



the pulse²⁰²⁰

Research and Development Newsletter

National Institute of Technology Srinagar, Jammu & Kashmir, India - 190006

Institute Activities)

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(Departmental Activities



Faculty Development Programme 2019



Techvaganza 2019



Exordium 2019



Latex Workshop 2019



Yoga Day 2019



Fresher's Day



STC on Advanced Materials Processing



Installation of Automatic weather station



Artificial Intelligence Workshop 2019



Inter Sports 2018



Hackathon Workshop



Workshop on Flood Management



Message from Director's Desk

Prof. (Dr.) Rakesh Sehgal

Engineering education in the present scenario has undergone a tremendous change. Technological leaps have transformed even dynamic concepts, and colored it with vibrant hues. In this contemporary world we can no longer afford to remain restricted to mere class room teaching, rather lessons of education today are laying more emphasis on market relevance and academic accomplishments. That is why all the premier education Institutions are taking necessary steps that will lend extra brilliance to the quality and performance of its tangible and intangible outputs.

NIT Srinagar in this regard has a greater responsibility to play the role of leadership for accomplishments of technical pursuits of this region in particular. Being the ace Institution, its responsibility is to carve out and hone the skills of students so that they become suitable in the milieu of ever-changing society. The seeds of scientific acumen and related perceptions need to be inculcated at the embryonic stage of student life. It is one of the important challenges in front of us which needs to be addressed. Research and development activities of a technological Institute give opportunities to our faculty and students to think out of box and connect with the real world. NIT Srinagar in this regard is actively involved with R&D activities and is focusing on its importance in its several programs.

It indeed gives me immense pleasure that second issue of R&D

newsletter of NIT Srinagar is now in our hands. This newsletter is a panoramic view of the various activities of our departments/ centres as regards research and academic related activities for academic year 2018 – 2019. This news letter will serve as a bridge in passing the information of happenings in our institute to the outside world and provide glimpses of advancements and developments that have occurred in the past academic year. NIT Srinagar has been primarily involved in giving the nation outstanding engineers and scholars who have been forefront runners in contributions of significance in several walks of life. Apart from teaching our faculty members are highly involved in R&D an activity which has directly contributed in research, collaborations in projects both at National and International levels. Many workshops, seminars and presentations have taken place in academic year 2018 – 2019 and the news letter provides a comprehensive compiled report regarding efforts put by faculty, resource persons from the outside institute and students together. There have been several workshops of technological importance from disaster management related topics to the Nano Technology in the previous year which shows highest level of commitment that our Institution has displayed towards R&D. The Institute has very successfully dealt with very challenging times in curricular and extra-curricular activities. The Institute takes great pride in the achievements already attained; however, we will continue to put our best foot forward in the sphere of R&D activities in future too.



Message from Editor-in-Chief

Prof. (Dr.) G. A. Harmain

I am indeed immensely delighted that second issue of R&D Newsletter is being published. It gives us glimpse into various R&D related activities of our Departments and Centres of excellence. NIT Srinagar has over the years excelled in many dimensions including R&D. The faculty as a backbone of the Institute has augmented its strength and their achievements have significantly impacted the overall developmental activities. Current newsletter – THE PULSE presents research potential and academic accomplishments of NIT fraternity in the last academic year. THE PULSE will serve as a connect with the readers and help them to get a glimpse of various happenings in NIT Srinagar and its associations and growth in various dimensions.

The initiatives however small and insignificant (as these may appear) which we take today will surely prove to be the building blocks for our future endeavours. The inertia of lethargy once broken will pave the way for audacious accomplishments which often remain

eclipsed due to our innate self-imposed inhibitions.

I'm hopeful that the reading material would be highly rewarding to all the readership of THE PULSE as it would provide a slice of scientific, technical and related information in concise form. This issue carries spectrum of highlights which includes projects of Dr. Gausia Qazi and Dr. Aamir Ahsaan of ECE department granted under SERB on one end and emotional tribute to Prof. O. N. Wakhlu (Legendary Figure in Technical and Engineering circles of J&K region, who breathed his last on 25 Dec 2018) by Prof. A. M. Wani (Former Director NIT Srinagar) on the other. Last but not least it is a privilege for me to thank the energetic editorial team of THE PULSE namely Dr. Gausia Qazi, Dr. Shabir Sofi, Mr. Zahid Khakhi, Mr. Zehab and Mr Suhail Naik for their exemplary efforts in structuring the information for easy dissemination of our esteemed readers.



Message from Editors Desk

Dr. Gausia Qazi

It brings me immense pleasure to be writing the Editor's note for the Spring 2020 edition of the Newsletter-THE PULSE of the NIT Srinagar. Of all the tasks that are involved in publishing the Newsletter, I find writing this Editor's note the most enjoyable. It is in this section that I truly reflect on the hard work that was done by all of us in NIT Srinagar including the students. Each one contributed in their own ways to make THE PULSE possible. I would especially like to express my gratitude towards our Director, Prof (Dr.) Rakesh Sehgal, under whose remarkable guidance and support we were able to steer through many difficulties posed upon us since the release of last Edition of Newsletter.

THE PULSE would not have been possible without the relentless hard-work of Prof (Dr.) G.A. Harmain, the Editor-in-Chief of the present edition. He truly led by example and ensured that we received the data and the reports concerning the R&D activities from the respective Departments on time. More than that, the Edition would simply not have been ready for publishing, were it not, without the tremendous help extended by Dr. Shabir Sofi of the I.T Department along with his creative team. The publishing of a Newsletter involves a complex network of activities. This process becomes far less complicated when one has a deeply compassionate

and a hard-working editorial team. The Edition would simply not have been possible without the strenuous editing and compilation conducted by my editorial team namely Mr. Zahid Khaki, Mr. Suhail Naik, Ms. Iqra Jan and Mr. Zehab.

Having acknowledged the hard-work that has gone into the publishing of THE PULSE, I shall give a rather sneap-peak onto this year's edition. In THE PULSE, we have a fresh note from our Director's desk, upon reading which one is sure to get plenty of motivation for the rest of the year. Furthermore, in this Edition we have paid homage to late Prof. O. N. Wakhlu, ex-Principal of REC Srinagar, who passed away in 2019.

In this Edition we provide a compilation of the many publications, workshops and contributions in Research and Development activities of the respective departments. Upon editing these sections it becomes clear that this edition is a reflection of this esteemed Institution's commitments towards Research, Education and transpiring lives and dreams. Indeed, this edition rightly testifies, here at NIT Srinagar, that we know how to surpass those challenges and produce world-class engineers and researchers working against all odds.

About the institute

Vision

To establish a unique identity of a pioneer technical Institute for NIT Srinagar by developing a high quality technical manpower and technological resources that aim at economic and social development of the nation as a whole and the region in particular keeping in view global challenges.

Mission

The broad mission of NIT Srinagar is to create a strong and transformative technical educational environment in which fresh ideas, moral principles, research and excellence nurture with international standards.

Technically educated and broadly talented engineers, future innovators and entrepreneurs, graduate with understanding the needs and the problems of the industry, the society, the state, and the nation.

We promise to inculcate the highest degree of confidence, professionalism, academic excellence and engineering ethics in budding engineers.



National Institute of Technology, Srinagar is one of the premier Educational Institutes in the Northern Regions of the country. It was established in 1960 and has been one of the eight Regional Engineering Colleges sponsored by the Govt. of India during the five years. The Institute acquired the status of National Institute of Technology with deemed to be University status during August, 2003 and attained full autonomy in its Academics.

The Institute is situated at the banks of world-famous Dal Lake, with the far-famed Hazratbal Shrine on other side of the campus. NIT Srinagar is a residential Institute with accommodation facility in Hostels and Staff-Quarters. There are 08 Boys and 02 Girls hostels which swallows about 2000 boys and 250 girls. Besides running the 08 B.Tech Programmes the Institute also offers 12 M.Tech/M.Sc./MBA/TIED programmes. In addition to that a large number of students are registered for M.Phil and Ph.D. Programmes.

Facilities and amenities are available at the institution such as NCC, NSS, Bank, and Consumer cum Society, Shopping Complex, Recreational Centre, and Dispensary with Ambulance, Guest House, Students Activity Centre, Gymnasium, Internet Centre, Telephone Booths, Fax Services, Diesel Generator, and Bus Facility. The Institution has an Industry Interaction cell which was established in 1989 with the aim to remain at the fore-front on the Scientific and Technological development and to share its experience with industries in utilizing. Man-power and other resources are available at the institute effectively with the assistance of the participating industries. The Institute has one of the best technical library in J&K State. It has a collection of over 60,000 books on Engineering Science and humanities and about 6,000 bound volumes/Journals, both foreign and Indian. The library remains open from 9.00 a.m. to 10.00 p.m. It has on line repository of A.S.C.E, A.S.M.E.A.E.L, J.C.C.C etc in addition to journals through I.N.S.E.S, COMSORTIEM. It also has a collection of I.S.I codes, in the CD-Rom format.

Institute Activities

Institute Startup Programs

The IIED Centre of NIT Srinagar is committed to support startup and entrepreneurship development programs in the region. Incubations activities are in progress wherein a number of startups have initiated after obtaining handholding and Mentorship from NIT Srinagar.

In May 2018 new incubates, Mr Sheikh Inayat Ullah and Miss Hashma Javed joined IIED Centre to obtain help for developing their idea of "Opportunity cum Employability Index" which would really have a great impact on the socioeconomic development of the society. The startup project is aiming to create a Technological Instrument in the form of "Opportunity cum Employability Index" to address the issues of Unemployment, Underemployment and Unemployability. A team of experts having the technological expertise to provide all sort of technical assistance to the startup was created which included an eminent economist of the region, Mr. Nisar Ali along with Head IIED Centre and few other Professors of the Institute.

Faculty Development Programme 2019



Workshop - Nanotechnology for Better Living 2019



Skill Olympics State Level Competitions Successfully Concluded at NIT campus



IIED Centre NIT Srinagar in association with National Innovation Council India to initiate

Skill Development program TOD POD JOR

TFJ Proposal was submitted by Vikas Chawda (Alumini NIT Srinagar) Founder & CEO – QUANTUM LEAP for NIT Srinagar in May 2018.

Tod Pod Jod (TFJ) Objectives:

1. Create awareness about TFJ initiative among various stakeholders' e.g. education institutions (school, ITI, college educational agencies, teachers, parents, NGOs)
2. Generate lessons about TFJ impact on triggering innovation at an early age
3. Motivate and enable schools and colleges to have TFJ Centres at their premises
4. Demonstrate and provide case-studies to educational institutions, agencies and organisations to...
 - Ø Highlight the importance and benefits of TFJ in the learning process
 - Ø Create a sense of excitement through hands-on experience with objects of daily use

Department of Chemical Engineering

No. of Publications for the years 2018 and 2019

44

Conferences/Workshops/Short term courses organized for the years 2018 and 2019

1. Short Term Course on "Transport processes" organized from 20-24 Feb. 2018. (Dr. Fasil Qayoom Mir and Dr. Mushtaq Ahmad Rather).
2. Short Term Course on "Pinch Technology-A heat exchanger network analysis tool" organized from 29th Jul – 2nd Aug, 2019. (Dr. Fasil Qayoom Mir and Dr. Mohd. Hanief).

Awards for the years 2018 and 2019

1. Best oral presentation won in Int. Conference on Recent Trends and Advancements in Engg at NIT Srinagar (Dept. of Metallurgical and Materials Engineering. "PVA Supported Tin phosphate (SnP/PVA Ion exchange membrane" (Iqra Ahanger and Fasil Qayoom Mir).
2. Best paper award won at International Conference on Advances & Challenges for Sustainable Ecosystem (ICACSE 2018) at N.I.T Tiruchirappalli, 07-09 December, 2018. (Dr. TanveerRasool Dar).
3. Gandhian Young Technology Award (GYTI) 2018 [Shelaka Gupta, Dr. Md. ImteyazAlam, Dr. Tuhin S. Khan, Ejaz Ahmad, Fatima Jalid and Prof. M. Ali Haider].

R&D Projects undertaken for the years 2018 and 2019

Briquetting of Dal Lake weeds to be used as a fuel source (Dr. Mushtaq Ahmad Rather)

New Labs established during the years 2018 and 2019

Catalysis Laboratory (Ms. Fatima Jalid)

Department of Electrical Engineering

Publications for the years 2018 and 2019

46

Conferences/ Workshops organized by the Department for the years 2018 and 2019

1. Organized one week Short Term Course on "Renewable Energy in Science, Engineering & Technology – 2019 (RESET - 2019)" from 1st – 5th July, 2019 at NIT Srinagar, Hazratbal, Srinagar.
2. Organized one week Short Term Course on "Introduction to MATLAB, PSCAD and LaTeX for Researchers" from 24th – 28th June, 2019 at NIT Srinagar, Hazratbal, Srinagar.
3. Organized one week workshop on "Introduction and Basics of Programming skill using MATLAB and PYTHON" from 27th – 31st May, 2019 at NIT Srinagar, Hazratbal, Srinagar.
4. Organized one week workshop on "Power Electronics: Applications in Renewable Energy Systems" from 22nd – 26th April, 2019 at NIT Srinagar, Hazratbal, Srinagar.
5. Organized two day workshop on "Scientific and Technical Documentation Using LATEX" from 8th – 9th June, 2019 at NIT Srinagar, Hazratbal, Srinagar.



Short Term Course on Introduction to MATLAB, PSCAD and LaTeX

Awards won by Faculty/ Students for the years 2018 and 2019

Dr. Farhad Illahi Bakhsh

10 for 10 Typhoon HIL Award, Typhoon HIL GmbH Switzerland, Europe, 2019.

Dr. Neeraj Gupta

Elevated to senior member, IEEE (USA), 2019

R & D Projects undertaken for the years 2018 and 2019

Financial Year 2018-2019

Total No. of R & D Projects	: 2
	Dr. M. A. Bazaz
	Dr. Farhad Illahi Bakhsh
Total No. of Funding Agencies :	2
Total Amount received (Rs.)	: 5.58 lakhs
Amount received in words	: Five lakh & Fifty Eight Thousand

Department of Electronics & Communication Engineering

No. of Publications for the years 2018 and 2019

25

Conferences/ Workshops Organized for the years 2018 and 2019

1. TEQIP – III Sponsored One week short term course on "Communication System Design" (01 July-05 July 2019). (Coordinators: Dr. Shahid M. Shah and Dr. Omkar Singh, Convener: Dr. G. R. Begh)
2. TEQIP – III Sponsored One week short term course "Emerging Electron Devices for Integrated Circuit Applications" (15 July-19 July 2019). (Coordinators: Dr. Amir Ahsan and Dr. Amandeep Singh Conveners: Dr. Gausia Qazi)



3. TEQIP – III Sponsored One week short term course on "Hands on Training on EDA Tools" (22 July-26 July 2019). (Coordinators: Dr. Amir Ahsan and Dr. Amandeep Singh Convener: Prof. Najeeb-ud-din)
4. TEQIP – III Sponsored One week short term course on "Biomedical Signal and Image Processing: Contemporary Methods and Applications" (29 July- 02 Aug) 2019. (Coordinators: Dr. Omkar and Dr. Shahid M. Shah Conveners: Prof. A. H. Mir and Dr. Farida Khursheed)

Awards Won by the faculty/students for the years 2018-2019

Dr Amir Ahsan

1. Early Career Research Award – (Start Up Research Grant - 2019)
2. IEEE Transactions on Electron Devices–Golden Reviewer for 2018

Conferences/ workshops/Guest lecturers attended by the faculty for the years 2018-2019

Dr G R Beigh

1. Delivered an Expert Lecture in 3-Day workshop on "5G: An Evolution to Revolution", 24-26th of September, 2018 at IUST Awantipora.

Dr Amir Ashan

1. Delivered Invited Talk at IIT Kanpur for a short-term course on modeling and simulation of nanotransistors (21-26 Jan, 2019)
2. Presented Paper at IEEE Conference on Modeling of Systems Circuits and Devices (MOS-AK India), Hyderabad, Feb. 2019.
3. Delivered Invited Talk at NIT Silchar for a DST-SERB and TEQIP sponsored short term course Modeling of Novel Nanoelectronic Devices and Circuits for ULSI Technology (26-30 April 2019).

R&D Projects undertaken for the years 2018-2019

Dr Amir Ashan

1. Received approval of a DST-SERB project under the scheme Start Up Research Grant – 2019, for a maximum budget of Rs. 30 Lakh.

Dr Gausia Qazi

2. DST SERB Project Titled "Design of an Optical Transmitter Using Optimized DFB Laser And EDFA"

Consultancy offered by the department for the years 2018-2019

Dr Amir Ashan

1. Signed an NDA between NIT Srinagar and AMCAD engineering (French Semiconductor Company) as part of an industrial collaboration on GaN HEMTs.

Any other R&D activity for the years 2018-2019

Prof G M Rather and Prof Najeeb-ud-din

Title of Project	Period	Sponsoring Organization
SMDP – C2S	5 years 2015 - 2019	R & D in Electronics group, Department of Electronics and Information Technology MoCIT, New Delhi

New Labs/Centres established during the years 2018 and 2019

1. Biometric Lab
2. Machine Learning Lab



Department of Civil Engineering

No. of Publications for the years 2018 and 2019
62

Awards won by the faculty/ students for the years 2018 and 2019

1. Prof. B. A. Mir nominated to represent Indian Geotechnical Society (IGS) on International Committee TC-2016 on "FROZEN GEOTECHNICS" of the International Society of Soil Mechanics and Geotechnical Engineering (ISSMGE) for the Term 2018-2021.
2. Prof. B. A. Mir received "CERTIFICATE OF APPRECIATION" from SPRINGER for outstanding performance as a member of the Scientific Committee of 2nd Euro-Mediterranean Conference for Environmental Integration, Oct. 10-13, 2019, held in Sousse, Tunisia.

Any other R&D activity for the years 2018 and 2019

Prof. B. A. Mir "R&D Project on Seismic characterization of soils for Srinagar & Jammu regions" funded by TEQIP-III, NPIU, GOI.



Department of Computer Science & Engineering

Patents Filed/ granted for the year 2018 and 2019

1. "Toward friendly machines: A Boolean algebra based method implementing ethics based on context", Sahil Sholla, Dr. Roohie Naaz Mir, Dr. Mohammad Ahsan Chishti, Dated: 27/07/2018 (Application No. 201811025275 A, International classification: G06F1/163).
2. "Method and Design For a Comprehensive Apparatus to Collect, Process, Aggregate, Route, Save, Analyze and Filter Data in the Internet of Things", Ab Rouf Khan, Mohammad Ahsan Chishti, Dated: 22/11/2019 (Application No. 201911046286 A).

Publications for the years 2018 and 2019
20

Conferences/ workshops (if any) organized during the years 2018 and 2019



Workshop cum Coding Exordium 2019

Department of Mechanical Engineering

Publications for the years 2018 and 2019
180

Conferences/ Workshops organized during the years 2018 and 2019

1. One Week Faculty Development Programme on "Outcome based Education" From 18-05-2019 to 22-05-2019 at NIT Srinagar Sponsored by TEQIP III
2. One Week Faculty Development Programme on "Pedagogy" From 1-04-2019 to 05-04-2019 at NIT Srinagar Sponsored by TEQIP III
3. One Week Faculty Development Programme on "Pedagogy" From 1-04-2019 to 05-04-2019 at NIT Srinagar Sponsored by TEQIP III
4. One week international workshop on "Tribology for Sustainability" From 17-06-2019 to 21-06-2019 Sponsored by TEQIP III
5. One Week short term course on "Advanced Materials Processing and Characterization" From 22-07-2019 to 26-07-2019 at NIT Srinagar Sponsored by TEQIP III under Twining Activity.



Awards won by faculty/students for the years 2018 and 2019

1. The innovative idea of NIT Srinagar team got selected for the Grand Finale of MHRD Smart India Hackathon (SIH) 2019 which was organized in Chennai from 08th to 12th July 2019 and Dr. Noor Zaman Khan accompanied the institute team as a team Mentor. The NIT Srinagar team won the runner up prize of Rs. 50,000 in Smart India Hackathon- 2019 (Hardware Version).
2. Dr. Manoj Kumar awarded Academic Excellence Award by jury committee of "Engineering Trends in Community Development and Women's Participation-II" (ETCDWP-II, 2019) at Jayoti Vidyapeeth Women's University, Jaipur.

Special Talks organised by the Department

1. Lecture on "The fascinating world of materials" by Prof. KanteshBalani of IIT Kanpur on 27 May 2019.
2. Virtual lab session on "Material response microstructural, mechanical, thermal & biological stimuli" by Prof. KanteshBalani of IIT Kanpur on 28 May 2019.
3. Lecture on "Nanotribology" by Dr Siddhartha, NIT Hamirpur on 15 November 2019.

Consultancy offered by the Department

1. Dr. Saad Parvez, The TMS NREGA Scheme Project has been undertaken by IIED centre for Obtaining Standard time of NREGA workers across Jammu and Kashmir region. The project is most likely to get completed by 31 December 2019 which would eventually help the government to decide the wage rates of NREGA workers. The value of the project in 2.5 million INR.
2. Dr. Sheikh Shahid Saleem, Deptt of UEED for Inspection of Design of 130 KLD Septage Treatment Plant.
3. Prof. G.A. Harmain, NDT of steel frame of multi-level car parking, Srinagar, INR 4,00,000/-.

Department of Information Technology

No. of Publications for the years 2018 and 2019
9

Patent filed/granted for the years 2018 and 2019

1. Graphics Processor unit system with photonics based on-chip network by Mr. Janib-ul-Bashir(Teacher Trainee).
2. Tajamul Ashraf and his team (3rd Semester student of IT) organised the workshop "Mobile Documentary" held at NIT Srinagar.

Conferences/ Workshops organized for the years 2018 and 2019

1. Mr Tajamul Ashraf and his team (3rd Semester student of IT)

organized the workshop "Mobile Documentary" held at NIT Srinagar.

2. "HACKATHON", a workshop in Ethical hacking and cyber security was held in September 2018 was organized by the Semicolon Coding Club of the department.
3. Ishfaq Hassan and his team (5th Semester student of IT) organized two workshops "Geeko-pedia" and "Webify" during Techvaganza 2019 from 4th-5th May.



Students of the branch participating in the technical events during the techfest, Techvaganza

Department of Metallurgy & Materials Engineering

No. of Publications for the years 2018 and 2019
14

Conferences/Workshops organised by the department for the years 2018 and 2019

1. International Conference on- Recent Trends in Engineering, Technology, Applied Sciences, Humanities and Business Management for Sustainable Development (ETAHBS-2018) on 20th - 21st October, 2018; held at NIT, Srinagar, Jammu and Kashmir, India
2. International Conference on- Contemporary Issues in Engineering, Agriculture, Applied Sciences and Humanities (EAH-2019); 22nd -23rd June, 2019; held at NIT, Srinagar, Jammu and Kashmir, India.

Consultancy offered by the department for the years 2018 and 2019

1. Thickness test of mesh wire- J & K Entrepreneurship development institute-2018
2. En-8 composition analysis - Mechanical Engg. Division of J&K Govt.-2018
3. Rice puller- J & K Police- 2019.

Department of Mathematics

No. of Publications for the years 2018 and 2019
17

Department of Physics

No. of Publications for the years 2018 and 2019

34

Conferences / Workshops organized by the Department for the years 2018 and 2019

1. Short Term Course on "Material Characterization Techniques" from 24-28 June 2019, Coordinated by Dr. Vijay Kumar, Dr. Harkirat Singh and Dr. Mohd. Zubair Ansari.
2. Nanotechnology for Better living (NBL-2019) Jointly organized by NIT Srinagar and IIT Kharagpur from 7th -11th April 2019.



Nanotechnology for Better Living - 2019

S.NO.	NAME OF THE PROGRAMME	DATE WHEN CONDUCTED	NAME OF COORDINATOR	NO. & BACKGROUND OF PARTICIPANTS
1.	International Conference on Nanotechnology for Better Living NBL-19	7-11 April, 2019	Dr. M.A. Shah	300 Eminent Scientists & Young Scientists across Asian Countries
2.	National Conference on Saha	06-10-2018	Dr. S Rubab & Dr. M A Shah	For the researchers across the country
3.	a) INSPIRE Internship Programme	26-30 Dec 2017	Dr. M.A. Shah	200 Toppers of Class 11th & 12th
	b) INSPIRE Internship Programme	05-09 Sep 2018	Dr. M.A. Shah	200 Toppers of Class 11th & 12th
4.	One day Vocational Education Tour of MHRD	03-10-2018	Dr. M A Shah	For H/S/ Students of Trehgam Kupwara
5.	One day Vocational Education Tour of MHRD	20-10-2018	Dr. M A Shah	For H/S/ Students of Kupwara

Special Talks organized by the Department for the years 2018 and 2019

1. Prof. Neeraj Khare was delivered a special talks titled "Nanoscale Fabrication and Characterization Facility at Indian Institute of Technology Delhi" on 6th April 2019 at Physics Department, NIT Srinagar

Invited Talks/outreach activities by Shah M A

1. Invited Lecture at Academic Staff College Kashmir University on 18-11-2019 on, "Size and Shape matters in Small Science" during Science Refresher Course.
2. External Examiner of Practical Examination for the B.Tech students in Central University Kashmir on 19-12-2009

3. Examiner of P.G Students of Dental College Srinagar and delivered a lecture on Graphene in March 2019
4. Invited Lecture at Gandhi Memorial College Srinagar during a National Workshop on Nanotechnology in July 2019
5. Invited Lecture at Central University Kashmir in May 2019 during a lecturer series held at IT Department Central University of Kashmir.
6. Chief Guest and an Invited speaker on Science day in Islamic University of Science & Technology, Awantipora on 28 Feb 2018.
7. Conducted many NPTEL examinations in year 2018& 2019 in Kashmir.

Department of Chemistry

Consultancy offered by the department for the year 2018-2019

Under Unnat Bharat Abhiyan

No. of Publications for the years 2018 and 2019

57

Conferences/ Workshops organized during the years 2018 and 2019

1. Jigneshkumar V. Rohit and Javid A. Banday (Co-ordinators), organized One week short term course on "Recent Advances

in Chemical Sciences" 8th -12th July, 2019, at National Institute of Technology Srinagar.

2. Prof. Kowsar Majid, Prof. Tabassum Ara, Dr. S. A. Shah, Dr. Hamida Chisti, Dr. M. Aslam, Dr. M. Srikant, Dr. Ravi Kumar- As Member of Organizing Committee TEQIP III Sponsored One Week Short Term Course on "Recent Advances in Chemical Sciences (RACS 2019)" from 8th to 12th July 2019 Organized by Department of Chemistry, National Institute of Technology, Srinagar.

R&D projects undertaken for the years 2018 and 2019

1. Hamida-Tun-Nisa Chisti- Development of novel composite sensors for removal of heavy metal ions from Dal lake under TEQIP-III , NIT Srinagar.
2. Shrikant S. Maktedar- TEQIP III funded project entitled as "Walnut Shell/Kernel Reinforced Graphenic Framework: An Efficient Thermally Stable Nanocomposite" File No: NIT TEQIP/19/1375

Department of Humanities & Social Sciences

No. of Publications for the years 2018 and 2019

9

R&D Projects undertaken for the years 2018 and 2019

1. Dr. Tahir Ahmad Wani (Co-PI)

ICSSR, (Indian Council of Social Science Research, Ministry of Human Resource Development) funded Major research project titled: "Subsistence Consumer Marketing Systems in Conflict Zones, Antecedents Implications and Recommendations "in collaboration with Centre for Management Studies, Jamia Millia Islamia and Indian Institute of Management Calcutta (IIM-C).

2. Dr. Tahir Ahmad Wani (Co-PI)

ICMR (Indian Council for Medical Research) funded Major research project titled: "Impact of migration on Psycho-Socio and Economic wellbeing of elderly pandit migrants: An evaluative study", in collaboration with University of Kashmir and Central University of Kashmir.

3. Dr. Tahir Ahmad Wani (PI)

TEQIP-III, NIT Srinagar sponsored research project titled: "Micro-Entrepreneurship: A Bottom-Up Approach for Poverty Eradication and Sustainable Development in the State of Jammu and Kashmir", in collaboration with IIT Kharagpur and IIM Calcutta.

Any particular Lab/Centre established during the years 2018 and 2019

Digital Language Lab: A state-of-the art digital Language Lab runs in the Department of Humanities and Social Sciences. This lab, inaugurated on 15th May 2019, caters to the language requirements of the students at basic, intermediate, and advanced levels. The students can improve their grammatical, vocabulary, and technical



Digital Language Lab

writing skills. They can also hone their listening, speaking, and pronunciation skills.

The language lab has 30 desktops installed with "Words Worth language lab software" and AV equipment. It has a 65-inch touchscreen connected with instructor console unit. The software offers interactive training through rich audio-visual content alternating between Instructor Led Training and Computer Based Training sessions. Through such sessions, students can acquire vocabulary and language structures for participating in day to day communications. They learn to use grammatically accurate sentences while speaking confidently. They enhance their verbal communication skills through free speech, role plays, activities, and interaction. The lab is air-conditioned and sound-proof to make language learning experience comfortable and distraction-free.

The language laboratory contributes to the administration of a credit course on Language (Course Code: HUP100) to the first year B. Tech students. The course is designed to run parallel to the Basic English and Communication Skills course and Advanced English and Communication Skills Course of the academic syllabus for the 1st and 2nd Semester.

The lab envisions offering enhanced active use of English language to students in comparison with traditional classroom teaching. The course administered in the lab aims to help students for whom English is not their first language find proper placement. It intends to make both language teaching and learning fun.

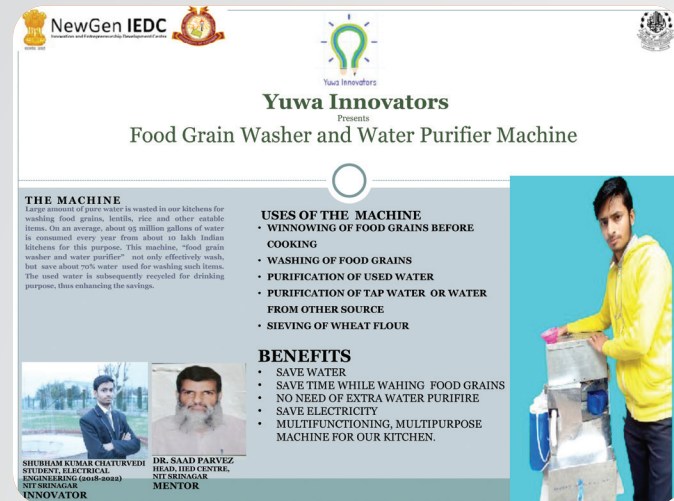
Innovation, Incubation & Entrepreneurship Development Centre (IIEDC)

ACTIVITIES DURING 2018-2019

A. Startups working with IIED Centre:

Startup Name: Move Beyond

Name of the Incubators: Mr. Sheikh InayatUllah
Mrs. Hashma Javed



B. Most successful innovation of year 2018-19 produced by IIEDC
Innovation titled as "Design and Development of food grain washer and water purifier" by 3rd semester electrical engineering student, Mr. SHUBHAM KUMAR CHATURVEDI, successful pitched at various events across India including MHRDs Smart India hackathon.



Grand Finale of MHRD Smart India Hackathon (SIH) 2019 which was organized in Chennai from 08th to 12th July

C. Consultancy Work/Project

The TMS NREGA Scheme Project has been undertaken by IIED centre for Obtaining Standard time of NREGA workers across Jammu and Kashmir region. The project is most likely to get completed by 31 December 2019 which would eventually help the government to



decide the wage rates of NREGA workers. The value of the project in 2.5 million INR.

Mahatma Gandhi NREGS was implemented to suite to community contracting with typical characteristics of its diligence on community participation, particularly the workers, in the planning, designing, implementation and monitoring and evaluation of works. Under MGNREGS, an assortment of people of differing capabilities, mainly women are engaged as workers whereas individual worker's output is likely to vary based on the terrain, climatic conditions, soil type, age, sex, skill set and physical and social conditions. They have differing skill sets and capacities. Often they are made to work in a given situation with available tools- in number, ergonomic suitability and quality. In many sites it may not be practicable for all of the workers to do the same type of work because of specific site conditions. This situation therefore warrants that the output of an average person is scientifically pre-determined at various given climatic, terrain and soil conditions. With the help of such a data, each team's output can be measured which would have a very high probability to conform to reality. Under Mahatma Gandhi NREGS, it is these types of composite works aimed at enhancing the resilience of natural resources that are mostly being taken up. These types of works are easily intelligible to the local communities and common workers making the whole work fully transparent. The broad objectives and benefits of MGNREGA are highlighted below:

- Providing unskilled work for rural India in the rural areas.
- Ensuring complete openness and ownership in the governance.
- Improvising the entire system of democracy.
- Ensuring sustainable development by developing the natural resources of land and water.
- Providing an important role to the Panchayati raj.

Time study is a work measurement technique for recording the times and rates of working for the elements of a specified job carried out under specified conditions, and for analyzing the data so as to obtain the time necessary for carrying out the job at a defined level of performance. The purpose of the study is the setting of performance standards and is used to establish and define the most satisfactory way of doing work.

D. Other major activities (Under process) of the centre during 2018-19

1. Setting up of the state of the art incubation centre as a section-8 company
2. Setting up of TEQIP Tinkering laboratory
3. ESSCI Skill Development centre
4. Post graduation program on TIED (Technology Innovation & entrepreneurship dynamics)
5. MSME Incubation support.

Water Resources Management Centre (WMC)

R&D Projects undertaken for the year 2018-19

1. The Centre has taken up the R&D studies under the Professor Chair established by the MoWR (now the Ministry of Jal Shakti), Gol for undertaking studies on water resources with special emphasis on assessment of effect of climate change on it and adaptation strategies in respect of planning, design and management of water resources systems of particularly Indus Basin.

During the year 2018-19, the data for the Jhelum River and its various tributaries for a period of last 50 years was collected and is being processed for various analysis

2. A R & D Scheme titled ' Maximization of irrigation potential and water use efficiency' completed for the State Water Resources Regulatory Authority (SWRRA), J&K

The main objective of the Chair was to carry out studies on water resources with special emphasis on assessment of effect of climate change on it and adaptation strategies in respect of planning, design and management of water resources systems of particularly Indus Basin. An important activity related to the Chair was the transfer of technology to CWC and other organizations of MoWR/GOI.



Environmental and Sustainability Studies Centre (WRMC)

Publications (SCOPUS/SCI indexed) for the years 2018 and 2019

1. 'The influence of Particle Shape and Gradation Parameters on the permeability of Filter Media' Accepted for Publication in the International Journal of Hydrology Science and Technology, IJHST-187665 Inderscience Publishers Limited.
2. 'Significance of Shape factor of Obstacle on Local Scour', 'Iranian Journal of Science and Technology', Transactions of Civil Engineering' July 2019, 43(1): 323-330.
3. 'Laboratory Investigations for Development of Design Criteria for varying shapes of Protective filters', International Journal of Geotechnical Engineering, May 2018
4. 'Design Criteria of Protective filters based on particle Shape and gradation parameters'- Accepted for Publication in the International Journal of Hydrology Science and Technology, Inderscience Publishers.



Installation of Automatic Weather station for Hydro-Meteorology Observatory

5. 'The influence of particle shape and gradation parameters on the permeability of filter media' Accepted for Publication in the International Journal of Hydrology Science and Technology, Inderscience Publishers.
6. 'Laboratory Investigation for development of local scour depth model for varying shapes of obstruction'-International Journal of Hydrology Science and Technology, September 2019, 9(3): 303-312.
7. "Effect of Gradation of Bed Material on Local Scour Depth". Geotechnical and Geological Engineering, Springer Publication, August 2018, 36(4): 2505-2516.

Any other R&D Activity for the year 2018-19

Workshops Organized

1. TEQIP III sponsored one week workshop on "Water Conservation and Management" organized by Water Resources Management Centre, National Institute of Technology, Srinagar, India. (30-07-2019 to 03-08-2019)



2. TEQIP III sponsored one week workshop on "Flood Management with focus on Jhelum Basin" organized by Water Resources Management Centre, National Institute of Technology, Srinagar, India. (08-07-2019 to 12-07-2019)



Central Workshop

Department wise list of projects undertaken by Central Workshop for the years2018 and 2019

S.No.	Department	B. Tech/M. Tech/PhD	No. of projects
1.	Mechanical EngineeringDepartment	B. Tech	29
2.	Mechanical Engineering Department	M. Tech	4
3.	Mechanical Engineering Department	PhD	6
4.	Civil Engineering Department	B. Tech	14
5.	Civil Engineering Department	M. Tech	4
6.	Civil Engineering Department	PhD	8
7.	Metallurgy & Materials Engineering	B. Tech	14
8.	Metallurgy & Materials Engineering	PhD	3
9.	ECE & Elec.	B. Tech	7
10.	Chemical Engineering Department, I.T & CSE	B. Tech	6
11.	Physics	PhD	1
Total No. of projects			96

List of Workshop practice classes & Examination conducted during the year 2018-2019

S. No.	College/University	Year of Conduct	Classes/Examination
1.	Kashmir University North Campus	2018	Classes & Examination
2.	Govt. College of Engineering & Technology	2018	Classes & Examination
3.	Kashmir University North Campus	2019	Examination

Ph.Ds Awarded during the years 2018 and 2019

Department	Chemical Engg.	Electrical Engg.	E&C Engg.	Mechanical Engg.	Mathematics	Chemistry
Number	01	01	06	09	05	04



Placement Details for the Year 2018-19, Batch 2015-19 Passing Out in 2019(July 2018-May 2019)

S.No.	Name of the Company	Civil	ELE	CSE	Mech	ECE	Chem	Metta	IT	Total	CTC/Annum
1.	Fourkites India Pvt Ltd.	--	--	4	--	--			2	06	12/9 LPA
2.	Medlife	--	--	3	--	--	--	--	--	03	12 LPA
3.	Nutanix			1						01	28 LPA
4.	Teksystem			2					1	03	6 LPA
5.	Grey B		1	1	1	2		1		06	5.2 LPA
6.	Resonance		2		1	1				04	4.5 LPA
7.	Wipro Turbo			4		4			3	11	6.5 LPA
8.	L & T Construction	9	7							16	6.25 LPA
9.	Amdocs			4		1			1	06	4.75 LPA
10.	Nextscm Solution Pvt. Ltd			2					1	03	11.54/6.9 LPA
11.	Zs Associates					1				01	6.5 LPA
12.	Avanti Learning				1					01	6.2 LPA
13.	Infosys (Power Programmer)			1						01	8 LPA
14.	JIO Financial Services			2		2				04	4.5 LPA
15.	Persistent System			3					2	05	6.41/4.41 LPA
16.	Saggezza			4					4	08	8/6 LPA
17.	Mahindra Comviva			2					2	04	6.67/6.63 LPA
18.	Vedanta		2		6		4		6	18	8 LPA
19.	Sagacious Research		1	1	1	2				05	4.2 LPA
20.	Kpit Technologies		5			16				21	5.5 LPA
21.	Tata Power		1			1			1	03	5.5 LPA
22.	Virtussa Polaris								2	02	5 LPA
23.	Cummins				1					01	5 LPA
24.	Greaves Cotton				6					06	4.5 LPA
25.	SKF				2					02	5.2 LPA
26.	Escorts				6					06	3.75LPA
27.	Gail India	2								02	17 LPA
28.	BYJUS					1	5	5		11	10/6 LPA
29.	ESSAR Steel India		3		2			5		10	3.75 LPA
30.	Infosys			3			2	1		06	3.60 LPA
31.	IKARUS (Intern)					1				01	10 LPA
32.	Cogoport			1						01	11 LPA
33.	NHIDCL	4								04	
34.	Gammon Pvt Ltd	4								04	4.5 LPA
35.	JSW						1	2		03	5.13 LPA
36.	JCB				3					03	5.0 LPA
37.	HLC Asia				1					01	8 LPA
38.	Anglo Eastren				1					01	6 LPA
39.	JIO Infocom Pvt Ltd								2	02	4.5 LPA
40.	Wheelseye Technologies Pvt Ltd			1						01	8.0 LPA
41.	Stellarix					1				01	4.5 LPA
42.	Blogvault (Intern)			1						01	10 LPA
43.	BYJU's					2		1	1	04	8 LPA
44.	Mind Tree			1		1			1	03	3.75 LPA
Total		11	22	41	32	36	13	19	24	206	

A Tribute to Late Prof. O. N. Wakhlu (Former Principal REC Srinagar) From 1st Director of NIT Srinagar



The first contact

I knew Prof O. N. Wakhlu almost from the beginning after entering REC at Naseem Bagh as a student (1962). He was one of the few faculty members with an Engineering doctorate degree in its earliest days. Prof Wakhlu was also our Estate Officer then. Those days we used to live in wooden barracks as our hostels having open verandahs and pathways. During the autumn months red chinar leaves of surrounding trees would fall and spread all around. Many a time I would see him holding a bloom in his hands and gracefully start winding away leaves from our hostel pavements leaving us embarrassed for not initiating the cleaning work ourselves rather than waiting for our barrack boys to do the job. He had an obsession with keeping the ambience neat and clean. I have even noticed him sporting a conical Kashmiri skull cap to show his love for our dress and culture. He would always be dressed elegantly and appreciate others dressed so. He taught us by Example!

As a colleague and boss

On joining REC as a young Assistant Professor in 1975, we soon became respectful and fairly close to each other. Later when he took over as first Kashmiri Principal in 1977, he entrusted me a variety of responsibilities including the students' related activities, host of academic assignments and establishment of Electronics and Communication Department. We remained next door neighbors for nearly six years during 1982 -87. He loved teaching and continued doing so even when he was the Principal of the College. He provided inspiration and aroused passion for academics and profession in young engineering students. He would say we as teachers are actors to play our part and leave a deep footprint upon young impressionable minds. We often serve as role models for our students. He continued his love for sanitation and cleanliness so much so that whenever any event or function would be held in his office or board room, he would personally go around wash rooms and check towels and washbasins himself.

REC as his love child

I found him always passionate about building the college and establishing it as a Centre of Excellence. During his period the existing departments were strengthened and new initiatives launched. These included Water Resources Management Center, first M.E. programme in Civil Engineering Department

and research activities leading to Ph. D. Degrees in Sciences, establishment of Electronics and Communication Department and Computer Centre and related activities. During his tenure, rigorous construction works were taken like Jhelum Hostel, beautifully located Guest House, faculty residences and buildings for Electronics, Chemical and Metallurgical Engineering Departments including Maintenance Engineering center to mention a few. The beautiful rosary or rosarium (rose garden) near Guest House is a witness to his love for beauty and the college.

I had the opportunity of having long interactions with him. Whenever I would come up with some plans or project, he would immediately welcome and react with expression "Dr Wani, let us do something good for our REC which is a source of our Bread and Butter!" He would always be obsessed with thinking of how to improve the College. He nurtured REC so affectionately.

REC Image and its reputation

He was eager to establish the image of REC in the society and took various initiatives for the same. He setup a strong consultancy scheme, establishes Alumni Association, public reach out programmes like active participation in Industrial Exhibition events, Red Cross activities and had wider interaction with society. We participated equally in KheerBhawani Mela, Gurudwara and local Dargah Hazratbal Shrine events. He would visit homes of students living in remote rural areas to felicitate and encourage them. He was particularly enthusiastic about the education of girl students especially from Muslim community. During his period there was an emphasis on innovative projects e.g. local Choola Scheme, Carpet weaving scheme etc. The College had earned 3rd or 4th position among top RECs during that time.

As a Kashmiri

He loved Kashmir and always took pride in being a Kashmiri. Sufficiently knowledgeable of its Art and History and deep rooted in its culture and traditions and our specific traits and signature as Kashmiris, he would often dwell deep in our origin and provide analytical explanations for the why's and how's of our living habits. When during early 1990's he along with Madam Wakhlu was dislocated from their home, I understand, they looked at their captors like their children and often advised and counseled them

passionately. He never left Kashmir during the turbulent period and lived here to be a part of the people to go through the experiences of the difficult days.

The Institution of Engineers

He established strong bonds with this local Institution of Engineers Chapter and played pivotal role in the procurement and construction of its present premises and facilities. During that period REC became the 2nd office of the Institution of Engineers (local chapter) and large number of faculty and staff became its members. We even setup branch-wise student chapters in REC and organized events and functions for the same. His tenure as its Chairman (1975-77) and a life long association with the institution is a huge asset to last for a long time to come.



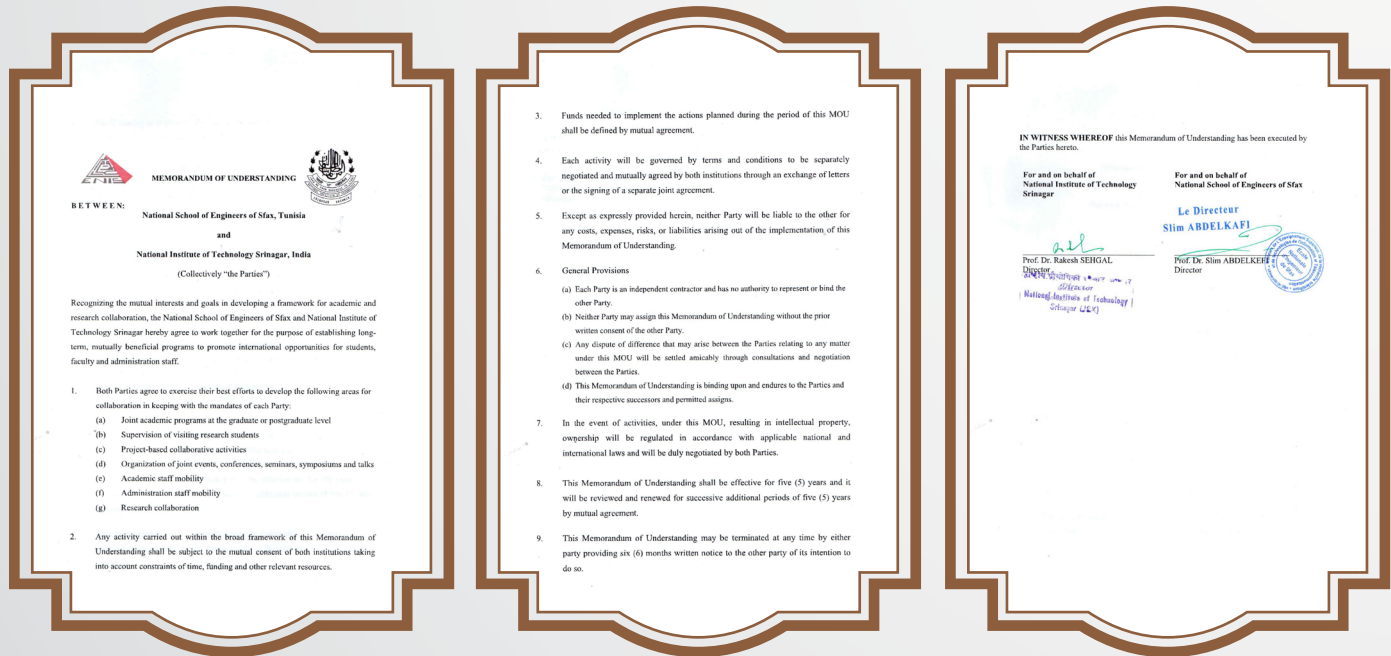
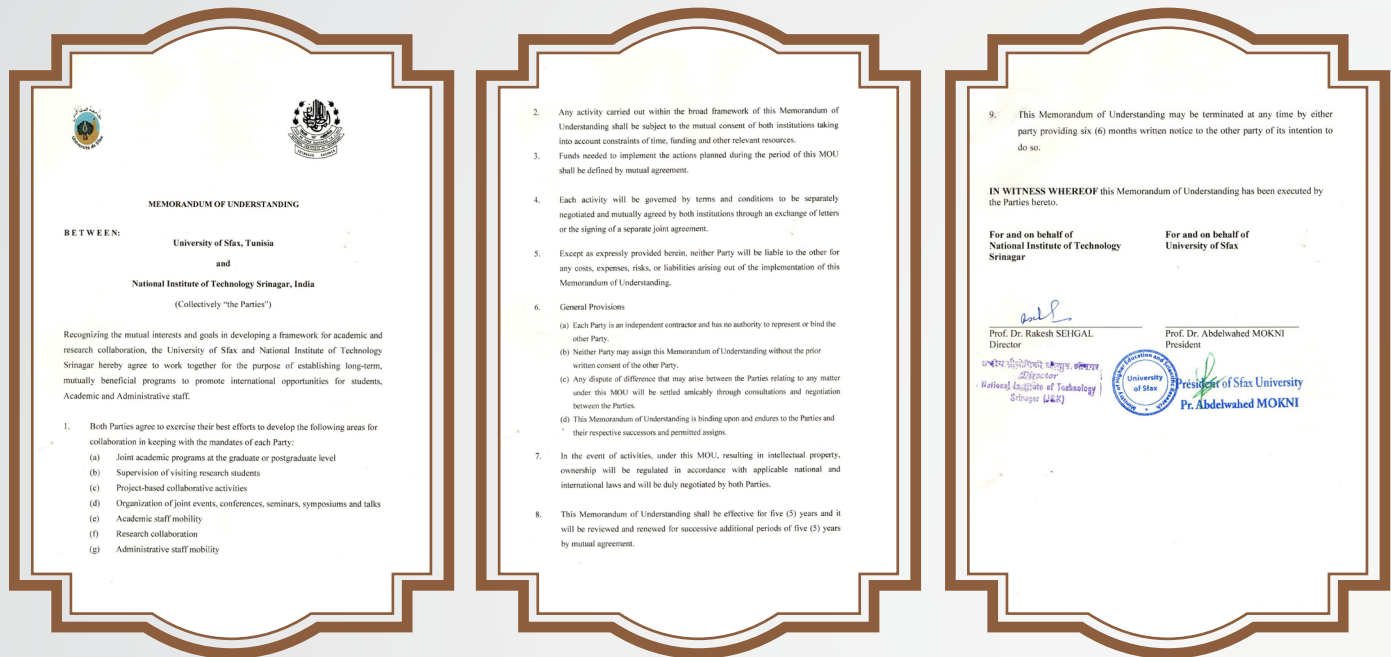
PROF. O. N. WAKHLU
Former Principal - REC, Srinagar



MoU signed between National Institute of Technology Srinagar & Sfax University / Universite de Sfax (No. 1 University of Tunisia and oldest University of Tunisia, # 8 University of Africa)



Signing of MoU between National School of Engineering, Sfax Tunisia and National Institute of Technology Srinagar (J&K) for exchange of faculty and students for academic activities on 21/12/2018. The University has 32000 students, 4159 Academic staff, 1400 administrative staff, 56 research labs, 53 research units, 6000 graduates/yr, 5 faculties & 4 schools. Among the dignitaries present on the occasion were President, University of Sfax - Prof. P. Abdelwahed Mokni, Director NIT Srinagar - Prof. Rakesh Sehgal, Prof. M.F. Wani, Prof. Mohammad Khattar, Prof. Mahar Dammak and Madam Fatima-Gharbel, Head of International Relation office, University of Sfax.





Glimpses of institute through the seasons



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