

About NIT Uttarakhand:

National Institute of Technology Uttarakhand is amongst the 10 new NITs, located in the hilly terrain of Srinagar Garhwal on the banks of Alaknanda river. NIT Uttarakhand was established in 2009 under the Act of Parliament of India by the Ministry of Human Resource Development and designated with the status of "Institute of National Importance". The temporary campus of NIT Uttarakhand is functional from two campuses, i.e., the Polytechnic and the ITI campuses. The institute has made rapid growth in the recent past in terms of starting new academic programs, revision of academic curriculum, development of laboratories and infrastructure.

Theme of the WCWS-2019:

The workshop on "Methods for nonlinear dynamical systems and chaos" focuses on the following areas:

- ❑ Dynamical systems – simple example problems on autonomous and non-autonomous systems.
- ❑ Bifurcation – Direct, Hopf, co-dimension one and co-dimension two bifurcations, inverse bifurcation, Takens-Bogdanov bifurcation – example problems.
- ❑ Onset of Chaos – Meaning and ways of quantifying it – Hopf bifurcation point, Maximum Lyapunov exponent and bifurcation diagram. Regular, chaotic, periodic and mildly chaotic regimes. Discussion on the algorithms for the above problems.
- ❑ Reduction of higher dimensional autonomous dynamical systems to lower order ones - Multi-scale methods, Center manifold theorem and Renormalization group method.
- ❑ Hands-on experience in the computer laboratory on topics concerning concepts learnt in the theory classes.

ORGANIZING COMMITTEE

PATRON

Prof. Shyam Lal Soni
Director, NIT Uttarakhand

CONVENERS

Dr Nitin Sharma
Dr Kusum Sharma

COORDINATORS

Dr Dharmendra Tripathi
Dr Kuldeep Sharma
Dr Dheerendra B. Singh

Goals of WCWS-2019:

- ❑ Impart knowledge on theoretical and computational aspects of nonlinear dynamical systems and chaos.
- ❑ Expose young researchers to a series of lectures by leading scientists working in the area of computational mathematics.
- ❑ Provide hands-on experience in the computer laboratory to the participants.
- ❑ Give opportunity to youngsters for exchanging ideas with experts as this shall help them start new projects and collaborations.

Resource Persons:

- ❑ Prof. P. G. Siddheshwar, FNASc, Bangalore University
- ❑ Prof. S. Ghorai, IIT, Kanpur
- ❑ Prof. G. C. Layek, The University of Burdwan
- ❑ Dr Y. Rameshwar, Osmania University, Hyderabad
- ❑ Dr Mahesha Narayana, University of West Indies
- ❑ Dr O. P. Suthar, MNIT Jaipur
- ❑ Dr Kanchana C., Harbin Institute of Technology, China

TEQIP-III SPONSORED

Workshop Cum Winter School On Methods for Nonlinear Dynamical Systems and Chaos (WCWS-2019)

(December 23-27, 2019)



Organized By

Department of Mathematics
National Institute of Technology Uttarakhand
India

Venue: National Institute of Technology
Uttarakhand
Satellite Campus-MNIT Jaipur
JLN Marg, MNIT Jaipur-302 017 (Raj.), India



About Department of Mathematics:

The Department of Mathematics offers U.G. courses and Ph.D. programmes. The faculty of the department conducts research in areas such as Summability and approximation theory, Mathematical modeling, Bio-fluids, Mathematical Biology, Computational Mechanics, Numerical Analysis, Fracture Mechanics, Smart Materials, Nonlinear Waves, Hyperbolic Systems of PDEs and other allied fields.



How to reach NIT UK, Satellite Campus- MNIT, Jaipur

Jaipur is well connected by road, rail and air services. It is about 270 kms from Delhi. MNIT Jaipur is situated on Jawaharlal Lal Nehru Marg and is about 9 kms from main railway station of Jaipur as well as from Central Bus Stand (Sindhi Camp). Airport (located at Sanganer) is about 5 kms away from the Institute.

Address for Correspondence:

Interested persons should send the nomination on the enclosed proforma duly signed by the appropriate authority along with the course fee to:

Dr Kusum Sharma

Assistant Professor

Department of Mathematics

National Institute of Technology, Uttarakhand
Satellite Campus-MNIT Jaipur, VLTC-3rd Floor
JLN Marg, MNIT Jaipur – 302 017 (Rajasthan)

Mobile: +91-9413925701

E-mail: kusum31sharma@nituk.ac.in

About Jaipur

Jaipur is situated in Northern India at a distance of around 260 km south of Delhi. It offers a multitude of interesting places and attractions such as lush parks and places for recreation. There are several magnificent palaces and forts. It is a city of fun, food and festivals. Vibrant color, lively folk music and dance performances mark the celebrations of every religious occasion and every change of season.

Jaipur, known as the Pink City, was founded in 1727 AD by one of the greatest rulers of the Kachhawaha clan, the astronomer King Sawai Jai Singh.

REGISTRATION FORM

Workshop Cum Winter School

On

Methods for Nonlinear Dynamical Systems and
Chaos

(December 23-27, 2019)

1. Full Name
2. Designation
3. Organization
4. Academic Qualification.....
5. Mailing address
6. Email
7. Phone/Mobile
8. Accommodation required: Yes/No.....
9. Payment Details:(CASH/ONLINE).....

Place :

Signature of the applicant

Important Dates

Registration	November 15, 2019
Notification for Acceptance	November 30, 2019
Last date for Accommodation Requests	December 15, 2019

Accommodation & Transport:

Limited accommodation is available in the MNIT Hostels for outstation participants on payment of nominal charge and on first come first serve basis. Charges of Institute Hostel's Guest rooms are approximately ₹ 200/- per day. No TA/DA will be provided to the participants. Please note that

Registration Details

Registration Fee: There is limited number of seats. Selection will be done on first come first serve basis. It is therefore advised that the candidates should get registration done as soon as possible. Registration fee (non-refundable) includes registration kit, course certificate, tea and lunch. However, no fee will be charged for the students (PG & PhD) of TEQIP funded Institutions.

Category of Delegates	Amount (₹)
Academic/Industry	1500.00
PG/PhD	1500.00



State Bank of India

Bank Details:

Account Name	NIT, Uttarakhand
Name of the Bank	State Bank of India
Bank A/c Number	37843015175
Bank Address	Srinagar, Distt- Pauri Garhwal Uttarakhand
IFSC Code	SBIN0003181

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