



NIT Srinagar & IIT Kharagpur



Central & State Government

In association with: SKUAST/NITs/IITs/ISERS/NISERS/USTM/SSM/State and Central Universities

International Conference on Nanotechnology for Better Living, NBL-2019

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NBL-2019

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A Joint Initiative By



NIT Srinagar & IIT Kharagpur

From: 07- 11th April, 2019

Venue: National Institute of Technology Srinagar

Abstract Submission Open upto: 30th December, 2018

Chief Patron: Prof. Rakesh Sehgal, Director NIT Srinagar / Prof. P.P. Chakrabarti, Director IIT Kharagpur

Patrons: Prof. M.F. Wani, NIT Srinagar / Prof. Pallab Banerji, IIT Kharagpur

Indian Institute of Technology Kharagpur: A Brief Profile

IIT Kharagpur became the nursery where the seed of the IIT system was planted in 1951. Spurred by the success of IIT Kharagpur, four youngsters IITs sprouted around the country in the two following decades, and from these five came thousands of IITians, the brand ambassadors of modern India. It was the success of this one institution at Kharagpur that wrote India's technological odyssey. The present name 'Indian Institute of Technology' was adopted before the formal inauguration of the Institute on August 18, 1951, by Maulana Abul Kalam Azad. The IIT Kharagpur is one of the very few Institutions all over the world which started life in a prison house and is now of the most prestigious institution of the world. For details, please visit www.iitkgp.ac.in

National Institute of Technology Srinagar: A Brief Profile

The National Institute of Technology, Srinagar (NIT), one of the leading institutes in north of the country, had the unique distinction of becoming an Institute of National Importance under the NIT Act under the auspices of Ministry of Human Resources Development, Govt. of India. The prestigious technical institute has ten departments which cater six postgraduate and ten undergraduate programmes besides offering Ph.D. degree in all Engineering and Science disciplines. For details, please visit <http://www.nitsri.net>

Preamble: A revolution is occurring in science and technology, based on the recently developed ability to measure, manipulate and organize matter on the nanometer scale. At the nanoscale, Physics, Chemistry and Biology, Medical sciences, Materials science and Engineering converge to same principles and tools. As a result progress in nanoscale will have far reaching impact and the next revolution in science and technology will depend on science interdependence. Today's scientists and engineers are finding a wide variety of ways to deliberately make materials at the nanoscale to take advantage of their enhanced properties such as higher strength, lighter weight, increased control of light spectrum, and greater chemical reactivity than their larger-scale counterparts. Some of these areas are as **medicine, electronics, food, fuel cells, solar cells, batteries, space, better air quality, cleaner water, chemical sensors, fabric and Construction.** Tremendous progress has been made in the area related to research, design, development, testing and commercialization of some of nano-materials all over the world. However, significant challenges still remain to further develop and improve the properties of these materials for maximum utility and widespread use. This is the main driving force for holding international conference "Nanotechnology for Better Living" and bringing together academicians and researchers to share knowledge and exchange their views. We hope cooperation from all corner across globe.

CHAIRMAN

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Prof. W. M. Shah Advisor from CU-K	Prof. F. A. Zaki Advisor from SKUAST-K	Prof. N. A. Shah Advisor from SSM-K

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Dr. A.H. Sofi shifs237@gmail.com (For Registration)	Er. Mursal Hamdani icnbl@nitsri.net (For Accommodation)	Dr. Tauseef Ahmad icnbl@nitsri.net

Advisory Board: Scientists/Academicians/Industrialists/Innovators/policy makers/Chairpersons

Dr. M A Shah

Convenor/Chair (inspire@nitsri.net)

Hand Set: +91-9419018195

Dr. Harkirat Singh

I/C Conf. Secretariat

Event Spectrum

- 10 Plenary Talks of Nobel Laureates and distinguished scientists.
- 20 Key note addresses on Nanotechnology
- 50 Invited talks from world renowned academicians
- Meet of the Heads of the Scientific Attachés of the country
- Special sessions of DRDO/DAE/CSIR/NSA
- Research Industries interaction- Business opportunities
- Panel discussion with stalwarts of Nanoscience
- Exhibition on world approved products/equipments
- Young Scientists Meet/ Young Innovators Meet
- Special session for Women's Working in Nanotechnology
- U.G./PG Students Sessions with Nano-People
- Opportunity for Research Collaboration/For MOUs
- Awards (Young Researcher/Young Scientist/ Best Posters)
- Post conference - Journal publications with Nature in Progress

Event Statistics

- Over 300 delegates
- Powerful deliberation by 50 experts
- Exhibitions by 50 International Companies
- Representation from 50 Countries
- Poster Presentations by 100 young scientists
- Participation of 100 organizations
- Participation of 100 meritorious students

Conference Focus

Advanced Nano-Materials | Functional Biomaterials
Energy & Environment | Nanocomposites | Global Connect
Nano-Fabrication | Health care & Medicine | Oil & Gas
Information Technology | Business opportunities | Devices & Sensors
Nano-Medicine | Storage & Solar cells | applications | Innovations

Call for Papers:

Scientists/academicians are invited to write full length papers in MS word related to the broad themes of the conference as per the guidelines uploaded. The abstracts should not exceed 250 words can be submitted through mail latest by 30th Dec. 2018 (icnbl@gmail.com). Pre-conference Tutorials- Inspiration & deeper understanding in this cutting edge technologies, a dedicated day for pre-conference tutorials will enhance the skills and offer a quite yet inclusive grasp of latest trends and opportunities in this cutting edge technologies. An excellent programme for students who have recently graduated with a bachelor's degree in science and engineering/doctoral students/post doctoral students, with a focus on this frontier research area & corporate who seeks a deeper understanding of this versatile area.

Register Now! www.shahnit.org

Poster- Walkway of discover & Innovation

A unique opportunity for scientists and researchers to share their innovation and research in Nanoscience & research institutes. Best posters shall be suitably rewarded. Register Now! www.shahnit.org

Research Industry Meet- Business & Science Meet

A unique platform developed for the benefit of young researchers and entrepreneurs to present their research work. It is expected to be attended by potential investors, Heads of the large R & D labs, venture capitalists and industry captains. Exhibition stalls are planned at the conference venue to generate awareness about start of art developments. Register Now! www.shahnit.org

Delegates Tariff up to 30th Dec 2018

For Registration details visit our Website
<http://www.nitsri.net>

Category	Ph.D. Students/ Research Scholars	Academicians/ R & D Institutes/ Laboratories	Industry/Business/ Clinics/Medical/Research of employees	Accompanying Person
Date	April 07-08	April 09-10	April 11-12	April 13-14
Currency	₹	\$	₹	\$
Amount	2000	200	7500	950
	10000	1000	10000	1000
	2000	200	2000	200

Note: After 30th December, 2018, 25% shall be charged extra on all above categories. Special registration fee: Add extra Rs. 30,000 (visit to other places)

Accommodation & Transport:

Paid accommodation would be arranged on request in the vicinity of the venue. Can be arranged in Hotels / Hostels/Guest Houses/ House Boats on request only.

Sponsorships: Central and State Govt Funding Agencies, Industries, Manufacturing companies & Banks.

NIT Srinagar to host 5th Edition of International Conference on

"Nanotechnology for Better Living" NBL-2019 scheduled from 7-11 April, 2019

NIT Srinagar (www.nitsri.net) in collaboration with IIT Kharagpur (www.iitkgp.ac.in) is organising the 5th edition of International Conference on "Nanotechnology for Better Living NBL -2019" from 7-11 April, 2019, in association with many prestigious institutions across globe.

The conference covers all areas of science, engineering, agriculture and medicine with an aim to gather well known National & International scientists to share new knowledge, current breakthroughs and practical challenges in this new and emerging field, which is still in infancy. NBL-19 will provide an interdisciplinary platform for experts in academia, industry and government to discuss ideas, research results, applications and experience on all aspects of Nanosciences & Nanotechnologies.

Nanosciences is regarded and acknowledged as a triumph of human ingenuity in modern times. The emerging field of nanotechnology is leading to a technological revolution in the world and is the next industrial revolution and almost all industries will be radically transformed by it. This technology would directly benefit a common man when it comes to commercial use. It has already established a beachhead in the economy in various sectors. Researchers from across academic disciplines could harvest solutions for the major crises facing the world in terms of energy, water shortages, hunger, an ailing environment, inefficient education, terrorism, poverty, fatal viruses and fatal diseases using the technique developed.

Conference tutorials have been arranged for the faculty and students registered for NBL-19 joining us from many institutions within the country and beyond. Since the course on nanotechnology shall soon be introduced in secondary schools and it is obligatory to make the skilled manpower available. The invited speakers of the conference include distinguished scientists, science advisers to governments and eminent researchers from all disciplines.

The Conference host, NIT Srinagar is one of the leading institutions in north of the country, located at the bank of famous Dal Lake Srinagar (Kashmir) and is just 11 Kilometers away from the international Airport Srinagar. Srinagar is well known for its calm climate and scenic beauty and is known to world as "Paradise". It is a very popular global tourist destination, known for its gardens, backwaters, lakes and hills.

*We humbly request you to encourage larger participation from your institutions/Centers to NBL-19, scheduled from 7-11 April, 2019. **The deadline for abstract submission is 30th of December, 2018.** Abstracts/Manuscripts submitted to NBL-19 will be peer reviewed and accepted papers shall be published in the special issues of some prestigious journals. We are blessed with the mentorship of a prestigious institution of the world –The IIT Kharagpur.*

*Dr. A. Shah & Prof. P Banerji
General Chairs*

Nanostructured Metallic Thin Films for Sensing Applications

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Nanostructured metallic thin films are key components of several proposed devices that promise to translate the discoveries of nanoscience and deliver technological solutions to issues ranging from energy security, affordable healthcare sensors, to robust digital storage etc. The advancement of Laser technology has enabled wide-spread use of Raman spectroscopy, with the main advantage over conventional vibrational (IR) spectroscopy being its insensitiveness to the presence of water vapour, rendering it an ideal tool for environmental sensing applications. Surface Enhanced Raman Spectroscopy (SERS) is a label-free, point-of-use Raman technique capable of exhibiting high selectivity, and sensitivity. The surface enhancement comprises of an electromagnetic effect and a charge-transfer effect. The nanostructured metallic substrate is the key factor that controls the electromagnetic effect, which is considered to be dominant factor and to be present in all situations. Therefore, significant research effort has gone into fabricating SERS substrates with characteristics like high sensitivity, signal uniformity, and reproducibility.

For most common applications, prefabricated SERS substrates are the key to commercialization. Over the last two decades, there has been rapid advancement in terms of uniformity, stability and reproducibility of silicon-based SERS substrates decorated with nanoscale plasmonic features. Flexible substrates, such as paper or plastic films, are gaining wide recognition as disposable, low-cost, SERS substrates. Paper enables pre-concentration of samples by using configurations such as dipsticks, filters, swabs, and lateral-flow platforms. Paper is also sought-after for being easily disposable by burning, which is of importance in bioanalytics.

Despite these advancements, the translation of SERS from laboratory setting to a field-setting is hindered by the inability to fabricate SERS active nanostructures on demand or store them in a scalable and economical manner. To address this issue, we fabricated silver-nanostructures *in situ* on paper by adapting our simple print-expose-develop process (see Fig.1),¹ which is based on salt-printing technique used in silver halide photographic process, and characterized their SERS activity. Most importantly, we show that photo-exposed silver halide film retains silver in a latent but stable form under atmospheric conditions, and that immersing such silver halide films in a standard photographic developer solution for a few minutes before use generates pristine, SERS-active, silver nanostructures on demand.

In this talk, we will present salient aspects of our fabrication process involving a hP office desktop printer and discuss the results of SERS activity characterization and its use as a swab to detect pesticides on fruit peels. Finally, we will highlight the unlimited shelf-life of our paper based substrates and also present some preliminary results of our work on fabricating other metallic nanostructures on paper for gas sensing applications.

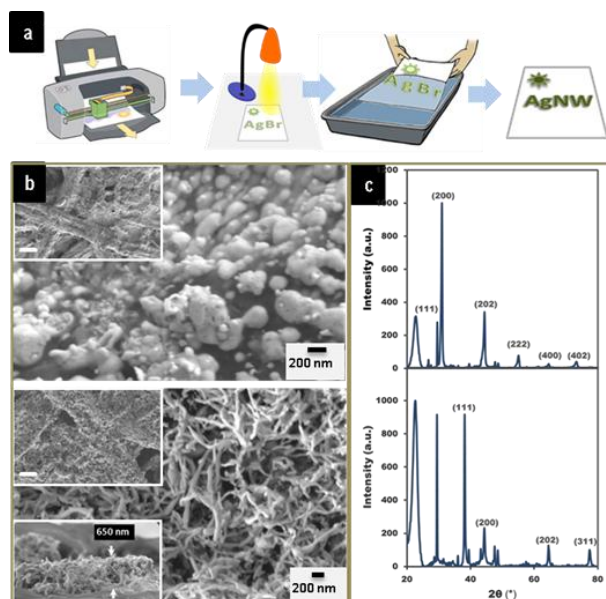


Figure 1:(a) Schematic representation of the print-expose-develop cycle. (b) FESEM images of the film after printing (top panel) and after light exposure and development (bottom panel). The insets in the top-left of these images are lower magnification images showing coated paper-fibres. The scale bars in these insets correspond to 10 μm. The lower inset in the bottom panel is a cross-sectional view of the nanostructured film. (c) XRD of the films formed on paper after printing (top panel) and after developing (bottom panel).

References:

- [1] Parmar, S. K.; Santhanam, V. *Curr. Sci.* **2013**, *107* (2), 262–269.
- [2] M.A Shah and T Ahmad, *Principles of Nanoscience and Nanotechnology*, Naroosa Publishing House New Delhi

Hotels recommended for ICNBL- 2019.

Rates are Approximate

Grade "A" Hotels (equivalent to 4-5 Star) Rates on Base Rooms Dbl CPAI/
Double Occupancy

1. Hotel Vivanta By Taj Dal View, Kralsangri, Cheshmashahi.
Rs.17500/-
2. Hotel Grand Lalit, Bouleverad. Srinagar.
Rs.17500/-

Grade "B" Hotels (equivalent to 3-4 Star)

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1. Hotel Heevan Resorts, Ishber, Shalimar, Srinagar.
Rs.10,000/-
2. Hotel Grand Mumtaz Resorts, Srinagar.
Rs. 5,000/-

To

Grade "C" Hotels (equivalent to 2-3 Star)

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1. Centaur Lake View Hotels, Cheshmashahi, Srinagar.
Rs.4700/-
2. Hotel Sunshine, Boulevard, Srinagar
Rs.3800/-
3. Hotel Nishat View, Ishber, Srinagar
Rs.3300/-

HOPE THE ABOVE IS IN ORDER.....

Sincere Regards
Peerzada Faiyaz Ahmed
9906414910



"Nanotechnology for Better Living" NBL-2019 From 7-11 April, 2019



Paste
Photo

KINDLY FILL IN A SEPARATE REGISTRATION FORM FOR EACH CONFERENCE PARTICIPANT

Title	1. Dr.	2. Mr.	3. Ms.	4. Prof.	Name:		
Affiliation							
Mailing Address							
City, Zip, Country				Passport Number :			
Mobile				Email			
ACCEPTED PAPER INFORMATION	Paper ID: Title of the paper: Authors:						
Co-Authors Details	1.		2.		Guided by: Mail ID: Contact No: Affiliation:		

PAYMENT INFORMATION

Total Amount (USD/INR)	Bank Name	Remitter	Date	Ref. No
	For online transfer (Debit card/Credit card/Online Banking)	Order ID/Traction ID:		

Payment of a registration fee cover, the cost to attend all conference activities, tea breaks, conference reception and banquet, and all lunches during the conference. In addition, each registrant will receive a copy of the conference proceedings with ISBN.

Notice that this registration fee does not cover transportation fee, accommodation fee, and after conference tour fee.

Note: It is mandatory to provide a scan copy of ID Proof along with this Registration form.

ADDITIONAL INFORMATION

- ☐ Will you present paper physically at the event-Poster/ Oral _____(Y/N).
- ☐ No. of Persons attending the event with you? (Including your family/friends)_____ (Please mention names overleaf)
- ☐ Will your Guide/HOD/Principal attend the Event?_____ (Y/N).
- ☐ Will you require an accommodation:.....(Y/N)
- ☐ Will you require local tour/transport:.....(Y/N)

Declaration & Undertaking

1. I have not published this paper anywhere before.
2. I will not cause or involve in any sort of violence or disturbance within and Outside of the Conference/Event venue.
3. Organisers have all rights reserved to shift the venue, rescheduling the date of the Event.
4. I do hereby declare that all the information given by me is true and if at any moment it is found to be wrong my registration for event will be cancelled by Committee and take necessary actions demanded by law of the country.
5. I am transferring the Copyright of my paper to NB-19.

Signature: _____ Current Date (DD/MM/YY) _____

Remarks: _____

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