# Motilal Nehru National Institute of Technology Allahabad, Prayagraj

## Online GIAN course on "Blockchain for Business"
February 28 to March 05, 2022 (One Week)

**Overview**

Blockchain is a distributed-ledger technology that is poised to have greater societal impact than the internet. It can revolutionize and disrupt the way businesses are conducted today. Especially, it is a threat to intermediary based businesses as it promises to establish trust in peer-to-peer transactions and remove the intermediaries. This course will teach professionals, faculty members and students about blockchain, and its possible use cases and applications in different contexts (e.g., cryptocurrencies, supply chain, sharing economy services, etc.). The overall objective is to help them better understand blockchain landscape and how they get maximum benefits from this technology in their research and practices.

A student-centered based pedagogical approach will be followed using lectures and tutorials. The lectures will cover basic theoretical knowledge whereas, evidence-based cases will be used in tutorials. This course aims to prepare the pool of researchers and practitioners who can undertake newer evidence-based studies on blockchain in the context of the Indian economy.

**Course Highlights**
- Coverage of blockchain research and design issues
- Case studies on blockchain applications
- Exercise programs and quizzes

**Learning Outcomes**

After completing this course, the audience/recipients should understand:
1. What is blockchain and distributed ledger technology?
2. What are the differences between public blockchain and private blockchains?
3. What are the actors in a blockchain ecosystem and their roles?
4. Governance of Blockchain.
5. Blockchain impact and potential for change around the world.
6. Blockchain use cases in technology, business and enterprise products and institutions.
7. Hyperledger projects and cross-industry use cases.

## Programme Schedule

| Dates: | Feb 28th - Mar 05th, 2022 | |
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| Location: | Online Programme using Web-conferencing system (MNNIT Allahabad) | |
| Course Schedule: | Feb 28th 2022<br>1230-1530 HRS | **Lecture 0:**<br>Inauguration |
| | | **Lecture-1:**<br>➢ Importance of Blockchain<br>➢ History of Blockchain |
| | | **Lecture-2:**<br>➢ Blockchain ecosystem<br>➢ Transactions and banking through blockchain |
| | Mar 01st 2022<br>1600-1900 HRS | **Lecture 1:**<br>➢ Distributed ledger technology,<br>➢ Properties of Blockchain,<br>➢ Blockchain Structure<br>**Lecture 2:**<br>➢ Consensus Algorithms,<br>➢ Types of Blockchain |
| | Mar 02nd 2022<br>1230-1630 HRS | **Lecture 1:**<br>➢ Presentation and discussions on the group assignment<br>**Lecture 2:**<br>➢ Cryptocurrencies (Bitcoin & Ethereum) and other use cases<br>➢ Hyperledger<br>➢ General adoption challenges<br>**Lecture 3:**<br>➢ Scalability problems<br>➢ Blockchain forks and splits |
| | Mar 03rd 2022<br>1230-1630 HRS | **Lecture 1:**<br>➢ Presentation and discussions on the group assignment<br>**Lecture 2:**<br>➢ Research trends in blockchain – overview of research opportunities<br>➢ Exemplary research studies |
| | Mar 04th 2022<br>1230-1630 HRS | **Lecture 1:**<br>➢ Presentation and discussions on the group assignment<br>**Lecture 2:**<br>➢ Regulatory aspects of blockchain business<br>➢ GDPR and blockchain paradoxes and possible solutions |
| | Mar 05th 2022<br>1230-1530 HRS | **Lecture 1:**<br>➢ Healthcare use cases<br>➢ Government use cases<br>Final examination |
| Who can attend? | • Professionals from both private and public sectors interested in learning about and the Digital Currency<br>• Faculty and Researchers from various institutions and universities<br>• Student at all levels (B.Com./B.Tech./MBA/M.Com./M.Sc./M.Tech. /PhD) | |
| Course Fee: | • One-Time GIAN Registration: Please visit http://www.gian.iitkgp.ac.in/GREGN/ and register by paying Rs. 500/- (those who have already been paid, need not pay again).<br>• There is no participation fees for attending the course. | |

| Last date of registration: | February 18, 2022, (Friday) |
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| Attendance and Evaluation: | • Minimum 90% attendance necessary to be eligible for certificate.<br>• Appearing for evaluations/examinations during the course is necessary for certificate of grades in the course.<br>• Regular assignments and quizzes will be conducted. |

## International Expert:

**Associate Professor (tenure track) A.K.M. Najmul Islam** is a professor of Digital Transformation at the department of software engineering at LUT University, Finland. Professor Islam is a docent (Adjunct Professor) of Information Systems at Tampere University. He is also a Research Fellow at the department of computing, University of Turku, Finland. He conducts cross-disciplinary research in the area of digitalization and its impact on citizens, organizations, and society. Professor Islam received his PhD degree from the University of Turku, Finland and M.Sc. degree from Tampere University of Technology, Finland. Professor Islam is currently serving as a Senior Editor at Information Technology and People journal. He has more than 120 publications in top journals and conferences). Professor Islam's publication has appeared in top Information Systems outlets such as Journal of Strategic Information Systems, European Journal of Information Systems and Information Systems Journal. He has published in other highly ranked interdisciplinary journals such as IEEE Access, Computers & Education, Technological Forecasting and Social Change, International Journal of Information Management, Information Technology & People, Computers in Human Behaviour, Computers in Industry, Internet Research, Communications of the AIS, among others.

## Co-coordinator

**Prof. G. P. Sahu** is Professor and former Head, School of Management Studies, Motilal Nehru National Institute of Technology Allahabad, India. He has more than 23 years of teaching and research experience. He completed his one-year PostDoctoral Fellowship program from California State University Monterey Bay, California, US and PhD in Management from Indian Institute of Technology Delhi, India. His research interests are in the areas of MIS, E-governance, Green Information Systems, Digital Marketing, etc. Prof. Sahu has published around 90 research papers in international journals and conferences. He has coordinated a few international conferences. He has edited nine books in the area of MIS and E-governance. Prof. Sahu has acted as a reviewer for many international journals. He is also a Guest Editor with International Journal of Electronic Governance. Prof. Sahu is Chairperson of Special Interest Group on E-Governance, Computer Society of India; he has been on the jury for the CSI-Nihilent E- governance National Awards, India.

**Ministry of Education**
Government of India

## Host Faculty:



**LT.(Dr.) Divya Kumar** is Assistant Professor in the Department of Computer Science and Engineering, Motilal Nehru National Institute of Technology Allahabad, India. He was a Gold Medallist during graduation(B.Tech) and post-graduation(M.Tech) in Computer Science and Engineering. He has more than 11 years of teaching and research experience. He completed his Ph.D. from Computer Science and Engineering Department at MNNIT Allahabad.

His research interests are in the areas of Optimization, Blockchain, Machine learning, Safety and reliability analysis, MIS, E-governance, etc. LT.(Dr.) Kumar has published around 40 research papers in international journals and conferences.

Contact:

| Co-coordinator and Local Coordinator, GIAN | Coordinator |
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