of the chapter, which is the jewel of the institute. The new team will work more dedicatedly to bring more laurels to the chapter and will witness a tremendous growth in the year 2012-13.

Mr. S V Seetharaman was appointed as auditor for the year 2012-13 and his remuneration was fixed as Rs. 1500/- by the AGM. Mr. Murali, Dy. Director of Boilers, Tamil Nadu was the Guest of Honour in the AGM. Dr. S Suresh, Vice Chairman and Mr. G Uma Shanker, Past Chairman offered their felicitation.

The patron honoured all the EC members for the achievements with a memento. Dr. A Raja, the newly elected vice chairman proposed vote of thanks and he said, "Publishing articles in IIM journal and applying for IIM awards will be the priority for the chapter in the forthcoming year".

As in the past, fun games and Tambola were conducted for the spouses and children. All of them joined for a delicious dinner at the end of the AGM.

#### 4.0 TMAQ XII

The chapter conducted the Quiz on Metals and Materials christened as "Tiruchirappalli Materials Quiz 2012 (TMAQ XII)" in two stages with the following objectives.

- TMAQ XII, to select the qualifying teams for the International Brahm Prakash Memorial Quiz 2012, was conducted by IIM Tiruchy chapter covering 19 revenue districts of Tamil Nadu, Pondicherry & Karaikal area of Pondicherry state (Thiruvannamalai, Cuddalore, Villupuram, Perambalur, Ariyalur, Tiruchy, Pudukkottai, Sivaganga, Madurai, Theni, Dindigul, Tirunelveli, Thoothukkudi, Nagarcoil, Thiruvarur, Nagapattinam, Namakkal, Karur, Erode).
- TMAQ XII, brochures were printed and sent to nearly 812 schools in all the above districts.
- The EC members of IIMT, traveled to many districts to meet the principals of schools to get wider participation.
- Model Question papers were printed and sent to all schools (images attached).
- Printed question papers with 60 questions and answer sheets were used.
- 309 students from 54 schools participated in the written preliminary round held at seven centres. IIM EC members with student chapter members traveled to all the centres to conduct the quiz.
- The seven centres were divided into four regions Viz.
  - Region A: Tiruchirappalli, Karur
  - Region B: Madurai
  - Region C: Shankar Nagar and
  - Region D: Karaikudi, Neyveli, Nagapattinam.
- The regions were divided into two zones.
  - Zone I: Region A & C
  - Zone II: Region B & D
- The ISTE chapter of Karaikudi conducted the quiz for the zone II.
- Participation certificates were issued to all the students by IIMT.
- Out of that 32 teams were selected based on their performance in the written test. The selection was not based on centres. Based on overall ranking of all the students. The highest marks scored in written round is 48 out of 60. More than 50% of the students selected for the semi finals scored more than 32 marks.
- Snacks and tea were given to all students and accompanying persons by IIMT.
- A pen was given to all the students by IIMT.
- Top three performers at each centre were given cash prizes by IIMT.
- The qualified 32 teams were invited to Tiruchy on August 12, 2012.



- They have undergone a semi final oral round with 10 rounds of quizzing in the morning of 12<sup>th</sup> August 2012 simultaneously at four halls.
- Based on the rankings top six teams were selected for the finals.
- Regional winners from all the four regions were selected based on the cumulative performance in written and oral rounds and cash prizes were given.
- During the intervening period, a talk on Opportunities in the field of Metallurgy was given by students of NITT. It is worth to note that few students of earlier years joined NITT metallurgy dept. after attending the quiz.
- The final was a well prepared multimedia round having 10 rounds of quizzing.
- From that top teams from each zone were qualified for BPMMQ 2012.
- Morning snacks with tea, lunch and evening tea with snacks were given to all the students and their accompanying persons by IIMT.
- Certificates were given to all students by IIMT.
- A cash prize of Rs. 5000/-, Rs. 3000/- and Rs. 2000/- was given to the top three winners. Besides, the top two regional winners from each region were awarded a cash prize of Rs. 1000/- and Rs. 600/- respectively.
- One way bus fare was given to all the participants.
- Accommodation was given to the needy students, free of cost.
- Eight students out of 309 students only were selected through the process. i.e. 2.8% of participated students only were selected to represent the two zones of the chapter.
- The ten rounds of quiz covered various facets of materials, simple elements to complex alloys; simple manufacturing processes to nano-materials; laws and phenomena in physics and chemistry to the current news in the world of materials and so on.

Distributing the prizes for the Winners of the TMAQ XII, in which the top three teams were selected after three grueling rounds of quizzing on the subject, Mr. M K Mishra, General Manager (OFT), Tiruchy said, "Economic ways of using of input materials alone will bring down the cost of the products and enhance the competitiveness and productivity of companies. The outlook of the industry has changed drastically in this new era from the earlier day concepts. The TATA Steel was founded by Tata Group with a vision to ensure availability of raw materials i.e. steel for the country's industry. But today, the focus is on global competitiveness and cost effectiveness". The students of Jayendra Saraswathi Silver Jubilee Matric HSS, Tirunelveli won the top two places of this year's quizzing competition. The team comprising Mr. A Somasundaram and K G Rangabashyam won the first prize and A Vinayak Narendra Moorthy and V Shankara Narayanan of the same school won the second prize. The TVS Matric HSS students from Madurai, Mr. S Nishanth and Mr. Vikas Krishnan won the 3<sup>rd</sup> price.

Earlier in the day, the 32 teams selected from the written round in which 384 students participated in the seven centres at Tiruchy, Sankar Nagar, Madurai, Karur, Neyveli, Karaikudi and Nagapattinam under-went an oral semifinal rounds. From the 32 teams, the top six teams were selected for the finals, in which the quiz was conducted through multimedia presentation.

Earlier, Mr. R Easwaran, GM (WRI) and Chairman of the quiz committee addressed the students and said, "The chapter is looking forward to finish in the winners' podium this year also. If it happens, this will be a record to score five consecutive wins in the international Brahm Prakash Memorial Materials Quiz, which will be held at Kalpakkam during next month". He advised the students to use such quiz programmes to enhance their knowledge base.

Mr. N Rajasekaran, Hon. Treasurer of the chapter and Dr Raman Sankara Narayanan, HOD, MME Dept, NIT offered their felicitations and addressed the students in the 21<sup>st</sup> edition of the materials quiz programme of the chapter. Earlier Mr. G Rajendran, Hon. Secretary welcomed the gathering and Mr. N Parameswaran, Convenor, proposed the vote of thanks.

The participants expressed their satisfaction that by attending the quiz programme they enriched their knowledge in the field and it is really an eye opener. The executive committee of the chapter made all arrangements for the quiz.

#### 4.1 ESSAY COMPETITION

The chapter conducted an Essay Competition in line with the BPMMQ competition. The essay contest was won by Mr. V. Sankara Narayanan, Mr. Ajay Vignesh of Tirunelveli, Jayandra School, Ms. V. Santhoshini of RSK HSS and Ms. Maharajalakshmi of Chinmaya Vidyalaya of Tirunelveli. More than 35 essays were submitted this year by the participants of TMAQ XII. The top three awards carried a cash prize of Rs. 1000/-, Rs. 500/- and Rs. 250/- and Rs.250 for special prize.

#### 5.0 QUIZ ON MATERIALS FOR 9<sup>TH</sup> AND 10<sup>TH</sup> STUDENTS

In its pursuit the dissemination of knowledge on materials and inculcate interest in the young minds, the chapter has also organised a written quiz for the 9<sup>th</sup> and 10<sup>th</sup> standard students and an essay competition on materials. Distributing the prizes for the winners of the quiz and the essay competition winners on the occasion of TMAQ XII, Dr S Sundarajan, Director (NIT, Tiruchy) advised the students to pursue seriously their studies in the field of materials. In his address, he said, "The experts have identified the emerging technologies for the next 10 years and in this, development of materials is in the top ten. 10 years ago, the metallic materials were substituted by composites, and today composites constitute more quanta in aerospace applications. In the next five years, the scientists are looking forward to exploit the new generation materials for the ultra super critical boilers and supersonic rockets, etc. The smart materials and nano materials are emerging as promising materials for the next generation". He complemented the Tiruchirappalli chapter for its dedicated work done in a mission mode, in this regard.

Mr. Gokul Muthiah and P Mano Prakash of Jayendra School and R Bhaskara Asmath Raja of Chinmaya Vidyalaya of Rajapalayam were the winners of the quiz for the 9<sup>th</sup> and 10<sup>th</sup> students.

#### 6.0 MERITORIOUS AWARD 2012

As in the past, the chapter has honoured the high performers among the wards of its members with the M Namasivayam Memorial Merit Award. Distributing the award and presiding over the function, Mr. P. Soundararajan, GM (Valves), BHEL and Chairman of the chapter said, "Much care has been taken by the chapter to conduct the Quiz programme in the best possible way. The enthusiasm and the talents exhibited by the students are amazing and with the development of such students India will emerge as a super power in the near future. By shaping the young minds into the right path, the chapter is doing a yeomen service to the country. Though, it is very difficult to conduct the quiz covering 19 districts of Tamil Nadu and Pondicherry state, the chapter never gives up the challenges." Following are the winners of the meritorious awards for the year 2012 by excelling in their 10<sup>th</sup> and + 2 examinations.

##### + 2 students

Dr. Radhakrishnan K	Shelly R	I	Alagappa MHSS , Karaikudi
Dr. Kulangiappar K	Vignesh K	II	Alagappa MHSS , Karaikudi
Mr. Karuppiah K R	Nivedha L K	III	Kendra Vidyalaya, CECRI, Karaikudi



**10<sup>th</sup> Students**

Dr. Muralidharan S	Rahul M	I	Kendra Vidyalaya, CECRI, Karaikudi
Mr. Rajasekaran	Naveen Raj R	II	RSK HSS

Mr. P. Soundararajan, Chairman (IIM Tiruchy) distributed the awards and the meritorious certificates to the students who came along with their happy parents. The top three awards carried a cash prize of Rs. 2000/-, Rs. 1500/- and Rs. 1000/- respectively for +2 and 10<sup>th</sup> standards. The awards were presented during the valediction of TMAQ XII. The two member committee consisting of our EC members Mr. M Jayaraj and Mr. S Subburaj coordinated this activity.

**7.0 BPMMQ 2012**

The chapter conducted preparatory training programme for the participants of BPMMQ 2012 at NIT, Tiruchy and WRI, BHEL, Tiruchy. Mr. M. L. Mohammed Ismail accompanied the students to BPMMQ 12. We are thankful to the staff, faculty and student chapter members of NITT and executives and supervisors of WRI.

**8.0 GET TOGETHER MEETS**

The chapter organised a Family Get Together on 26<sup>th</sup> October 2012 for our EC members and a felicitation function for the BPMMQ participants. Books were presented to the students. Mr. P. Soundararajan, Chairman, Mr. S. Karunakaran, Past Chairman, Mr. M. Krishnamurthy, NC Member, Mr. R. Easwaran and others addressed the gathering.

**9.0 NATIONAL METALLURGISTS DAY CELEBRATIONS & LECTURE AT CHAPTER OFFICE**

The chapter celebrated the National Metallurgists Day at the Chapter office on 14<sup>th</sup> November 2012. Offering floral tributes, Mr. P. Soundararajan, Chapter Chairman and General Manager, BHEL, attributed emergence of India as a manufacturing hub to the foundation laid by the architect of modern India. He said, "the great leader envisioned industries as the temples of modern India to lead the industrial revolution out of realisation that manufacturing sector and materials processing were vital for the country's economic growth". Mr. R. Easwaran, Vice Chairman and General Manager, BHEL, called upon members to enhance competitiveness and capabilities of the country by bringing about productive growth in all spheres. Mr. G. Uma Shankar, former Chairman; Dr. Raman Sankaranarayanan, Head, Department of Metallurgical and Materials Engineering, Mr. G. Rajendran, Honorary Secretary; and Mr. N. Rajasekaran, Honorary Treasurer also addressed the gathering of members.

On 23<sup>rd</sup> November 2012, the chapter conducted the NMD lecture. The lecture was delivered by Dr. V P Raghupathy, Prof. PESIT, Bangalore on the theme "Laminated Composites". More than 50 members attended the programme.

**10.0 TEAM IIM TIRUCHY AT NMD – JAMSHEDPUR**

The chapter was represented by the Chairman, Hon. Secretary, Hon. Treasurer, Past Secretary, joint secretary Dr. John Berchmans. Our Chairman received the Best Chapter Award from Mr. Nerurkar, President of the Institute.

During the NMD meet, Dr. L. John Berchmans, Dr. G. Shreedar, Dr. S. Angappan, and A. Viswasam., received "the Best paper Award" in Non – Ferrous Metallurgy Group for their presentation.

### 11.0 PARTICIPATION IN HQ MEETINGS

Our chapter was represented by our chairman, Hon. Secretary, Hon. Treasurer and Past Secretary in the NGC conducted at Jamshedpur. They also attended the Chapter Relations Committee Meeting held at Jamshedpur on November 2012.

Our Past Secretary, Mr. N. Parameswaran attended the Chapter Relations Committee meet held at Kolkata on March 7, 2013.

### 12.0 MODEL EXAMINATION FOR + 2 STUDENTS BY IIM

As in the past, the chapter has conducted model examinations for the + 2 students in association with Dave's Omega Tuition Centre, Tiruchy. For the first time, exams were conducted at the Chinmaya Vidhyalaya PACR MHSS, Palyamkottai. Exams were conducted on Mathematics (2), Physics (2), Chemistry (2), Biology (1), Computer Science (1). In all 719 students attended the model examinations. The toppers in each examination were awarded by our Chairman Mr. P. Soundararajan. Mr. Davay gave useful tips to the students.

### 13.0 COURSES

During this year the chapter conducted two special courses on Grade 91 and Grade 92 materials and their processing.

The first course was inaugurated by Mr. S. Karunakaran, General Manager (SSTP & Civil) on 23<sup>rd</sup> April 2012. The function was presided over by Mr. P. Nainar, then chairman. Mr. G Ramakrishna, General Manager (Operations) of BHEL distributed the certificates to the participants.

The second course, which was attended by 30 participants from various industries. The four day course was inaugurated by Mr. S Dharmalingam, General Manager (Quality), BHEL on 26<sup>th</sup> September 2012. In the valediction held on 29<sup>th</sup> September 2012 Dr. Raman Sankaranaryanan, HOD (MME), NITT distributed the certificates to the participants.

### 14.0 Dr. GV MEMORIAL LECTURE AWARD 2012

On 9<sup>th</sup> May 2012, Dr. S Suresh, then General Manager (WRI & Labs) delivered the Dr. G V Memorial Lecturer Award 2012. He delivered the lecture on the theme, "Metallurgical Investigations – A powerful tool for Quality Assurance"

Mr. P. Nainar, then Chairman presided over the function. Mr. A V Krishnan, Executive Director, BHEL and our beloved patron was the chief guest and handed over the award to Dr. S. Suresh. Mr. R. Easwaran, Vice Chairman paid rich tributes to Dr. G V. Mr. N. Rajasekaran, then Secretary, welcomed the gathering and Mr. G. Rajendran, then Hon. Treasurer proposed the vote of thanks. Dr. Raman Sankaranarayanan, Joint Secretary introduced the speaker.

### 15.0 VISIT BY PAST PRESIDENT (IIM) TO CHAPTER OFFICE

On 16<sup>th</sup> December 2012, our past president Mr. L. Pugazhenthly visited our chapter office and an interaction meeting was organised with our EC members. During the occasion, the chapter's initiatives were briefed to the past president and he is appreciative of the same. Mr. Pugazhenthly advised the EC member son enrolling new members and sustaining the existing members.

## 16.0 TECHNICAL LECTURE BY THE CHAPTER AT CHAPTER OFFICE

Our chapter has arranged the following technical lectures during this year.

S. No.	Date	Speaker	Topic	Partners	venue
1	July 11, 2012	Mr. Ronald Steusloff <i>Linde AG, Germany</i>	Advances in Flame Technology using Fuel gases: application in boiler/pressure vessel fabrication	IWS & IIM & IIW	SK Mazumder Hall
2	September 28, 2012	Dr. Vaidehi Ganesan, <i>Sr. Scientist, IGCAR, Kalpakkam</i>	Material Characterisation and Failure Analysis of Engineering components	IWS & IIM & IIW	
3	December 14, 2012	Mr. S. Yokoshima <i>Managing Director, Kobelco India Private Limited</i>	Welding of Duplex Stainless Steel	IWS, IIM & IIW	
4	January 23, 2013	Mr. D S Honavar <i>Chairman, Honavar Electrodes, Mumbai</i>	SMAW– The past, Present & Future	IWS, IIM & IIW & IEI	
5	February 1, 2013	Mr. Claude Bouillot, <i>Key Segment Manager, Power Generation, AIR LIQUIDE, FRANCE</i>	Effect of various factors on Toughness in p92 saw weld metal	IWS, IIM & IIW & IEI	

Besides Members of our chapter delivered lectures at various technical institutions / colleges.

## 19.0 EXECUTIVE COMMITTEE MEETINGS

The executive committee has met 7 times during the year and discussed various points.

## 20.0 PERSONALIA AND RECOGNITION

During the year many of our members presented technical papers in various national / international fora. They have also received various awards. Few of the significant recognitions are mentioned below.

- Director CECRI, Karaikudi authored the book on “Functional Materials: A Chemist’s Perspective” - (First Edition) Vijayamohan K Pillai & Meera Parthasarathy 2012; 408 pp Universities Press - IIM Series in Metallurgy and Materials Sciences. The book was released during NMD 2012
- Dr. L. John Berchmans, Dr. G. Shreedar, Dr. S. Angappan, and A. Viswasam., “Best paper Award” in Non – Ferrous Metallurgy Group, at the 50<sup>th</sup> NMD- 66<sup>th</sup> ATM -2012 Conducted by Indian Institute of Metals, held at Tata Nagar- Jamshedpur, during 16-19<sup>th</sup> November - 2012.
- Dr. Sheela Berchmans, Senior Principal Scientist and Head, Electrodeposition and Electrocatalysis Division of CSIR-CECRI, Karaikudi, has been awarded one of the Prestigious Awards 'MRSI MEDAL' for her significant contributions to the field of Materials Science and Engineering by Materials Research Society of India.
- Dr. N. Palaniswamy, Chief Scientist has been awarded the prestigious "SWADESHI VIGYAN PURASKAR 2013" award from Swadeshi Science Movement of India-Delhi for gaining outstanding credentials in his R & D pursuit in the area of Corrosion Protection.
- Dr. Mrs. R. Nagalakshmi of WRI has been included in the “Who's Who in the World 2013” in the "PEARL ANNIVERSARY, 30th Edition Marquis Who's Who as an individual who have demonstrated outstanding achievement in her own fields of endeavour and thereby, contributed significantly to

the betterment of contemporary society". This was issued to her by Mr. Fred M Marks, Editor-in-Chief, Marquis Who's Who, Biographee - 1898.

- The International Metallographic Society, Inc. The Society for Microstructural Analysis (an affiliate society of ASM International) has chosen the image sent by Dr. Mrs. R Nagalakshmi as the image of Feb. 13. It is a colourised SEM image of a Mo inclusion in a P91 fracture surface. It was entered in Class 11 of the 2012 International Metallographic Contest.
- Dr N Raju won the Pratibaddhata Puraskar for exemplary commitment to work under adverse critical conditions involving risk to life from BHEL.
- Mr. M. Ramakrishnan received Uyarnta Uzhaippalar awards
- Mr. R Easwaran GM (WRI & Labs) was invited for two invited talks at NIT, Tiruchy, - 1) During Colloquium on Corrosion Control and Surface Engineering on Current R&D / Industrial Scenario on Dec 10, 2012 a talk on "Corrosion and its control in Thermal Power Plants" and 2) During A3M Seminar on 8 Dec 2012, a talk on "Whither welding? An assessment of emerging trends in welding processes."
- The article on "Welding Technology for Boiler Manufacturing" authored by Shri R. Easwaran, Dr. A. Raja and Shri N. Rajasekaran published in Steam & Boiler Review Magazine
- The paper co-authored by Dr. R. Nagalakshmi, Manager (WRI), on "Friction Surfaced Stellite 6 coatings" published in the International journal on "Materials Characterisation".
- A chapter titled, "Laser based joining of metallic and non-metallic materials" in the book entitled, "Laser- Assisted Material Fabrication" was co-authored by Mr. B Shanmugarajan, DM (WRI).
- The paper co-authored by Dr. A. Raja AGM/WRI, on " Shielding gas effects on flux cored arc welding of AISI 316L(N) austenitic stainless steel joints" published in the International journal on "Materials and Design".
- "Process Characteristics of Inverter Type Gas Metal Arc Welding Power Source under Static & Dynamic Operating Conditions" authored by Dr. K. Devakumaran Sr. Engr. (WRI) and Mr. N. Rajasekaran Manager (WRI) published in Materials and Manufacturing Process of Paylelor & Francis.
- The paper co-authored by Dr. G Buvanashakaran on "Experimental investigation of laser transformation hardening of low alloy steel using response surface methodology" is published in The International journal of Advanced Manufacturing Technology.
- Talk on "Welding Technology Development for Shipbuilding- WRI's Contributions" - Dr. A. Raja in IWS 2k12.
- Invited talk on "Human Resource for Welding- Needs and Trends" - Dr G Buvanashakaran in IWS 2K12.
- Invited talk on "Laser Hybrid Welding" at Annamalai University, Chidambaram by Mr. B. Shanmugarajan.
- Technical paper on "Evaluation of Fracture Toughness of Thick Section Welds Made With Cold Wire Addition in Narrow Groove Submerged Arc Welding Process by Mr. M. Ramakrishnan et al. in IWS 2K12.
- Technical paper on "Experimental Study on the Selection of Optimum Pin Length for Friction Stir Welding of Butt, "T" and Lap Joints" authored by Mrs. A. Santhakumari et al. in IWS 2k12.
- Technical paper on "Corrosion Behaviour of AISI 310 and its Conventional and Pulsed GMAW Weldments" by Dr. Nagalakshmi, et al. in IWS 2k12.

- Technical Paper on “Automation with GMAW Techniques: WRI’s Experience” authored by Mr. N. Rajasekaran, et al. in IWS 2k12.
- Technical Paper on “The Role of Iron Powder Additions in SMAW Electrode Coatings” by Mr. C. P Ravichandran, et.al in IWS 2k12.
- Technical paper on “Analysis and Evaluation of Stability of Flux Cored Wire Using Analysator Hannover” by Mrs. A. Santhakumari et al. in IWS 2k12.
- Technical paper on “Prediction of Weld Bead Geometry in STT Root Pass Welding Using Factorial Design Approach” by Mr. D K Verma in IWS 2k12.
- Technical Paper on “Investigations on the Effect of Post Weld Heat Treatment on Magnetic Coercivity of SA 106 Gr C Boiler Grade Steel Using Design of Experiments” by Mr. V. Sudharsanam et al. in IWS 2k12.
- A technical paper titled, “Shielding gas effects on flux cored arc welding of AISI 316L (N) Austenitic stainless steel joints” co-authored by Dr. A. Raja of WRI has been accepted for publication in the International journal “Materials & design.
- Dr. N. Raju, Sr. Manager (WRI) participated in the 65th Annual Assembly of International Institute of welding at Denver, USA and presented a paper titled "Evaluation of structural integrity of repaired engineering dynamically loaded components" in commission XIII.
- The “Welding Promenade”, the journal of welding for Asia Pacific published by Sanco Publications, Japan, carried an article based on the speech made by Dr. A. Raja, AGM (WRI) on the theme “Current status and future prospects of welding in India”.
- The Article by Mr. M. Ramakrishnan, Sr. Manager (WRI) on “Application of Submerged Arc Welding Technology with Cold Wire Addition for Drum Shell Long Seam Butt Welds of Pressure Vessel Components” was published in the “International Journal of Advanced Manufacturing Technology”, Vol. 24 Numbers 9 & 10 2004, Published online 06 June 2012.
- Dr. G Buvanashakaran, AGM, WRI Co-authored an article on “Development of RSM and ANN based models to predict and analyse the effects of process parameters of laser hardened commercially pre Titanium on heat input and tensile strength” in “The international journal of Advanced Manufacturing Technology” Vol.24, no.9 & 10
- A co-authored article by Dr. G. Buvanashakaran, AGM, WRI on “Studies on weld shape formation and Marangoni convection in Nd:YAG laser welding” was published in the “International Journal of Mechatronics and manufacturing systems”, Vol. 5, Nos. 3/4, 2012
- In recognition of the contributions to the science of welding made by its Alumni, the International student colloquium of Slovak University of Technology, Bratislava has conferred a Honorary Certificate (Diploma) on Dr. G Buvanashakaran in its 50th Anniversary.
- Mr. N. Rajasekaran delivered a lecture on “Recent advances in Welding processes for Railways” in the seminar on “Corrosion Repair during Coach POH / MLR” by Indian Railways.
- Invited Talk on “Quality Improvements in Power Plant Boiler Component Fabrication” was given by Mr. R. Easwaran at the third National Conference on Quality Control on “Quality Control in Metallurgical Industries” at PSG Tech, Coimbatore on 1 Feb 2013.

### ACKNOWLEDGEMENT

I sincerely thank Mr. A V Krishnan, our Patron and Executive Director, BHEL, Tiruchy, for inspiring us with new directions and we record our gratitude to him. Under the stewardship of our Chairman Mr. P. Soundararajan, our chapter has achieved many laurels and achieved bench mark performances, as it was

acknowledged by other chapters during the NMD celebrations at Jamshedpur. All these laurels are the results of his concerted efforts, encouragement and guidance. Thank you very much Sir, for leading us to glory and to put the chapter as the loner in the summit. The active involvement, guidance and encouragement given by the Vice Chairmen of our Chapter Dr. S. Natarajan, Mr. R. Easwaran, Dr. S. Suresh and Dr. A Raja made things possible during this year.

My sincere thanks to Mr. N. Rajasekaran, Treasurer and Mr. K. Raja, Joint Treasurer, for their excellent services. The executive committee members have played a key role in making this year eventful. I thank each and every one of them for their excellent support. I am highly indebted to our immediate past secretary Mr. N Parameswaran and Mr. P. Nainar, Immediate past chairman for their unstinted support for the growth of the chapter. I am grateful to Mr. R Sundar, Director of Boilers, Tamil Nadu, Mr. S. Sakthivel, Dy. Director of Boilers, Mr. Murali, Dy. Director of Boilers, Mr. T A Daniel Sahayaraj, DDOB and others for their whole hearted support to our workshops.

I am thankful to our past chairmen especially Mr. S. Karunakaran, Mr. G Uma Shanker and Mr. V. Thyagarajan and other senior members.

I sincerely thank the Chairman, Secretary and committee members of other professional bodies IWS, IIW, IE (I), CSI, ISNT and IIPE for their contributions in organizing our chapter activities. We have worked hand in hand throughout the year. We are grateful to number of organisations for making all their resources at our disposal for our activities. To name a few, the BHEL, Tiruchy, NIT, Tiruchy, Veasons Energy Systems, JCET, MAMCE, MAMCET, SACET, CECRI, Karaikudi, etc. On behalf of the chapter I am expressing our sincere thanks to Dr. S. Sundarrajan, Director of NITT, HOD and staff members of Department of Metallurgical & Materials Engineering for their active participation and support to our activities. I am thankful to the management, Principal and faculty of Jayaram College of Engineering Technology, MAM College of Engineering, Shri Angalamman College of Engineering and Technology, MAM College of Engineering and Technology, CARE institute, MKCE, JJCET for their kind support extended to the chapter. I record our appreciations and thanks to the office bearers of the student chapters of NITT, JCET, MAMCE, SACET, CARE, JJCET, MKCE and MAMCET.

I will fail in my duty, if I am not going to record the unstinted support and co-operation by the managements, principals, head masters and staffs of the following schools, who were readily agreed to our request to conduct the preliminary rounds of TMAQ XII.

- RSK Higher Secondary School, Tiruchirappalli
- Aadarsh Matric Higher Sec. School, Nagappatinam
- Sankar Higher Secondary School, Sankar Nagar
- Jawahar Matriculation Higher Secondary School, Neyveli
- Meenakshi Matriculation Hr. Sec. School, Madurai
- Central Electrochemical Research Institute, Karaikudi
- Cheran M HSS, Karur.

I am grateful to the entire TMAQ 12 team and especially Mr. R. Easwaran, Prof. Raman Sankara Narayanan, Mr. N. Parameswaran, Dr. R. Vaideeswaran, Mrs. A. Santhakumari, Mr. K. Raja, Mr. ML M Ismail and others who made it possible for our team to be the Participation in the international BPMM Quiz. I appeal them to work more vigorously this year to regain the awards this year. I am thankful to Dr R Vaideeswaran and Mr. Ravibharath for serving the chapter as course directors. My special thanks to Mr. Ravi Bharath for bringing out the study material on Grade 91 materials.

I am expressing our profuse thanks to the senior executives of BHEL & other Industries for their support and encouragement. I thank Ms. Premila Mary, Ms. Selvi Kamachi, Ms. Latha, Mr. M V Narasimman, & Mr. N. Subramanian office staff for their support for the execution of our day today activities. The support



we received from the Kailasapuram Club and KCTV throughout the year is really helpful to the chapter. I convey our thanks to the President, Secretary, Treasurer and managing committee members for their support. I thank our auditor Mr. S. V. Seetharaman for auditing our accounts and preparing the statement of accounts for the year 2012 - 13. I would like to thank every one of you for the excellent support and co-operation extended towards the activities of our chapter and requests you to continue the same for the coming years also so that our chapter will scale newer peaks in the forthcoming years.

Thank you one and all.



**(G. Rajendran)**  
Hon. Secretary