



Brochure/Flyer

AICTE Training and Learning (ATAL) Academy

Online Faculty Development Program on

SPARSE SIGNAL PROCESSING AND ITS APPLICATIONS

18th - 22nd October, 2021.



About National Institute of Technology (NIT) Andhra Pradesh

NIT Andhra Pradesh is the 31st institution among the chain of NITs started by the Government of India and is established in the academic year 2015 – 2016. The construction works of Phase 1A and 1B, which includes the academic & laboratory complexes, central library, hostels, faculty and staff quarters along with full-fledged recreation & students amenities center is completed within the short time span of three years and is constructed in 172.6 acres of land adjacent to Chennai-Kolkata Highway (NH-16) in the air-strip lands of Tadepalligudem, West Godavari Dist., Andhra Pradesh. At present the Institute is offering B.Tech., M.Tech., Ph.D. and MS programmes in eight engineering departments along with Ph.D. in pure sciences and management.

About Department of Electronics and Communication Engineering (ECE)

ECE department is one of the pioneer department of NIT Andhra Pradesh which offers courses in B.Tech, M.Tech and Ph.D. with the current UG intake of 120 students. The department has qualified, dedicated, experienced faculty with deep sense of commitment towards the students and institution. Faculty proficiency in thrust areas like Resource Allocation in Wireless Networks, VLSI, Radar, Array, Signal Processing, Data fusion in IoT, Information Theory, UAV, Microwave circuits etc., motivates the students to participate in research activities and skill development programs. The department has an external funding research projects worth 50 lakhs and exercises a very good placement record.

AICTE Training and Learning (ATAL) Academy

ATAL Academy is established with the vision “To empower faculty to achieve goals of Higher Education such as access, equity and quality”. ATAL Academy and NWRO (Camp Office) of AICTE in Jaipur was digitally announced with establishment of its other centers in the country. ATAL academy will conduct a series of workshops in thrust areas identified by AICTE. Technical education in India contributes a major share to the overall education system and plays a vital role in the social and economic development of our nation.

Who Can Attend?

The course is intended for UG/PG/Ph.D. students, faculty members and industry professionals who are interested to work in the domain of sparse signal processing. Shortlisting of the candidates will be done on First Cum First Serve Basis and the number of participants is limited to 85.

Patron

Prof. C.S.P. Rao,
Director, NIT Andhra Pradesh.

Co-Patron

Dr. Dinesh P. Sankar Reddy,
I/C Registrar.

Convener

Dr. Kiran Kumar Gurralla,
Asst. Prof. & Head, Dept. of ECE.

Coordinator

Dr. Puli Kishore Kumar,
Asst. Prof., Dept. of ECE.

Organized by

**DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING,
NATIONAL INSTITUTE OF TECHNOLOGY
ANDHRA PRADESH.**

**Tadepalligudem, West Godavari,
Andhra Pradesh – 534101.**

Website: www.nitandhra.ac.in



Brochure/Flyer

AICTE Training and Learning (ATAL) Academy

Online Faculty Development Program on

SPARSE SIGNAL PROCESSING AND ITS APPLICATIONS

18th - 22nd October, 2021.



Tentative Schedule

Date	09:00 AM to 11:00 AM		11:30 AM to 01:30 PM		02:30 PM to 04:30 PM	
18.10.2021 MONDAY	Session # 1 Linear Algebra for Signal Processing (Dr. Kiran Kumar Gurralla, NIT Andhra Pradesh)	11:00 AM to 11:30 AM Tea	Session # 2 Sparse Representation (Dr. Puli Kishore Kumar, NIT Andhra Pradesh)	01:30 PM to 02:30 PM Lunch	Session # 3 Sub-Nyquist Sampling (Dr. A. Anil Kumar, TCS Senior Scientist)	03:30 PM to 04:30 PM on 22-10-2021
19.10.2021 TUESDAY	Session # 4 Radar Signal Processing (Dr. Tapas Chakravarthy, TCS Principal Scientist)		Session # 5 Optimization techniques for Sparse Signal Recovery (Dr. Kiran Kumar Gurralla, NIT Andhra Pradesh)		Session # 6 Sparse Representations for Radar Applications (Dr. Puli Kishore Kumar, NIT Andhra Pradesh)	
20.10.2021 WEDNESDAY	Session # 7 Sparse Signal Processing for System Identification. (Prof. T. Kishore Kumar, NIT Warangal)		Session # 8 Sparse Fourier-Transform and it's Applications - I (Dr. Lalitha Vadlamani, IIIT HYD)		Session # 9 Sparse Fourier-Transform and it's Applications - II (Dr. Lalitha Vadlamani, IIIT HYD)	
21.10.2021 THURSDAY	Session # 10 Smart Antennas (Prof. N. V. S. N. Sarma, Director, IIIT Trichy, (Professor., NIT Warangal))		Session # 11 Bayesian Inspired Non-Convex Methods for Sparse Signal Recovery (Prof. Chandra Murthy, IISc Bangalore)		Session # 12 Bayesian Inspired Non-Convex Methods for Sparse Signal Recovery (Prof. Chandra Murthy, IISc Bangalore)	
22.10.2021 FRIDAY	Session # 13 DOA Estimations using Compressive Sensing Framework – I (Dr. Santosh Nannuru, IIIT Hyderabad)		Session # 14 DOA Estimations using Compressive Sensing Framework – II (Dr. Santosh Nannuru, IIIT Hyderabad)		Session # 15 Python Hands-on Session (Dr. Puli Kishore Kumar, NIT Andhra Pradesh) for one-hour duration	

About FDP: The aim of this FDP is to introduce the mathematical foundation for sparse signal representation, analysis, its perspective in different applications (like DOA Estimation, Radar and Wireless Communications) and shows the prospectus for the future research. The following are the tentative topics that are to be addressed.

- 1) Sparse Representation
- 2) Sub-Nyquist Sampling
- 3) Smart Antennas
- 4) DOA Estimations using Compressive Sensing Framework
- 5) Optimization techniques for Sparse Signal Recovery
- 6) Bayesian Inspired Non-Convex Methods for Sparse Signal Recovery
- 7) Sparse Representations for Radar Applications.
- 8) Sparse Fourier-Transform and it's Applications
- 9) Radar Signal Processing

Contact Details

Dr. Puli Kishore Kumar, Asst. Prof., Dept. of ECE, NIT Andhra Pradesh. M: 9989947416
E-mail: pulikishorek@nitandhra.ac.in

Dr. Kiran Kumar Gurralla, Asst. Prof. & Head, Dept. of ECE, NIT Andhra Pradesh. M: 7077166843
E-mail: kirankumargurralla@nitandhra.ac.in

Last date for Applying in ATAL website: 13-10-2021

List of selected participants will be intimated through mail: 14-10-2021

Registration and Other Details

Speakers

Participants can apply for this FDP using the link <https://atalacademy.aicte-india.org/signup>, and should send the scanned copy of the **Mandatory Registration Form (attached with this brochure) to the coordinator email**. The Participants will have to attend the FDP in “online” mode during the five days and the certificate of participation by ATAL Academy shall be issued to those participants who have attended the program with minimum 80% attendance and scored minimum 60% marks in the test.

Academicians from IISc/IITs/NITs/IIITs, Professionals from industries are invited to deliver lectures in the programme. Please see tentative schedule for speaker details.



Brochure/Flyer
AICTE Training and Learning (ATAL) Academy
Online Faculty Development Program on

**SPARSE SIGNAL PROCESSING AND ITS
APPLICATIONS**

18th - 22nd October, 2021.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
NIT ANDHRA PRADESH – 534101



MANDATORY REGISTRATION FORM

1. Name: _____
2. Designation: _____
3. Organization: _____
4. Address for correspondence with e-mail: _____

5. Telephone / Mobile No: _____
6. Teaching/Industry Experience: _____
7. Research area: _____

Place:

Date:

Signature of the Applicant

Approval from present employer/organization of the applicant:

The applicant is a research scholar/ an employer and will be permitted to participate in the above program, if
selected.

**Signature and the Seal of the
Institution/Department/Section**