

Five Days ONLINE Short-Term Training Program/FDP

on

5G Protocol Stack Design and Implementation

from

23rd to 27th November 2020

Organized By

iSignal Research Labs Pvt. Ltd, Bangalore

And

Vidhya Sangha Technologies Pvt. Ltd, Bangalore

In association with

Department of Computer Science and Engineering

Indian Institute of Technology Patna

Sreeram (Founder)

iSignal Research Labs, Bangalore


Dr. Rajiv Misra (Associate Professor)

Indian Institute of Technology, Patna

Flt. Lt. A.T. Kishore (CEO)

Vidhya Sangha Technologies, Bangalore

Payment Details & Registration

Payment Fee	Rs. 1000/-	Registration link (Kindly fill the Google Form after payment): https://rb.gy/ks6abj OR, Scan the QR code	
Account Name	ISIGNAL RESEARCH LABS PVT LTD		
Account No	50200028704317		
Bank Name	HDFC Bank (Marathahalli Outer Ring Road)		
IFSC/NEFT No	HDFC0009118		

About the Institute:

Indian Institute of Technology Patna is one of the new IITs established by an Act of the Indian Parliament on August 06, 2008. Patna which was known as Patliputra has been a center of knowledge since long has been attracting visitors and scholars from many parts of the world such as China, Indonesia, Japan, Korea, Sri Lanka, among others. This has been a land of visionaries. Some of the legends from this region include Lord Gautam Buddha, Lord Mahavir, Guru Gobind Singh, the famous astronomer Aryabhata and the first President of India, Dr. Rajendra Prasad. IIT Patna has ten departments with developed modern facilities that are fully equipped with the state-of-the-art facilities that are routinely used to train and educate students.

About the Department:

The department came into existence in 2008 with miniscule faculty strength and minute undergraduate student body. Since then, it has witnessed a manifold raise in the size of the vibrant student body. Presently, all efforts are geared towards making this the first choice of aspiring undergraduates. This is being groomed to be the favored destination for research scholars brimming with ideas. The department boasts of generously equipped teaching and research laboratories. Doctoral candidates are liberally supported either by scholarships or by sponsored fellowships. Sponsored research and developmental activities add muscle to the buzzing academics. Future beckons this young department.

Vision:

Graduates to be recognized in the field of Computer Science and Engineering, Electronics and Communication Engineering ensuring academic excellence with innovative technical skills and professional ethics.

Mission:

1. Imparting qualitative education through Innovative teaching learning process.
2. Active association with industry to meet the growing challenges in the Society.
3. Develop overall competency with professional ethics by providing training.

About Workshop:

With the advent in the technology adaptation, the next generation wireless technology is no longer an old paradigm shift in implementing the new technologies. The migration from LTE [4G] to New Radio [5G] leads to the research exploration with different ranges of use cases and various next generation applications, who challenges various critical performance aspects like throughput, higher data rates, extremely low latency along with the demand of ultra-reliable applications like smart grid, V2X. The core technology enabling use cases lies in the implementation of the protocol stack aspect with major features like scheduling, HARQ, Propagation channel models and New Radio protocol stack. This workshop allows the participants to explore the Design skills and implementation details, a very rare skill taught about the 5G Mobile standards considering protocol stack layer as per the 3gpp standards. Also helpful for the participants in understanding the big picture about the end-to-end 5G technical insights like network slicing, network function virtualization involving various use cases like IoT, UAV, Drones.

Pre-requisites: Wireless Fundamentals, System Design, Cellular Communication, C++, Linux

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- SCHEDULE -

“5G Protocol Stack Design and Implementation”

Time			
Date	11AM–12AM	LUNCH	2PM-3PM
NOV 23 rd	5G, Network Slicing, Network Function Virtualization – Part 1 (Prof. Rajiv Misra, IIT Patna)	Lunch Break	Computational Wireless Dynamics – Part 1 (Flt. Lt. AT Kishore, CEO, Vidhya Sangha Technologies)
NOV 24 th	5G, Network Slicing, Network Function Virtualization (Applications: self-driving car, IoT verticles, UAV Drones) – Part 2 (Prof. Rajiv Misra, IIT Patna)	Lunch Break	Computational Wireless Dynamics – Part 2 (Flt. Lt. AT Kishore, CEO, Vidhya Sangha Technologies)
NOV 25 th	Role of C and C++ in Wireless Protocol Stack Design (Sreeram, Founder, iSignal Research Labs)	Lunch Break	4G/5G PS Base Station Software Design with C++ - Part 1 (Sreeram, Founder, iSignal Research Labs)
NOV 26 th	4G/5G PS Base Station Software Design with C++ - Part 2 (Sreeram, Founder, iSignal Research Labs)	Lunch Break	4G/5G UE PS Software Design with C++ (Sreeram, Founder, iSignal Research Labs)
NOV 27 th	UE and eNB Practical Hands-on Linux Platform - Part 1 (Sreeram, Founder, iSignal Research Labs)	Lunch Break	UE and eNB Practical Hands-on Linux Platform - Part 2 (Sreeram, Founder, iSignal Research Labs)

Applicable Branches: **ECE/EEE/EIE/CSE/CS/ET/IT/MSc Electronics, MSc Computer Science, MCA/ Faculty/Research scholars/professors/Industry Personal**

Program Co-Ordinators:

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