

Ricercatori...‘a rischio’: riflessioni dalle esperienze sul campo

Dr. Oleg Illiashenko

Institute of Informatics and Telematics (IIT-CNR),
Trust, Security and Privacy Research Unit



Background & Expertise

- **PhD in Computer Engineering (2018), MSc in Cybersecurity (2013), MSc in Computer Engineering (2012)**
- **Teaching** – 14 years. Since 2010, I have conducted research and given lectures and practical classes on the following subjects:
 - functional safety and cybersecurity co-engineering and analysis
 - dependability and resilience of embedded, cloud, and IoT/IIoT systems
 - assessment, assurance, and standardisation of critical IACS systems
- Supervised students – PhD (2), MSc (4), BSc (5)
- **PC member in the Conferences:** DESSERT (IEEE), IDAACS (IEEE), MCSS (Springer); Digillience, SICC CBRNe
- **118 scientific papers and reports**, incl. 15 monographs. [H-index in Scopus](#) – 13; [H-index in Google Scholar](#) – 16
- **Speaker at 50+ international conferences** during 2011-2024
- I specialise in **cybersecurity assessment and assurance, verification, and validation** of safety-critical FPGA-based and embedded systems, as well as **technical regulation and licensing** of safety-critical industrial automation and control systems (IACS)
- **Project/Program management experience** – 11 years
 - **2021-2024: Project manager in SW/HW development industry** (GlobalLogic Hitachi Ltd. Domains: Embedded, Automotive, Healthcare, Telecom – functional safety&cybersecurity projects with Tier1 suppliers from EMEA, APAC, US)
 - **2013-2021: International (R&D&E) projects** (Horizon2020 / Erasmus+ / Tempus – 7 projects)

History of cooperation with CNR

- **November-December 2011** – internship at Institute of Information Science and Technologies "Alessandro Faedo" – ISTI (ISTI-CNR) during MS studies at National Aerospace University "KhAI" in Ukraine (under Tempus project SAFEGUARD – safeware engineering for MSc and PhD students) – *Dr. Felicita Di Giandomenico, Dr. Stefania Gnesi, Dr. Mario Fusani, Dr. Alessio Ferrari, etc.*
- **2010-2024** – Joint research work under Tempus & Erasmus+ projects, participation in International Conferences – *Dr. Felicita Di Giandomenico (ISTI), Dr. Mario Fusani (ISTI), etc.*
 - Dependable System, Services and Technologies DESSERT Conference (and the related workshops)
 - Software Engineering for Resilient Systems SERENE WS
 - other events
- **October 2022-October 2023** – Borso di studio at ISTI-CNR, Software Engineering & Dependable Computing (SEDC) lab. Topic: "Computer Science – Methodologies and technologies". Supervisor: Dr. Felicita Di Giandomenico
- **March 2024-February 2025** – Assegno di ricerca at Institute of Informatics and Telematics (IIT-CNR), Trust, Security and Privacy Research Unit. Topic: "Study of solutions for the security of complex systems and threat management". Supervisor: Dr. Fabio Martinelli

Activities and results while at ISTI-CNR and IIT-CNR (Oct 2022 – Nov 2024)

- @ISTI: carrying research in functional safety & cybersecurity co-engineering, AI of autonomous transport systems
- @IIT: carrying research in cyber threat intelligence & managing SYNAPSE project
- Publication of the research results in International scientific journals – 5 (Scopus, WoS)
- Dissemination of the research results at the International Conferences – 5 (IEEE)
- Selected Guest Editorship in Journals – 3 (Scopus)
- Conference Chair – 4: (2 (IEEE) + 1 (Springer) + 1 (MDPI))
- As a guest reviewer, delivered 22 paper reviews for international scientific and technical journals papers (Elsevier, MDPI)
- Conducted 6 PhD thesis evaluations in the field of Industrial Engineering for the University of Rome “Tor Vergata”
- Project management of the Horizon Europe SYNAPSE project on the coordinator side
 - Lead author of the project deliverable D1.1 - Quality, Ethics and Innovation Plan
 - Lead author of the project deliverable D1.2 - Data Management Plan
 - Lead reviewer of the project deliverable D2.1 - Requirements & MVP architecture

Reflections on cooperation with CNR

- Friendly atmosphere (I was lucky) and the possibility of conducting the research with the continuation of the previous experience, combining it with the “fresh view” by the new supervisors - @ISTI
- I was given the space I needed to work, and I had access to it whenever I needed - @ISTI
- Free access to publication databases, like Scopus, WoS, ACM, Springer, etc. - @ISTI
- No “dictate” of the research outputs, giving some academic freedom - @ISTI
- The possibility of sharing the results of the past research and future prospects (via inter-institutional/interdepartmental) seminars to obtain feedback out of the “inner circle” - @ISTI, @IIT
- The difference in the publication and dissemination activities while working in Ukrainian HEIs and Italian research institution – CNR (different conferences, journals, communities, etc.) - @ISTI, @ IIT

Synergy and diversity – are the key to sustainability



Pain points / directions of growth

- The possibility of “free research” – is a tricky thing. Even fundamental research is funded strategically to increase the overall level of a particular society. Someone has to pay for it: state budget, private stakeholders, funds, etc. **The right place needs to be found in CNR to continue the SAR’s career** and find the research team which is looking for the particular expertise – **more advertisement of SAR programme** on the cross-governmental level (Italy -> other countries) **have to be done to promote the possibilities of continuation of the research in Italy** – this can decrease the dependency on the human-factor while choosing the place to relocate from the mother country
- **Previous R&D project management and grant-writing will be a significant plus for SAR** - to prepare new project proposals and bids because the budget for SARs is limited (1-year short-term contract in my case). And, from the foreigner’s point of view, if there is no continuation, one will find self in another country without a job
- **Increasing the funding/salary for SARs or guaranteeing 2-3 years of a research/academic contracts** – leaving the destroyed home in 2022 (due to the Russian-Ukrainian war) with relatively nothing behind the back makes a human vulnerable. A “safe space” is needed to build the future and plan the life. Considering obvious obstacles (language, regulations, societal traditions, etc.) it’s hard to plan life, when you’re unsure for at least about 2-3 years and thus, there is a constant uncertainty about it -> it pushes towards constant looking for something else. It reduces the concentration that could be used to work at full capacity



**The difficult we do immediately,
The impossible takes a little longer.**



Grazie per l'attenzione!

oleg.illiashenko@isti.cnr.it



Дякую за увагу!



An Integrated Cyber Security Risk & Resilience
Management Platform, With Holistic Situational
Awareness, Incident Response & Preparedness
Capabilities



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