Curriculum Vitae

1   Personal Information

Name and Surname : Artsiom Yautsiukhin

Gender : Male

Family status : married;

Date of birth : 09 November 1981

place of birth : Gomel, Republic of Belarus

Citizenship : Belarusian;

Affiliation : National Council of Research, Institute of Informatics and Telematics, Security group.

Current Position : PostDoc

e-mail : `artsiom.yautsiukhin@iit.cnr.it`.

Homepage : `http://wwwold.iit.cnr.it/staff/artsiom.yautsiukhin/`

2   Education

June 2004 He received his degree in Radio-physics at the Belarusian State University, Minsk, Belarus. This degree was officially acknowledged to be equivalent to MS degree in Electronic Engineering by University of Pisa (Laurea magistrale in Ingegneria elettronica (classe LM-29), rilasciato dall'Universita di Pisa) on 31/03/2014.

March 2009 He received his PhD degree in Computer Science at the University of Trento, Italy (by supervision of Fabio Massacci)

He attended several international schools, such as The Global Computing Approach to Analysis of Systems (GLOBAN-2006) and International School on Foundations of Security Analysis and Design (FOSAD-2005).

3 Research interests

His interests include but are not limited to:

- Security risk assessment and metrics/indicators (Quality of Protection);

- Security assessment of complex business systems/Web Services security;

- Risk-based usage control

- Cyber-insurance

In particular, he is working on analysis of quality of protection (QoP) in complex systems. In his work with colleagues he investigated which security metrics/indicators are more relevant to be included in the contract between the client and the contractor. His work is also dedicated to the problems of aggregation of security metrics/indicators in complex business processes and networks.

Another direction of his work is devoted to empowering usage control model (a successor of access control model) with risk-based decision making. One line of this research is intended to help a client to select a less risky service provided and to control further usage of its data. Another line of research is devoted to making rational decisions when some values of attributes are not up-to-date.

Finally, he works on assessment of quality of protection by providing a formal model for security metrics and risk. The goal of this work is to analyse how different metrics relate to each other, how they contribute to computation of the risk value, and how these metrics should be used for security assessment.

4 Participation in International Projects

EU-IST-IP-SERENITY System Engineering for Security and Dependability (2006 - 2009).

Artsiom Yautsiukhin was working on analysis of organisational design and analysis of several systems which were used as scenarios for the project (A1, workpackages WP1.2 and WP1.3). The aim was to model the organisational structure of the scenarios using TROPOS methodology, analyse (formally) Security and Dependability (S&D) properties of the systems and determine and model S&D Patterns which help to satisfy required properties.

He also was working on the security metrics which support SERENITY and make it more efficient (A1, workpackages WP1.5). In particular, the aim was to identify a number of metrics which are useful for analysis of the system and S&D Patterns. He also was the leader of the activity which proposed the methodologies for the evaluations on organisational and business levels of system design and analysed proposed metrics according to their usefulness for the evaluations.

EU-IST-IP-SENSORIA Software Engineering for Service-Oriented Overlay Computers (2005 - 2010). Work of Artsiom Yautsiukhin was used for evaluation of security of business processes (Task T4.4). The work helps to perform quantitative analysis of Web Services and find the overall value for a complex business process. Moreover, the analysis helps to select the best alternative design from security point of view.

EU-IST-IP-ANIKETOS Secure and Trustworthy Composite Services (2010 - 2014). Aniketos has the main goal to ensure secure and trustworthy service composition. Artsiom Yautsiukhin was involved in many activities (e.g., socio-technical security modelling; defining, establishing an maintaining trust between service provider and service consumer; secure composition of dynamic services; response to changes and threats, etc), was responsible for several deliverables (D2.2, D3.3, and D2.5) and helped Fabio Martinelli to manage WP2 where CNR is a leader.

EU-IST-IP-NeSSoS The Network of Excellence on Engineering Secure Future Internet Software Services and Systems (2011-2014). NeSSoS was an Network of Excellence project. Its goal was to establish a strong community of researchers in the area of engineering secure software services and systems for the Future Internet (FI). Artsiom Yautsiukhin was involved in a number of activities (e.g., secure service architectures and design, and risk and cost aware SDLC.)

ARTEMIS SESAMO Security and Safety Modelling (2012 - present). SESAMO is an ongoing ARTEMIS project which stated recently which has the main goal to consider the relation between security and safety modelling. Artsiom Yautsiukhin contributes to WP3 of this project, by sharing, updating, and improving his expertise on security assessment and security metrics.

FP7-CAMINO Comprehensive Approach to cyber roadMap coordINation and develOpment (2014 - present). The major goal of the project is to provide a realistic roadmap for improving resilience against cybercrime and cyber terrorism. Artsiom Yautsiukhin is involved in a number of tasks mostly related with the analysis of the current progress in the topic and specification of the directions for the future actions.

Finally, Artsiom Yautsiukhin has been involved in writing a number of international project proposals.

5   Program committee member

ICIMP 2011 The Sixth International Conference on Internet Monitoring and Protection

SecMetS 2011 Security Metrics and Measurement in Software-Intensive Systems and Engineering (special session) arranged in the 37th Euromicro Conference.

ICIMP 2012 The Seventh International Conference on Internet Monitoring and Protection

ICIMP 2013 The Eighth International Conference on Internet Monitoring and Protection

ICIMP 2014 The Ninth International Conference on Internet Monitoring and Protection

ICIMP 2015 The Tenth International Conference on Internet Monitoring and Protection

6 Organisation of Scientific Activities

QoP-2005 (Publicity chair) The first workshop on Quality of Protection, September 15, 2005, Milan, Italy

QoP-2006 (Publicity chair) The second workshop on Quality of Protection, October 30, 2006, Alexandria VA, USA

QoP-2007 (Publicity chair) The third workshop on Quality of Protection, October 29, Alexandria VA, USA

STM-2007 (Publicity chair) The third workshop on Quality of Protection, September 26/27, Dresden, Germany

QoP-2008 (Publicity chair) The 4-th workshop on Quality of Protection, September 27, Alexandria VA, USA

7 Editor

Proceedings of the first workshop on Quality of Protection (QoP 2005)

8 Publications

- 2014

    - Leanid Krautsevich, Fabio Martinelli, Artsiom Yautsiukhin. **Evaluation of Risk for Complex Systems Using Attack Surface**. In *Proceedings of The 2nd International Workshop on Risk Assessment and Risk-driven Testing*, 2014.

    - Kristian Beckers, Leanid Krautsevich, and Artsiom Yautsiukhin. **Analysis of Social Engineering Threats with Attack Graphs**. In *Proceedings of The 3rd International Workshop on Quantitative Aspects in Security Assurance*, 2014.

- Kristian Beckers, Maritta Heisel, Leanid Krautsevich, Fabio Martinelli, Rene Meis, and Artsiom Yautsiukhin. **Determining the Probability of Smart Grid Attacks by Combining Attack Tree and Attack Graph Analysis**. In *Proceedings of The second Open EIT ICT Labs Workshop on Smart Grid Security*, 2014.

- 2013

  - Leanid Krautsevich, Fabio Martinelli, Artsiom Yautsiukhin **Formal Analysis of Security Metrics with Defensive Actions**. In *Proceedings of The 10th IEEE International Conference on Autonomic and Trusted Computing*, 2013.

  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, Artsiom Yautsiukhin **Towards Attribute-based Access Control Policy Engineering Using Risk**. In *Proceedings of The 1st International Workshop on Risk Assessment and Risk-driven Testing (RISK)*, 2013.

  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, Artsiom Yautsiukhin **Towards Policy Engineering for Attribute-based Access Control**. In *Proceedings of 5th International Conference on Trusted Systems*, 2013

  - Gabriele Costa, Fabio Martinelli, and Artsiom Yautsiukhin. **Multi-dimensional Secure Service Orchestration.** *In Proceeding of the 2nd Workshop on Security in Business Process*, 2013.

  - Gabriele Costa, Roberto Mandati, Fabio Martinelli, Ilaria Matteucci, and Artsiom Yautsiukhin. **Contract-based Approaches for Securing Web Services** *In IGI Global*, 2013.

  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, Artsiom Yautsiukhin. **Cost-Effective Enforcement of Access and Usage Control Policies under Uncertainties.** *IEEE Systems Journal. Special issue on Security and Privacy of Complex Systems, 7(2), pp. 223-235*, June, 2012.

  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, Paolo Mori, Artsiom Yautsiukhin **Integration of Quantitative Methods for Risk Evaluation within Usage Control Policies**. In *Proceedings of the International Conference on Computer Communications and Networks*, 2013.

- 2012

  - Gabriele Costa, Fabio Martinelli, and Artsiom Yautsiukhin. **Metric-Aware Secure Service Orchestration.** In *Proceedings of the 5th Interaction and Concurrency Experience.* EPTCS, 104, pp. 32-46, 2012.

5

- Leanid Krautsevich, Fabio Martinelli, Artsiom Yautsiukhin. **Towards Modelling Adaptive Attacker's Behaviour.** In *Proceedings of 5th International Symposium on Foundations & Practice of Security.* 2012.
- Leanid Krautsevich, Aliaksandr Lazouski, Paolo Mori, Artsiom Yautsiukhin. **Quantitative Methods for Usage Control.** Presented at *International Workshop on Quantitative Aspects in Security Assurance,* 2012.

- 2011

  - Leanid Krautsevich, Aliaksandr Lazouski, and Fabio Martinelli and Artsiom Yautsiukhin **Cost-effective Enforcement of UCON Policies.** In *Proceedings of the 6th International Conference on Risks and Security of Internet and Systems*, Springer-Verlag, 2011.
  - Leanid Krautsevich, and Fabio Martinelli and Artsiom Yautsiukhin **A General Method for Assessment of Security in Complex Services.** In *Proceedings of 4th European Conference ServiceWave*, Springer-Verlag, 2011.
  - Leanid Krautsevich, and Fabio Martinelli and Artsiom Yautsiukhin **Formal Analysis of Security Metrics and Risk.** In *Proceedings of the IFIP Workshop on Information Security Theory and Practice*, Springer-Verlag, 2011.
  - Leanid Krautsevich, Fabio Martinelli, Charles Morisset, and Artsiom Yautsiukhin **Risk-based Auto-Delegation for Probabilistic Availability**. In *Proceeding of the 4th SETOP International Workshop on Autonomous and Spontaneous Security*, Springer-Verlag, 2011.

- 2010

  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, and Artsiom Yautsiukhin. **Risk-based usage control for service oriented architecture**. In *Proceedings of the 18th Euromicro Conference on Parallel, Distributed and Network-Based Processing*, IEEE Computer Society Press, 2010.
  - Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, and Artsiom Yautsiukhin. **Risk-aware usage decision making in highly dynamic systems**. In *Proceedings of the The Fifth International Conference on Internet Monitoring and Protection*, Barcelona, Spain, May 2010.
  - Leanid Krautsevich, Fabio Martinelli, and Artsiom Yautsiukhin. **Formal approach to security metrics. what does more secure mean for you?** In *Proceedings of the 1st International Workshop on Measurability of Security in Software Architectures.* ACM Press, 2010.

- Leanid Krautsevich, Fabio Martinelli, and Artsiom Yautsiukhin. **Influence of attribute freshness on decision making in usage control**. In *Proceedings of the 6th International Workshop on Security and Trust Management.*. Springer, 2010.

- Leanid Krautsevich, Aliaksandr Lazouski, Fabio Martinelli, Paolo Mori, and Artsiom Yautsiukhin **Usage Control, Risk and Trust**. In *Proceedings of the 7th international conference on Trust, privacy and security in digital business*. Springer, 2010. [url] , [pdf] , [bib]

- 2009

  - Fabio Massacci, Gene Tsudik, and Artsiom Yautsiukhin. **Logging Key Assurance Indicators in Business Processes**. *In Proceedings of the 4th ACM Symposium on Information, Computer and Communications Security (ASIACCS 2009)*, 2009.

  - Yudistira Asnar, Massimo Felici, Fabio Massacci, Alessandra Tedeschi and Artsiom Yautsiukhin. **Quantitative assessment for organisational security & dependability**. In *Proceedings of the 2009 Second International Conference on Dependability*, pages 4045, Washington, DC, USA, 2009. IEEE Computer Society.

- 2008

  - R. Breu, F. Innerhofer-Oberperfler, and A. Yautsiukhin. **Quantitative assessment of enterprise security system**. *In Proceedings of the 1st International Workshop on Privacy and Assurance (WPA-2008)*. IEEE Computer Society Press, 2008

  - Frank Innerhofer-Oberperfler, Fabio Massacci, Artsiom Yautsiukhin. **Pareto-optimal architecture according to assurance indicators**. *In Proceedings of the The 13th Nordic Workshop on Secure IT Systems*, 2008.

  - Artsiom Yautsiukhin, Thomas Heyman, Riccardo Scandariato, Fabio Massacci, and Wouter Joosen. **Towards a quantitative assessment of security in software architectures**. *In Proceedings of the 13th Nordic Workshop on Secure IT Systems*, 2008.

- 2007

  - A. Yautsiukhin. **Quality of Protection determination for Web Services**. *In Proceedings of the Workshop on Web services interactions, quality and SLAs*, 2007.

  - S. Etale, F. Massacci, and A. Yautsiukhin. **The meaning of logs**. *In Proceedings of the 4th International Conference on Trust, Privacy & Security in Digital Business*, LCNS series, 4657, pp. 145–154, Springer, 2007.

- G. Frankova and A. Yautsiukhin. **Service and protection level agreements for business processes**. *In Proceedings of the 2nd Young Researchers Workshop on Service Oriented Computing*, 2007.

- F. Massacci and A. Yautsiukhin. **Modelling of quality of protection in outsourced business processes**. *In Proceedings of the The Third International Symposium on Information Assurance and Security*. IEEE Press, 2007.

- F. Massacci and A. Yautsiukhin. **An Algorithm for the Appraisal of Assurance Indicators for Complex Business Processes**. *In Proceedings of the The Third Workshop on Quality of Protection, ACM press*, 2007.

• 2006

- Y. Karabulut, F. Kerschbaum, P. Robinson, F. Massacci, and A. Yautsiukhin. **Security and trust in it business outsourcing: a manifesto.** *In Proceedings of the 2nd International Workshop on Security and Trust Management*, volume 179, pages 47–58, ENTCS, 2006.

9 Skills

He also has some experience in Web Services, Cloud, WS-Security standard, Cryptography, BPMN, BPEL, XML, HTML. He studied UML and SQL/DBMS. He also has very good knowledge of LaTeX and MS Word. He has good programming skills in C++ and Java (Eclipse) (with some experience in Maven and web service programming).