MUZAFFARPUR INSTITUTE OF TECHNOLOGY,
MUZAFFARPUR, BIHAR-842 003

Email: tpo@mitmuzaffarpur.org; tpo.mitmuzaffarpur1954@gmail.com

Ref. No.: 922/TPO

Date: 24/08/2020

NOTICE

All the faculty and staff are hereby informed that there is a faculty development programme organized by E & ICT Academy, NIT Patna with other Academies. The details of online programme and registration link are attached herewith.

Sd/-
TEQIP-III, Coordinator
MIT Muzaffarpur

Joint Online Faculty Development Programme
Quantum Computing

Jointly Organized By

E & ICT Academy, NIT Patna

E & ICT Academy, MNIT Jaipur

July 6 to July 11 , 2020

Click here to register

Resource Person:
Experts from
Microsoft Garage -
Azure Quantum.

Supported By: Ministry of Electronics and Information Technology, MeitY, Govt. of India.

Coordinators :

-Dr. Pilli Emmanuel Shubhakar, MNIT Jaipur, espilli.cse@mnit.ac.in(Principal Coordinator)

-Dr. J P Singh, NIT Patna, jps@nitp.ac.in (Co-principal Coordinator)

-Dr. Somaraju Suvvari, NIT Patna (Academy Level Coordinatore)

About NIT Patna:

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erst while Bihar College of Engineering Patnaon28.01.2004.The Institute imparts high level education training, research and development in science, engineering technology and humanities alongwith high quality education and values at UG ,PG and Ph.D. level. At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. And Mechanical Engg. It also consists of we ll-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

About E&ICT Academy NIT Patna:

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

For more details visit:

http://www.nitp.ac.in/ict/index.php

Contact No.: 9676430356, 8521159014 Email: eictapatna@nitp.ac.in

Course Contents

- → **Quantum Measurements Density Matrices; Positive-Operator Valued Measure; Fragility of quantum information: Decoherence**
- → **Quantum Superposition and Entanglement; Quantum Gates and Circuits; No cloning theorem & Quantum Teleportation; Bell's inequality and its implications**
- → **Quantum Algorithms & Circuits; Deutsch and Deutsch–Jozsa algorithms; Grover's Search Algorithm; Quantum Fourier Transform**
- → **Shore's Factorization Algorithm; Quantum Error Correction: Fault tolerance; Quantum Cryptography; Implementing Quantum Computing: issues of fidelity**
- → **Scalability in quantum computing; NMR Quantum Computing; Spintronics and QED approaches**
- → **Linear Optical Approaches; Nonlinear Optical Approaches; Limits of the approaches; Future scope**

Key Features

- → **Online / Live lectures sessions by subject experts**
- → **Online lab and training sessions.**

Course Fee

Certification Fee:-
Faculty/ PhD Scholar = **Rs.500/-**
(SC/ST = **Rs. 250/-**)
Others (Except Faculty/PhD-Scholar): **1000/-**
(SC/ST = **Rs. 500/-**)

Online payment details :-
Bank Name: Allahabad Bank
Account Name: NIT Patna
Account No.: **50380476798**
IFSC Code: **ALLA0212286**

Link for registration :

https://qrgo.page.link/vg7Gq

For more details visit:
http://www.nitp.ac.in/ict/index.php
Contact No.: 9676430356, 8521159014 Email: eictapatna@nitp.ac.in

GLOBAL AUTUMN COURSE

QUANTUM COMPUTING

Ministry of Electronics and Information Technology
Government of India
सत्यमेव जयते

RESOURCE PERSONS FROM *Microsoft Azure Quantum*

Digital India
Power To Empower

Dates: Aug 24-29, 2020

Time: 10:00 AM – 3:15 PM

Course Contents:

Qubits, Représentations (Dirac / Ket Notations / Vector), Superposition, Bloch Sphere, Quantum Gates, Programming using Q# / Python, QDK Framework, Entanglement & Teleportation, Deutch's Algorithm, No Cloning theorem, Super dense coding, Grover's Algorithm, Simon's Algo, Shor's Algo, BB 84, Quantum Cryptography & QKD, Quantum Machine Learning, Quantum Opportunities

Medium: MS Teams

Course Fee: Free, Regn. & Certificate: Rs 500/-

MNIT Jaipur

Register at http://online.mnit.ac.in/eict/

Principal Coordinator
Dr. Pilli Emmanuel S.
Mob: 9549658131
espilli.cse@mnit.ac.in

Local Coordinator
Prof. Kanupriya Sachdev
Mob: 9549657337
ksachdev.phy@mnit.ac.in

Register at https://qrgo.page.link/vg7Gq

Co-Principal Coordinator
Dr. J. P. Singh
Mob: 8521159014
jps@nitp.ac.in

Local Coordinator
Dr. Somaraju Suvvari
Mob: 9676430356
somaraju@nitp.ac.in

NIT Patna

Joint Online Faculty Development Programme
Cyber Security

Organized By

E&ICT Academy, NIT Patna

Oct 05 to Oct 16 , 2020

Click here to register

Supported By: Ministry of Electronics and Information Technology, MeitY, Govt. of India.

Coordinators :

-Prof. M.P. Singh, NIT Patna, Mps @nitp.ac.in(Principal Coordinator)
-Dr. Ramesh B. Battula, MNIT Jaipur, rbbattula.cse@mnit.ac.in(Co-principal Coordinator)
-Dr. Ditipriya Sinha, NITP, ditipriya.cse@nitp.ac.in(Academy Level Coordinator)
-Dr. Ramesh B. Battula, MNIT Jaipur, rbbattula.cse@mnit.ac.in(Academy Level Coordinator)
-Dr. Suyel Namasudra, NITP, suyel.cs@nitp.ac.in(Academy Level Coordinator)

About NIT Patna:

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erst while Bihar College of Engineering Patnaon28.01.2004.The Institute imparts high level education training, research and development in science, engineering technology and humanities alongwith high quality education and values at UG ,PG and Ph.D. level. At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. And Mechanical Engg. It also consists of we ll-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

About E&ICT Academy Patna:

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development required knowledge base, skills and tools to equip the teaching community with better
knowledge and understanding.

For more details visit:
http://www.nitp.ac.in/ict/index.php
Contact No.:8984142557, 8090318878 Email: eictapatna@nitp.ac.in

EXPERTS/SPEAKERS-

(i) Prof. R. K. Shymsunder, IIT Bombay,
(ii) Prof. Krishna Shivlingam, IITM ,
(iii) Dr. Mayank Agarwal, IITPatna,
(iv) Dr. Somanath Tripathi, IIT Patna,
(v) Dr. Rajiv Mishra, IIT Patna,
(vi) Sri Ch A S Murthy, CDAC Hyderabad
(vii) Rtd Prof. Aditya Bagchi, ISI Kolkata (confirmation awaited)
(viii) Prof. Bruhadeshwar Bezawada, MEC, Hyderabad
(ix) Hari Babu P. Associate Director, C-DAC Bangalore
Confirmation awaited-, Prof. S. K. Nandi, IITG

Expert from Host Institute:

(i) Dr. M P Singh, NIT P,
(ii) Prof. M. S. Gaur, IITJammu,
(iii) Dr. Amit Kumar Singh, NIT P;
(iv) Dr. Emmanuel S Pilli,MNITJ
(v) Dr. Ramesh Babu Battula, MNITJ

Course Content :

- **Wireless Vulnerabilities -**
  802.11 Wireless Vulnerabilities, Hacking Wi-Fi networks By Passing Windows logon system,
- **Software Security -**
  Buffer overflow, Integer overflow, Format string vulnerabilities
- **Web Security -**
  SQL injection, XSS, CSRF, etc.
- **Web App Penetration Testing**, Data security in cloud, Big data and cyber security; Network Security - DNS, ICMP, ARP attacks, IP Sec, BGP Sec, etc., Browser based attacks
- **Security Tools -**
  DVWA, Snort, Metasploit , Wireshark, NMAP, Nessus, Openssl, etc.
- Security in IoT, Tools for cyber security
- **Basic Cryptography** and its importance in Cyber security, Cryptography Hash functions
- **Blockchain** based IOT Security
- **IDS**- Intrusion Detection System
- Cyber Security Assurance and Law, Cyber Forensics

Course Fee

Certification Fee:-
Faculty/ PhD Scholar = **Rs.500/-**
(SC/ST = **Rs. 250/-**)
Others (Except Faculty/PhD-Scholar): **1000/-**
(SC/ST = **Rs. 500/-**)

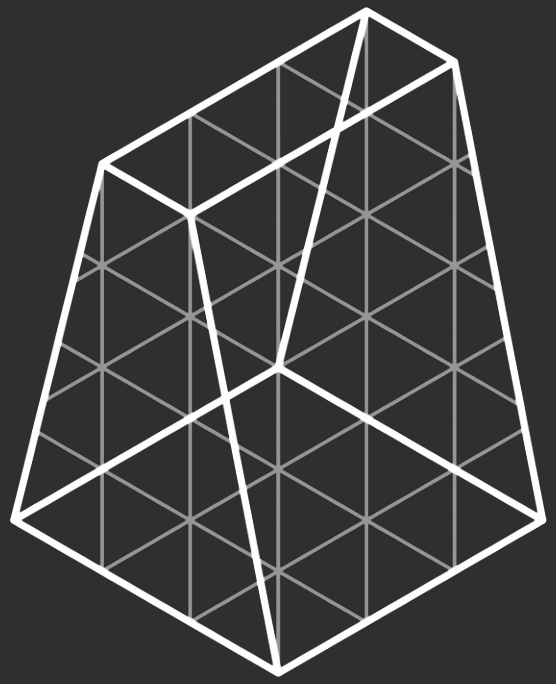
Online payment details :-
Bank Name: Allahabad Bank
Account Name: NIT Patna
Account No.: **50380476798**
IFSC Code: **ALLA0212286**

Link for registration :

https://forms.gle/vBXnf3X9XKDMxpPS7

For more details visit:
http://www.nitp.ac.in/ict/index.php
Contact No.: 9676430356, 8521159014 Email: eictapatna@nitp.ac.in

Microsoft



Train the Trainer - Faculty Training Program

Day – 1 Inaugural session 24th Aug

Time	Topic	Description	Duration	Volunteer Alias
10 AM – 11:15 AM	Welcoming all institution for Quantum Computing Classes - A brief discussion on Quantum with all 5 institute professors.	- In This Ms. Reena Dayal Yadav will be welcoming everyone to the Quantum Computing Summer Classes - Inviting all the professors from the institute to talk about Topic - **Opportunities on Quantum in Academic & for India**	75 min (Including Q&A)	Reena
11:30 AM – 1 PM	Revision of Complex number & Linear Algebra		2-3 hours (MNIT Faculty)	
			120 min / 2 hours (By MSFT)	

Day -2 25th Aug

Time	Topic	Description	Duration	Volunteer Alias (2 people)
10 AM – 11:15 AM	Overview about Qubits	- The Stern-Gerlach Experimentation - Double Slit Experiment - Quantum Algorithms (very high-level overview) - What is a Qubit - Various Representations (Dirac/Ket Notations/Vector)	60 min + 15 min Q &A	Devika
11:30 AM – 12:30 PM	Superposition with its advantages & Bloch sphere	- Superposition - Bloch sphere & Bloch sphere tool - Bloch sphere derivation	45 min + 15 min Q &A	Devika
2 PM – 3:15 PM	Quantum Gates	- X , Y ,Z , H & S - Tensor Product [Theory Part] - C NOT Gate [Theory Part]	45 min + 15 min Q &A	Devika (Need Backup)
	Total	- 3 sessions	195 / 3 hours 15 min	

Day -3 26th Aug

Time	Topic	Description	Duration	Volunteer Alias
10 AM – 11:00 AM	Programming using Q# / Python (QDK Framework)	- Learn using Katas - Gates X Y Z H & S - Tensor Product - C NOT Gate	45 min + 15 min Q &A	Amit
11:15 AM – 12:30 PM	Entanglement & Teleportation	- Entanglement - Programming Teleportation	60 Min + 15 min Q &A	Nandini
2 PM – 3:15 PM	Deutch's Algorithm	- Deutch's Algorithm - Deutch-Jozsa Algo	60 min + 15 min Q &A	Devika
	Total	- 3 sessions	210 min / 3 hours 30 min	

Day – 4 27th Aug

Time	Topic	Description	Duration	Volunteer Alias
10 AM – 11:15 AM	No Cloning theorem		60 min + 15 min Q &A	Pallavi
11:30 AM – 12:45 PM	Super dense coding		60 min + 15 min Q &A	Pallavi
2 PM – 3:15 PM	Grover's Algorithm		60 min + 15 min Q &A	Mayank
	Total	- 3 sessions	225 Min / 3 hours 45 min	

Day - 5 28th Aug.

Time	Topic	Description	Duration	Volunteer Alias
10 AM – 11:15 AM	Simon's Algo		60 min + 15 min Q &A	Devika
11:30 AM – 12:45 PM	Shor's Algo		60 min + 15 min Q & A	Mayank
2 PM – 3:15 PM	BB 84		60 min + 15 min Q & A	Devika
	Total	- 3 sessions	225 Min / 3 hours 45 min	

Day - 6 29th Aug.

Time	Topic	Description	Duration	Volunteer Alias
10 AM – 11:15 AM	Quantum Cryptography & QKD		60 min + 15 min Q & A	Devika
11:30 AM – 12:45 PM	Quantum Machine learning		60 min + 15 min Q & A	Nafisa
2 PM – 2:45 PM	AMA Session on Quantum Opportunities		30 min + 15 min Q & A	Reena
	Total	- 3 sessions	225 Min / 3 hours 45 min	

Microsoft

Thank you.

Joint Online Faculty Development Programme

Demystifying 5G RF ASICs

(IIT Guwahati , MNIT Jaipur, NIT Patna, IIITDM Jabalpur)

Organized By
E&ICT Academy, NIT Patna

24 Aug – 4 Sep 2020

Click here to register

Supported By:

Ministry of Electronics and Information Technology,MeitY, Govt. of India.

Academy Level Coordinators :

Dr Manpuran Mahto, NITP
Email : mmahto@nitp.ac.in
Contact : 7752957828

Dr. Bal Chand Nagar, NITP
Email : balchandnagar@nitp.ac.in
Contact : 9993102487

About NIT Patna :

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erst while Bihar College of Engineering Patna on 28/01/2004. The Institute imparts high level education training, research and development in science, engineering technology and humanities alongwith high quality education and values at UG ,PG and Ph.D. level.

At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. and Mechanical Engg. It also consists of well-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

About E&ICT Academy Patna :

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

Contact Details: E & ICT Acacemy ,NIT Patna (office)
Website: http://www.nitp.ac.in/ict/ Email: eictapatna@nitp.ac.in
Landline: 0612 - 237 1715 / 237 2715 (Ext: 344)
http://www.nitp.ac.in/ict/Contact_us.php

Experts :

- Shri Surinder Singh **(Director, SCL Chandigarh)**
- Shri H. S Jatana **(Senior Head, SCL Chandigarh)**
- Prof. Anand Bulusu **IIT Roorkee**
- Dr. Salil Kashyap, **IIT Gauwahti**
- Dr. Ribhu, **IIT Gauwahti**
- Dr. Sudarshan Mukherjee, **IIT Gauwati**
- Dr. Gaurav Trivedi, **IIT Gauwati**

Industry Speakers :

- Dr. Aditya Dalakoti
- Mr. Ashish Jindal (DRDO)
- Puneet Mittal

Course Content :

- **Introduction and Tools Overview:**
- **Introduction to 5G (progression of communication channels from 1G to 5G, usage, timeline, market); Basics of RF Communication; Setup of Scikit-RF and CppSim RF Simulator**
- **5G MIMO Architecture and System Simulation: MIMO in 5G, MIMO for TX and RX, Basic 5G System Setup and visualization using a simulator**
- **RF ASIC Concepts 1: Two port Networks, Stability, Equivalent Device Models, Impedance Matching, Biasing**
- **RF Simulations: Hands of tutorial for Doing Impedance Matching and bias-T development using Scikit-RF**
- **RF ASIC Concepts 2: PDK Development, Layout Issues, Packaging Issues and package selection, Testing**
- **Power Amplifier Design: Basics of PA, different classes, performance matrix, design of one topology for 5G**
- **Power Amplifier Simulations: Design and Simulations of a couple of PA topologies using a Scikit-RF. LNA Design: LNA Basics, Design Topologies, Trade-Off Space for LNA**
- **LNA Simulations: Design and Simulations of a couple of LNA topologies using a Scikit-RF.**
- **RF Channel Architecture and Simulations: Different Channel Architectures and their feasibility from 5G perspective, Simulations of channel using CppSim RF System Simulator**

Course Fee

Certification Fee:-
Faculty/ PhD Scholar = **Rs.500/-**
(SC/ST = **Rs. 250/-**)
Others (Except Faculty/PhD-Scholar): **1000/-**
(SC/ST = **Rs. 500/-**)

Online payment details :-
Bank Name: Allahabad Bank
Account Name: NIT Patna
Account No.: **50380476798**
IFSC Code: **ALLA0212286**

Link for registration :

https://forms.gle/8kze6yw8BHVUqKXX7

Contact Details: E & ICT Acacemy ,NIT Patna (office)
Website: http://www.nitp.ac.in/ict/ Email: eictapatna@nitp.ac.in
Landline: 0612 - 237 1715 / 237 2715 (Ext: 344)
http://www.nitp.ac.in/ict/Contact_us.php

Joint Online Faculty Development Programme
Python Programming
(NIT Patna, IIIT DM Jabalpur , MNIT Jaipur)

Organized By
E&ICT Academy, NIT Patna

Sept 07 to Sept 18, 2020
Click here to register

Supported By:
Ministry of Electronics and Information Technology, MeitY, Govt. of India.

Academic Level Coordinators :

Dr. Prabhat Kumar, NITP
Email :prabhat@nitp.ac.in
Contact : 8406001700

About NIT Patna:

National Institute of Technology Patna is the 18th National Institute of Technology created by the Ministry of H.R.D. Government of India after rechristening the erst while Bihar College of Engineering Patna on 28/01/2004. The Institute imparts high level education training, research and development in science, engineering technology and humanities alongwith high quality education and values at UG ,PG and Ph.D. level.
At present the Institute offers courses in six major technical disciplines viz. Architecture, Civil Engineering, Computer Science & Engg., Electrical Engg., Electronics & Communication Engg. and Mechanical Engg. It also consists of well-established departments of Physics, Chemistry, Mathematics and Humanities and Social Sciences.

About E&ICT Academy Patna:

Ministry of Electronics and Information Technology, Government of India has instituted seven Electronics and Information & Communications Technology (ICT) Academies of which, the academy of NIT Patna is one. The Academy at NIT Patna aims to design and organize basic as well as specialized training programmes in niche areas of electronics and ICT for the development required knowledge base, skills and tools to equip the teaching community with better knowledge and understanding.

Contact Details: E & ICT Acacemy ,NIT Patna (office)
Website: http://www.nitp.ac.in/ict/ Email: eictapatna@nitp.ac.in
Landline: 0612 - 237 1715 / 237 2715 (Ext: 344)
http://www.nitp.ac.in/ict/Contact_us.php

EXPERTS/SPEAKERS :

- Prof. Aparajita Ojha **IIITDM Jabalpur**
- Dr. Arka P. Mazumdar **MNIT Jaipur**
- Dr. Emmanuel S. Pilli **MNIT Jaipur**

Course Content :

→ **Introduction & basics of Python**
Programming: History of Python, Installing Python, Executing Python Programs, Internal Working of Python, Python Implementations. Python Character Set, Token, Python Core Data Type, print() function, Assigning Value to Variable, input() function, eval() function, Formatting Number and Strings, Operators and Expressions, Differential Evolution, Social Spider Optimization .

→ **Decision Statements, Loop Control Statements, Functions, Strings :**
Boolean Type, Boolean Operators, Using Number and Strings with Boolean Operators, Decision Making Statements and Conditional Expressions While loop, range( ) Function, For Loop, Nested Loops, Break Statement, Continue Statement; Syntax and Basics of a Function, Use of a function, Parameters and Arguments, Local and Global Scope Scope of a Variable, return statement and Recursive Functions.; str class, Inbuilt functions for String, index[] operator, traversal of String, String operators, String Operations .

→ **Lists and Dictionaries, Tuples and Sets, File Handling ,Pandas :**
Creating Lists, Basic list operators, Slicing, Inbuilt functions for Lists, List operator, List Methods, Splitting, Need of Dictionary, Creating a Dictionary , Adding and Replacing Values, Retrieving Values R Deleting Items and Traversing Dictionaries. Tuples and Sets: Creating Tuples; Tuple () Function, Inbuilt Functions for Tuples, Indexing and Slicing; Operations on Tuples; Traverse Tuples from a List, Set operators; Set class. Object-Oriented Programming: Classes and objects, methods .

→ **Operator Overloading :**
Inheritance,super () and Method Overriding. File Handling: Need of File Handling, Reading/Writing Text and Numbers to/from a File; Directories on a disk. Pandas: Using Pandas, the python data analysis library and data frames .

→ **Data Handling and Use Cases :**
RE Pattern Matching, Parsing Data, Introduction to Regression , Types of Regression , Use Cases , Exploratory data analysis , Correlation Matrix , Visualization using Matplotlib and Implementing linear regression.

→ **Machine Learning :**
Machine Learning - Algorithm, Algorithms - Random forest , Super vector Machine , Random Forest , Build your own model in python and Comparison between random forest and decision tree.

Course Fee

Certification Fee:-
Faculty/ PhD Scholar = **Rs.500/-**
(SC/ST = **Rs. 250/-**)
Others (Except Faculty/PhD-Scholar): **1000/-**
(SC/ST = **Rs. 500/-**)

Online payment details :-
Bank Name: Allahabad Bank
Account Name: NIT Patna
Account No.: **50380476798**
IFSC Code: **ALLA0212286**

Link for registration :
https://forms.gle/h9CWtvaVzy7y9mmLA

Contact Details: E & ICT Acacemy ,NIT Patna (office)
Website: http://www.nitp.ac.in/ict/ Email: eictapatna@nitp.ac.in
Landline: 0612 - 237 1715 / 237 2715 (Ext: 344)
http://www.nitp.ac.in/ict/Contact_us.php