Katsiaryna Labunets

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Experience

Jun 2017-May 2019	Postdoc at the Delft University of Technolofy (Security and Safety Science section, Technology, Policy and Management faculty). H2020 CYBECO project.
Jun 2016-May 2017	Postdoctoral Research Fellow at the University of Trento (Department of Engineering and Computer Science).
Nov 2011-Apr 2016	PhD Student at University of Trento (UNITN Scholarship).
Jun 2008-Oct 2011	Business Systems Analyst at Itransition (Minsk, Belarus).

Education

Apr 2016	**Ph.D.** in Information and Comunication Technology, *Department of Engineering and Computer Science, University of Trento, Italy.*
Thesis:	"Security Risk Assessment Methods: An Evaluation Framework and Theoretical Model of the Criteria Behind Methods' Success."
Jun 2010	**MSc** in Mathematics, Belarussian State University, Minsk, Belarus.
Thesis:	"Fuzzy Graphs and Fuzzy Hypergraphs."
Jun 2009	**Diploma of Science** in Mathematics, Belarussian State University, Minsk, Belarus.
Diploma:	"Fuzzy Line Graphs of Fuzzy Hypergraphs."

Research interests

Empirical research methods
Cyber risk management
Security Engineering
Risk models comprehensibility
Human factors

Publications

Journals

1. David Insua Rios, Aitor Couce-Vieira, Jose A. Rubio, Wolter Pieters, Katsiaryna Labunets, and Daniel G. Rasines. An Adversarial Risk Analysis Framework for Cybersecurity. *Risk analysis*, 2019 **Impact factor: 2.564**.

2. Katsiaryna Labunets, Fabio Massacci, Federica Paci, Sabrina Marczak, and Flávio Moreira de Oliveira. Model Comprehension for Security Risk Assessment: An Empirical Comparison of Tabular vs. Graphical Representations. *Empirical Software Engineering*, pages 1–40, 2017 **Impact factor: 4.457**; accepted as journal first paper at ICSE 2018. The abstract will be published in the proceedings of ICSE 2018.

Conferences

3. Katsiaryna Labunets and Nelly Condori-Fernandez. Assessing the Effect of Learning Styles on Risk Model Comprehensibility: A Controlled Experiment (Short Paper). In *Proceedings of the 23rd International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'19)*

4. Katsiaryna Labunets. No Search Allowed: What Risk Modeling Notation to Choose? In *Proceedings of the 12th ACM/IEEE International Symposium on Empirical Software Engineering and Measurementt (ESEM'18)*, page 20. ACM, 2018

5. Luca Allodi, Silvio Biagioni, Bruno Crispo, Katsiaryna Labunets, Fabio Massacci, and Wagner Santos. Estimating the Assessment Difficulty of CVSS Environmental Metrics: An Experiment. In *Proceedings of the 4th International Conference on Future Data and Security Engineering (FDSE'17)*, pages 23–39. Springer, 2017

6. Katsiaryna Labunets, Fabio Massacci, and Alessandra Tedeschi. Graphical vs. Tabular Notations for Risk Models: On the Role of Textual Labels and Complexity. In *Proceedings of the 11th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM'17)*. IEEE, 2017

7. Katsiaryna Labunets, Fabio Massacci, and Federica Paci. On the Equivalence Between Graphical and Tabular Representations for Security Risk Assessment. In *Proceedings of the 21st International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'17)*, pages 191–208. Springer, 2017

8. Evellin Cardoso, Katsiaryna Labunets, Fabiano Dalpiaz, John Mylopoulos, and Paolo Giorgini. Modeling Structured and Unstructured Processes: An Empirical Evaluation. In *Proceedings of the 35th International Conference on Conceptual Modeling (ER'16)*, pages 347–361. Springer, 2016

9. Olga Gadyatskaya, Katsiaryna Labunets, and Federica Paci. Towards Empirical Evaluation of Automated Risk Assessment Methods. In *Proceedings of the 11th International Conference on Risks and Security of Internet and Systems (CRiSIS'16)*, pages 77–86. Springer, 2016

10. Katsiaryna Labunets, Yan Li, Fabio Massacci, Federica Paci, Martina Ragosta, Bjørnar Solhaug, Ketil Stølen, and Alessandra Tedeschi. Preliminary Experiments on the Relative Comprehensibility of Tabular and Graphical Risk Models. In *Proceedings of the 5th SESAR Innovation Days (SIDs'15)*, 2015

11. Martina de Gramatica, Katsiaryna Labunets, Fabio Massacci, Federica Paci, and Alessandra Tedeschi. The Role of Catalogues of Threats and Security Controls in Security Risk Assessment: An Empirical Study with ATM Professionals. In *Proceedings of the 19th International Working Conference on Requirements Engineering: Foundation for Software Quality (REFSQ'15)*, volume 9013 of *Lecture Notes in Computer Science*, pages 98–114. Springer, 2015

12. Katsiaryna Labunets, Federica Paci, Fabio Massacci, Martina Ragosta, and Bjørnar Solhaug. A First Empirical Evaluation Framework for Security Risk Assessment Methods in the ATM Domain. In *Proceedings of the 4th SESAR Innovation Days (SIDs'14)*. SESAR, 2014

13. Katsiaryna Labunets, Fabio Massacci, Federica Paci, and Le Minh Sang Tran. An Experimental Comparison of Two Risk-Based Security Methods. In *Proceedings of the 7th ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM'13)*, pages 163–172. IEEE, 2013

Workshops, tutorials, and posters

14. Inés Martínez and Katsiaryna Labunets. Drivers and Impediments for Cyber Insurance Adoption (Poster). In *ICT.OPEN 2018*, 2018

15. Katsiaryna Labunets, Andrea Janes, Michael Felderer, and Fabio Massacci. Teaching Predictive Modeling to Junior Software Engineers—Seminar Format and Its Evaluation: Poster. In *Proceedings of the 39th International Conference on Software Engineering Companion (ICSE-C'17)*, pages 339–340. IEEE Press, 2017

16. Katsiaryna Labunets, Federica Paci, and Fabio Massacci. Which Security Catalogue Is Better for Novices? In *Proceedings of the 5th IEEE International Workshop on Empirical Requirements Engineering at the 22nd IEEE International Requirements Engineering Conference (EmpiRE'15)*, pages 25–32, 2015

17. Katsiaryna Labunets, Federica Paci, Fabio Massacci, and Raminder Ruprai. An Experiment on Comparing Textual vs. Visual Industrial Methods for Security Risk Assessment. In *Proceedings of the 4th IEEE International Workshop on Empirical Requirements Engineering at the 22nd IEEE International Requirements Engineering Conference (EmpiRE'14)*, pages 28–35. IEEE, 2014

18. Katsiaryna Labunets. Empirical Validation of Security Methods. In *Proceeding of the Doctoral Symposium at the International Symposium on Engineering Secure Software and Systems*. 2013

Book chapters

19. Katsiaryna Labunets, Wolter Pieters, Michel van Eeten, Dawn Branley-Bell, Lynne Coventry, Pam Briggs, Inés Martínez, and Jhoties Sewnandan. The Cyber Insurance Landscape. In *Security Risk Models for Cyber Insurance*. Chapman & Hall/CRC, 2020

20. Riccardo Scandariato, Federica Paci, Katsiaryna Labunets, Koen Yskout, Fabio Massacci, and Wouter Joosen. Empirical Assessment of Security Requirements and Architecture: Lessons Learned. In *Engineering Secure Future Internet Services and Systems*, pages 35–64. Springer, 2014

Student supervision

MSc theses

Rutger van Baren. *The role of cybersecurity in hospital procurement.* Delft University of Technology. Expected defense date: 2021.

Veroniek Binkhorst. *Mental models in cybersecurity.* Delft University of Technology. 2020.

Sharwan A. Adjodha. *Assessing cyber security of innovations in climate disaster resilience.* Delft University of Technology. 2019.

Inés Martínez. *Drivers and impediments for cyber insurance adoption in SMEs.* Delft University of Technology. 2018.

BSc theses

Chris Gorter. *Cyber insurance risk assessment practice: Content analysis of cyber insurance proposal forms using the ISO 27002 framework.* Delft University of Technology. 2019.

Jelle Vogelzang. *The Dutch and British cyber insurance market: Current trends and how the cyber insurance market is expected be shaped in the future.* Delft University of Technology. 2019.

Redeteëe Negate. *Cyber Insurance Contracts: Balancing Risk, Supply & Demand.* Delft University of Technology. 2019.

Tom van den Dungen. *The data behind cyber insurance underwriting.* Delft University of Technology. 2019.

Teaching courses and lectures

Courses

Cybersecurity for Executives: Taking the Lead (Instructor). ProfEd program. *Delft University of Technology, NL*. Course page: `https://online-learning.tudelft.nl/courses/cybersecurity-for-executives-taking-the-lead/`. (2019-2020)

Cyber Risk Management (Co-lecturer). MSc program. *Delft University of Technology, NL*. Course page: `https://studiegids.tudelft.nl/a101_displayCourse.do?course_id=54765`. (2017-2020)

Cyber Security Risk Assessment (TA). MSc program. *University of Trento, IT*. Course page: `https://securitylab.disi.unitn.it/doku.php?id=security_engineering`. (2014-2017)

Security Enigneering (TA). MSc program. *University of Trento, IT*. (2012-2013)

Other lectures

Cyber Risk Management and Risk Model Comprehensibility. (Guest lecturer). Executive Master program. *Cyber Security Academy, HSD*. Program page: `https://www.csacademy.nl/en/education/master-s-programmes/executive-master-s-programme-cyber-security`. (October 2019)

Cyber Risk Management. (Guest lecturer). Executive Master program. *Cyber Security Academy, HSD*. Program page: `https://www.csacademy.nl/en/education/master-s-programmes/executive-master-s-programme-cyber-security`. (April 2019)

Cyber Threats and Risk Management (Guest lecturer). BSc program. *University of Leiden*. Course page: `https://studiegids.universiteitleiden.nl/courses/87097/cyber-threats-and-risk-management`. (March 2019)

Joint Seminar on Empirical Software Engineering (Lecturer). *University of Bolzano in 2016, University of Innsbruck in 2017*. Course page: `https://qe-informatik.uibk.ac.at/euregio-joint-seminar-on-empirical-software-engineering/`. (2016-2017)

Presentations and seminars

National Security and Critical Infrastructure Protection. Invided talk at the Security, Safety & Justice minor program conference at TU Delft. Sep 2019.

No Search Allowed: What Risk Modeling Notation to Choose? Presentation at ESEM 2018, Oulu, Finland. Oct 2018.

Exploring Cyber Insurance. Talk about cyber insurance and CYBECO project at TPM Research Day, TU Delft. May 2018.

Graphical vs. Tabular Notations for Risk Models: On the Role of Textual Labels and Complexity. Presentation at ESEM 2017, Toronto, Canada. Nov 2017.

Cyber risk and insurance. Presentation at Amsterdam Centre for Insurance Studies (ACIS), University of Amsterdam, the Netherlands. Sep 2017.

On the Equivalence Between Graphical and Tabular Representations for Security Risk Assessment. Presentation at REFSQ 2017, Essen, Germany. Mar 2017.

Towards empirical evaluation of automated risk assessment methods. Presentation at CRiSIS 2016, Roscoff, France. Sep 2016.

Security Risk Assessment Methods: An Evaluation Framework and Theoretical Model of the Criteria Behind Methods' Success. Seminar at University of Luxembourg, Luxembourg. Apr 2016.

Preliminary Experiments on the Relative Comprehensibility of Tabular and Graphical Risk Models. Presentation at SIDs 2015, Bologna, Italy. Dec 2015.

Which Security Catalogue Is Better for Novices? Presentation at EmpiRE Workshop at IEEE RE 2015, Ottawa, Canada. Aug 2015.

Research Projects Experience

Jun 2019 - now	VSNU Digital Society project. Project page: `https://www.thedigitalsociety.info/`. Duties: leading research on cyber security within Safety & Security track from TU Delft side; organizing workshops at the project conferences.
Jun 2017 - May 2019	Supporting Cyberinsurance from a Behavioural Choice Perspective (CYBECO), EU Horizon 2020 Research and Innovation program. Project page: `www.cybeco.eu`. Duties: work package leadership; project review meetings; organization of the final dissemination event; research on cyber insurance ecosystem, cyber insurance decision-making in organisations, and policy analysis.
Sep 2013 - Mar 2016	Empirical Framework for Security Design and Economic Trade-Off (EMFASE), Eurocontrol Call for Tender. Project page: `https://securitylab.disi.unitn.it/doku.php?id=emfase`. Duties: research on empirical evaluation of security risk assessment methods and causal explanation of the results; coordinated work on the final deliverable; reviewed deliverables.
Oct 2012 - Mar 2014	Network of Excellence on Engineering Secure Future Internet Software Services and Systems (NESSoS), FP7 European Project. Project page: `http://www.nessos-project.eu/`. Duties: research on empirical evaluation of security risk assessment methods.

Grants

UNITN Ph.D. Scholarship for my doctorate studies - €44200 (2011).

Organisation Experience

Digital Society workshop on "Cybersecurity and use of connected medical devices − Health Internet of Things (IoT)". November 26, 2019. Digital Society conference, Utrecht, NL. Event page: `https://www.evite-sendmail.nl/vsnu/vsnu_19/web/vsnu_19_workshops.php`.

Lorentz seminar on "Cyber Insurance and its Contribution to Cyber Risk Mitigation". March 25-29, 2019. Lorentz center, Leiden, NL. Event page: `https://www.lorentzcenter.nl/cyber-insurance-and-its-contribution-to-cyber-risk-mitigation.html`.

EUREGIO Joint seminar series on "Empirical Software Engineering". In 2016 at the University of Bolzano, IT, and in 2017 at the University of Innsbruck, AT. Event page: `https://qe-informatik.uibk.ac.at/euregio-joint-seminar-on-empirical-software-engineering/`.

Community Service

Journal reviewer: SpringerBriefs; Journal of Systems and Software; Reliability Engineering and System Safety journal; Computers & Security journal; Information and Software Technology journal; Journal of Air Transport Management.

PC Member: International Workshop on Graphical Models for Security (GramSec20); ACM/IEEE International Symposium on Empirical Software Engineering and Measurement (ESEM19); International Workshop on Empirical Methods in Conceptual Modeling (Emp-ER18, Emp-ER19, Emp-ER20); IEEE Empirical Requirements Engineering Workshop at RE conference (EmpiRE-RE17); Research Method Track Co-Chair at REFSQ 2017.

Referees

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