

National Institute of Technology Karnataka, Surathkal
Srinivasnagar, Mangaluru – 575025

Registration Form

Practical Analysis of Environmental Data With Open Source
Software (R and QGis)

February 05-09, 2018

Under

Global Initiative of Academic Networks (GIAN), MHRD

Name:.....

Designation:.....

Department:.....

Address:.....

.....

City:.....Pin-code:.....

Telephone:.....

Email:.....

Category of the Applicant:

- Student/Research Scholar of other Institutes
 Faculty of other Institutes
 Employees of Government Organizations
 Foreign Delegates
 Industry Participants
NITK Accommodation required: Yes No

Payment Details:.....

Amount (Rs.):.....

DD. No. and Date:.....

DECLARATION BY THE PARTICIPANT

The information furnished above is true to the best of my knowledge. If selected, I shall attend the program for the entire duration. I also undertake the responsibility to inform the Coordinator sufficiently in advance, in case I am unable to attend the program.

Date: Signature of Applicant

SPONSORSHIP CERTIFICATE

Certified that Dr./Mr./Ms.....
.....is an employee of our institute and is hereby permitted to attend the Five-day short Term course on "Practical Analysis of Environmental Data with Open Source Software (R and QGis)", if selected.

Place: Signature (with seal)

Date: Head of the Institution

Participants who attend the entire course will receive a participation certificate.



NITK,
Surathkal

Address for Correspondence

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Student Coordinators

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A Short Term Course on Practical Analysis of Environmental Data with Open Source Software (R and QGis)

February 05-09, 2018

Organized at



Department of Applied Mechanics and Hydraulics
National Institute of Technology Karnataka, Surathkal

Supported by



सत्यमेव जयते
Government of India
Ministry of Human Resource
Development

Global Initiative of Academic Network (GIAN)

Dr. Amba Shetty Dr. Pruthviraj U.
Coordinators

Department of Applied Mechanics and Hydraulics
NITK Surathkal, P.O. Srinivasnagar – 575 025, INDIA.
www.nitk.ac.in

GIAN – MHRD

“GIAN” program started by Ministry of Human Resource Development, Govt. of India aims at tapping the talent pool of Scientist and Entrepreneur Internationally to encourage their engagement with the institutes of higher education in India so as to augment the country’s existing academic resources, accelerate the pace of quality reform, and elevate India’s scientific and technological capacity to global excellence.

Under the scheme “GIAN”, the Department of Applied Mechanics and Hydraulics, NITK is going to organize a week program (Feb 05-09, 2018), where in an internationally acclaimed expert with proven knowledge, experience and skills in research, teaching as well as training will deliver lectures and discuss about the issues related to his areas of research with participating researchers /scientists.

About the Course

This course will introduce to the practical analysis of environmental data with the R software and data provided by the participants. First we discuss how a data base must be structured to facilitate statistical analysis and analyse the data sets of the participants. Then we import the data bases in R and use different methods to manipulate, summarize and restructure the data. The following exploratory data analysis (EDA) uses simple statistics and graphical methods to get a first overview of the data sets under different perspectives. The program of the following days depends on the data bases and the questions of the participants. Possible subjects are linear and non-linear regression methods, analysis of variance, multi-variate methods, analysis of time series (auto- and cross-correlation) and treatment of spatial data in R and the use of R as a replacement for GIS.

Teaching Faculty

Dr. Georg Hörmann studied agricultural sciences and holds a PhD in



agriculture. Since 1988 he works at Kiel University in different positions (research, teaching and coordination of research projects). Currently he works as a senior scientist at the Institute of natural resources, department of hydrology and water management. He teaches GIS, statistics and modelling at Kiel University. His special focus lies on the use of open source software (Qgis, R) to facilitate the distribution of knowledge without artificial license limitations of commercial software. His preferred teaching method is project based learning where the students have to deal with their own real world data and problems instead of simplified versions of well known data sets. He has won several awards for innovative teaching and organized and taught courses in summer schools since 2004 in several countries. Current research projects include transport of water and pesticides, statistical analysis of long term ecological monitoring and digital image analysis of soil

Course Layout

Feb 05– Monday

Lecture 1 - 9:30 to 10:30 AM

Introduction of the course and the software used

Lecture 2 - 10:45 to 11:45 AM

How to create a structure of a data base for statistical analysis

Tutorial 1 - 2:00 to 5:00 PM

Setup of the software and computers, first steps with R, import of data bases in R, conversion of data

Feb 06 Tuesday

Lecture 3 - 9:30 to 10:30 AM

Data management with R

Lecture 4 - 10:45 to 11:45 AM

Exploratory data analysis (EDA)

Tutorial 2 - 2:00 to 5:00 PM

Practical EDA

Feb 07– Wednesday

Lecture 5 - 9:30 to 10:30 AM

Regression analysis with R

Lecture 6 - 10:45 to 11:45 AM

Analysis of variance (ANOVA)

Tutorial 3 - 2:00 to 5:00 PM

Work with users data sets (regression and anova)

Feb 08– Thursday

Lecture 7 - 9:30 to 10:30 AM

Time series analysis

Lecture 8 - 10:45 to 11:45 AM

Spatial data in R (and Qgis)

Tutorial 4 - 2:00 to 5:00 PM

Maps in R (display of own data, links to Google maps, Open street map etc.)

Feb 09 Friday

Lecture 9 – 9:30 to 10:30 AM

Time series analysis

Lecture 10 – 10:45 to 11:30 AM

Preparing the presentations of final results

Afternoon Session - 2:00 to 5:00 PM

Examination for Student participants/Presentation by Participants

Participants are encouraged to use their own laptops and to bring their own data sets, all software used in the courses is free.

Important Dates

Registration Begins	26 th November, 2017
Registration closes	26 th December, 2017
Selection Notification	1 st January, 2018
Last date for fee Payment	5 th January, 2018

Course Registration fee (excluding boarding and lodging):

Faculty/Student/Research Scholar of NITK	N/A
Student/Research Scholar outside of NITK	Rs. 5000
Faculty outside of NITK	Rs. 8000
Employees of Government Organizations	Rs. 10,000
Industry Participants (maximum 4 members)	Rs. 20,000
Foreign Delegate	USD 500

Payment Mode

- The intake of participants is limited to 50 and shall be decided as per the decision of the event coordinators.
- Once an applicant is selected, he/she/they can complete the payment by paying the applicable fee through a **crossed DD** drawn in favor of **Director, NITK Surthkal**, payable at any nationalized bank at Surathkal / Srinivasnagar, along with the duly filled registration section attached to this brochure.
- The final registration should be done before the last date of payment.
- Applicants can send a scanned copy of the DD and duly filled registration to the coordinator via email before the last date of payment (qgis2018gian@gmail.com).

Accommodation

A limited number of accommodation on campus is available on a first come first served basis. Interested participants will have to inform the event coordinator in advance and pay the additional fees as per the guest house rules and regulations. Type of accommodation and associated fees are listed below :

Type of Accommodation	NITK in-campus Guest House		
	IH (Non-AC)	JC Bose (AC)	C.V. Raman (AC)
Single	Rs. 200	--	--
Double	Rs. 300	Rs. 600	Rs. 700