Curriculum Vitae Konstantinos Rantos



PERSONAL INFORMATION

Konstantinos Rantos



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Sex Male | Date of birth 21/03/1973 | Nationality Hellenic

POSITION

Associate Professor (Head of Department) Department of Computer and Informatics Engineering Eastern Macedonia and Thrace Institute of Technology

WORK EXPERIENCE

07/2010 -

Associate Professor at the Department of Computer and Informatics Engineering -Head of Department (2015 – to date)

Eastern Macedonia and Thrace Institute of Technology, Kavala, Greece, www.teiemt.gr

Main research area: Information Systems and Communications Security

Teaching: Computer networks, Information Systems and Computer Networks Security

Academia

04/2007 - 04/2010

Information Security Scientific Officer

Hellenic Ministry of Interior and e-Government, Athens Greece

Scientific expert on e-identification, digital signatures and e-procedures security. Contribution to several e-government projects including the design, deployment, and management of a PKI for the Hellenic Public Administration and mechanisms for the protection of e-government services across EU. National representation to EU technical groups.

Government

06/2006 - 02/2007

IT Security Consultant

Encode Middle East FZ-LLC, Dubai, UAE

Responsible and contributor to IT security related projects including PKI infrastructure design, security awareness programs, secure coding practices and web applications security.

Information Technology

09/2004 - 06/2006

Assistant Professor

Technological Educational Institute of Kavala, Greece

Responsible for teaching the courses: Computer Networks, Network Security, Cryptography, and Information Systems Security at the Industrial Informatics, and Information Management Departments of the Technological Educational Institute of Kavala.

Academia

05/2003 - 08/2003

IT Security Consultant

Encode S.A., Athens, Greece, www.encodegroup.com/



Curriculum Vitae

Konstantinos Rantos

Responsible for the design, implementation, and documentation of a public key infrastructure compliant with ETSI TS 102 042 for an Internet Banking application of a leading Greek Bank. Contribution to IT security related projects including secure coding practices and web applications security

Information Technology

01/2001 - 05/2003

Software Engineer

Datacard Group, London, UK, www.datacard.com

Contribution to the design, implementation, testing, and debugging of certain areas of the Aptura project, a smart card operating system compliant with Java Card 2.1.1 and GlobalPlatform 2.0.1' specifications (also compliant with ISO/IEC7816 and EMV Level 1). Primary responsibilities also involved the design of the security architecture for a CALC (Proton World) compliant card, specification of crypto test cases for the Aptura project, as well as contributions to evolving standards. Participation in Datacard's proposal for an asymmetric authentication and key establishment protocol to be used by GlobalPlatform compliant cards. Contribution to the preparation of the Aptura project for Common Criteria evaluation. Investigation of certificate revocation techniques to be used by smart cards. Responsible for the implementation of Mastercard's Mchip v4.0.

Information Technology

09/1997 - 01/2001

Research Assistant

Royal Holloway, University of London, Egham, Surrey, UK

Contribution to ACTS project ASPeCT, an international collaborative project on security of third generation mobile communications. Among the objectives of ASPeCT were the migration of security features from existing mobile systems to UMTS and the investigation of the role of Trusted Third Parties (TTPs) for end-to-end security services in UMTS. Contributions included the design of the authentication and initialisation of payment protocol (between a user and a value-added service provider), the design of the TTP infrastructure, and the implementation of the system for demonstration purposes.

Responsible for the project "Minimum interoperability specification for key escrow mechanisms" funded by the European Commission (TMR programme) aiming to define a minimum set of requirements for key recovery mechanisms to enable interoperability between dissimilar schemes

Academia

EDUCATION AND TRAINING

09/1997-02/2001

PhD in Information Security

EQF level 8

Royal Holloway, University of London, Egham, Surrey, UK

Thesis: "Key Recovery in a Business Environment".

The work was funded by the European Commission: Marie Curie Research and Training Grant.

09/1996-09/1997

MSc in Information Security

FQF level 7

Royal Holloway, University of London, Egham, Surrey, UK

09/1990-07/1996

Diploma (5 years univ; studies cycle) in Computer Engineering and Informatics

EQF level 7

Department of Computer Engineering and Informatics, University of Patras, Greece

PERSONAL SKILLS

Mother tongue(s)

Greek



Curriculum Vitae

Konstantinos Rantos

Other language(s)

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2	C2	C2	C2	C2
State Certificate of Language Proficiency.				

Communication skills

Excellent communication skills gained through my experience in the industry, public sector, administrative position and as a professor in academia.

Organisational / managerial skills

- Head of Department of Computer and Informatics Engineering, Eastern Macedonia and Thrace Institute of Technology (2015 – to date).
- Member of Eastern Macedonia and Thrace Institute of Technology Board.
- Deputy Head of Department of Computer and Informatics Engineering, Eastern Macedonia and Thrace Institute of Technology (2013 – 2015).
- Chair and Deputy Chair of Evaluation Committees.

Driving licence

EU Clean Category B

ADDITIONAL INFORMATION

R&D Projects and Consulting

 "DANTE – Detecting and ANalysing TErrorist-related online contents and financing activities" (Horizon 2020 Framework Programme, 2016-2019). Member of the Advisory Board.

The project aims to deliver effective, efficient, automated data mining and analytics solutions and an integrated system to detect, retrieve, collect and analyse huge amount of heterogeneous and complex multimedia and multi-language terrorist-related contents, from both the Surface and the Deep Web, including Dark nets

 "Specification of a PKI" for the European Agency EU-LISA, 2016. Role: Security Architect.

The project aimed at redesigning and specifying a public-key infrastructure providing certification services for the needs of entities authentication and for fortifying communications among Agency's employees and devices of the EU-wide networks of VISA Information System, Schengen Information System, EURODAC and Dublinet. Main responsibilities included:

- Requirements identification and analysis
- Design and proposal a PKI solution that satisfies the identified requirements
- "Mobile Applications Development Training Courses", Eastern Macedonia and Thrace Institute of Technology, 2015. Role: Responsible for the "Mobile computing security"

The aim of the project was to develop educational material and to carry out training seminars on issues related to the development of mobile phone applications.

• "ADVISE – Advanced Video Surveillance archives search engine for security applications", FP7 Security Research Project, 2014. Member of the Advisory Board.

The project aimed at designing and developing a unification framework for surveillance-footage archive systems. Main responsibilities included:

- Advise the project on its progress
- Provide expert's advice on security related issues.
- "PIN Processing Options" for the UK Cards Association. Role: System Security



Specialist, 2014.

The project aimed at researching on the potential benefits of UK payment cards migration to online PIN verification and assessing the impact of online PIN enabled cards used in an unchanged UK POS infrastructure. Main responsibilities included:

- Analyse the requirements and views of UK financial institutions affected by online PIN verification.
- Perform a fraud analysis and contribute to the threat analysis and recommendations with regards to migrating to online PIN verification.
- "Open courses" for the Eastern Macedonia and Thrace Institute of Technology, 2014.
 Role: Technical Manager

The project aimed at developing the infrastructure and creating educational material openly available from specific portal.

 "nshield: new embedded Systems arcHltecturE for multi-Layer Dependable solutions", ARTEMIS Joint undertaking, 2011-2015. Role: Senior Research Fellow

The nSHIELD project aimed at being a pioneer investigation to address Security, Privacy and Dependability (SPD) in the context of Embedded Systems (ESs) as "built in" rather than as "addon" functionalities, proposing and perceiving with this strategy the first step toward SPD certification for future ES. Main contributions included:

- Identifying and structuring the requirements of the nShield architecture
- Securing the communication links over low power and lossy networks
- Addressing identification and authentication issues to control access to nodes resources.
- "Hellenic Public Administration's Certification Services", Hellenic Ministry of Interior, Decentralization and eGovernment, 2007-2010. Role: Information Security Advisor

The project aimed at designing and implementing a PKI that will serve as the national infrastructure providing certification services to citizens, legal entities and public servants. The Hellenic Public Administration Root CA is one of the five Certification Service Providers issuing qualified certificates in Greece. Leader of the working group responsible for:

- Identifying certification services requirements
- Designing certification services and architecture
- Certification services deployment
- Services documentation including Certification Policies for the Greek Public Administration.
- "Design and development of the National e-Government Portal of Public Administration for Citizens and Enterprises Information and Secure Electronic Transactions www.ermis.gov.gr", Hellenic Ministry of Interior, Decentralization and eGovernment, 2007-2010. Role: Information Security Advisor – Working Group Leader for Digital Authentication – PKI)

The project aimed at designing and deploying public administration electronic services provided to citizens and legal entities. Main responsibilities included designing and managing the implementation of services related to:

- e-identification, digital signatures, and related procedures
- Identity management (including co-operation with other identity providers for single sign-on purposes)
- "Greek eGovernment Interoperability Framework", http://www.e-gif.gov.gr, 2009. Role: Working Group Leader, Responsible for e-id and PKI related issues

The Greek e-Government Interoperability Framework aimed to provide a solution at Central, Regional and Local level, to the interoperability issue regarding the provision of e-Government services to public bodies, businesses and citizens. Main responsibility included:



- The Digital Authentication Framework, which sets the standards, procedures and technologies required for the registration, identification and authentication of the users
- "STORK 2.0 Secure idenTity acrOss boRders linKed 2.0", Large scale pilot project, 2010.
 Role: Deputy Manager

STORK 2.0 contributed to the realization of a single European electronic identification and authentication area by establishing interoperability of different approaches at national and EU level, eID for persons and legal entities.

"SPOCS - Simple Procedures Online for Cross-border Services", Large scale pilot project, 2009-2010. Role: WP Leader.

SPOCS was a large-scale pilot project aiming to build the next generation of online portals (Point of Single Contact or PSC), which every European country had in place, through the availability of high impact cross-border electronic procedures. Main contributions included:

- Investigating e-identification and authentication interoperability issues for the Greek National Portal Ermis
- Specifying required changes for the portal to assist adoption of the SPOCS solution.
- "PKI for the Hellenic Bank Association", 2008. Role: Security architect

The project aimed at designing a PKI solution for the Hellenic Bank Association aiming to provide certification services to citizens (qualified certificates) and legal entities. Main responsibilities included:

- Requirements identification
- Design of the proposed solution
- Preparation of certification policies
- "Preparation and development of eGovernment Services and Information Security related training material for the Hellenic National Centre for Public Administration & Local Government", 2008.

The material was adopted by the Hellenic National Centre for Public Administration & Local Government for an extensive program of training public servants on issues related to security awareness, certification services, and digital signatures.

 "Design of a PKI for a security IT infrastructure", Arab Bank, 2006. Role: Security Architect

The project aimed at designing and a PKI solution providing certification services to employees and customers geographically dispersed in Middle East and Europe. Main responsibilities included:

- Requirements identification
- Design of the proposed solution
- Preparation of certification policies
- "Design and delivery of a security awareness program", Saudi Aramco, 2007. Role: Security Architect

The aim of the project was to design, develop, and evaluate an information security awareness program in accordance with the organization's security policy.

• "Delivering a security awareness program", Saudi Telecomms, 2006.

The aim of the project was to analyse the requirements related to the design, development, and evaluation of an information security awareness program in accordance with the organization's security policy.

"Best Practices for Key Management on Smart Cards", for Codes&Ciphers, UK, 2006.

The aim of the project was to study and define specifications for managing symmetric encryption



keys on smart cards.

"PKI Design & Implementation", for Eurobank-Greece, 2003.

The project aimed at designing and implementing an internal PKI solution for the needs of users' authentication and exchange of authenticated and encrypted documents. Main responsibilities included:

- Requirements identification
- Design and implementation of the proposed solution
- Providing all the necessary documentation
- "Best practices for developing secure applications", for a major foreign bank, 2003.
- "ASPeCT: Advanced Security for Personal Communications Technologies", EU ACTS project, 1998. Role: Research assistant

This research project addressed security issues in third generation mobile communications.

Publications

- D. Jayasinghe, R. Naeem Akram, K. Markantonakis, K. Rantos, and K. Mayes, "Enhancing EMV Online PIN Verification", The 14th IEEE International Conference on Trust, Security and Privacy in Computing and Communications (IEEE TrustCom-15): International Symposium on Recent Advances of Trust, Security and Privacy in Computing and Communications (IEEE RATSP-15). Helsinki, Finland IEEE CS, August 2015
- K. Rantos, K. Fysarakis, O. Soultatos and I. Askoxylakis, Secure and Authenticated Access to LLN Resources through Policy Constraints. In proceedings of: 9th WISTP International Conference on Information Security Theory & Practice (WISTP 2015), Heraklion, Crete, Greece, August 2015.
- K. Fysarakis, Ch. Konstantourakis, K. Rantos, Ch. Manifavas and I. Papaefstathiou, WSACd A
 Usable Access Control Framework for Smart Home Devices. In proceedings of: 9th WISTP
 International Conference on Information Security Theory & Practice (WISTP 2015), Heraklion,
 Crete, Greece, August 2015.
- Rantos, K.; Fysarakis, K.; Manifavas, C.; Askoxylakis, I.G., "Policy-Controlled Authenticated Access to LLN-Connected Healthcare Resources," in Systems Journal, IEEE, vol.PP, no.99, pp.1-11.
- K. Fysarakis, K. Rantos, Oth. Sultatos, Ch. Manifavas, I. Papaefstathiou. Policy-based Access Control for DPWS-enabled Ubiquitous Devices. In proceedings of: 19th IEEE International Conference on Emerging Technologies and Factory Automation (ETFA 2014), Barcelona, Spain, September 2014.
- A. Papanikolaou, K. Rantos and I. Androulidakis. Proxied IBE-based Key Establishment for LLNs. In Proceedings of: The 10Th International Conference on Digital Technologies 2014, Zilina, Slovak Republic, July 2014.
- Ch. Manifavas, K. Fysarakis, K. Rantos, K. Kagiambakis, I. Papaefstathiou. Policy-based Access Control for Body Sensor Networks. In proceedings of: 8th Workshop in Information Security Theory & Practice (WISTP 2014), Heraklion, Crete, Greece, June 2014.
- Ch. Manifavas, K. Fysarakis, K. Rantos, G. Hatzivasilis. DSAPE Dynamic Security Awareness Program Evaluation. Human Aspects of Information Security, Privacy and Trust (HCI International 2014), Heraklion, Crete, Greece, 2014.
- K. Fysarakis, G. Hatzivasilis, K. Rantos, A. Papanikolaou, and C. Manifavas. Embedded Systems Security Challenges. In Proceedings of "Measurable security for Embedded Computing and Communication Systems (MeSeCCS 2014)", within the International Conference on Pervasive and Embedded Computing and Communication Systems (PECCS 2014), Lisbon, Portugal, 2014.
- Ch. Manifavas, G. Hatzivasilis, K. Fysarakis, K., and K. Rantos. Lightweight cryptography for embedded systems – A comparative analysis. In 6th International Workshop on Autonomous and Spontaneous Security (SETOP 2013), Egham, U.K, Springer-Verlag LNCS (8247), pp. 371–



382.

- K. Rantos, Y. Katsikogiannis, A. Papadakis and A. Stasis. "Secure e-government services across EU", Int. J. Electronic Governance 6 (2), 117-132, 2013.
- K. Rantos and K. Markantonakis. "Analysis of Potential Vulnerabilities in Payment Terminals". In K. Markantonakis and K. Mayes (eds): Secure Smart Embedded Devices, Platforms and Applications, Springer New York, pp. 311-333.
- K. Rantos, A. Papanikolaou, C. Manifavas, and I. Papaefstathiou. IPv6 security for low power and lossy networks. In Wireless Days 2013 (WD 2013), IFIP, vol., no., pp.1,8, 13-15 Nov. 2013, Valencia, Spain.
- K. Rantos, A. Papanikolaou, and C. Manifavas, "IPsec over IEEE 802.15.4 for low power and lossy networks," in 11th ACM International Symposium on Mobility Management and Wireless Access (MobiWac), Barcelona, Spain, 3–8 November 2013, pp. 59–64.
- K. Rantos, K. Fysarakis and Charalampos Manifavas. How Effective Is Your Security Awareness Program? An Evaluation Methodology, Information Security Journal: A Global Perspective, 21:6, 328-345, 2012.
- K. Rantos, A. Papanikolaou, K. Fysarakis and Ch. Manifavas. Secure Policy-Based Management Solutions in Heterogeneous Embedded Systems Networks. Proceedings of IEEE International Conference on Telecommunications & Multimedia, TEMU 2012, Heraklion, Crete, 2012.
- K. Rantos. Digital Signatures: How close is Europe to truly interoperable solutions?, in B. De Decker, J. Lapon, V. Naessens, and A. Uhl (eds.): Proceedings of the 12th Joint IFIP TC6 and TC11 Conference on Communications and Multimedia Security CMS 2011, Ghent, Belgium, 2011, Springer-Verlag (LNCS 7025), pp.155-162.
- K. Fysarakis, C. Manifavas, K. Rantos. Embedded Systems Security, Presented in the 10th International Symposium on Ambient Intelligence and Embedded Systems, AMIES 2011, Chania, Greece, 2011, http://www.fh-kiel.de/amies-2011.
- A. Papadakis, K. Rantos, A. Stasis, "Promoting e-Gov Services: e-Document Interoperability across EU": Proceedings of the 15th Panhellenic Conference on Informatics, Kastoria, Greece, 2011, pp.304-308.
- A. Papadakis, K. Rantos, A. Stasis. The Realization of the Greek E-GIF, Official Proceedings of the Second European Summit on Interoperability in the iGovernment, Rome 2008, www.esiig2.it.
- K. Rantos. Limitations Regarding Certificate Handling on Smart Cards, in: P. Bozanis and E. Houstis (eds.): Proceedings of the 10th Panhellenic Conference in Informatics (PCI 2005), Volos, Greece, November 2005, pp. 77-87.
- K. Rantos and C.J. Mitchell. Matching key recovery mechanisms to business requirements. Computers & Security (2005) 24 (3), 232-245.
- K. Rantos and K. Markantonakis. An asymmetric cryptography secure channel protocol for smart cards, in: Yves Deswarte, Frédéric Cuppens, Sushil Jajodia, Lingyu Wang (eds.): Security and Protection in Information Processing Systems, IFIP 18th WorldComputer Congress, TC11 19th International Information Security Conference, August 2004, Toulouse, France. Kluwer 2004, pp. 351–366.
- K.Rantos and C.J. Mitchell. Key recovery scheme interoperability a protocol for mechanism negotiation, in: B. Honary (ed.), Cryptography and Coding - Proceedings of the 8th IMA International Conference, Cirencester, UK, December 2001, Springer-Verlag (LNCS 2260), Berlin (2001), pp.268-276.
- K.Rantos and C.J.Mitchell. Key recovery for archived data using smart cards. In Proceedings of the 5th Nordic Workshop on Secure IT Systems (NORDSEC 2000), Reykjavik, Iceland, October 2000.
- C.J. Mitchell and K. Rantos. A fair certification protocol. ACM Computer Communication Review, 29 no. 3 (July 1999) 47-49.
- K. Rantos and C.J. Mitchell. Remarks on KRA's key recovery block format. Electronics Letters, 35 (1999) 632-634.
- C. Markantonakis and K. Rantos. On the life cycle of the certification authority key pair in EMV 96. In Proceedings of Euromedia '99, Munich, Germany, April 1999.



- K.Rantos and C.J. Mitchell. Key Recovery in ASPeCT Authentication and Initialisation of Payment Protocol. In Proceedings of the 4th ACTS Mobile Communications Summit, Sorrento, Italy, June 1999.
- B. Preneel, K.M. Martin, G. Horn, P. Howard, C.J. Mitchell, and K. Rantos. Trialling secure billing with Trusted Third Party support for UMTS applications. In Proceedings of the Third ACTS Mobile Communications Summit, Rhodes, Greece, June 1998.

Additional Professional Activities

- Member of the ENISA Network and Information Security Experts Groups (07/2017 to date)
- Director of the "Web Services and Information Security" Research Lab Eastern Macedonia and Thrace Institute of Technology.
- Responsible for the CISCO Academy Branch at Eastern Macedonia and Thrace Institute of Technology (2015 – to date).
- CyberNoesis Associate Advisor (2015 to date).
- Representative of the Greek Government to EU technical groups for digital signatures, eprocedures and EU2020 Committee – E-government subgroup (2008 – 2010).
- Teaching in e-government services and digital signatures related training courses organized by the Hellenic National Centre for Public Administration & Local Government (2007 – to date).
- Participation in management, evaluation and implementation of EU co-funded IT related Greek projects:
 - Research Creation Innovation, Special Management and Action Implementation Service of Research, Technological Development and Innovation (Evaluator – 2017)
 - Supporting researchers with an emphasis on young researchers, Special Management Service of Education and LifeLong Learning (Evaluator - 2017)
 - Digital Acropolis museum (Evaluation Committee Chairman 2014),
 - G-cloud Datacenter Facilities (Evaluation Committee Deputy Chairman 2014)
 - ICT infrastructures Assessment Laboratory (Evaluation Committee Member 2008)
 - Design and development of the National e-Government Portal of Public Administration for Citizens and Enterprises Information and Secure Electronic Transactions www.ermis.gov.gr (Digital Authentication and PKI Working Group Leader – 2010),
 - Greek e-government interoperability framework (Digital Authentication Working Group Leader – 2007).
- Member of Conferences Program Committee:
 - 2018 IEEE Sensors Applications Symposium, Seoul, Korea.
 - IEEE Globecom 2017. IEEE Workshop on Low Power Wide Area networking technologies for emerging Internet of Things (LPWA4IoT), Singapore.
 - Cloud and Trusted Computing 2017 (C&TC 2017), International Symposium on Secure Virtual Infrastructures, Rhodes, Greece
 - The 14th IEEE International Conference on Advanced and Trusted Computing, Toulouse, San Francisco Bay Area, 2017.
 - Second International Conference on Internet of Things Data, and Cloud Computing, Cambridge, United Kingdom, 2017
 - 24th International Conference on Telecommunications, Limassol, Cyprus, 2017.
 - 2017 IEEE Sensors Applications Symposium, New Jersey, USA, 2017.
 - The 13th IEEE International Conference on Advanced and Trusted Computing, Toulouse, France, 2016.
 - 23rd International Conference on Telecommunications, Thessaloniki, Greece, 2016



- 2016 IEEE Sensors Applications Symposium, Italy, 2016.
- 2015 IEEE Sensors Applications Symposium, Croatia, 2015.
- IADIS International Conference: Information Systems 2014, Spain 2014.
- 4th International Conference on Pervasive and Embedded Computing and Communication Systems, PECCS 2014, Portugal.
- IADIS International Conference: Information Systems 2013, Portugal 2013.
- Workshop in Information Security Theory and Practices 2010: Security and Privacy of Pervasive Systems and Smart Devices, Passau, Germany, 2010.
- Workshop in Information Security Theory and Practices 2009: Smart Devices, Pervasive Systems, Ubiquitous Networks, Brussels, Belgium, 2009.
- Workshop in Information Security Theory and Practices 2008: Smart Devices, Convergence and Next Generation Networks, Sevilla, Spain, 2008.
- Workshop in Information Security Theory and Practices 2007: Smart Cards, Mobile and Ubiquitous Computing Systems, Heraklion, Crete, May 2007.

Scientific Journals Reviewer:

- Computers & Security (Elsevier)
- IEEE Software
- Journal of Systems and Software (Elsevier)
- Computer Networks (Elsevier)
- Information Sciences (Elsevier)
- Journal of Computer Science and Technology (Springer)
- Security and Communication Networks (Wiley)
- SpringerPlus

Conferences Participation

- Mobiwac 2013: The 11th ACM International Symposium on Mobility Management and Wireless Access, Barcelona, Spain, 2013.
- 12th Joint IFIP TC6 and TC11 Conference on Communications and Multimedia Security - CMS 2011, Ghent, Belgium, 2011
- Polis, Infosystem 2009, Thessaloniki (Invited Speaker)
- 4th Regional Electronic Security Forum, Telecommunications Networks & Systems Security, November 2008, Thessaloniki (Invited Speaker)
- GOV IT 2008 Summit, Brussels, 2008.
- Information Security Matrix Forum 2007, Athens, Greece (Invited Speaker)
- Information Security Matrix Forum 2005, Athens, Greece (Invited Speaker)
- 10th Panhellenic Conference in Informatics, Volos, Greece, November 2005
- The 5th Nordic Workshop on Secure IT Systems, Reykjavik, Iceland, October 2000.
- Gemplus Developers Conference, Montpellier, France, June 2000.
- The 4th ACTS Mobile Communications Summit, Italy, June 1999.
- Euromedia '99, Munich, Germany, April 1999.