



**Twentieth Annual IFIP WG 11.9 International Conference on Digital Forensics**  
**Eros Hotel, Nehru Place, New Delhi, India**  
**January 4-5, 2024**

**January 3, 2024 (Wednesday)**

**07:15pm - 09:00pm: Dinner (Hotel guests only)**  
**Meet in the Hotel Lobby @ 07:00pm**

**January 4, 2024 (Thursday)**

**07:30am - 08:45am: Breakfast (Eros Hotel, Nehru Place; Hotel guests only)**

**08:50am - 09:00am: Welcoming Remarks and Logistics**

**09:00am - 10:10am: Keynote Lectures**

*Digital Forensics – Vision and Directions*

Lt. Gen. M. Unnikrishnan Nair, National Cyber Security Coordinator, National Security Council Secretariat, Government of India, New Delhi, India

*The Evolving Digital Forensic Ecosystem*

Dr. Gaurav Gupta, Additional Director/Scientist E, Ministry of Electronics and Information Technology, Government of India, New Delhi, India

**10:10am - 11:10am: Session 1 – Forensic Analysis Techniques**

Chair: Santosh Khadsare, eSec Forte Technologies Pvt. Ltd., Gurugram, India

*Determining the Age of Questioned Digital Documents*

Martin Olivier

University of Pretoria, Pretoria, South Africa

*Text File Recovery Using an N-Gram Language Model*

Srinivas Kaparathi, Chalicheemala Gireesh, Eswara Sai Prasad Chunduru and Temberveni Venugopal

Vasavi College of Engineering, Hyderabad, India

Central Forensic Science Laboratory, Hyderabad, India

JNTUH University College of Engineering, Jagtial, India

**11:10am - 11:30am: Break with Refreshments**

**11:30am - 12:30pm: Session 2 – Deepfake Image Detection**

Chair: Gaurav Gupta, Ministry of Electronics and Information Technology, New Delhi, India

*Deepfake Detection Based on Micropostural Features Using Optical Flow*

Kai Chen, Duohe Ma, Zhenchao Zhang, Zhimin Tang, Liming Wang and Junye Jiang

Chinese Academy of Sciences, Beijing, China

*Assessing Backdoor Risk in Deepfake Detectors*

Jiawen Wang, Boquan Li, Min Yu, Kam-Pui Chow, Jianguo Jiang, Fuqiang Du, Xiang Meng and Weiqing Huang

Chinese Academy of Sciences, Beijing, China

Singapore Management University, Singapore, Singapore

University of Hong Kong, Hong Kong, China

## **January 4, 2024 (Thursday) (continued)**

### **12:30pm - 01:30pm: Session 3 – Malware Forensics**

Chair: Emmanuel Pilli, Malaviya National Institute of Technology, Jaipur, India

*Fingerprinting of Malware Families Under Uncertainty*

Cayden Dunn and Krishnendu Ghosh

College of Charleston, Charleston, South Carolina, USA

*Improved BERT-Based Method for Android Malware Detection Under Imbalanced Scenarios*

Shengzhi Qin and Kam-Pui Chow

University of Hong Kong, Hong Kong, China

### **01:30pm - 02:15pm: Lunch (Eros Hotel, Nehru Place)**

### **02:15pm - 02:45pm: Sponsor Presentation – eSec Forte Technologies Pvt. Ltd., Gurugram, India**

### **02:45pm - 03:15pm: Sponsor Presentation – INGU's Knowledge Academy Pvt. Ltd., Chennai, India**

### **03:15pm - 04:45pm: Session 4 – Internet of Things Forensics**

Chair: Sujcet Sheno, University of Tulsa, Tulsa, Oklahoma, USA

*User Behavior Forensics from Encrypted Traffic in the Industrial Internet of Things*

Zhishen Zhu, Gaopeng Gou, Chonghua Wang, Hao Zhou, Chen Lin and Gang Xiong

Chinese Academy of Sciences, Beijing, China

China Industrial Control Systems Cyber Emergency Response Team, Beijing, China

*Digital Forensic Acquisition via Private Internet of Things Cloud Application Programming Interfaces*

Johannes Olegård and Stefan Axelsson

Stockholm University, Kista, Sweden

*Blockchain-Enabled Evidence Preservation for Effective Internet of Things Forensics*

Sakshi Sharma, Aruna Malik and Ajay Sharma

National Institute of Technology, Jalandhar, Punjab, India

National Institute of Technology, New Delhi, India

### **04:45pm - 05:15pm: Sponsor Presentation – CyberPeace Foundation, New Delhi, India**

### **05:15pm - 05:35pm: Business Meeting**

### **05:35pm - 06:30pm: Poster Session with Refreshments**

*A Framework for Forensic Analyses of Corporate Cyber Attacks*

Saurabh Samanta and Neeraj Kumar

Bharat Electronics Limited, Bangalore, India

*Digital Forensics in Ambient Intelligent Environments*

Pankaj Sharma

National Institute of Technology, Jalandhar, India

*Biometric-Based Multimodal User Authentication System*

Pulkit Garg, Vishal Srivastava and Garima Gupta

Indian Institute of Technology, Jodhpur, India

*Adapting Cyber Forensic Techniques for the Industry 4.0 Landscape*

Nirmal Mor

National Law Institute University, Bhopal, India

*Drone Forensics*

Mahim Gupta, Sahil Dhoot, Nitesh Bharadwaj, Bhupendra Singh, Sarabjit Kaur and Upasna Singh

Indian Institute of Information Technology, Pune, India

Data Security Council of India, Pune, India

Defence Institute of Advanced Technology, Pune, India

### **07:15pm - 09:00pm: Dinner (Hotel guests only)**

**Meet in the Hotel Lobby @ 07:00pm**

## **January 5, 2024 (Friday)**

**07:30am - 08:45am: Breakfast (Eros Hotel, Nehru Place; Hotel guests only)**

### **09:00am - 10:00am: Keynote Lecture**

*Artificial Intelligence and the Dystopian Threat: Role of Auditing and Forensics*

Dr. Sanjay Goel, Associate Professor and Chair of Information Security and Digital Forensics, University at Albany, State University of New York, Albany, New York, USA

### **10:00am - 11:00am: Session 5 – Novel Techniques**

Chair: Krishnendu Ghosh, College of Charleston, Charleston, South Carolina, USA

*Usable and Assessable Generation of Forensic Data Sets Containing Anti-Forensic Traces at the Filesystem Level*

Thomas Göbel, Jan Türr and Harald Baier

Bundeswehr University Munich, Munich, Germany

*Ensuring the Privacy of Digital Forensic Reports Using Searchable Symmetric Encryption*

Aritro Sengupta, Pankaj Kumar and Arun Kumar Sahani

Ministry of Electronics and Information Technology, New Delhi, India

### **11:00am - 11:30am: Break with Refreshments**

### **11:30am - 12:30pm: Session 6 – Advanced Forensic Techniques**

Chair: Harald Baier, Bundeswehr University Munich, Munich, Germany

*Modeling User Intentions with Markov Chains for Intention Recommendations*

Romain Brisse, Simon Boche, Frederic Majorczyk and Jean-Francois Lalande

CentraleSupélec, Rennes, France

INRIA, Rennes, France

Malizen, Rennes, France

University of Rennes, Rennes, France

*Identifying and Analyzing Vault Apps*

Seth Barrett, Alex Salontai, Rajon Bardhan, Gokila Dorai, Esra Akbas and Patrick Woodell

Augusta University, Augusta, Georgia, USA

### **12:30pm - 01:00pm: Sponsor Presentation – Lab Systems India Pvt. Ltd., Mumbai, India**

### **01:00pm - 01:30pm: Sponsor Presentation – Foundation Future Technologies Pvt. Ltd., Faridabad, India**

### **01:30pm - 02:30pm: Lunch (Eros Hotel, Nehru Place)**

### **02:30pm - 03:30pm: Keynote Lecture**

*Online Economic Crimes – The Technological, Financial and Regulatory Angles*

Mr. Rushi Mehta, Senior Program Manager, Indian Cyber Crime Coordination Center, Ministry of Home Affairs, Government of India, New Delhi, India

### **03:30pm - 05:00pm: Session 7 – Forensic Analysis and Investigations**

Chair: Gokila Dorai, Augusta University, Augusta, Georgia, USA

*Forensic Analysis of Third-Party Cloud Software Development Kits for Android Applications*

Chen Shi and Yong Guan

Iowa State University, Ames, Iowa, USA

*Leveraging Client-Side Information on User Accounts in Digital Forensic Investigations*

Pulkit Garg, Vishal Srivastava, Nitesh Bharadwaj and Gaurav Gupta

Indian Institute of Technology, Jodhpur, India

Indian Institute of Information Technology Pune, India

Ministry of Electronics and Information Technology, New Delhi, India

*Honeypot-Based Data Collection for Dark Web Investigations Using the Tor Network*

Krishan Pal Singh, Emmanuel Pilli and Vijay Laxmi

Malaviya National Institute of Technology, Jaipur, India

### **05:00pm - 05:30pm: Vote of Thanks and Refreshments**