



Ministry of Human Resource  
Development  
Government of India



## Global Initiative on Academic Networks (GIAN) Program

# AUTISM AND ASSISTED TECHNOLOGIES

**DECEMBER 10-14, 2018**

### About GIAN Program

The Ministry of Human Resource Development, Government of India has launched program titled Global Initiative of Academic Networks (GIAN) in Higher Education aimed at tapping the talent pool of scientists and entrepreneurs, 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. GIAN program facilitates participation of high quality international academicians/researchers for delivering short-term courses and programs in Indian institutions. More details on various GIAN courses are available at <http://www.gian.iitkgp.ac.in/>

### Program Overview and Objectives

Autism Spectrum Disorder (ASD) or Autism is a pervasive neurodevelopment disorder that is exemplified by differences in social interaction and communication as well as the presence of restricted interests and/or repetitive behaviours. Autism is often referred to as a public health crisis, in large part because of the great unmet need for appropriate interventions, services and support for individuals with autism, throughout their life span. The prevalence rate of autism is 1 in 150 children in India. There has been a staggering six-fold rise in the number of autism cases in the country. From an estimated 20 lakh cases in 2003, there are reportedly 1.36 crore autism patients in India at present. Similar increases in prevalence have been reported worldwide. Therefore, supporting people with autism has transformed into a global health challenge. Though this life-long disability that manifests itself during the first three years of life is not rare, a chunk of the autistic people in India continue to go undiagnosed or do not receive the services they need.

Technology is influencing the world of autism treatment and research in a big way. Technological interventions have been found to be very helpful for supporting individuals with autism because these interventions are often highly motivating, can be easily customized,

and are cost-effective relative to the expense of a therapist. Technology has opened the door to a new set of scalable tools that can help address this challenge and help individuals with autism live the most productive and satisfying lives possible. Development, deployment and evaluation of appropriate technologies for individuals with autism have been rapidly increasing and can prove to be very promising to enrich interventions, facilitate communication and support data collection. Emerging technologies in this area also have the immense potential to enhance assessment and diagnosis of individuals with autism and to help researchers conduct basic and applied research.

The objectives of this course are:

- i) To develop a deep understanding of the complex conceptual issues in autism, and the key theories, principles and issues in the field
- ii) To understand the current trends and methodologies in working with people with autism
- iii) To understand and develop skills in a variety of strategies for teaching students with autism
- iv) To learn how to develop collaborative partnerships with individuals on the spectrum, their parents, colleagues and other agencies
- v) To critically evaluate the use of assistive technology and current research in the field
- vi) To conduct professional enquiries and use research evidence to generate professional knowledge and enhance understanding and practice
- vii) Creating awareness to spark the interest of researchers/clinicians/parents (of child with autism diagnosis) for generating widespread support and fund raising for future autism research

## **International Faculty**

### **Dr Sue Fletcher-Watson**

*Senior Research Fellow*

*Centre for Clinical Brain Sciences*

*Child Life & Health*

*Patrick Wild Centre for Research into Autism, Fragile X Syndrome & Intellectual Disabilities*

**University of Edinburgh**

**South Bridge**

**Edinburgh**

**EH8 9YL**

**United Kingdom**



### **Qualifications**

BSc (Hons) Psychology, University of St Andrews

MA, Developmental Psychopathology, Durham University

PhD., 'Understanding social attention in adults with and without autism spectrum disorders', Durham University

Dr Fletcher-Watson is a developmental psychologist, studying how children grow and learn, with a particular focus on non-normative experiences, such as autism and preterm birth. Her work aims to apply rigorous methods from psychology to questions with clinical, educational and societal impact. Current research themes include: investigations of how digital interactive technologies can best be deployed to support learning and personal growth for autistic children; describing the impact of bilingualism on cognitive development and life experiences in autistic people; and innovative empirical tests of the ‘double empathy problem’ in the context of interaction between neurodivergent and neurotypical adults. She strives to achieve meaningful partnerships with community representatives and to support neurodivergent leadership in research. She is a recipient of the British Psychological Society Margaret Donaldson Award and a Certificate of Excellence from Autism Rights Group Highland.

### ***Research and Aims of Research***

- Cognitive and behavioural approaches to understanding typical and atypical (social) development & consequent educational and therapeutic work
- Applied research for autism in Psychology, Medicine, Informatics and Education
- Autism social communication interventions, especially early years and/or technology-based, including rigorous outcome measurement for clinical trials
- Technology for learning; therapeutic and educational iPad app development; use of augmentative and alternative communication systems
- Methodologies: randomised controlled trials; eye-movement recording; experimental group comparisons; focus groups; interviews; online surveys

### **Who Can Attend**

Researchers, occupational therapists, speech and language therapists, paediatricians, psychiatrists and psychologists working in the field of autism can benefit from this program. The lectures on the use of recent technologies in the particular field and how to conduct the research are directly targeted for the aforementioned class of persons. Parents of the autistic children are encouraged to attend the workshop to increase their knowledge in understanding the specific needs of their children and how to deal with them.

### **Program Co-ordinators**

#### **Dr Arun Khosla**

Professor  
 Department of Electronics and  
 Communication Engineering  
 Dr B R Ambedkar National Institute of  
 Technology  
 Jalandhar – 144011  
 India  
 e [khoslaak@nitj.ac.in](mailto:khoslaak@nitj.ac.in)  
 t +91 181 2690 301, 2690 453 Extension  
 2604  
 m +91 98880 68332

#### **Dr Mamta Khosla**

Associate Professor  
 Department of Electronics and  
 Communication Engineering  
 Dr B R Ambedkar National Institute of  
 Technology  
 Jalandhar – 144011  
 India  
 e [khoslam@nitj.ac.in](mailto:khoslam@nitj.ac.in)  
 t +91 181 2690 301, 2690 453 Extension  
 2605  
 m +91 98886 04632

## Program Registration Process

### Step-1:

One time 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 blank registration form and do web registration by paying ₹500 online through Net-Banking/Debit/Credit card. This provides him/her with life time registration to enroll in any number of the GIAN courses offered.

### Step-2:

Course Registration (Through GIAN Portal): Log in to the GIAN portal with the user ID and Password created. Click on “Course Registration” option given at the top of the registration form. Select the Course titled ‘*Autism and Assisted Technologies*’ from the list and click on ‘*Save*’ option. Confirm your registration by Clicking on ‘*Confirm Course*’.

## Registration Fee

Students/Research Scholars: ₹ 500

Faculty/Staff of Academic Institutions: ₹ 2000

Industry/Research Organizations: ₹ 4000

Parent of Autistic Child: ₹ 500

Participants from abroad: \$ 200

Registration fee covers only course material and refreshments. Boarding and lodging will be provided on payment basis subject to availability. Limited shared accommodation is available in Institute Guest House/Hostels on request against the advance payment on first-come first-serve basis.

## Payment of Program Fee

Demand Draft in favour of ‘*GIAN-Autism and Assisted Technologies*’ payable at Jalandhar

Registration form along with requisite fees should be sent to

Dr Arun Khosla, Program Coordinator

## About the Institute

Dr B R Ambedkar National Institute of Technology was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed University) by the Government of India on October 17, 2002 under the aegis of Ministry of Human Resource Development, New Delhi. The Ministry of Human Resource Development, Government of India has declared the Institute as ‘Institute of National Importance’ under the act of Parliament-2007. As one of the NITs, the Institute has the responsibility of providing high quality education in Engineering, Technology and Sciences to produce competent Technical and Scientific manpower. The Institute offers B Tech, M Tech, M Sc, MBA and Ph D programs in several disciplines of Engineering, Science & Technology, and Management.

## About the Department of Electronics and Communication Engineering

The Department of Electronics and Communication Engineering has been offering B. Tech in Department of Electronics and Communication Engineering since 1989. Presently the department is running two post graduate programs viz. Master of Technology (Electronics and Communication Engineering) and Master of Technology (VLSI Design) since 2006 and 2008 respectively. The department is also running full-time and part-time Ph. D programme. Some of the research areas in which the department is presently active include Biomedical Engineering, Semiconductor Devices, VLSI Design, RF Design, Medical Imaging, Games for Health, Autism & Assisted Technologies.

### Patron

#### **Professor Lalit Kumar Awasthi**

*Director*

Dr B R Ambedkar National Institute of Technology  
Jalandhar – 144011  
India

### Head of the Department

#### **Dr B S Saini**

*Professor*

Department of Electronics and Communication Engineering  
Dr B R Ambedkar National Institute of Technology  
Jalandhar – 144011  
India

### Local GIAN Co-ordinator

#### **Dr S Bajpai**

*Associate Professor*

Department of Chemical Engineering  
Dr B R Ambedkar National Institute of Technology  
Jalandhar – 144011  
India

e [bajpais@nitj.ac.in](mailto:bajpais@nitj.ac.in)

m +91 98888 95253

\*\*\*\*\*



**Registration Form**  
**Global Initiative on Academic Networks (GIAN)**  
**Program**  
**Autism and Assisted Technologies**  
**December 10-14, 2018**

**Dr B R Ambedkar National Institute of Technology Jalandhar**

<b>Name</b>	
<b>Designation</b>	
<b>Department</b>	
<b>Organization</b>	
<b>Address for Correspondence</b>	
<b>Email ID</b>	
<b>Mobile Number</b>	
<b>Field of Specialization</b>	
<b>Experience (in years)</b>	
<b>Details of Fee Paid Cash/DD/NEFT</b>	
<b>Signature of the Applicant with date</b>	

**Recommendations of the Sponsoring Authority**

The applicant is hereby sponsored for GIAN program on **Autism and Assisted Technologies** and will be permitted to attend, if selected.

<b>Signature and Seal of the Sponsoring Authority</b>	
---	--