



Third International Conference on Computing and Network Communications (CoCoNet'19)



International Conference on Applied Soft computing and Communication Networks (ACN'19)

Organised by



Indian Institute of Information Technology and Management-Kerala (IIITM-K)



Association for Computing Machinery
Trivandrum Chapter



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CONFERENCE PROGRAM

December 18-21, 2019, Trivandrum, India

Conference Venue

DEC 18-20: TECHNOCITY CAMPUS, PALLIPPURAM, TRIVANDRUM



DEC. 21, 2019: TECHNOPARK CAMPUS, KAZHAKOOTTAM, TRIVANDRUM



<http://coconet-conference.org/2019/>

<http://www.acn-conference.org/2019/>

Queries on Registration: conference.registration@iiitm.ac.in

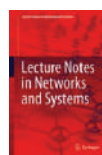
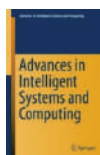
Queries on program: coconet.conference@gmail.com; acn.conference@gmail.com

Co-affiliated Symposiums @ CoCoNet'19



- Symposium on Signal Processing for Wireless and Multimedia Communications (SPWMC'19)
- Symposium on Internet of Things, Fog Computing and Wireless Location Technologies (SIFL'19)
- Symposium on Multimedia, Visualization and Human-Computer Interaction (SMVH'19)
- Symposium on VLSI Design and Embedded Computing (VDEC'19)
- Symposium on Recent Advances in Computational Social Science (SoRiCS'19)
- 6th Symposium on Computer Vision and the Internet (VisionNet'19)
- 4th Symposium on Advances in Applied Informatics (SAI'19)
- 8th Symposium on Natural Language Processing (NLP'19)
- 7th International Symposium on Women in Computing and Informatics (WCI'19)
- 3rd Symposium on Recent Advances in Communication Theory, Information Theory, Antennas and Propagation (CIAP'19)
- 7th Symposium on Control, Automation, Industrial Informatics and Smart Grid (ICAIS'19)
- Symposium on Emerging Topics in Computing and Communications (SETCAC'19)
- Workshop on Blockchain Technology organised by Kerala Blockchain Academy (KBA)

Co-located Symposiums @ ACN'19



- Seventh International Symposium on Security in Computing and Communications (SSCC'19)
- Symposium on Machine Learning and Metaheuristics Algorithms, and Applications (SoMMA'19)
- Fifth International Symposium on Signal Processing and Intelligent Recognition Systems (SIRS'19)
- Fifth International Symposium on Intelligent Systems Technologies and Applications (ISTA'19)



Authors by Country (Accepted Papers)

India, USA, Bangladesh, Canada, Italy, Saudi Arabia, Slovakia, United Kingdom, China, Lebanon, Vietnam, Russia, Indonesia, Greece, Egypt, Japan, Algeria, Nigeria, Australia, Brazil, Czech Republic, Poland, Ireland, Spain, United Arab Emirates, Taiwan, France, Malaysia, Germany, South Africa, Iran, Finland, Morocco, Norway, Jordan, Brunei Darussalam, Singapore, Tanzania and Cyprus.

Total number of submissions (CoCoNet & ACN): 949


Program at a Glance

December 18, 2019		Location
08.45 - 12.30	Conference Registration	Registration Desk, Ground Floor Entrance
09:00 - 09:45	Tea	Ground Floor, Lift Lobby Near Room No. 031
9.45-10.30	Conference Inauguration	
10.30-11.30	Keynote: Trends and Issues in Networking: What's In What's Out? Prof. Raj Jain, Barbara J. and Jerome R. Cox, Jr., Professor of Computer Science and Engineering, Washington University in St. Louis, USA	Gallery Hall, Ground Floor (Room 23)
11.30-12.30	Keynote: Shri. M. Sivasankar IAS, Secretary , Department of Electronics and Information Technology, Govt. of Kerala	Gallery Hall, Ground Floor (Room 23)
	Keynote: Dr. Guy Diedrich, Vice President and the Global Innovation Officer, Cisco Systems, USA	Gallery Hall, Ground Floor (Room 23)
12:30 - 13:30	Lunch Break	Dining Area (Hostel Block)
13:30 - 14:30	Keynote: Research in medical imaging, processing, and informatics: prospect and perspective Prof. Jayanta Mukhopadhyay, Professor, Department of Computer Science and Engineering, Indian Institute of Technology, Kharagpur, India	Gallery Hall, Ground Floor (Room 23)

Parallel Technical Sessions

14:40 - 18:00	CoCoNet-S0-A: Best Paper Session Chairs: Sherly Elizabeth (IIITM-K, Technopark, Trivandrum, India), Kalaivani Anbarasan (Saveetha Institute of Medical and Technical Sciences, India)	Gallery Hall, Ground Floor (Room 23)
	CoCoNet-S0-B: Best Paper Session Chairs: Varsha Hemant Patil (University of Pune & Matoshri College of Engineering & Research Center, Nashik, India), Sudarshan Kumarbabu Valluru (Delhi Technological University, India)	Gallery Hall, Ground Floor (Room 24)
	CoCoNet-S1: Symposium on Internet of Things, Fog Computing and Wireless Location Technologies (SIFL'19) Chairs: Madhusudhan Mishra (Indian Institute of Technology, Kharagpur & NERIST, India), Manu Vardhan (National Institute of Technology Raipur, India)	Ground Floor (Room 21)
	CoCoNet-S2: Sixth Symposium on Computer Vision and the Internet (VisionNet'19) Chairs: Shikha Tripathi (PES University & Bangalore South Campus, India), Gyanendra Verma (National Institute of Technology, Kurukshetra, India)	Ground Floor (Room 20)
	CoCoNet-S3: Symposium on VLSI Design and Embedded Computing (VDEC'19) - Regular and Short Papers Chairs: Kaushik Deva Sarma (CIT, Kokrajhar, India), Durgesh Nandan (Aditya Engineering College, India)	First Floor (Room 120)
	CoCoNet-S4: Main Track - Security and Privacy/Wireless Communications (Regular Papers) Chairs: Suneeta Budihal (Vishweshrayya Technological University, India), Usha Jain (Central University of Rajasthan, Ajmer, India)	First Floor (Room 105)
	CoCoNet-S5: Main Track - Computer Vision, Image Processing, Machine Learning and Pattern Recognition (Short Papers) Chair: Janardhanan PS (SunTec Business Solutions Pvt Ltd., India)	First Floor (Room 116)
	ACN-01: Communication Networks Chairs: Mritha Ramalingam (University Malaysia Pahang, Malaysia), K Somasundaram (Amrita Vishwa Vidyapeetham, India)	First Floor (Room 106)


14:40 - 18:00	ISTA-01: Best Paper Session Chair: Anirban Chowdhury (University of Petroleum and Energy Studies (UPES), India)	Gallery Hall , First Floor (Room 118)
	ISTA-02: Intelligent Image Processing /Artificial Vision/Speech Processing Chairs: Rajib Ghosh (National Institute of Technology Patna India, India), Kasthuri Nehru (Kongu Engineering College, India)	First Floor (Room 103)
	SIRS-01: Intelligent Recognition Techniques and Applications Malaya Kumar Nath (National Institute of Technology Puducherry & Karaikal, India), Joseph Paul (Indian Institute of Information Technology and Management, Kerala, India)	First Floor (Room 104)
	SoMMA-01: Symposium on Machine Learning and Metaheuristics Algorithms, and Applications Chairs: K Satheesh Kumar (Kerala University, India), Rachana Patil (Mumbai University, India)	First Floor (Room 101)
	SSCC-01: Security and Privacy in Networked Systems Chair: Anithakumari S (L. B. S Institute of Technology for Women, Trivandrum, India)	First Floor (Room 102)
14:45 - 16:15	Tutorial: Fog Computing, Edge Computing and a return to privacy and personal autonomy Mr. Michael Losavio, University of Louisville, USA	Gallery Hall , First Floor (Room 115)
14:45 - 18:00	Tutorial: Hands-on training on BigData Analytics and Machine Learning with PySpark Dr. T. K. Manojkumar, Professor, Indian Institute of Information Technology and Management - Kerala (IIITM-K)	Gallery Hall , First Floor (Room 119)
15:30 - 18:15	Lightning Talks Chairs: Manjunath Aradhya (Sri Jayachamarajendra College of Engineering, India), Madhusudhan Mishra (Indian Institute of Technology, Kharagpur & NERIST, India)	Gallery Hall , First Floor (Room 117)
15:30 - 17:30	CoCoNet-S6: Poster Paper Session-A Chairs: Arijit Karati (National Sun Yat-sen University, Taiwan), Manu DK (K. S. School of Engineering and Management, India)	Room: Ground Floor (Corridor)
16:00-17:00	Birds of a Feather Sessions (BoFs) Topic: Role Model of Technical Education in Society Organiser: Dr. Joseph S Paul, Professor, IIITM-K	Ground Floor (Room 43)
16:00 - 17:00	Tea Break	Ground Floor, Lift Lobby Near Room No. 031



Cultural Program

by

Noopura Institute of Indian Classical Dance,
Trivandrum



December 19, 2019, 18.30
IIITM-K Technocity Campus





December 19, 2019		Location
08.45 - 12.30	Conference Registration	Registration Desk, Ground Floor Entrance
9:30 - 10:40	<p>Keynote: A Journey of Five Generations of Biomedical Signal Feature Extraction</p> <p>Prof. Sri Krishnan, Department of Electrical, Computer, and Biomedical Engineering, Ryerson University, Toronto, Ontario, Canada</p>	Gallery Hall, Ground Floor (Room 23)
10:30 - 11:00	Student Research Symposium (SRS'19) - Poster Presentation	Room: Ground Floor (Corridor)
10:40 - 11:00	Tea Break	Ground Floor, Lift Lobby Near Room No. 031
11:00 - 12:00	<p>Keynote: Cybersecurity Trends and Challenges</p> <p>Prof. Ravi Sandhu, Executive Director and Chief Scientist, Institute for Cyber Security (ICS), Professor of Computer Science, University of Texas at San Antonio, USA</p>	Gallery Hall, Ground Floor (Room 23)
12:00 - 13:00	<p>Keynote: Muscle Fatigue Detection using Infrared Thermography</p> <p>Dr. Dharma P. Agrawal, OBR Distinguished Professor, Director, Center for Distributed and Mobile Computing, Department of Electrical Engineering and Computer Science, University of Cincinnati, Cincinnati, USA</p>	Gallery Hall, Ground Floor (Room 23)
13:00 - 13:40	Lunch Break	Dining Area (Hostel Block)
13:40 - 14:30	<p>Keynote: Machine Learning and Visible Light Communications for Autonomous and Electric Vehicles</p> <p>Prof. Xavier Fernando, Director, Ryerson Communications Lab, Electrical and Computer Engineering, Ryerson University, Toronto, Canada</p>	Gallery Hall, Ground Floor (Room 23)

Parallel Technical Sessions		
14:40 - 18:00	<p>CoCoNet-S10: Main Track - Computer Vision, Image Processing, Machine Learning and Pattern Recognition (Regular Papers)</p> <p>Chairs: Shikha Tripathi (PES University & Bangalore South Campus, India), Gyanendra Verma (National Institute of Technology, Kurukshetra, India)</p>	Gallery Hall , First Floor (Room 115)
	<p>CoCoNet-S11: Eighth Symposium on Natural Language Processing (NLP'19)/ Data Engineering - Regular & Short Papers</p> <p>Chairs: Rinki Gupta (Amity University Noida, India), Sumana Maradithaya (M S Ramaiah Institute of Technology & Ramaiah Institute of Technology, India)</p>	Ground Floor (Room 21)
	<p>CoCoNet-S12: Doctoral Consortium</p> <p>Chair: Sudarshan Tsb (PES University, Bangalore, India)</p>	Gallery Hall, Ground Floor (Room 24)
	<p>CoCoNet-S7: Seventh Symposium on Control, Automation, Industrial Informatics and Smart Grid (ICAIS'19) - Regular & Short Papers</p> <p>Chairs: Sudarshan Kumarbabu Valluru (Delhi Technological University, India), Puviarasi Ramalingam (Saveetha University, India)</p>	Ground Floor (Room 20)
	<p>CoCoNet-S8: Third Symposium on Recent Advances in Communication Theory, Information Theory, Antennas and Propagation (CIAP'19) - Regular & Short Papers</p> <p>Chairs: Shashibhushan Sharma (NIT Durgapur, India), Sujatha Kesavan (M.G.R Educational & Research Institute, Chennai)</p>	First Floor (Room 116)
	<p>CoCoNet-S9: Main Track - Cloud/Edge/Fog Computing/Wireless Communications (Short Papers)</p> <p>Chairs: Janet Vijaya Light-Thompson (University of New Brunswick, Canada), Chintan Patel (PDPU, India)</p>	First Floor (Room 120)
	<p>ISTA-03: Intelligent Techniques for IoT/Sensor Networks/Distributed Computing/Security</p> <p>Chair: Malu G (Indian Institute of Information Technology and Management - Kerala, India)</p>	First Floor (Room 101)

	ISTA-04: Intelligent Tools and Techniques and Applications Chairs: Alpana Alpana (Jawaharlal Nehru University, India), Ramesh Guntha (Amrita Center for Wireless Networks and Applications, Amrita Vishwa Vidyapeetham University, India)	First Floor (Room 102)
	SIRS-02: Intelligent Recognition Techniques and Applications Chairs: Manjunath K e (ISRO Bangalore, India), Drisya Alex Thumba (University of Kerala, India)	First Floor (Room 103)
	SSCC-02: System and Application Security/Cryptosystems, Algorithms Chair: Tony Thomas (Indian Institute of Information Technology and Management - Kerala, India)	First Floor (Room 104)
15:30 - 17:00	CoCoNet-S13: Poster Paper Session-B Chairs: Shilpi Birla (Manipal University, India), Dhanalakshmi Subramanian (Coimbatore Institute of Technology, India), O K Fasil (Central University of Kerala, India)	Room: Ground Floor (Corridor)
14:45 - 18:00	Tutorial: Social Engineering: Exploiting the Weakest Link Adarsh S V Nair, Head of Information Security UST Global Inc, Trivandrum, India	Gallery Hall , First Floor (Room 118)
14:45 - 17:45	Tutorial: Tutorial / Hands-on Workshop on Bayesian Optimization Dr. Sinnu Susan Thomas, Processing of Speech and Images, Department of Electrical Engineering, KU Leuven, Belgium	Gallery Hall , First Floor (Room 119)
16:00 - 18:00	Lightning Talks Chairs: Jasleen Kaur (IGDTUW & Indian Council of Medical Research, India), Harishkumar Kushtagi Shetra (Mangalore University, India)	GroundFloor (Room 117)
16:00 - 17:00	Tea Break	Ground Floor, Lift Lobby Near Room No. 031
18:30 - 20:30	Cultural Events followed by Banquet Dinner	Dining Area (Hostel Block)

December 20, 2019		Location
08.45 - 12.30	Conference Registration	Registration Desk, Ground Floor Entrance
9:30 - 10:40	Keynote: Artificial Intelligence and Machine Learning for 5G Wireless Networks Dr. Rajesh M. Hegde, Professor and Umang Gupta Chair, Department of Electrical Engineering, Indian Institute of Technology, Kanpur, India	Gallery Hall, Ground Floor (Room 23)
10:40 - 11:00	Tea Break	Ground Floor, Lift Lobby Near Room No. 031
11:00 - 12:00	Keynote: Four Decades of HPC: Architectures, Programming Environments, Systems, and Applications Dr. Vipin Chaudhary, SUNY Empire Innovation Professor, SUNY Buffalo, USA	Gallery Hall, Ground Floor (Room 23)
12:00 - 13:00	Keynote: Denial of Service Attacks on Software-Defined Networks Dr. Rajendra Boppana, Professor, Department of Computer Science, The University of Texas at San Antonio (UTSA), USA	Gallery Hall, Ground Floor (Room 23)
13:00 - 13:40	Lunch Break	Dining Area (Hostel Block)
13:40 - 14:30	WCI Keynote: Security of Quantum Cryptography Dr. Anindita Banerjee, Quantum security specialist, QuNu Labs Pvt Ltd, India	Gallery Hall, Ground Floor (Room 23)
14:00 - 17:00	Tutorial: CAN Network Development Program Venkatesh Mane, Professor at KLE Technological University, Hubballi, Karnataka, India	Gallery Hall , First Floor (Room 118)

14:00 - 17:00	Tutorial: Complex Networks: A Networking Perspective Dr. B. S. Manoj, Indian Institute of Space Science and Technology Trivandrum (IIST) and Dr. Abhishek Chakraborty, Indian Institute of Technology Madras	Gallery Hall , First Floor (Room 119)
Parallel Technical Sessions		
14:40 - 18:30	CoCoNet-S14: Symposium on Multimedia, Visualization and Human-Computer Interaction (SMVH'19) - Regular & Short Papers Chairs: Madhusudhan Mishra (Indian Institute of Technology, Kharagpur & NERIST, India), P. Kalavathi (The Gandhigram Rural Institute - Deemed to be University, India)	Ground Floor (Room 20)
	CoCoNet-S15: Fourth Symposium on Advances in Applied Informatics (SAI'19)- Regular & Short Papers Chairs: Deepalakshmi Perumalsamy (Kalasalingam Academy of Research and Education, India), Mohammad Samar Ansari (Athlone Institute of Technology, Ireland & Aligarh Muslim University, India)	Ground Floor (Room 21)
	CoCoNet-S16: Seventh International Symposium on Women in Computing and Informatics (WCI'19) Chairs: Janet Vijaya Light-Thompson (University of New Brunswick, Canada), Dhanalakshmi Subramanian (Coimbatore Institute of Technology, India)	Gallery Hall, Ground Floor (Room 23)
	CoCoNet-S17: Symposium on Emerging Topics in Computing and Communications (SETCAC'19)- Regular & Short Papers Chairs: R Rajesh (Central University of Kerala, India), Sudhanshu S. Gonge (Vishwakarma Institute of Technology Pune & Savitribai Phule Pune University, India)	First Floor (Room 120)
	CoCoNet-S18: Main Track - Image and Signal Processing, Machine Learning and Pattern Recognition - Regular & Short Papers Chairs: Soumya T (College of Engineering Trivandrum, India), Philomina Simon (Department of Computer Science University of Kerala & University of Kerala, India)	Gallery Hall , First Floor (Room 115)
	CoCoNet-S19A: Symposium on Signal Processing for Wireless and Multimedia Communications (SPWMC'19) Chairs: Sudarshan Tsb (PES University, Bangalore, INDIA, India), O K Fasil Central University of Kerala, India)	First Floor (Room 116)
	CoCoNet-S19B: Symposium on Signal Processing for Wireless and Multimedia Communications (SPWMC'19) Chairs: Geeta C Mara (UVCE, India), Anu Thomas (National Institute of Technology, Tiruchirappalli, India)	Ground Floor (Room 117)
	ISTA-05: Intelligent Image Processing /Artificial Vision/Speech Processing/Pattern Recognition (Regular and Short Papers) Chair: Karthik P (VTU & K. S. School of Engineering and Management, India)	First Floor (Room 101)
	ISTA-06: Intelligent Techniques, Tools and Applications (Regular and Short Papers) Chairs: Bhavnesk Kumar (Netaji Subhas Institute of Technology, New Delhi, India), Philomina Simon (Department of Computer Science University of Kerala, India)	First Floor (Room 102)
	SIRS-03: Signal Processing Chairs: Shasanka Sekhar Rout (GIET University, Gunupur, Odisha, India), Divya S Vidyadharan (AugSense Lab, India)	First Floor (Room 103)
	SoMMA-02: Symposium on Machine Learning and Metaheuristics Algorithms, and Applications Chairs: Tony Thomas (Indian Institute of Information Technology and Mangement - Kerala, India), Manjunath R Kounte (REVA University, Bengaluru` , India)	First Floor (Room 104)
	SSEC-03: System and Application Security/Cryptosystems, Algorithms Chair: G. p. Sajeev (Amrita Vishwa Vidyapeetham & Govt Engineering College, India)	First Floor (Room 105)

15:30 - 17:00	CoCoNet-S20: Poster Paper Session-C Chairs: Rinki Gupta (Amity University Noida, India), Diana Josephine (CIT, India)	Room: Ground Floor (Corridor)
15:15 - 16:15	Birds of a Feather Sessions (BoFs) Title: New Social Paradigms from New Technologies - How to Build Novel Models of Transdisciplinary Security, Integrity and Authenticity in the Messy Human World of the Information Polity. Organizer(s): Michael Losavio, University of Louisville, USA; Svetlana Polyakova, Perm State University, Russian Federation; Pavel Pastukov, Perm State University, Russian Federation and Alec Yasinsac, Professor and Dean, University of South Alabama, USA	Ground Floor (Room 43)
15:30 - 18:00	Hot Off the Press Chairs: Madhusudhan Mishra (Indian Institute of Technology, Kharagpur & NERIST, India), Joseph Paul (Indian Institute of Information Technology and Management, Kerala, India)	Gallery Hall, Ground Floor (Room 24)
16:00 - 17:00	Tea Break	Ground Floor, Lift Lobby Near Room No. 031
18:00 - 18:45	WCI Panel Discussion: Challenges faced by female researchers and how to empower women professionals in Research and Academia?	Gallery Hall, Ground Floor (Room 23)
18:45 - 19:00	Valedictory Function	Gallery Hall, Ground Floor (Room 24)
19:00 - 19:30	High Tea	Ground Floor, Lift Lobby Near Room No. 031

Saturday, December 21, 9:00 - 16:30

Location: CCF, IIITM-K, Technopark Campus, Kazhakootam, Trivandrum

Workshop on Blockchain Technology:

A Peek into the Future: Blockchain Myths and Facts

<http://coconet-conference.org/2019/?q=node/49>



10:00 - 11:30 - Strategy and an Innovation Talk : How to make your Organisation Blockchain and Emerging Tech First, Mr. Sudin Baraokar

11:30 - 11.45 - Tea Break

11:45 - 1:30 - Blockchain: Research Aspects

1:30 - 2:30 - Lunch Break

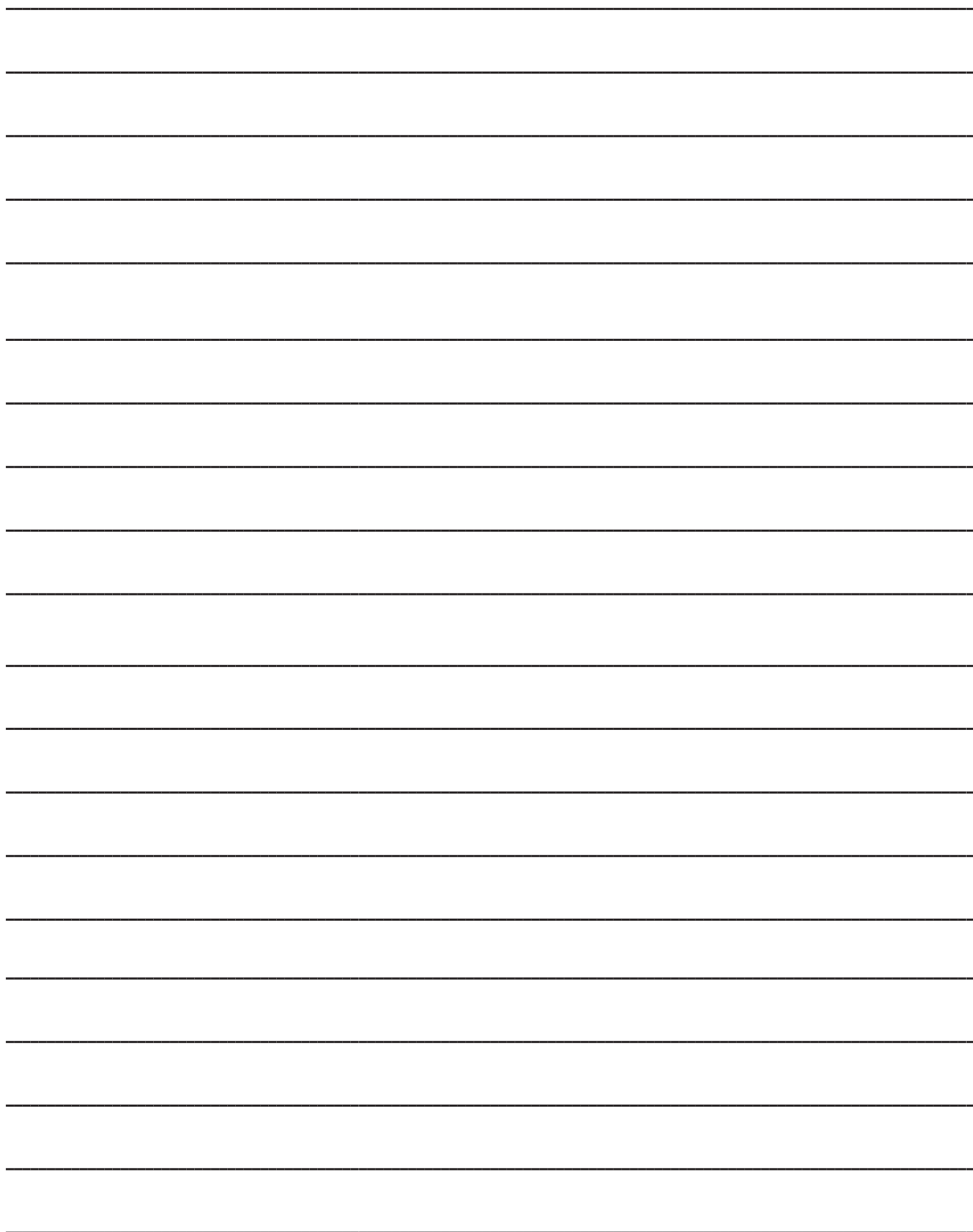
2:30 - 4:00 - Ethereum Lab Practical: Solidity smart contracts, Remix IDE and Metamask

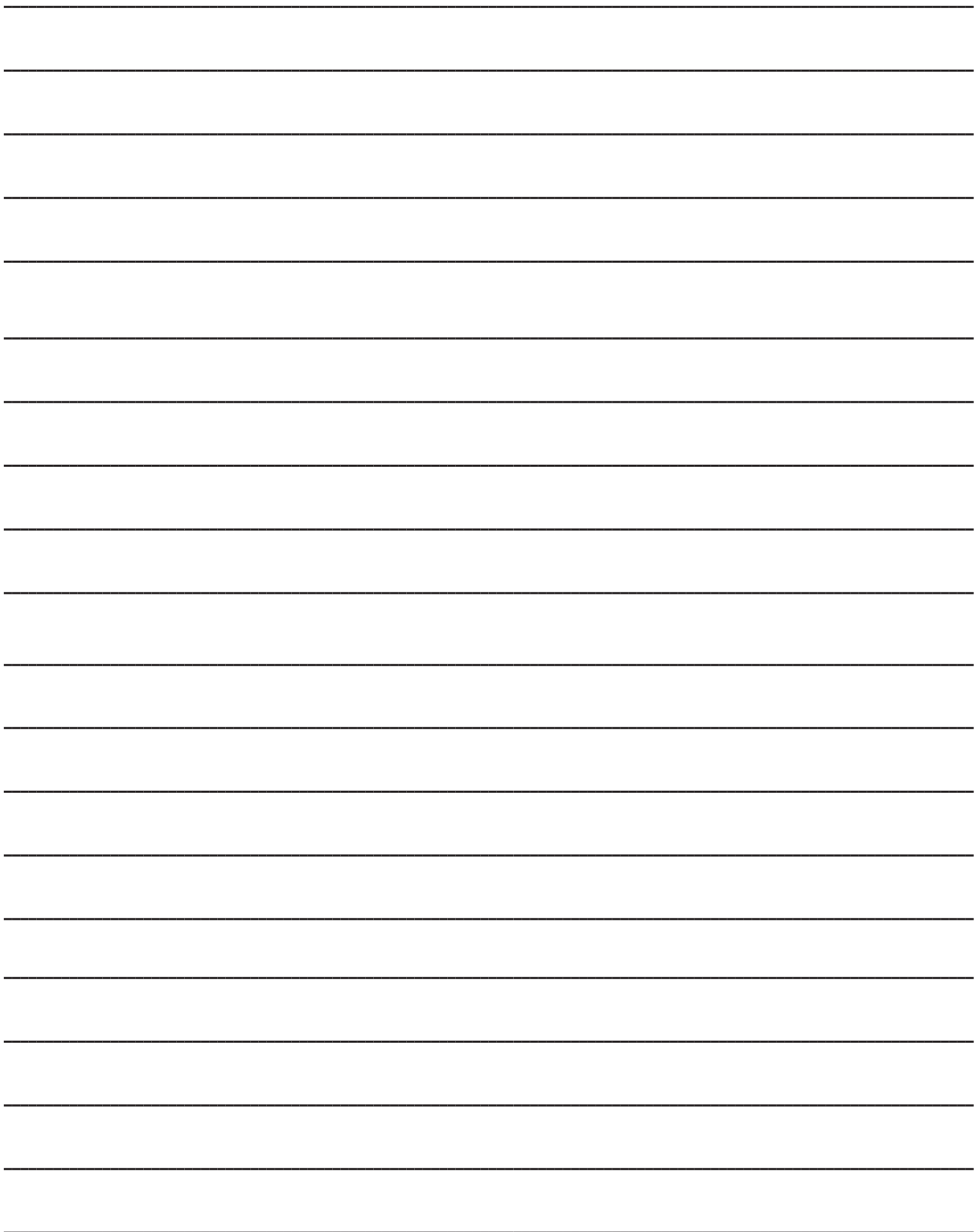
4:00 - 4:15 - Tea Break

Instructors: Mr. Sudin Baraokar, Mr. Adarsh S, Mr. Praveen, Mr. Aseem and Ms. Husna N. M

IMPORTANT NOTES

- All delegates should bring the printout of the Order received from Explara (refer to the email received from Explara during registration) and photocopy of valid ID Cards. The QR Code will be scanned to issue the registration kit.
- Most Presentations are scheduled for a maximum time of 15-20 minutes, including Q&A.
- Presentations can only be in electronic Power Point formats/PDF.
- There will be a laptop and a projector available for all presenters in the conference rooms.
- Presenters are requested to be present in the room at least 10 minutes before the start of their session and introduce themselves to the session chair. Sign the register to show that you have presented your paper.
- Speaker rehearsal room will be available for presenters who wish to rehearse their presentations.
- The printed posters can be collected from the Registration Desk on the day of presentation.





2015 International Conference on Computing and Network Communications (CoCoNet)

December 16-19, 2015
Park Centre, Technopark, Trivandrum

