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of the Western Ghats, National Institute of Technology Calicut is located about 22 kilometres north-east of the Calicut city, also known as *Kozhikode*. Calicut, “the city of virtues” located in the Malabar region of the Kerala State, found a place in the world history with the discovery of a sea route to India in 1498 by the Portuguese navigator Vasco Da Gama. Basking in the idyllic setting of the Arabian Sea on the west and the proud peaks of the Wayanad hills on the east, Calicut is known for its serene beaches, lush green countryside, historic sites, calm backwaters, wildlife sanctuaries, rivers, waterfalls and ayurvedic treatment

ABOUT THE DEPARTMENT OF CSE @ NIT CALICUT
The Department of Computer Science and Engineering (CSE) of NIT Calicut currently offers undergraduate programme in Computer Science and Engineering, graduate programmes in CSE and CSE (Information Security), MCA Programme, and research programme leading to Ph.D degree. The fast changing scenario in Information Technology necessitates the department to actively extend its research and development activities. The major research activities are in the areas of Algorithms and Complexity, Bioinformatics, Cloud Computing, Compilers, Computer Architecture, Computer Vision, Data Mining and Image Processing. The department also strives to fulfill its social responsibility by extending technical support to government and non-governmental organizations through community outreach programmes.

ADDRESS FOR CORRESPONDENCE
Dr. Abdul Nazeer K A / Dr. Gopakumar G
Coordinators
GIAN Course on Data and Text Mining in Bioinformatics
Department of Computer Science and Engineering
National Institute of Technology Calicut
NIT Campus P.O., Kozhikode - 673601, Kerala, India
Phone: +914952286818; +91 9446032724
Email: gian-dtmb@nitc.ac.in

of the above documents can be sent to gian-dtmb@nitc.ac.in. The DD/Receipt of NEFT/RTGS and the original registration form (hard copy) must reach the course coordinator on or before **August 14, 2018**. The maximum number of participants of the program would be limited to 50.

Account Name : DIRECTOR NIT CALICUT
Account No. : 35909407299
Bank : State Bank of India
Branch : NITC, Chathamangalam, Kozhikode
Branch Code : 002207
IFSC : SBIN0002207
MICR Code : 673002012
SWIFT Code : SBINPN BB392

IMPORTANT DATES

Last date for receiving applications	: August 14, 2018
Last date for Intimation to Participants by email	: August 17, 2018
Course Duration	: Sept 10-14, 2018

ABOUT GIAN COURSE

MHRD, Govt. of India has launched an innovative program titled “Global Initiative of Academic Networks (GIAN)” in higher Education, in order to garner the best international experience. As part of this, internationally renowned Academicians and Scientists are invited to augment the Country’s academic resources, accelerate the pace of quality reforms and elevate India’s scientific and technological capacity to global excellence.

ABOUT NIT CALICUT

National Institute of Technology Calicut (NITC) is one of the 31 institutions of national importance governed by the NIT Act 2007 and is fully funded by the Government of India. Originally established in 1961 as a Regional Engineering College (REC), it was transformed into a National Institute of Technology in the year 2002. The institute offers bachelors, masters and doctoral degree programs in Engineering, Science, Technology and Management. With its proactive collaborations with a multitude of research organizations, academic institutions and industries, the institute has set a new style for its functioning under the NIT regime. The Institute is presently offering ten UG programs and thirty PG programs along with Ph.D programme in various fields of Engineering, Science and Technology. Set in a picturesque landscape at the foothills

The GIAN logo is prominently displayed at the top right, with the tagline 'GLOBAL INITIATIVE OF ACADEMIC NETWORKS' below it. A large, stylized DNA double helix graphic runs vertically down the right side of the page, with binary code (0s and 1s) integrated into its structure. The background of the right section is a light blue gradient with faint binary patterns.

GIAN Course on Data and Text Mining in Bioinformatics

September 10-14, 2018

INTERNATIONAL FACULTY
Prof. Mathew J Palakal
Professor of Informatics &
Senior Executive Associate Dean
Indiana University-Purdue University
Indianapolis (IUPUI), USA

HOST FACULTY / COURSE COORDINATORS
Dr. Abdul Nazeer K A and Dr. Gopakumar G
Department of Computer Science and
Engineering
National Institute of Technology Calicut
Kerala, India

LOCAL COORDINATOR
Dr. Ashok S
Dean Research & Consultancy,
National Institute of Technology Calicut
Kerala, India

Dept. of Computer Science and Engineering
National Institute of Technology Calicut
NIT Campus P.O., Kozhikode-673601, Kerala, India



GIAN Course on Data and Text Mining in Bioinformatics



ABOUT THE COURSE

Bibliomics has an important role in Systems Biology research along with the other “omics” such as genomics, proteomics, and metabolomics. As data and information space continue to grow exponentially, the need for rapidly surveying the published literature, synthesizing, and discovering the embedded “knowledge” is becoming critical to allow the researchers to conduct “informed” work, avoid repetition, and generate new hypotheses. Biomedical literature or publications are the most comprehensive resource of the knowledge amassed in biomedical research. Since it is hard for scientists to manually keep up with this exploding amount of biomedical literature, text mining or automated retrieval of knowledge from biomedical literature has gained more importance over the past several years. Identifying such intricate associations from millions of biomedical text databases will lead to the discovery of new knowledge to understand complex diseases, discovering new drugs and ultimately helps to promote personalized medicine.

Primary objectives of the course are the following:

- To understand the computational aspects of text data mining in the context of biomedical literature
- To become familiar with numerous data mining and statistical techniques that are necessary for handling biomedical texts
- To familiarize with existing text mining tools that are available as open source
- To learn and develop text mining algorithms using programming tools
- To understand the significance of biomedical entities and their relationships discovered using biomedical text mining
- To learn about visualization methods for analyzing large association networks obtained using text mining.

COURSE OUTLINE

- Basics on Data mining
- Introduction to Biomedical Text mining
- Demo of basic text mining tools
- Pre-processing techniques
- Practical exercises on biomedical entity extraction
- Biomedical entity-entity association discovery
- Practical exercises on biomedical entity association extraction and visualization

- Introduction to pathway networks
- Practical exercises on biological pathways analysis
- Text mining and Knowledge creation
- Pitfalls in biomedical text mining
- Practical exercises on biological knowledge visualization tools

INTERNATIONAL FACULTY



Prof. Mathew J Palakal is a Senior Executive Associate Dean and Professor of Informatics at the School of Informatics and Computing, Indiana University Purdue University Indianapolis (IUPUI), USA. Dr. Palakal has more than 15 years of practical research and

development experience in bioinformatics, specifically in mining biomedical and electronic health records. His lab introduced the concept of bibliomics in developing BioMAP- a system which implements methods for the analysis of health and biological literature data for identifying biological networks, providing computerized support for disease targeting, and for the stratification of diseases from the electronic health records. This system is currently being tested in a variety of biomedical, health and STEM research areas- specifically, as a novel biomarker discovery tool in colon cancer (DoD funded); as a risk-intervention discovery tool in geriatric care (NIH funded); as a systems-level network characterization tool to differentiate regenerating and nonregenerating animal models (DoD funded); to map STEM content to an audeme structure for improved STEM education (NSF funded); for characterizing MRSA infections from clinical notes (VA CHIR funded); for pancreatic cyst identification and stratification from clinical notes (PROSPECT grant); and, the project called Health-Terrain, a clinical data analytics and visualization environment for large data (DoD funded). Prof. Palakal is the proposal reviewer of various funding agencies like NIH and NSF. He is also reviewer of International journals like IEEE ASAP Journal, IEEE Transactions on Neural Networks, Bioinformatics and conferences like International Neural Network Conference. He has also been honoured/awarded with ACM SIGAPP Distinguished Service award, Teaching Excellence Recognition award (for 2 years), Skill-Up award, *Professor of the year* award (for 3 years), NSF S-STEM award and TechPoint Mira *Educator of the Year* Award for his iDEW project.

WHO CAN ATTEND?

- Students at all levels (B.Tech./MCA/M.Sc/M.Tech/Ph.D), in Computer Science/Electronics/IT/Biotechnology
- Faculty from reputed academic institutions and technical institutions with aptitude for doing continuous research in Bioinformatics and Data/Text mining
- Executives, engineers and researchers from government organizations including R&D laboratories

REGISTRATION FEES

The registration fee for the course is as follows:

- Participants from India:
 1. Industry/Research organizations : Rs. 8000
 2. Faculty from Academic Institutions : Rs. 6000
 3. Research Scholars/Students : Rs. 4000
- Participants from abroad : US\$350

[Additional 18% GST is applicable to all the above fees]

The above fee includes the cost of instructional materials, computer use for tutorials, use of internet facility, refreshments and working lunch.

In addition to the above fee, one-time online fee of Rs.500/- is to be paid for registration in the GIAN web portal (See the registration process outlined below). Accommodation for outstation participants will be charged separately. No TA/DA will be paid for any participant.

REGISTRATION PROCESS

Step #1: Web Portal Registration: Visit GIAN Website at the link: <http://www.gian.iitkgp.ac.in/GREGN/> index and create login, User ID, and Password. Fill up the GIAN registration form and do web registration by paying Rs.500/- online through Net Banking/ Debit/ Credit Card as per instructions given there in. This provides the user with life time registration to enroll in any number of GIAN courses offered (Skip this step, if already registered with GIAN portal).

Step #2: Course Registration: Login to the GIAN portal again with the user ID and password already created in Step #1. Click on course registration option at the top of registration form. Select the course titled “Data and Text Mining in Bioinformatics” from the list and click on the *Save* option. Confirm your registration by clicking on the *Confirm Course* option.

The participant may then proceed for the course registration with the course coordinator by filling out the registration form and paying the course registration fee. The course fee should be paid in the form of Draft/NEFT/RTGS. The account details are given below. The duly filled up registration form and the DD/NEFT/RTGS receipt must be sent to the course coordinator. For provisional registration, scanned copies



Department of
Computer Science and Engineering
National Institute of Technology Calicut
NIT Campus P. O, Calicut-673601

Registration Form



Name:

M	F
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Designation:.....

Highest Qualification & Specialization:

Organization.....

Address:.....

.....

.....

Mobile No: Email:

Details of Payment of Course Registration Fee

DD No.....DateBank Amount.....

If paid through NEFT/RTGS

Transaction Number Date Bank

Accommodation Required: Yes/ No

Date Signature of the Applicant.....

APPROVAL FROM AFFILIATED INSTITUTE OF THE APPLICANT

Certified that Mr./ Ms/ Dr.....
is an employee of our institute. If selected, he/she will be permitted to attend the
GIAN course on **Data and Text Mining in Bioinformatics** conducted by NIT Calicut
during September 10-14, 2018.

Date:

Signature
and Seal of Approving Authority

