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# NIST AUTONOMOUS

Center for Academics and Research Excellence Since 1996

Institute Park, Pallur Hills, Berhampur, Odisha-761008, India



## School of

# ELECTRICAL SCIENCES

To be an elite engineer

 <b>2021</b> 98 <sup>th</sup> All India Rank among all institutes	 <b>2019</b> 60 <sup>th</sup> All India Rank by OUTLOOK	 <b>2018</b> 25 <sup>th</sup> All India Rank by DATAQUEST	 <b>2016</b> 69 <sup>th</sup> All India Rank by NIRF
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NAAC (UGC) accredited With Grade 'A'



Accredited by National Board of Accreditation

(For CSE & ECE)

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# ABOUT NIST

**NIST** is an autonomous institute, established in 1996 as the first NRI higher educational venture in the state of Odisha with an objective to be a center for academics and research excellence at par with international universities. It is promoted by SM Charitable Educational Trust established in 1995 by Dr. Sukant K. Mohapatra and Mrs. Sanjeeta Mohapatra as founder / donor trustees. Located at foothills of Pallur Hills in Berhampur, spanning over sixty acres of lush green campus, NIST is a premiere research institute in the country offering undergraduate, graduate, and Ph.D. program in Engineering, Science, and Management.



## OUR VISION

Focused on high quality teaching, creative innovation, entrepreneurship, and universal partnership

## OUR MISSION

A research institute committed to academic excellence, fundamental research and innovation, nurturing global citizens, and collaborative engagement.

## School of Electrical Sciences

The School of Electrical Sciences is one of the oldest departments of the National Institute of Science and Technology, Berhampur. It is established as one of the major departments of the Institute, since its inception in 1996. The School of Electrical Sciences has two departments, Electrical Engineering (EE) and electrical and Electronics engineering (EEE). With excellent faculty, the School of Electrical Sciences offer Under Graduate (B.Tech) and Post Graduate (M.Tech) in Power Systems and research (Ph.D) programmes. The Department is strong with maximum faculty members holding PhD degrees and expertise in various fields of Electrical Engineering.

The Department of Electrical Engineering has been actively engaged in teaching and research in diverse fields of Electrical Engineering. The broad areas of expertise include State Estimation and Real Time Control of Power Systems, Applications of ANN and Fuzzy Logic in Power Systems, Application of Power Electronics to Power Quality Improvement and Industrial Drives, Hybrid Energy Storage Systems, Renewable Energy System, DSP controlled Drives, Simulation of Power Electronic Converters and Drives Systems and Control of Special Machines. The department has renewable energy centre of excellence labs with well furnished academic labs.

### Why join EE & EEE @NIST

- Broad and strong academic and research programs in Smart Grid Technology, Renewable Energy systems, Control and Automation Technology etc. with large and diverse student community
- Academic excellence, research, and innovation with partnership of Global Universities such as IITs, NITs and highly reputed universities
- Career Opportunities spanning from Job Placement, Higher Education, and Entrepreneurship with average 60% students placed in various companies last 2 years
- Students work as interns and commercial projects with our industry collaborators/partners
- Significant Financial Scholarship and Assistantship are awarded to exceptional students on a merit basis by individual academic departments.
- Student community trained with Value, Ethics, Collaboration, and Social Services
- Excellent campus academics with high quality lab facilities

## Highlights

- Faculties with 80% PhD scholars from the best institutes in the country like IITs and NITs
- Department includes Center of Research Excellence Labs such as centre of Excellence Renewable Energy lab, Synchro-Phasor lab, Power System lab etc.
- Active industry internship, partnership and collaboration – enabling student to the exposure of real-world solution, products and working environment
- Paid research and student assistance for eligible students beyond scholarship
- Opportunities for students to pursue their own interest through clubs (Music, Social Service, Photography, Robotics, renewable club) and sports facilities beyond academics
- In-person interaction with power industry and thought leaders around the globe during various talks, conferences, seminars and events
- Student counselling and mentoring from day one in campus till graduation
- Special coaching facility for PSUs and GATE exams in the department

### DR. PRIYADARSHI TRIPATHY, PRINCIPAL



Ph.D in Electrical Engineering from Concordia University, Montreal, Canada and M. Math. in Computer Science from University of Waterloo, Waterloo, Canada. Dr. Tripathy has a strong Academic career with 17 years of software industry experience in Canada and USA at Nortel Networks, Cisco Systems, Airvana Inc. and NEC Labsat Princeton. Before

joining NIST, he worked as a Dean, School of Information & Computer Sciences (SICS), Ravenshaw University. He has co-authored two textbooks on Software Evolution and Software Testing and Quality Assurance which are being adopted as course text. His research interest is in the area of software engineering and computer networks.

### DR. SACHIDANANDA PRASAD, HOD



Associate Professor in the School of Electrical Sciences. He received his PhD from National Institute of Technology, Warangal (NITW), Telangana state in Electrical Engineering. He has more than 10 years of teaching and research experience. He has received POSOCO Power System Awards in 2018 at the doctoral level by IIT Delhi and Indian Power Grid

Corporation. His research interests include distribution system state estimation, Smart Grids and application of artificial intelligence techniques to power systems. He has published reputed international journals like IEEE Transactions and IETs in his research areas. Currently, heading the School of Electrical Sciences.

### The School of Electrical Sciences runs the following programs:

**B.Tech.**

Electrical Engineering

**B.Tech.**

Electrical and Electronics engineering

**M.Tech.**

Electrical Engineering (Power systems)

## LABORATORIES

- Basic Electrical Engineering, Network Device
- Electrical Machine, Control System, Power Electronics
- Electric Drives, Power System Simulation
- Electrical Power Transmission and Distribution
- Renewable Energy, SERB sponsored Synchro-phasor

### Research Labs

- Renewable Energy Laboratory
- Power system Simulation Laboratory
- Synchro-Phasor Laboratory



## Hi-end Equipment List

- Siemens PLC
- DC shunt Motor Control Module with Altium Designer SE
- Class E Chopper Module
- Grid connected Induction Generator
- Three phase Alternators (5 sets)
- Three phase Transmission Line Module
- Electrical Machine Trainer (Turbo Model)
- PV Cells with grid model (Eco-Sense Solar Set)
- Hybrid Vehicle (Motor based Automobile)
- Solar Thermal Systems
- Yokogawa Industrial Automation Laboratory
- Tetrixprime Mobile Robots
- Phasor measurement Unit (PMU)

## Software

Snyder PLC Firmware, siemens C2000 plc firmware, Labview 2017 development version, MATLAB with add on tool boxes like optimization, statistical machine learning, embedded system, IoT etc, Power System Computer Aided Design (PSCAD) software, Electrical Transient Analyser Program (ETAP) software

## CLUB ACTIVITIES

- Renewable Energy Club
- Control Automation Club
- Robotics Club



## STUDENT PLACEMENT



**Simran Raj**

Texas Instruments, 21 Lakhs



**Somesh Som Nayak**

Tata Steel, 6.5 Lakhs



**Santosh Kumar Panda**

TCS - NINJA, 3.6 Lakhs



**Subhasish Sabat**

Infosys, 3.6 Lakhs



**Karan Singh**

Gate-21, AIR-9761



**Bimalendu Swain**

Gate -21, AIR-551

## SUMMER COURSES

- Computer Aided Simulation in Electrical Engineering (Summer Course)
- Renewable Energy System (Summer Course)
- Surya Mitra Skill Development Program (Training Program)

## FUNDED RESEARCH PROJECTS

**Dr. Murthy Cherukuri:** Research project titled "Wide Area Situational Awareness Assessment Using Phasor Measurement Units" The project grant is for a sum of Rs. 36.9 Lakhs for 2017-18 by Science and Engineering Research Board (SERB).

**Dr. Santanu Kumar Pradhan:** Research project titled "Development of Adaptive Cooperation Motion Control Algorithms for Multiple Autonomous Ground Vehicles". The project grant is for a sum of Rs. 26.6 Lakhs for 2017-18 by Science and Engineering Research Board (SERB).

## OUR ESTEEMED RECRUITERS

