

# UGC-SAP SPONSORED NATIONAL WORKSHOP ON FRONTIERS OF NMR SPECTROSCOPY AND MRI

Training Program Delivered By Experts

**25-29, SEPTEMBER, 2017**

DEPARTMENT of CHEMISTRY, CENTER of EXCELLENCE,  
SAURASHTRA UNIVERSITY, RAJKOT

## Fee Structure \*

| Industries | Faculties<br>(Govt. and<br>Grant in Aid) | Faculties<br>(Management<br>Appointees) | Student |
|------------|--|---|---------|
| ₹ 3000     | ₹ 3000                                   | ₹ 2500                                  | ₹ 1000  |

\* Including Lunch

\* Excluding Dinner, Boarding and Accommodation

\* Fees should be paid through DD in favour of “chem.dept.sap”

\* Last date of registration is 20/09/2017



**Department of Chemistry**

Saurashtra University

**CoE** | Center of Excellence  
in Drug Discovery



**Shree M. & N. Virani Science  
College (Autonomous)**  
Atmiya Group of Institution

[www.coenfdd.com](http://www.coenfdd.com) | [analyticalnfdd@gmail.com](mailto:analyticalnfdd@gmail.com) | [docsu2014@gmail.com](mailto:docsu2014@gmail.com)

CENTER of EXCELLENCE, NFDD Complex, DEPARTMENT of CHEMISTRY, SAURASHTRA UNIVERSITY, RAJKOT

# UGC - SAP SPONSORED NATIONAL WORKSHOP ON FRONTIERS OF NMR SPECTROSCOPY AND MRI

**25<sup>th</sup> September 2017**

## **9:00 - 9:30 INAUGURATION FUNCTION**

|           |             |   |                 |
|-----------|-------------|---|-----------------|
| Lecture 1 | 09:30-10:15 | Principles of NMR Spectroscopy                              | N. Suryaprakash |
| Lecture 2 | 10:15-11:00 | NMR Interaction Parameters                                  | N. Suryaprakash |
|           | 11:00-11:30 | Tea   |                 |
| Lecture 3 | 11:30-12:15 | Analysis of <sup>1</sup> H Spectra: Representative examples | N. Suryaprakash |
| Lecture 4 | 12:15-13:00 | Decoupling and NOE  | N. Suryaprakash |
|           | 13:00-14:30 | Lunch   |                 |
| Lecture 5 | 14:30-15:15 | Multinuclear NMR and their Analysis                         | N. Suryaprakash |
|           | 15:15-15:45 | Tea   |                 |
| Lecture 6 | 15:45-16:30 | T1/T2: Mechanisms & Measurements                            | N. Suryaprakash |

**26<sup>th</sup> September 2017**

|            |             |   |                 |
|------------|-------------|---|-----------------|
| Lecture 7  | 09:30-10:15 | Multiple Quantum NMR  | N. Suryaprakash |
| Lecture 8  | 10:15-11:00 | Polarization Transfer techniques  | N. Suryaprakash |
|            | 11:00-11:30 | Tea   |                 |
| Lecture 9  | 11:30-12:15 | 2D NMR Techniques   | N. Suryaprakash |
| Lecture 10 | 12:15-13:00 | Analysis of 2D Spectra, COSY, TOCSY, HSQC, etc.<br>with representative examples | N. Suryaprakash |
|            | 13:00-14:30 | Lunch   |                 |
| Lecture 11 | 14:30-15:15 | Chemical Applications of NMR: Study of Hydrogen<br>Bonding                      | N. Suryaprakash |
|            | 15:15-15:45 | Tea   |                 |
| Lecture 12 | 15:45-16:30 | Chemical Applications of NMR : Chiral Analysis                                  | N. Suryaprakash |

**27<sup>th</sup> September 2017**

|            |             |  |                 |
|------------|-------------|--|-----------------|
| Lecture 13 | 09:30-10:15 | Solid State NMR : General Concepts, MAS and CP | K.V. Ramanathan |
| Lecture 14 | 10:15-11:00 | 2D Techniques in Solid State                   | K.V. Ramanathan |
|            | 11:00-11:30 | Tea  |                 |
| Lecture 15 | 11:30-12:15 | Applications of Solid State NMR                | K.V. Ramanathan |
| Lecture 16 | 12:15-13:00 | NMR based Metabolomics                         | H.S. Atreya     |
|            | 13:00-14:30 | Lunch  |                 |
| Lecture 17 | 14:30-15:15 | 3D NMR Techniques                              | H.S. Atreya     |
|            | 15:15-15:45 | Tea  |                 |
| Lecture 18 | 15:45-16:30 | Isotope Labeling Techniques                    | H.S. Atreya     |

NOTE: VENUE FROM 26TH SEPTEMBER will be, SHREE M & N VIRANI SCIENCE COLLEGE RAJKOT.

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**28<sup>th</sup> September 2017**

|            |             |   |             |
|------------|-------------|---|-------------|
| Lecture 19 | 09:30-10:15 | NMR In Biology - I                            | H.S. Atreya |
| Lecture 20 | 10:15-11:00 | NMR in Biology - II                           | H.S. Atreya |
|            | 11:00-11:30 | Tea   |             |
| Lecture 21 | 11:30-12:15 | Heteronuclear 2D of Biomolecules              | H.S. Atreya |
| Lecture 22 | 12:15-13:00 | Fast NMR Methods                              | H.S. Atreya |
|            | 13:00-14:30 | Lunch   |             |
| Lecture 23 | 14:30-15:15 | 3D NMR and Protein Structure Determination-I  | RV Hosur    |
|            | 15:15-15:45 | Tea   |             |
| Lecture 24 | 15:45-16:30 | 3D NMR and Protein Structure Determination-II | R.V. Hosur  |

**29<sup>th</sup> September 2017**

|            |             |   |                  |
|------------|-------------|---|------------------|
| Lecture 25 | 09:30-10:15 | Nucleic Acids NMR -I                          | R.V. Hosur       |
| Lecture 26 | 10:15-11:00 | Nucleic Acids NMR -II                         | R.V. Hosur       |
|            | 11:00-11:30 | Tea   |                  |
| Lecture 27 | 11:30-12:15 | Basics of Magnetic Resonance Imaging          | N.R. Jagannathan |
| Lecture 28 | 12:15-13:00 | Applications of MRI, including functional MRI | N.R. Jagannathan |
|            | 13:00-14:30 | Lunch   |                  |
| Lecture 29 | 14:30-15:15 | In-vivo MR Spectroscopy in clinical research  | N.R. Jagannathan |
|            | 15:15-16:15 | Tea followed by valedictory                   |                  |

**Prof. N. Suryaprakash**  
Professor, NMR Research Centre  
Indian Institute of Science  
Bangalore, India

**Prof. R. V. Hosur**  
Department of Chemical Sciences  
Tata Institute of Fundamental Research  
Mumbai, India

**Prof. H. S. Atreya**  
NMR Research Centre  
Indian Institute of Science  
Bangalore, India

**Prof. N. R. Jaganathan**  
Head of the department  
NMR and MRI facility, AIIMS,  
New Delhi, India

**Prof. K. V. Ramanathan**  
Professor, NMR Research Centre  
Indian Institute of Science  
Bangalore, India

# Patrons

## **Prof. Pratapsinh Chauhan**

Hon. Vice Chancellor,  
Saurashtra University,  
Rajkot

## **Prof. Anamik Shah**

Hon. Vice Chancellor,  
Gujarat Vidyapith,  
Ahmedabad

### **Convener**

**Prof. H. S. Joshi**  
Professor and Head  
Department of Chemistry  
Saurashtra University,  
Rajkot - 360 005

### **Co-convener**

**Dr. Kartik Ladva**  
I/C Principal  
Shree M & N Virani  
Science College  
Rajkot - 360 005

### **Organizing Secretary**

**Dr. Ranjan Khunt**  
Asst. Professor  
Department of Chemistry  
Saurashtra University,  
Rajkot - 360 005

### **Joint Secretary**

**Prof. Shipra Baluja**  
Professor  
Department of Chemistry  
Saurashtra University,  
Rajkot - 360 005

### **Local Organizing Committee**

**Dr. Y. T. Naliyapara**  
**Dr. U. C. Bhoya**  
**Dr. M. K. Shah**  
**Dr. F. D. Karia**  
**Dr. Y. S. Jadeja**

**Dr. M. S. Vadodaria**  
**Dr. N. P. Kapuriya**  
**Dr. M. M. Savant**  
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### **Registration Desk**

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25 - 29, SEPTEMBER, 2017 : DEPARTMENT OF CHEMISTRY, CENTER OF EXCELLENCE, SAURASHTRA UNIVERSITY, RAJKOT

## Registration Form

Full Name

Institute/  
Company

Address

Designation

e-mail ID

Contact No.

DD/Cheque/Cash : \_\_\_\_\_

No: \_\_\_\_\_

Bank : \_\_\_\_\_

Date : \_\_\_\_\_

### Address

CENTER OF EXCELLENCE  
NFDD Complex,  
DEPARTMENT OF CHEMISTRY  
SAURASHTRA UNIVERSITY,  
RAJKOT - 360005

### Online Payment

CENTRAL Bank of India  
UNIVERSITY CAMPUS BRANCH  
A/C No. 3961731221  
IFSC Code: CBIN0281313

### E-mail

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