GIAN Course on

Scalable On-Chip Interconnects for Many-Core Systems

Indian Institute of Technology Guwahati, May 24 - 30, 2017.

[Venue: NKN- Virtual Class Room, Core 3, Academic Complex, IITG]

Detailed Course Plan

Day	Session	Time	Topic
24 May 2017 Wednesday		9:00 am - 10:00 am 10:00 am - 11:00 am	Registration Inauguration function, Introduction and overview of the course
	Lecture 1 Dr. John	11:30 am - 1:00 pm	Emerging VLSI trends and multicore chips, paradigm shift from time shared bus to packet based interconnection network. Introduction to NoC system.
	Lecture 2 Dr. John	2:30 pm - 4:00 pm	Building blocks of an NoC system- topology, routing, flow control, switching and router microarchitecture, TCMP architectures.
25 May 2017 Thursday	Lecture 3 Dr. Maurizio	9:00 am – 10:30 am	Routing algorithms, adaptive routing algorithms in NoCs, input/ output channel selection strategies, load balancing and link utilization techniques
	Lecture 4 Dr. Maurizio	11:00 am- 12:30 pm	Application specific routing algorithms, adaptive routing by exploiting memory level parallelism, adaptive flow control by advanced throttling mechanisms.

26 May 2017 Friday	Lecture 5 Dr. John	9:00 am – 10:30 am	Buffer less and minimally buffered NoC router designs, techniques for controlling aging of NoC links
	Tutorial-1 Dr. John	11:00 am - 12:30 pm	Numerical problem solving session on fundamental topics covered in lectures 1, 2 and 3.
	Practice Session	2:00 pm - 4:30pm	Hands on session on GEM5 + GARNET simulator
27, 28 May 2017 Saturday, Sunday	**Off Day** Hands on session on GEM5 + GARNET simulators (for interested participants)		
29 May 2017 Monday	Lecture 6 Dr. Maurizio	9:00 am - 11:00 am	Performance improvement in TCMPs at NoC level, data encoding techniques in NoC, fault tolerant NoC designs.
	Lecture 7 Dr. Maurizio	11:30 am - 1:00 pm	Emerging trends in NoC architectures- 3D NoCs, wireless NoCs, optical NoCs, Fault tolerant NoCs,
	Tutorial 2 Dr. John	2:30 pm - 4:30 pm	Numerical problem solving session on topics covered in lectures 4, 5, 6 and 7.
30 May 2017 Tuesday	Lecture 8 Dr. Maurizio Dr. John	9:00 am -11:00 am	Discussion on emerging research problems and action plan/ road map for follow up activities
		11:00 am - 11: 45 am	Valedictory Function
	Exam	2:00 pm to 4:00 pm	Course Assessment Test (optional) for participants who need grade card of the course