

Technical Workshops Series - 2016

One-Day Intensive, Hands-on Workshop on Fundamentals of High Performance Liquid Chromatography (HPLC)

- Organized by Venture Center -

Learn	High performance Liquid Chromatography (HPLC): Operational principles and essential concepts. Theory of separation mechanisms and modes. Understanding the instrumentation including possible configurations, solvent delivery pumps, sample injectors, columns and detectors of HPLC. Basic maintenance of HPLC. Troubleshooting process for problems like pressure, baseline, peak shape and retention issues. Practical applications of HPLC in the Industry. HPLC Method Development Strategies. Best practices in HPLC. Live demonstration of experiments; Simple group practical/hands-on session ; Mini-workshop on data interpretation with real data; Quick update on latest techniques/developments; Workshop is intended to be basic but shall include a few special applications illustrated with real case studies . Learn from faculty with extensive practical experience with industrial applications.								
Organized by	<ul style="list-style-type: none"> Venture Center – a Technology Business Incubator 								
For whom	<ul style="list-style-type: none"> Industry professionals wishing to expand their skill sets (Industries – Pharma; Environmental; Forensic; Food, Petrochemicals etc) Students and staff of polymer/ materials sciences/ engineering/ analytical/physical chemistry wishing to equip themselves for industry jobs 								
Course Director	Dr. Ajeet Singh								
VC Team	Sujaya Ingale, Edna Joseph, Sayali Kothmire								
When	Wednesday, 23 November 2016 Time: 9 am – 5:30 pm								
Where	Training Room & Lab Block, Venture Center, 100 NCL Innovation Park, Dr. Homi Bhabha (Pashan) Road, Pune-411008								
Contact	Ms. Lipika Biswas Phone: +91-20-25865877 Email: eventsdesk@venturecenter.co.in								
Cost	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Fee criteria</th> <th style="text-align: left;">Fees</th> </tr> </thead> <tbody> <tr> <td>Students with valid ID card</td> <td>Rs 1000/-</td> </tr> <tr> <td>Micro, small and medium enterprises / academic institutions/ Individuals</td> <td>Rs 2500/-</td> </tr> <tr> <td>Large Companies</td> <td>Rs 4500/-</td> </tr> </tbody> </table> <p>Maximum 20 seats; First-come-first-serve.</p> <p>Application form available at https://goo.gl/forms/O8SkJm70Lr2MuVrA3 Last date for receipt of applications with payment 5 November 2016</p> <p>For more details, visit: http://www.venturecenter.co.in/workshops/</p> <p>Note:-</p> <ul style="list-style-type: none"> Fees paid is not refundable and non transferable under any circumstances. Organizers reserve the right to accept or refuse or delay registrations to optimize the composition of the group and to maximize learning for all participants. 	Fee criteria	Fees	Students with valid ID card	Rs 1000/-	Micro, small and medium enterprises / academic institutions/ Individuals	Rs 2500/-	Large Companies	Rs 4500/-
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Introduction

HPLC is one of the most widely used analytical techniques and acquires a high degree of versatility not found in other chromatographic systems. It has the ability to separate and identify components of a wide variety of chemical mixtures. HPLC is an important analytical tool used for chemistry and biochemistry research analyzing complex mixtures, purifying chemical compounds, developing processes for synthesizing chemical compounds, isolating **natural products**, or predicting physical properties. This technique finds applicability in a wide range of industries including **pharma, environmental, forensic, food, petrochemical** etc. It is also used in quality control to ensure the purity of raw materials, to control and improve process yields, to quantify assays of final products, or to evaluate product stability and monitor degradation.

This workshop aims to give an introduction to the Fundamentals of High Performance Liquid Chromatography for industry professionals and students. The workshop will be conducted by NCL scientists having vast experience working on high end chromatography techniques. The workshop includes lab demonstrations and data interpretation exercises. The workshop shall also discuss some recent trends and new developments in research and industry relating to **chromatography techniques**. Learn from faculty with extensive practical experience with industrial applications.


Course Outline

- High Performance Liquid Chromatography (HPLC): Operational principles and essential concepts.
- Theory of separation mechanisms and modes.
- Understanding the instrumentation including possible configurations, solvent delivery pumps, sample injectors, columns and detectors of HPLC.
- Basic maintenance of HPLC.
- Troubleshooting process for problems like pressure, baseline, peak shape and retention issues.
- Practical applications of HPLC in the Industry. Workshop shall include a few special applications illustrated with real case studies. (Example application areas: Biomass, Pharma, Clinical, Plastics, Agro, Biopharma, Membranes etc)
- HPLC method development strategies.
- Best practices in HPLC.
- Live demonstration of experiments. Simple group practical/hands-on session
- Mini-workshop on data interpretation with real data.
- Quick update on latest techniques/developments.

***Please note, the participants will have to arrange for their own travel/local transport and accommodation and dinners.**

- For accommodation (standard and budgeted hotels) please visit:
<http://www.venturecenter.co.in/puneguide/standard.php>
- For accommodation (deluxe and luxury hotels) please visit:
<http://www.venturecenter.co.in/puneguide/deluxe.php>
- For local transport details visit: <http://www.venturecenter.co.in/puneguide/taxi.php>

Time	Session title	Lead	Venue
9:00 to 9:30	Registration		Foyer Learning center, VC
9:30 to 9:45	Introduction to the course and faculty	V Premnath/ Manisha Premnath	Training Room, VC
9:45 to 10:30	Introduction and basic principles of HPLC; General terms and essential concepts; Sample preparation and mobile phase selection techniques; Quick overview of HPLC; Typical data recorded	Ajeet Singh	Training Room, VC
10:30 to 11:00	Tea		Foyer Learning center, VC
11:00 to 11:30	Instrumentation; Types of pumps, Types of columns and column chemistry; Sample Injectors; Types of detectors	Ajeet Singh	Training Room, VC
11:30 to 12:00	Basic Maintenance of HPLC; Trouble shooting processes	Ajeet Singh	Training Room, VC
12:00 to 13:00	Practical applications of HPLC; Method development strategies. Best practices in HPLC. Few special applications illustrated with real case studies.	Ajeet Singh	Training Room, VC
13:00 to 13:45	Lunch		Cafeteria, VC
13:45 to 14:15	Introduction to practical session (Venue: Training Room) Instructions, Learning points, Making groups, Assigning tasks	Ajeet Singh	Training Room, VC
14:15 to 16:30	Practical Session (Venue: Lab Block) <ul style="list-style-type: none"> • Instrument parts • Mobile phase and sample preparation • Standard samples analysis • Data interpretation exercise • Calculations • Discussions to close workshop 	Ajeet Singh Edna Joseph	Analytical & Instrumentation Lab, Lab Block, VC
16:30 to 17:00	Tea		Foyer Learning center, VC
17:00 to 17:30	Closure – Feedback, Certificate distribution	V Premnath	Training Room, VC

Anchor Faculty	
	<p>Dr. Ajeet Singh has more than 7 years of research experience in mass spectrometry. He is a Scientific Consultant at the Center of Applications of Mass Spectrometry (CAMS), Venture Center and co-founder of Barefeet Analytics Private Limited. He has a M.Sc. in Analytical Chemistry from the Indian Institute of Technology (IIT), Roorkee and Ph.D. in Chemistry from NCL Pune (AcSIR). He specializes in Mass Spectrometry and Mass Analysis. His expertise lies in method development for proteomics, qualitative as well as quantitative analysis of small molecules, pharmaceuticals drugs, pesticides, food contaminants and metabolites.</p>
Other Faculty	<p>Dr V. Premnath is Scientist, Complex Fluids and Polymer Engineering Group at NCL, Pune, Head, NCL Innovations and Director, Venture Center. He specializes in Polymer Science and Engineering.</p> <p>Mrs. Sujaya Ingale and Ms. Edna Joseph shall organize and assist in lab demos.</p>

Course includes
<ul style="list-style-type: none"> ➤ Lab demo ➤ Access to restricted website with online compilation of resources for HPLC; Course notes including slides, case studies and application notes. ➤ One-on-one feedback on data interpretation exercise ➤ Certificate of Participation issued by Venture Center ➤ Course includes tea and lunch at Venture Center cafeteria

About the organizers
<p>About Venture Center</p> <p>Entrepreneurship Development Center (Venture Center) – a CSIR initiative – is a Section 25 company hosted by the National Chemical Laboratory, Pune. Venture Center strives to nucleate and nurture technology and knowledge-based enterprises by leveraging the scientific and engineering competencies of the institutions in the Pune region in India. The Venture Center is a technology business incubator supported by the Department of Science & Technology's National Science & Technology Entrepreneurship Development Board (DST-NSTEDB). Venture Center's focuses on technology enterprises offering products and services exploiting scientific expertise in the areas of materials, chemicals and biological sciences & engineering.</p> <p>For more information, visit http://www.venturecenter.co.in/</p>