Name	Roman Oliynykov
Position, Department/Faculty	Professor, Department of Computer Systems, Networks and Cybersecurity, Faculty of Radio Electronics, Computer Systems, and Infocommunications
Academic Degree, Academic Title	Doctor of Technical Sciences, Professor
Email:	r.oliynykov@csn.khai.edu
Scopus Author ID:	https://www.scopus.com/authid/detail.uri?authorId=36104503000
Web of Science ResearcherID:	http://www.researcherid.com/rid/F-2831-2019
ORCID iD:	https://orcid.org/0000-0002-3494-0493
Google Scholar:	https://scholar.google.com/citations?user=9ZHTlHYAAAAJ&hl
ResearchGate:	https://www.researchgate.net/profile/Roman-Oliynykov

EDUCATION:

Basic education:

Kharkiv National University of Radio Electronics, MSc. (Specialist) in Computer and Intelligent Systems and Networks, 1998

Postgraduate/Doctoral studies:

Doctor of Technical Sciences (Dr. Habil., Dr.Sc.), Kharkiv National University of Radio Electronics, 2014.

Professor, V.N.Karazin Kharkiv National University, 2023.

Candidate of Technical Sciences (PhD), Kharkiv National University of Radio Electronics, 2002.

Associate Professor, Kharkiv National University of Radio Electronics, 2008.

Additional training, certification programs:

AI Cybersecurity. OutThink, 2025.
Security Administration (Certified Security Administrator - CCSA). CheckPoint, 2024.
AI Regulation and Compliance. EJ4 Consultancy, 2024.
Product Management Academy. Tepper School of Business, Carnegie Mellon University, 2022.
Strategic management. Pucelik Consulting Group, 2013.

WORK EXPERIENCE:

Professional Career:

Visiting Professor at Department of Computer Systems, Networks and Cybersecurity, National Aerospace University – Kharkiv Aviation Institute, Sep 2016 – Current

Professor at Cybersecurity of Information Systems, Networks and Technologies Department of Education and Science Institute of Computer Science and Artificial Intelligence, V.N.Karazin Kharkiv National University, Sep 2015 – Current

Research Fellow at Input Output Global, March 2016 – Current

Invited Professor at Bergen University, May - December 2014

Visiting Professor at Samsung Advanced Technology Training Institute, March 2013 – December 2014

Professor at Information Technologies Security Department, Kharkiv National University of Radioelectronics, September 2014 – February 2015

Head of Research Department at JSC "Institute of Information Technologies", Jan 2011 – Feb 2019

Associate Professor at Information Technologies Security Department, Kharkiv National University of Radioelectronics, Sep 2003 – Aug 2014

Doctoral candidate (Postdoc), Kharkiv National University of Radioelectronics, Sep 2009 – Aug 2012

Developer and Project Manager at JSC "Institute of Information Technologies", Jan 1998 – Dec 2010

Senior Lecturer at Information Technologies Security Department, Kharkiv National University of Radioelectronics, Sep 2001 – Aug 2003

Teaching Experience:

Courses Taught: Cybersecurity and Network Security; Software Security; Operation System Security; Theoretical and Applied Cryptography; Theory of Numbers, Groups, Rings and Fields; Methodology of Scientific Research.

Experience in International and National Projects, Grants:

International Collaboration on Blockchain Research Effort, 2016 – Current.

Head of Ukrainian Research Team at Project "EAGER: IMPRESS-U: Hardware-Efficient Realization of UA Cryptographic Standards", the winner of the competition held by U.S. National Science Foundation, November 2024 – Current.

Head of Research at Project 2020.01/0351 "Analysis, research, development and implementation of

modern information security technologies for global monitoring of the cyberspace of Ukraine in crisis and emergency situations", the winner of the competition "Science for the security of man and society", held by the National Research Foundation of Ukraine, May 2020 – December 2021.

Development of the Ukrainian National Standard of Block Cipher and its modes of operation (DSTU 7624:2014. Information Technologies. Cryptographic Data Security. Symmetric Block Transformation Algorithm), Sep 2006 - Dec 2013.

Development of the Ukrainian National Standard of Cryptographic Hash Function (DSTU 7564:2014. Information Technologies. Cryptographic Data Security. Hash Function), Sep 2012 - Dec 2013.

RESEARCH ACTIVITIES:

Main Research Areas:
Blockchain Technologies, Design and Analysis of Cryptographic Protocols and Primitives, Software Security, Computer Networks Security.

Number of Publications:
180 academic publications (including 47 indexed in Scopus).

Monographs, Textbooks:
Co-author of 3 monographs published in Ukraine and in the U.S.

Participation in Scientific Conferences:
Regular speaker and invited speaker at international and national scientific conferences (over 50).

INTERNATIONAL ACTIVITIES:

Teaching/Lecturing Abroad:
Bergen University (Norway), Lancaster University (UK), Tomas Bata University In Zlin (Czech Republic), National and Kapodistrian University of Athens (Greece), Samsung Advanced Technology Training Institute (Republic of Korea/South Korea)

SELECTED PUBLICATIONS:

Key Articles (Scopus&WoS):
Roman Oliynykov, Yuri Bespalov, Lyudmila Kovalchuk, Hanna Nelasa. Binomial distribution with delay in analysis and parametrization of Ouroboros Praos proof of stake blockchain protocol //Probability in the Engineering and Informational Sciences. – 2025. – pp. 1-31.

Mariia Rodinko, Roman Oliynykov, Andrii Nastenko. Decentralized Proof-of-Burn Auction for Secure Cryptocurrency Upgrade. Blockchain: Research and Applications. Volume 5, Issue 1, March 2024.

Zhang, J., Zhang, B., Nastenko, A., Balogun, H., & Oliynykov, R. (2022). Privacy-Preserving Decision-Making over Blockchain. IEEE Transactions on Dependable and Secure Computing, 2023, 20(6), pp.

4648–4663

Bespalov, Y.; Kovalchuk, L.; Nelasa, H.; Oliynykov, R.; Viglione, R. Models for Generation of Proof Forest in zk-SNARK Based Sidechains. Cryptography 2023, 7, 14.

Georgios Birmpas, Lyudmila Kovalchuk, Philip Lazos, Roman Oliynykov. Parallel Contests for Crowdsourcing Reviews: Existence and Quality of Equilibria. 4th ACM Conference on Advances in Financial Technologies (AFT '22). MIT Media Lab, Cambridge MA.

Bespalov, Y.; Garoffolo, A.;Kovalchuk, L.; Nelasa, H.; Oliynykov,R. Probability Models of DistributedProof Generation for zk-SNARK-Based Blockchains. Mathematics 2021,9,3016.

Karpinski, M., Kovalchuk, L., Kochan, R., Oliynykov, R., Rodinko, M., & Wieclaw, L. (2021). Blockchain Technologies: Probability of Double-Spend Attack on a Proof-of-Stake Consensus. Sensors, 21(19), 6408.

Garoffolo A., Kaidalov D., Oliynykov R. Zendoo: a zk-SNARK Verifiable Cross-Chain Transfer Protocol Enabling Decoupled and Decentralized Sidechains. The Second IEEE International Workshop on Blockchain and Mobile Applications (BlockApp 2020), 40th IEEE International Conference on Distributed Computing Systems (ICDCS).

Zhang B., Oliynykov R., Balogun H. A treasury system for cryptocurrencies: Enabling better collaborative intelligence //The Network and Distributed System Security Symposium. San Diego, USA.

Kiayias A., Russell A., David B., Oliynykov, R. Ouroboros: A provably secure proof-of-stake blockchain protocol. Lecture Notes in Computer Science Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics, 2017, 10401 LNCS, pp. 357–388

Books, Chapters in Collective Monographs:
Roman Oliynykov, Oleksandr Kuznetsov, Oleksandr Lemeshko, Tamara Radivilova. Information Security Technologies in the Decentralized Distributed Networks. Lecture Notes on Data Engineering and Communications Technologies. Springer, 2022. ISBN: 978-3-030-95161-0.

Security, Privacy, Confidentiality and Trust in Blockchain. Edited by Mikolaj Karpinski, Oleksandr O. Kuznetsov, Roman Oliynykov. MDPI Books, 2025. ISBN 978-3-7258-3307-8.

Links to Citation Database Profiles:
Scopus Author ID: https://www.scopus.com/authid/detail.uri?authorId=36104503000
Web of Science ResearcherID: http://www.researcherid.com/rid/F-2831-2019
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Google Scholar: https://scholar.google.com/citations?user=9ZHTlHYAAAAJ&hl

ADDITIONAL INFORMATION:

Language Proficiency:
English

IT Skills:
Linux, Windows; TCP/IP networking; C, C++, Java, Asm x86(_64); Jira, Confluence, Slack, Lattice; git, GitHub; VMWare, Virtual Box; AWS; Moodle, Google Class; Zoom, Google Meet; LaTeX, Overleaf; Google Docs, LibreOffice, Microsoft Office.