

## CONTACT INFORMATION:

Registration and General Queries:

**THE INDIAN INSTITUTE OF METALS**

Tiruchirappalli Chapter

Institutions Building

B Sector, BHEL Township

Tiruchirappalli - 620 014, Tamil Nadu – India

Phone: 0431 257 2988, 255 1847

E Mail: [tmaqjim@gmail.com](mailto:tmaqjim@gmail.com)

Web site: [www.iimtiruchy.org](http://www.iimtiruchy.org)

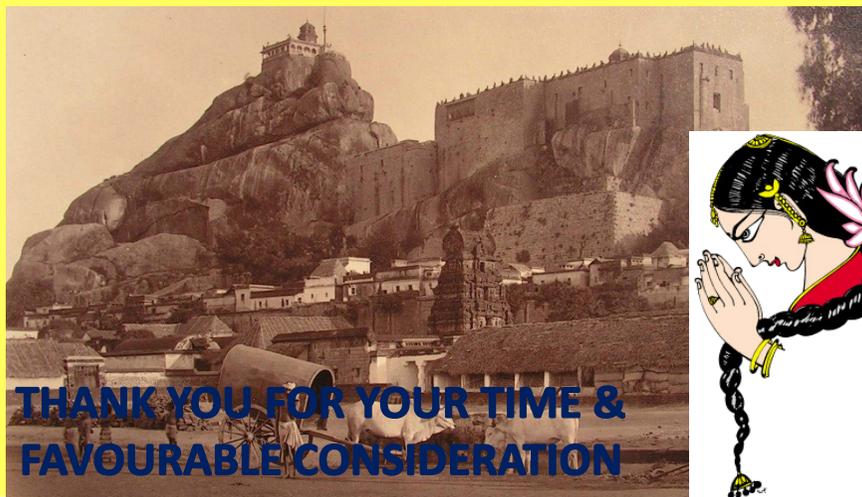
Course Content:

Prof. Sankara Raman Sankaranarayanan

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Dr. S. P. Kumaresh Babu

E Mail: [babu@nitt.edu](mailto:babu@nitt.edu) Mobile: + 91 9486001126



**THANK YOU FOR YOUR TIME &  
FAVOURABLE CONSIDERATION**

## THE INDIAN INSTITUTE OF METALS TIRUCHIRAPPALLI CHAPTER



**Three Day Training Programme**

on

## **FUNDAMENTAL ASPECTS OF STEELMAKING & THE ROLE OF SLAGS IN STEELMAKING AND REFINING TREATMENTS (**SLAGSMART**)**



**DECEMBER 10 – 12, 2015**

Institutions Building

BHEL Township, Tiruchirappalli – 620 014, India

[www.iimtiruchy.org](http://www.iimtiruchy.org); (0431) 2572988, 2551847

## **INTRODUCTION**

The Tiruchirappalli Chapter of the Indian Institute of Metals, one of the Best Chapters in the Country, is organising a three day training programme on “**FUNDAMENTAL ASPECTS OF STEELMAKING AND THE ROLE OF SLAGS IN STEELMAKING AND REFINING TREATMENTS (SLAGSMART)”** during **December 10-12, 2015** at Tiruchirappalli, India.

## **COURSE CONTENT**

This three – day programme will focus on the fundamentals of steel making and the role of slags in steel making and refining treatments. Steel making is a very complex and dynamic process. Fluxes and slags play a very crucial role in iron making, steel making, secondary treatments and in casting and in welding processes. However, the basics of slags are not sufficiently addressed in academic curricula. The steel plant metallurgist as well as suppliers to the steel industry should have a comprehensive knowledge of the design, properties and performance of fluxes and slags. The course is designed to address this unique requirement. The participant will obtain a basic understanding of steel making and refining; and a clear understanding of the role of slags in related processes, so as to get the best of slags in steel making and allied processes. The participant will gain the expertise to judiciously use fluxes and slags in various operations. Indicative course contents:

- Fundamentals of steel making – both carbon steel and alloy steels
- Thermodynamic and kinetic insight into steel making
- Clean steel practices
- Overview of fluxes and slags in steel making and allied processes
- Composition, structure, properties and performance of slags
- Slag – steel reactions; and slag – refractory interactions

- Focused discussion on case studies from the open literature
- Modeling as a tool to understand slags
- Fluxes and slags related to steel foundry operations and welding processes
- Some issues related to coal slags, in the context of power production

## **INDUSTRY ORIENTATION AND TARGET GROUP**

The training programme will be of direct use to steel plant operating personnel and steel industry R&D engineers – in both carbon steel segment and alloy steel segment. The programme will also cater to the needs of engineers and scientists in related sectors such as refractories, fluxes, coal, steel foundry and fabrication. Considering the shortage of faculty and scientists working in ferrous process metallurgy, faculty from metallurgy departments and scientists working on slags, fluxes, refractories, glasses, coal, cement may also get their expertise upgraded by this training.

It is recommended that engineers, having three to ten years of experience, be nominated for this training programme. Depending on the kind of nominations received, minor modifications may be made in the course contents / approach. (The training will also be useful for engineers having diploma in metallurgy and few years of experience.) Total number of participants may be restricted to forty, in order to enhance interaction.

Students of BTech / MTech / MS / PhD programmes and recipients of steel scholarships of the Ministry of Steel (MoS), Govt of India (offered through limited number of metallurgical engineering departments) will also be benefit from this programme. Students may please remit the fee after confirming availability of seats.

## PROFILE OF SOME FACULTY ASSOCIATED WITH THE TRAINING PROGRAMME

### Prof. Sankara Raman Sankaranarayanan, NIT Tiruchirappalli

Prof. Raman has been with the dept. MME, NITT since 1998; and is an active member of the Tiruchy chapter of the Indian Institute of Metals. He is a product of PSG College of Technology, Coimbatore and Drexel University, USA. He did his post-doctoral research at Carnegie Mellon University, USA. He has worked in areas such as slags, continuous casting mould powders, process modeling and quality management.

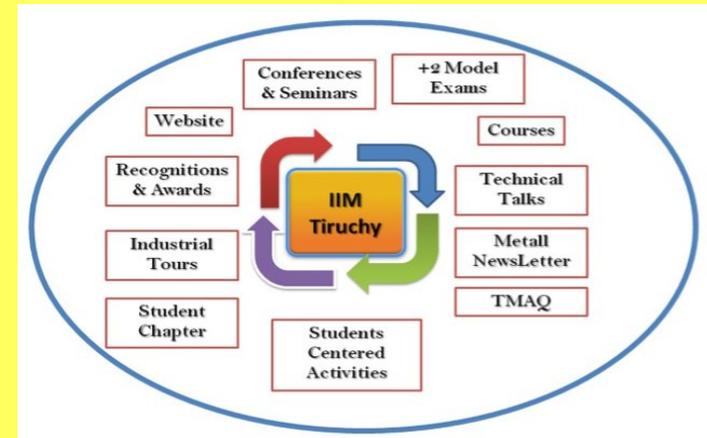
### Prof. S. P. Kumaresh Babu, NIT Tiruchirappalli

Dr. Babu, Associate Professor and HoD, in MME NITT, has a rare combination of industrial experience and teaching experience. He is an active member of the Tiruchy chapter of the Indian Institute of Metals. He had worked in leading specialty steel foundries for a decade, before moving into the academia. Works in areas such as foundry, corrosion, surface engineering and composite materials.

## IIM, TIRUCHY CHAPTER

- Best chapter award for record 14 times & record 8 consecutive years
- Created first student chapter of the IIM (in NIT Tiruchy)
- Successfully propagating about opportunities in metallurgical engineering, amongst students of higher secondary classes; and has been conducting TMAQ Quiz on Metals and Materials
- Winners and Runners up in International quiz BPMMQ 2008 & 2010, Runners up in 2009 and Winners in 2011, 2013, 2014 & 2015
- Conducted NMD & ATM 1990 successfully

- Recognizes eminent metallurgists with the Dr. G. V Memorial Award
- Namasivayam Memorial Merit Award for students of Std X and XII
- Publication of chapter journal METALL
- Has been conducting many short term courses and training programmes, such as courses on “Metallurgy for non metallurgists, Back to basic metallurgy, Heat Treatment, Cr – Mo Steels, Metallurgy For Artisans In Tamil”



## **COURSE FEES AND REGISTRATION**

Course fees may please be remitted, before November 30 2015, through NEFT or by DD, in favour of IIM Tiruchy chapter. Related details are furnished in the registration form. Registration may please be done in the official letterhead of the organization, (scanned copy) clearly indicating the name of the training programme, number and names of nominated participants, along with payment details. Membership number of IIM may please be provided, if claiming the subsidized rates. Information on the academic background and job responsibility of the participant(s) will be useful to the organizers.

### ***Fee for industrial participants:***

*Non member of IIM: Rs. 20000/- per participant*

*IIM Member: Rs.16000/- per participant*

### ***Fee for participants from Academia:***

*Non Member of IIM - Faculty: Rs. 15000/- per participant*

*IIM Member Faculty: Rs.12000/- per participant*

*Students (non member of IIM): Rs.6000/- per participant*

*Students (IIM Member; or MoS steel scholar): Rs. 4800/- per participant*

**Note:** Fee includes participation in the lectures, technical information handouts distributed during the course, related stationery, lunch and refreshments. Accommodation is not included. The organizers intend to arrange for limited number of complimentary local trips (pick up and drop) during the three days – covering some hotels in the city and guesthouses outside the city. Distance between Tiruchy city and the venue may be covered in thirty minutes.

**Timings:** Course will start by 930 am on the first day and close by 530 pm on the last day. Participants are requested to arrive in Tiruchy city before 700 am of the first day; and plan for departure from Tiruchy city after 800 pm of the last day.

## **ABOUT TIRUCHIRAPPALLI**

Tiruchirappalli is a thriving commercial centre of Tamil Nadu, situated on the banks of river Cauvery. The most famous landmark of this bustling industrial town is the Rockfort Temple, a spectacular monument perched on a massive rocky outcrop which rises abruptly from the plain to tower over the old city. One can get a bird's eye view of the Sri Ranganatha Swami temple at Srirangam and Jambukeswarar temple at Thiruvanaikoi on the northern banks of the river Cauvery. These temples are more than 1500 years old. Tiruchirappalli has three major English dailies and ten Tamil dailies. There are three FM radio stations besides the All India Radio.

Tiruchirappalli houses over 1900 industries in the large, medium, small, cottage and micro industries. Being a commercial hub, Tiruchirappalli stands first with 30% share in India, in boiler and wind mill manufacturing and fabrication. The major industrial establishments include the Navarathna organisation Bharat Heavy Electricals Limited, Golden Rock Railway workshops, Ordnance Factory, Heavy Alloy Penetrator Project, etc. It also houses many medium scale companies and number of small scale industries are spread along the national highways to Thanjavur, Pudukkottai, Madurai and Perambalur. Tiruchirappalli has to its credit many temples of learning viz. NIT Tiruchy for engineering, IIM Tiruchy for management, Bharathidasan University for wide spectrum of learning opportunities, Govt Medical college for medical studies, TNNLS for legal studies, IIIT for information technology and so on. Tiruchirappalli is well connected to Chennai, Coimbatore, Madurai, Bangalore, Mysore, Thiruvanthapuram, Kochi by train (station code TPJ for Tiruchirappalli Junction) and bus services. It is well connected to Middle East Asian countries, Singapore, Kulalampur, Colombo and Chennai by direct flights. Well, Tiruchy has now been shortlisted to become a SMART CITY.

**Three Day Training Programme on  
FUNDAMENTAL ASPECTS OF STEELMAKING & THE ROLE OF SLAGS IN  
STEELMAKING AND REFINING TREATMENTS  
(SLAGSMART)**



**DELEGATE REGISTRATION FORM**

Venue: **Institutions Building, BHEL Township Tiruchy**

Date: **10 – 12 December 2015**

| Delegate(s)<br>Details     |                       | Name                  | Designation         |          |  |
|----------------------------|-----------------------|-----------------------|---------------------|----------|--|
| 1                          |                       |                       |                     |          |  |
| 2                          |                       |                       |                     |          |  |
| 3                          |                       |                       |                     |          |  |
| 4                          |                       |                       |                     |          |  |
| 5                          |                       |                       |                     |          |  |
| Organisation:              |                       |                       |                     |          |  |
| Address for Communication: |                       |                       |                     |          |  |
| Payment<br>Details         | Amount (Rs)           | DD / Cheque<br>Number | DD / Cheque<br>Date | Drawn on |  |
|                            |                       |                       |                     |          |  |
|                            | Details of e-Transfer |                       |                     |          |  |
| Contact<br>Details         | Phone                 | Mobile                | E-Mail              | Fax      |  |
|                            |                       |                       |                     |          |  |

Signature of participant / Sponsoring Authority with Seal

**PAYMENT DETAILS**

All Payments are payable by a DD / At Par Cheque drawn in favour of “IIM TIRUCHY CHAPTER”, payable at Tiruchirappalli, Tamil Nadu, India.

The payments to be forwarded to:

The Indian Institute of Metals, Institutions Building, Near Kailasapuram Club, BHEL Township, Tiruchirappalli – 620 014, Tamil Nadu, India,

Phone: + 91-431- 2551847, 257 2988, 257 2702, E mail: [tmaqiim@gmail.com](mailto:tmaqiim@gmail.com)

Payments also could be made through NEFT mode. Details are as follows:

Name of the Bank: **State Bank of Travancore (SBT)**

Name of the Branch: **Thiruverumbur**

Address of the Bank: **P. B. no. 16, Thanjavur Main Road, Thiruverumbur P.O., Tiruchirappalli, Tamil Nadu, Pin - 620014.**

Branch Code: **000565**

MICR Code: **620009003**

Account Number: **00000057033426563**

RTGS / NEFT / IFS Code Number: **SBTR0000565**

PAN No.: **AAATT3359D**

***The tourist attractions in and around Tiruchy are:***

- ***Rockfort Temple and Srirangam, well within the corporation limits***
- ***Mukkombu - Picnic spot (18 Km)***
- ***Grand anaicut built in first century AD (10 Km)***
- ***The magnificent Brahadeeswarar temple & Art Gallery at Thanjavur (45 Km)***
- ***ChitthannaVaasal (Ancient giant monastery with cave paintings) (58 Km)***
- ***GangaiKondaCholapuram (100 Km)***
- ***Meenakshi Amman Temple and ThirumalaiNaikMahal at Madurai (130 Km)***