

# Internet: Security and Privacy challenges

## Overview

The Internet has made almost instantaneous access and dissemination of information possible. Increase in number of users as well as ever-growing number of applications have resulted in emergence of Internet as a necessity of modern life; be it banking, setting up business, academic portal etc. Downside is that anonymity and ease of remote access have made it possible for malicious users to exploit vulnerabilities. With increase in popularity of Internet, devices such as smartphones, TVs etc. have become Internet enabled. This Internet connectivity have exposed these devices to Internet threats. Any information access through such devices can be eavesdropped and can also be used for remote control of devices. One way to secure devices is through scanning and analyzing inward network traffic for threats. Analysis of voluminous traffic data on-device is not possible in real-time. Clouds, on the other hand, can be used for such analyses as these have vast computational as well information stores. Security threats against Internet are however a major concern for security architects and analysts. Awareness of these threats can prevent users from falling prey to social networking techniques used by malware authors. This awareness is much needed for research on security solutions. This course aims at discussing security aspects of Internet architecture, mobile cloud computing, online social networking and state of the art research solutions in mitigating the security threats.

In this course, emphasis shall be to apprise participants about limitations of the current Internet architecture and Content-Centric Networking as an alternative paradigm. The course shall also discuss Internet threats to mobile devices and security aspects of mobile cloud computing. The course shall also focus on security and privacy issues in Online Social Networking especially on fake profile detection, techniques to violate and protect privacy in the ONS, as well as anonymization and de-anonymization approaches. For details, please refer to MNIT website (<http://mnit.ac.in>)

<b>Dates</b>	<b>Course Duration</b> : <b>October 24 – 28, 2016</b> <b>Last date of Registration</b> : <b>October 18, 2016</b>										
<b>Modules</b>	<table border="0"> <tr> <td><b>Anonymity, DoS, and Net Neutrality</b></td> <td><b>October 24, 2016</b></td> </tr> <tr> <td><b>Future Internet Architecture Security and Privacy challenges</b></td> <td><b>October 25, 2016</b></td> </tr> <tr> <td><b>Mobile Cloud Computing: Novel Privacy Issues and Possible Solutions</b></td> <td><b>October 26, 2016</b></td> </tr> <tr> <td><b>OnLine Social Network Security and Privacy</b></td> <td><b>October 27, 2016</b></td> </tr> <tr> <td><b>How to do a presentation; Exam</b></td> <td><b>October 28, 2016</b></td> </tr> </table> <p><b>Number of participants for the course will be limited to fifty. Selection of participants shall be on “First Come First Served” basis only.</b></p>	<b>Anonymity, DoS, and Net Neutrality</b>	<b>October 24, 2016</b>	<b>Future Internet Architecture Security and Privacy challenges</b>	<b>October 25, 2016</b>	<b>Mobile Cloud Computing: Novel Privacy Issues and Possible Solutions</b>	<b>October 26, 2016</b>	<b>OnLine Social Network Security and Privacy</b>	<b>October 27, 2016</b>	<b>How to do a presentation; Exam</b>	<b>October 28, 2016</b>
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<b>You Should Attend If you are ...</b>	<ul style="list-style-type: none"> <li>▪ A computer scientist with an interest in security and hard system-level problems</li> <li>▪ Interest in cutting edge research in security and privacy of novel technologies</li> <li>▪ Security Engineers/researchers from Govt. organizations including R&amp;D laboratories</li> <li>▪ Faculty from reputed academic institutions and technical institutions.</li> <li>▪ Students at all levels (BTech/MSc/MTech/PhD)</li> </ul>										
<b>Registration Fees</b>	<p><b>GIAN Portal registration fee : Rs 500 (mandatory for all participants).</b></p> <ol style="list-style-type: none"> <li>1. Create login and password at <a href="http://www.gian.iitkgp.ac.in/GREGN/index">http://www.gian.iitkgp.ac.in/GREGN/index</a></li> <li>2. Login and complete the Registration Form and select Course(s)</li> <li>3. Confirm application and pay Rs. 500/- (non-refundable) through online payment gateway.</li> <li>4. Download “pdf file” of the application form and email it to the Course Coordinator.</li> <li>5. Once course coordinator shortlists the applicant, an email shall be sent to him/her. He/she may proceed for course registration as described in next section.</li> </ol> <p><b>Registration Fee (exclusive of GIAN Portal Registration Fee)</b></p> <table border="0"> <tr> <td><b>Participants from abroad</b></td> <td><b>: US \$100</b></td> </tr> <tr> <td><b>Industry/ Research Organizations</b></td> <td><b>: Rs 5000</b></td> </tr> <tr> <td><b>Faculty from other Academic Institutions</b></td> <td><b>: Rs 3500</b></td> </tr> <tr> <td><b>Students from other Academic Institutions</b></td> <td><b>: Rs 1000</b></td> </tr> <tr> <td><b>Faculty /Students from MNIT and IIT Kota</b></td> <td><b>: Rs 1000</b></td> </tr> </table>	<b>Participants from abroad</b>	<b>: US \$100</b>	<b>Industry/ Research Organizations</b>	<b>: Rs 5000</b>	<b>Faculty from other Academic Institutions</b>	<b>: Rs 3500</b>	<b>Students from other Academic Institutions</b>	<b>: Rs 1000</b>	<b>Faculty /Students from MNIT and IIT Kota</b>	<b>: Rs 1000</b>
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## Course Registration

1. Fees may be paid via Demand Draft in favour of "REGISTRAR (SPONSORED RESEARCH) MNIT Jaipur" payable at Jaipur.

OR

Fees can be paid through National Electronic Funds Transfer (NEFT)

Account No. : 676801700388

In name of "REGISTRAR (SPONSORED RESEARCH) MNIT Jaipur"

Bank : ICICI Bank, Branch MNIT Jaipur

IFSC Code : ICIC0006768.

2. Email filled in "Registration Form", scan copy of "Demand Draft/ NEFT Transaction Receipt" and pdf file (downloaded from GIAN Portal Registration) to [vlaxmi@mnit.ac.in](mailto:vlaxmi@mnit.ac.in). Please mention "GIAN (Advanced System Security) in Subject of the email on or before June 20, 2016.

## The Faculty



**Dr. Mauro Conti** is Associate Professor, University of Padua, where he is founder and leader of the SPRITZ Security and Privacy Research Group and EU Marie Curie Fellow at Department of Mathematics, University of Padua. He is a leading researcher in security and privacy. In this area, he has published more than 140 papers in international peer-reviewed journals (IEEE TDSC, IEEE TPDS, IEEE TIFS, ACM TWEB, IEEE TSC, IEEE COMST, etc.) and conferences (USENIX Security, ACM CCS, ACM Asia CCS, ACM WiSec, ACM SACMAT, ACM MobiHoc, ACNS, IEEE ICDCS, and ESORICS, etc.). He is Associate Editor for several journals, including IEEE Communications Surveys & Tutorials and IEEE Transactions for Information Forensics and Security. He has served as Program Committee member of several conferences, including ACM WiSec, ACM CODASPY, ACM SACMAT, IEEE INFOCOM, IEEE CNS, IEEE PASSAT, IEEE MASS, and ACNS. He was panelist at ACM CODASPY 2011. He was General Chair for SecureComm 2012 and ACM SACMAT 2013, and Program Chair for several conferences including TRUST 2015 and ICSS 2016, and for the Security Track of IEEE CCNC '16. As a visiting researcher, he has been to the Center for Secure Information Systems (CSIS) at George Mason University, Vrije Universiteit Amsterdam, UCLA, Los Angeles and UCI, Irvine.



**Dr. Vijay Laxmi** is an associate professor at Computer Science and Engineering Department of Malaviya National Institute of Technology Jaipur. She has been teaching in MNIT since 1995. Her research interests include information security. She obtained PhD from University of Southampton, UK under Commonwealth Scholarship and Fellowship Plan. She has guided 12 PhDs and has 125 publications in Journals and Conferences. She has been involved in various R&D projects, some of which are International Collaboration. She is an IEEE and ACM member. She has been a member of TPC of various conferences.



**Dr. Meenakshi Tripathi** is currently an assistant professor at Computer Science and Engineering Department, Malaviya National Institute of Technology Jaipur, India. She has been teaching UG and PG courses in the area of mobile computing and wireless communications. Her research interests are in the areas of wireless sensor networks and software defined networks. She is also a member of IEEE and ACM.

## Course Coordinators

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