

Course Pitches Kick-Off

http://3tu.nl/cybsec



Speakers

- Sicco Verwer (CDA & STR)
- Zeki Erkin (Crp)
- Michel van Eeten (EoS)
- Christian Doerr (NeS-TUD & ASA)
- Stephanie Wehner (Q101 & Q201)
 Break
- Luuk Spreeuwers (Bio)
- Pieter Hartel (CCS & IWK)
- Dan Ionita (CSM)
- Andreas Peter (PET)
- Aiko Pras (NeS-UT)



CDA: Cyber Data Analytics Sicco Verwer & André Teixeira

- Aim: learn to develop solutions for
 - anomaly detection
 - profiling and finger printing
 - threat analysis, and
 - software diagnostics
- Contents: lectures, exercises, lab, and exam, issues:
 - learning from huge data volumes
 - finding needles in haystacks
 - software generated data (structured)
 - web-data (partially structured)
- Period: Q4



STR: Software Testing and Reverse Engineering Sicco Verwer, Arie v. Deursen, and Andy Zaidman

- Aim: Learn and apply modern software testing methods to real software systems
- Contents: explanatory lectures, big lab:
 - teams of 3 students, read & understand 3 scientific papers
 - test a real software system (Tribler, malware, ...) using techniques described in the papers
- Techniques:
 - Concolic testing, mutation testing, (automated) reverse-engineering, state machine learning, taint analysis, binary analysis, ...
- Period: Q3



Crp: Security and Cryptography Jan van der Lubbe, Zeki Erkin and Andreas Peter

- Secure communication, Security threats and breaches and cryptography
- Aim: Cryptographic primitives, algorithms and protocols
- Goals: Notion of security, CIA, Symmetric and Asymmetric cryptography, DS, PKI and more...
- Exam(theory) +3 assignments (practice) + Case Study
- Period: Q1





Andy Greenberg, Forbes Staff Covering the worlds of data security, privacy and hacker culture.



SECURITY | 2/14/2012 @ 12:37PM | 8.091 views

Unauthorized iPhone And iPad Apps Leak Private Data Less Often Than Approved Ones

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Users have learned over the last few years that Apple's "walled garden" approach to third party apps isn't quite as protective of their sensitive data as it might sound. More surprising, perhaps, is another revelation: that the popular unauthorized apps outside those walls tend to respect privacy better than the approved ones inside.

As the scandal swirled this past week over <u>news that the iPhone</u>



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A screenshot of the ContactPrivacy feature in the unofficial Cydia iOS app platform.

<u>app Path uploads users' entire contact lists</u> without permission, I came upon a study (PDF <u>here</u>) released last year by a group of researchers at the University of California at Santa Barbara and the International Security Systems Lab that



EoS: Economics of Cybersecurity Michel van Eeten & Carlos Gañán

- Aim: provide economic concepts, measurement approaches and data analytics to make better security decisions
- Contents:
 - measuring cybersecurity
 - security strategies and investment
 - market failures and policy interventions
- Period: Q1
- Online material:

https://edge.edx.org/courses/course-v1:DelftX+WM0824+Fall_2015/about



Christian Doerr (NeS-TUD & ASA)



Stephanie Wehner (Q101 & Q201)









Bio: Introduction to Biometrics Raymond Veldhuis, Luuk Spreeuwers and Didier Meuwly

 Aim: understanding principles of biometric systems (systems: finger print, face, 3D face, iris, finger vein ...)

- Contents:
 - Lectures on biometrics (pattern recognition, computer vision applied to biometrics, applications, performance analysis)
 - Matlab assignments
 - Research assignment in groups of 2-4 (actual research problems)
 - Write research paper of 6 pages
 - Best papers published in UTSjBCV (with ISSN) ojs.utwente.nl/ojs/index.php/UTSjBCV
- Period: Q2



CCS: Cyber-crime Science Pieter Hartel & Marianne Junger

- Aim: study criminology, psychology, and policing from a cyber security perspective
- Contents: a real research project
- Period: Q3 & Q4
- Publications: Bas Stottelaar, Jeroen Senden and Lorena Montoya (2014) Online social sports networks as crime facilitators, Crime Science 3:8



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TU Eindhoven U Twente

IWk: Integration Week Jan van den Berg & Pieter Hartel

- Aim: To promote holistic thinking about the technology and the context
- Contents: A team of students works a whole week to solve a real cyber security problem.
- Period: off-site during week 1 in Q5
- Sponsored by: a member of the advisory board

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CSM: Cyber Security Management Trajce Dimkov & Roel Wieringa

Understand the most important concepts in management of information security

Understand how these concepts are used at mature organizations

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eep dive in the technicalities of each of the areas. There will be also se Cases and Live Demos.

The lectures are given by subject matter experts. Great opportunity to ask questions!

Bonus points: work with the experts on a specific question

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Get inspired! Get inspiration for further scientific research and further business developments related to information security.



PET: Privacy-Enhancing Technologies Andreas Peter (UT) & Zeki Erkin (TUD)

- Aim: Study information privacy concepts in context
- Contents: Privacy in the context of
 - Communication; Identity Management; Databases (Results & Access); Cloud Computing; Data Mining; Smart Cities; Biometrics; Smart Health; Surveillance;
 - Example PETs: mix networks; anonymous credentials; differential privacy; private information retrieval; homomorphic encryption;
- Exam: 75% written exam + 25% assignments
- Period: Q4
- Prerequisite: Security and Cryptography (Q1)



NeS-UT: Network Security Aiko Pras

- Contents:
 - Secure network protocols (IPsec, SSH, SSL, DNSsec, ...)
 - Attack detection and mitigation (Scans, DDoS, IDS, ...)
- 7 Classical lectures (Carre 3C), live broadcasted to TUD and available via the Web
- Several guest presenters (SURFnet)
- Exam: 60% written exam + 20% homework assignments + 20% Hacking exercise (Certified Secure)
- Period: Q1
- Will become a MOOC

Hacker legt school Heerenveen lam

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