

**Electronics & ICT Academy  
Indian Institute of Technology Roorkee**

**Artificial Intelligence-Devices to Systems  
(28 August – 01 September 2019)**

**\*Break Timing:- Morning Tea Break : 11:00 am to 11:15 am  
Lunch Break: 01:00 pm to 02:15 pm  
Evening Tea Break : 04:00 pm to 04:15 pm**

**Venue: Lecture Hall Complex, Room No. 002, IIT Roorkee**

Date/Time	09:30 am to 11:00 am		11:15 am to 01:00 pm	02:15 pm to 04:00 pm	04:15 pm to 05:30 pm
28/08/2019 Wednesday	09:30 am to 10:00 am	10:00 am to 11:15 am	11:30 am to 01:00 pm	<b>Lecture 3</b> Brain Computer Interaction using EEG <b>Dr. Partha Pratim Roy</b>	
	<b>Inauguration</b>	<b>Lecture 1</b> Spintronics based devices and circuits <b>Dr. B.K.Kaushik</b> IIT Roorkee	<b>Lecture 2</b> Spintronics based devices and circuits <b>Dr. B.K.Kaushik</b> IIT Roorkee		
29/08/2019 Thursday	09:00 am to 10:30 am		11:00 am to 01:00 pm	<b>Lecture 5</b> Algorithms for supervised & unsupervised classification & their hardware implementation with nanoscale PCMO RRAM & Silicon neurons and synapses <b>Dr. Udayan Ganguly</b> IIT Bombay	<b>Lecture 6</b> Algorithms for supervised & unsupervised classification & their hardware implementation with nanoscale PCMO RRAM & Silicon neurons and synapses (Contd.) <b>Dr. Udayan Ganguly</b> IIT Bombay
	<b>Lecture 4</b> Hybrid CMOS-emerging memory circuits for neuromorphic computing <b>Dr. Shubham Sahay</b>		<b>Practical Session 01</b> <b>Dr. B.K.Kaushik</b> IIT Roorkee		
30/08/2019 Friday	<b>Lecture 7</b> Analog hardware neural networks with silicon transistor & spintronic devices <b>Dr. D. Bhowmik</b> IIT Delhi		<b>Lecture 8</b> Neuromorphic Engineering: A Quest to Mimic the Brain <b>Dr. C.S.Thakur</b> IISc Bangalore	<b>Lecture 9</b> Analog hardware neural networks with silicon transistor & spintronic devices (Contd.) <b>Dr. D. Bhowmik</b> IIT Delhi	<b>Lecture 10</b> Neuromorphic Engineering:A Quest to Mimic the Brain (Contd.) <b>Dr. C.S.Thakur</b> IISc Bangalore
31/08/2019 Saturday	<b>Lecture 11</b> Analog hardware neural networks with silicon transistor & spintronic devices (Contd.) <b>Dr. D. Bhowmik</b> IIT Delhi		<b>Lecture 12</b> Neuromorphic Engineering:A Quest to Mimic the Brain (Contd.) <b>Dr. C.S.Thakur</b> IISc Bangalore	<b>Lecture 13</b> Neuromorphic Hardware Systems based on Emerging NVM Devices <b>Dr. Manan Suri</b> IIT Delhi	<b>Lecture 14</b> Neuromorphic Hardware Systems based on Emerging NVM Devices (Contd.) <b>Dr. Manan Suri</b> IIT Delhi
01/09/2019 Sunday	<b>Practical Session 02</b> <b>Dr. B.K.Kaushik</b> IIT Roorkee			<b>Valedictory Ceremony and Feedback</b>	