CSIR - National Physical Laboratory  
Dr. K. S. Krishnan Marg, New Delhi - 110012 

Training Calendar 2014-15

GENERAL INSTRUCTIONS

- In case of inadequate number of participants (less than 10), for a particular training programme, CSIR- NPL may drop the execution of that programme. In view of this, before sending the DD, the prospective participants are advised to confirm with the Head, HRD or the concerned Technical Coordinator about its dates and execution.

- For Technical Queries about a training course, the prospective participants may contact the concerned Technical Coordinator.

- Training Fee / Charges : Per Participant:

<table>
<thead>
<tr>
<th></th>
<th>2 Days Course</th>
<th>3 Days Course</th>
<th>4 Days Course</th>
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<tbody>
<tr>
<td>Indian Participants</td>
<td>₹16,000</td>
<td>₹24,000</td>
<td>₹32,000</td>
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<tr>
<td>Foreign Participants</td>
<td>US $ 300</td>
<td>US $ 450</td>
<td>US $ 600</td>
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Service Tax as applicable.

The Training fee should be sent at least two weeks prior to the commencement of the desired training programme, through a Demand Draft drawn in favour of the “DIRECTOR, NATIONAL PHYSICAL LABORATORY”, payable at “NEW DELHI”.

Online transfer is also acceptable through Syndicate Bank Account No. 91002010030018, NPL, PUSA, NPL Campus IFSC Code SYNB0009100. Kindly confirm the NEFT transfer details through e-mail.

- Lodging & Boarding:
  Charges to be borne by the Trainees – As per prevailing rates in the NPL Guest House (Subject to availability)

- For any Enquiries, the participants are advised to contact:
  Dr. Rajeev Chopra  
  Chief Scientist & Head, HRD  
  National Physical Laboratory, New Delhi – 110012  
  Ph.: 91-11- 4560 9366, 4560 9361 (O)  
  e-mail : hrd@nplindia.org

TRAINING SCHEDULE

<table>
<thead>
<tr>
<th>No.</th>
<th>Training Programme</th>
<th>Dates</th>
<th>Details</th>
</tr>
</thead>
</table>
|     |                    |       | Dr. K. P. Chaudhary  
  |     |                    |       | kpc@nplindia.org  
  |     |                    |       | 011-4560 8673 |
|     |                    |       | Mr. Ravi Khanna  
  |     |                    |       | khanna@nplindia.org  
  |     |                    |       | 011-4560 9272 |
|     |                    |       | Sh. Anil Kumar  
  |     |                    |       | kumarak1@nplindia.org  
  |     |                    |       | 011-4560 8348 |
|     |                    |       | Sh. Gautam Mandal  
  |     |                    |       | goutam@nplindia.org  
<p>|     |                    |       | 011-4560 9367 |</p>
<table>
<thead>
<tr>
<th></th>
<th>Workshop on Advanced Materials Characterization Techniques</th>
<th>20-22 August, 2014 (3 Days)</th>
<th>Familiarization &amp; demonstration of various Materials Characterization Techniques, such as – XRD, XRF, HRXRD, XRR, SEM, TEM, EPR, HRTEM, SIMS etc.</th>
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<tr>
<td>5.</td>
<td>Metrology in Chemistry (MiC) for National Ambient Air Quality Standards (NAAQS)</td>
<td>8-10 Oct. 2014 (3 Days)</td>
<td>(1) Traceability in air quality, (2) CO, SO\textsubscript{2}, NO\textsubscript{x} measurements, (3) PM\textsubscript{2.5}, PM\textsubscript{10} mass and size measurements, (4) Uncertainty budget of key pollutants measurement, e.g. As, Pb, etc., (5) Certified reference materials, (6) Quality assurance &amp; control, inter-laboratory comparisons/ proficiency testing</td>
</tr>
</tbody>
</table>

Dr. G Bhagavannarayana
bhagavan@nplindia.org
011-4560 8261

Dr. Sukhvir Singh
sukhvir@nplindia.org
011-4560 8394

Mr. A.K. Saxena
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011-4560 9314

Sh. Anil Kumar
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011-4560 8348

Mr. Prabhat K. Gupta
prabhat@nplindia.org
011-4560 8232

Dr. Shankar G. Aggarwal
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011-45608563

Dr. H.C. Kandpal
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011-4560 8315

Dr. Ranjana Mehrotra
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011-4560 8366

Dr. S.S.K. Titus
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011-4560 8674

Dr. Rajesh Kumar
kumarr@nplindia.org
011-45608516

Dr. Ashish Agarwal
ashish@nplindia.org
011-4560 8384

Ms. Pranalee P. Thorat
thoratpp@nplindia.org
011-4560 9323

Dr. Subhasis Panja
panjas@nplindia.org
011-4560 9229
| 9. | Temperature Standards and Metrology | 25-28 November, 2014 (4 Days) | (1) Lectures on Basic concepts in temperature metrology, Importance of International Temperature Scales, ITS-90, Realization of Temperature Fixed Points, Calibration and practices in temperature metrology related to SPRT, LIGT, TCs and Pyrometry, Instrumentation, Measurement techniques and procedure for uncertainty evaluation in the Temperature related metrology and Hygrometry. (2) Practical Demonstration & Training on Calibration procedures, calculations, reports etc. for LIG Thermometers, SPRTs, RTDs Thermocouples, Hygrometers and Pyrometers, Estimation & reporting of Uncertainty in the temperature and humidity related metrology. | Dr. Y.P. Singh<br>ypsingh@nplindia.org<br>011-45609390 | Dr. D.D. Shivagan<br>shivagand@nplindia.org<br>011-45609390 |
|---|---|---|---|---|
| 10. | Electrical Metrology & Low Level DC Measurements | 3-5 December, 2014 (3 Days) | AC Power and Energy, AC High Voltage and Current, LF Voltage & Current, Microwave, LF Impedance, DC Voltage, Current & Resistance, Low Level DC Measurements | Mr. A.K. Saxena<br>aksaxena@nplindia.org<br>011-45609314<br>Mr. M.A. Ansari<br>ansari@nplindia.org<br>011-45609317<br>Mr. Saood Ahmed<br>ahmads@nplindia.org<br>011-45609312<br>Mr. Thomas John<br>tjohn@nplindia.org<br>011-45608233 |
| 11. | Pneumatic and Hydraulic Pressure Standards and Procedures for Calibration of Industrial gauges, Transducers and Dead weight testers | 16-17 December, 2014 (2 Days) | Measurement of Pneumatic and Hydraulic Pressure, Primary and Secondary Pressure Standards and Calibration Procedures of Industrial Pressure Gauges, Transducers and Dead Weight Testers. | Dr. Sanjay Yadav<br>syadav@nplindia.org<br>011-4560 8526<br>Dr. Nita Dilawar<br>ndilawar@nplindia.org<br>011-4560 8488 |
| 12. | Modern Techniques and Methods of Environmental Monitoring | 29-30 January, 2015 | Fundamental of Spectroscopy and Spectroscopic & other measurement techniques along with overview of instruments used in atmospheric monitoring, Aerosols & Radiation Forcing, Basic Principal in Emission Inventory Development, Element of quality assurance/quality control | Dr. M.V.S.N. Prasad<br>mvprasad@nplindia.org<br>011-4560 8378<br>Dr. C. Sharma<br>csharma@nplindia.org<br>011-4560 9387 |