UNAL TATAR

College of Emergency Preparedness, Homeland Security and Cybersecurity Department of Cybersecurity ETEC 260B – 1400 Washington Ave. Albany, NY 12222 utatar@albany.edu (518) 442-5111

EDUCATION

2019	Ph.D. in Engineering Management and Systems Engineering, Old Dominion University
	Dissertation: <u>Quantifying Impact of Cyber Actions on Missions or</u> <u>Business Processes: A Multilayer Propagative Approach</u> .
	Doctoral Mentor: Adrian V. Gheorghe, Ph.D.
2009	M.S. in Cryptography, Middle East Technical University, Institute of Applied Mathematics
	Master's Project: Steganography and Steganalysis.
	Project Mentor: Ali Doganaksoy, Ph.D.
2004	B.S. in Computer Science, Bilkent University

EDUCATIONAL EMPLOYMENT

2018 - Present Assistant Professor, College of Emergency Preparedness, Homeland Security and Cybersecurity, University at Albany, State University of New York.

ADDITIONAL EMPLOYMENT

2015 - 2018	Graduate Research/Teaching Assistant , Department of Engineering Management and Systems Engineering, Old Dominion University.
2012 - 2015	Principal Researcher / Head of the National Computer Emergency Response Team, National Cyber Security Institute, Ankara, Turkey.
2009 - 2012	Senior Researcher / Unit Head, National Cyber Security Institute, Ankara, Turkey.
2004 - 2009	Researcher, TUBITAK UEKAE InfoSec Department, Ankara, Turkey.

OTHER PROFESSIONAL APPOINTMENTS

2014 - Present	Member, Cyber Terrorism Project, Swansea University, UK.
2013 - 2015	Academic Advisor, NATO Center of Excellence – Defense Against Terrorism (COE-DAT), Ankara, Turkey.

HONORS AND AWARDS

Teaching Award	College of Emergency Preparedness, Homeland Security and Cybersecurity	2023	
Individual Development Award	New York State/United University Professions Professional Development Committee	2023	\$2,000
Best Paper Award	Society for Risk Analysis – Risk Analysis Journal	2022	
Fellowship	Trusted-CI NSF Cybersecurity Center of Excellence	2022	
Recognition of Junior Faculty Who We	2021		
Dr. Nuala McGann Drescher Diversity and Inclusion Leave Program Award			
Individual Development Award	New York State/United University Professions Professional Development Committee	2021	\$1,000
Young Scholar Travel Award	Undergraduate Education in Informatics Conference	2020	\$1,000
Innovations in Cybersecurity Education	2019		
Online Teaching and Learning	The Office of Provost,	2019 \$	¢2 000
Initiative Award	University at Albany		\$3,000
Diversity and Transformation Award	The Office of Diversity and Inclusion, University at Albany	2019	\$4,000
Young Scholar Travel Award	Society for Risk Analysis	2018	\$1,000
Shining Star Award	Old Dominion University	2018	
Christopher Day Award for Outstanding Graduate Assistant	Old Dominion University	2018	
Member of the Honor Society of Phi Kappa Phi			
Letter of Appreciation	NATO Combined Joint Operations from the Sea Centre of Excellence	2017	

Certificate of Achievement for Outstanding Service	ODU Center for Cybersecurity Education and Research	2017	
Member of Golden Key International H	2017		
Member of Epsilon Mu Eta - The Natio Management	2017		
Endowed Scholarship	Triton International Enterprises	2017	\$500
Ph.D. Tuition Scholarship	Old Dominion University	2015- 2018	
Merit in Teaching Certificate	Turkish Ministry of Defense, Defense Industry and Technology Training Center	2011	
B.S. Full Scholarship	Bilkent University	2000- 2004	

PUBLICATIONS

(*indicates undergraduate student co-author, **indicates graduate student co-author)

Edited Books

- **Tatar, U.,** Gheorghe, A., **Keskin, O, & Muylaert, J. (2020). *Space Infrastructures: From Risk to Resilience Governance*. Amsterdam: IOS Press.
- **Tatar, U.,** *Gokce, Y. & Gheorghe, A. (2017). *Strategic Cyber Defense: A Multidisciplinary Perspective*. Amsterdam: IOS Press.

Peer Reviewed Articles

- Thekdi, S. A, **Tatar, U.**, Santos, J. R., &. Chatterjee, S. (2023). Disaster Risk and Artificial Intelligence: A framework to characterize conceptual synergies and future opportunities. Risk Analysis, 43(8), 1641-1656
- Tatar, U., Santos, J. R., & Thekdi, S. A. (2022). Managing Physical and Economic Risk for Systems with Multidirectional Network Interdependencies. Risk Analysis, 42(5), 1106-1123 (Best Paper Award)
- **Dubois, E., & Tatar, U. (2022, March). Mitigating Global Cyber Risk Through Bridging the National Incident Response Capacity Gap. In *International Conference on Cyber Warfare* and Security (Vol. 17, No. 1, pp. 527-531).
- **Pour, F. S. A., **Tatar, U.,** & Gheorghe, A. V. (2022). Blockchain empowered disaster recovery framework. International Journal of System of Systems Engineering, 12(1), 51-62.

- **Balogun, M., Bahsi, H., **Keskin, O.F., & Tatar, U. (2022). A Comparative Framework for Threat Modeling: Case of Healthcare and Industrial Control Systems. *International Journal* of Critical Infrastructures. DOI: 10.1504/IJCIS.2024.10046187
- **Keskin, O.F., **Tatar, I., **Caramancion, K., *Raza, O., & Tatar, U. (2021). Cyber Thirdparty Risk Management: A Comparison of Non-Intrusive Risk Scoring Tools. *Electronics* 10(10), 1168. MDPI AG. Retrieved from http://dx.doi.org/10.3390/electronics10101168.
- Tatar, U., Nussbaum, B., **Gokce, Y., & **Keskin, O.F. (2021) Digital Force Majeure: The Mondelez Case, Insurance, and the (un)Certainty of Attribution in Cyber Attacks. *Business Horizons* 64(6) pp.775-785. Retrieved from https://doi.org/10.1016/j.bushor.2021.07.013.
- **Keskin, O.F., *Lopez, B.A., *Gannon, N., & Tatar, U. (2021) Scoring Cyber Vulnerabilities Based on Their Impact on Organizational Goals. 2021 IEEE Systems and Information Engineering Design Symposium (SIEDS), pp. 1-6, doi: 10.1109/SIEDS52267.2021.9483741.
- *Portalatin, M., **Keskin, O.F., *Malneedi, S., & Tatar, U. (2021) Data Analytics for Cyber Risk Analysis Utilizing a Cyber Incident Datasets. 2021 IEEE Systems and Information Engineering Design Symposium (SIEDS), pp. 1-6, doi: 10.1109/SIEDS52267.2021.9483743.
- Gheorghe, A.V., **Sabz Ali Pour, F., Tatar, U., and **Keskin, O. (2021). Blockchain for a Resilient, Efficient, and Effective Supply Chain: Evidence from Cases. In Proceedings of the 18th Annual Acquisition Research Symposium
- **Tatar, U.,** **Gokce, Y., & Nussbaum, B. (2020). Law versus technology: Blockchain, GDPR, and tough tradeoffs. *Computer Law & Security Review*, 38, 105454.
- Pinto, C. A., Tatar, U., **Kucukkaya, G., **Keskin, O., **Poyraz, O., & Kucukozyigit, A. C. (2020). Cybersecurity Acquisition Framework Based on Risk Management: Economics Perspective. In *Proceedings of the Seventeenth Annual Acquisition Research Symposium*, 17. Calhoun.
- **Tatar, U.,** Karabacak, B., Katina, P. F., & Igonor, A. (2019). A complex structure representation of the US critical infrastructure protection program based on the Zachman framework. *International Journal of System of Systems Engineering*, 9(3), 221-234.
- Georgescu, A., Bucovetchi, O., & Tatar, U. (2018). Space Systems as Critical Infrastructures. *FAIMA Business & Management Journal*, 6(1), 24-34.
- **Alla, S., **Soltanisehat, L., **Tatar, U.**, & **Keskin, O. (2018). Blockchain Technology in Electronic Healthcare Systems. IISE Annual Conference. Orlando, FL.

- **Sabz Ali Pour, F., Tatar, U., & Gheorghe, A., (2018). Agent-Based Model of Sand Supply Governance Employing Blockchain Technology. In *Proceedings of the 51st Annual Simulation Symposium*. Society for Computer Simulation International. Baltimore, MD.
- **Keskin, O., Tatar, U., **Poyraz, O., Pinto, A., & Gheorghe, A. (2018) Economics-Based Risk Management of Distributed Denial of Service Attacks: A Distance Learning Case Study. In Proceedings of the 13th International Conference on Cyber Warfare and Security. Washington DC, USA.
- Bahsi, H., **Udokwu, C., Tatar, U., & Norta, A. (2018) Impact Assessment of Cyber Actions on Missions or Business Processes – A Systematic Literature Review. In 13th International Conference on Cyber Warfare and Security. Washington DC, USA.
- **Caliskan, E., Tatar, U., Bahsi, H., Ottis, R. & Vaarandi, R., (2017) Capability Detection and Evaluation Metrics for Cyber Security Lab Exercises. In 12th International Conference on Cyber Warfare and Security. Dayton, USA.
- Tatar, U., Bahsi, B., Gheorghe, A. (2016) "Impact Assessment of Cyber Attacks: A Quantification Study on Power Generation Systems". In 11th IEEE System of Systems Engineering Conference (SoSE), Kongsberg, Norway.
- Tatar, U., Karabacak, B., Gheorghe, A. (2016) "An Assessment Model of Improving National Cyber Security Governance". In 11th International Conference on Cyber Warfare and Security. Boston, USA.
- Tatar, U., Calik, O., Celik, M., Karabacak, B. (2014) A Comparative Analysis of the National Cyber Security Strategies of Leading Nations. In *Cyber Warfare and Security*, 9th International Conference on (pp. 211- 218). Indiana, USA.
- **Tatar, U.** (2012, November). Knowledge Economy Assessment of Turkey: Turkey As a European Union Candidate. *Knowledge, Economy and Management, 10th International Conference on.* Istanbul, Turkey.
- Tatar, U., & Karabacak, B. (2012). An Hierarchical Asset Valuation Method For Information Security Risk Analysis. In *Information Society (i-Society), 2012 International Conference* on (pp. 286-291). IEEE. London, UK.
- Mataracioglu, T., & **Tatar, U.** (2010). Digital Forensics Analysis of Spectral Estimation Methods, In *8th Digital Forensics Conference* (pp. 126-134). Perth, Australia.
- Tatar, U., &. Mataracioglu, T. (2010). Analysis and Implementation of Distinct Steganographic Methods, *Information Security & Cryptology, In 4th International Conference* on (pp. 298-303). Ankara, Turkey.

Mataracioglu, T., & **Tatar, U.** (2008). Security Principles in *Electronic Trade, Information* Security & Cryptology, 3rd International Conference on (pp. 285-290). Ankara, Turkey.

Unrefereed Articles and Editorials

- Nussbaum, B., & Tatar, U. (2021). Special Issue on "Decision Making in Cybersecurity". International Journal of Cyber Warfare and Terrorism (IJCWT), 11 (3).
- Tatar, U., Oliva, G., & Moreland Jr, J. (2017). Special Issue on: Cyber Security of Critical Infrastructures: Recent Advances and Future Directions. *International Journal of Critical Infrastructures 13 (2-3), 93-95*
- **Tatar, U.** (2011). Cyber Security Exercises. Turkish Armed Forces Cyber Defense Symposium. Istanbul, Turkey.
- Mataracioglu, T., & **Tatar, U.** (2009). History of Cyber Warfare. Cyber Warfare Symposium. Ankara, Turkey.
- Bahşi, H., Karabacak, B., & **Tatar, U.** (2009). Cyber Defense and Information Security Road Map for Turkey. 26th National Information Technologies Symposium, Ankara, Turkey.

Edited Book Chapters

- Georgescu, A., **Tatar, U.**, Muylaert, J., & Gheorghe, A. (2020). Critical Space Infrastructures: Perspectives and a Critical Review. Space Infrastructures: From Risk to Resilience Governance. Amsterdam: IOS Pres.
- **Tatar, U.** & Gheorghe, A. (2017). Cyber Security in Maritime Domain: A Risk Management Perspective. In *Issues in Maritime Cyber Security*, Westphalia Press/PSO.
- **Tatar, U.**, Georgescu. A., & Geers, K. (2017). Strategic Approach to A Fierce Domain: Findings from the Advanced Research Workshop. In *Strategic Cyber Defense: A Multidisciplinary Perspective*. Amsterdam: IOS Press.
- Karabacak, B. & Tatar, U. (2017). From the National Cyber Maturity to the Cyber Resilience: An Assessment of the Strategic Efforts of Turkey. In *Strategic Cyber Defense: A Multidisciplinary Perspective*. Amsterdam: IOS Press.
- Tatar, U., & Celik, M. (2015). Hacktivism as an Emerging Cyber Threat: Case Study of a Turkish Hacktivist Group. In Terrorism Online: Politics, Law and Technology, (pp. 54-71). London: Routledge.

- Karabacak, B. & Tatar, U. (2014). Strategies to Counter Cyberattacks: Cyber threats and Critical Infrastructure Protection. *Critical Infrastructure Protection*, (pp. 63-73). Amsterdam: IOS Press.
- Tatar, U. (2013). Cyber Warfare in Future Wars. In *Future War Arena and Warfare Technologies*, (pp. 42-51). Istanbul: Turkish War Academy Press.

Technical Reports

- Tatar, U., Nussbaum, B., Keskin, O.F., Clifford, D., Dubois, E.V., Foti, D., Bace, B., & Davis, R. (2023) "Strategies and Solutions Against Catastrophic Cyber Incidents An Expert Panel Discussion." Final Report for Society of Actuaries Research Institute. Available at <u>https://www.soa.org/49f048/globalassets/assets/files/resources/research-</u> report/2023/catastrophic-cyber-risk-expert-panel-discussion-part4.pdf
- Tatar, U., Nussbaum, B., Keskin, O.F., Clifford, D., Dubois, E.V., Foti, D., Bace, B., & Davis, R. (2023) "Red Teaming Analysis of a Widespread Catastrophic Cyber Incident An Expert Panel Discussion." Final Report for Society of Actuaries Research Institute. Available at <u>https://www.soa.org/499d83/globalassets/assets/files/resources/research-</u> report/2023/cc176-catastrophic-cyber-risk-expert-panel-discussion-3-report.pdf
- Tatar, U., Nussbaum, B., Keskin, O.F., Clifford, D., Dubois, E.V., Foti, D., Bace, B., & Davis, R. (2023) "Red Teaming Analysis of a Catastrophic Cyber Attack on Critical Infrastructure An Expert Panel Discussion." Final Report for Society of Actuaries Research Institute. Available at <u>https://www.soa.org/493e08/globalassets/assets/files/resources/researchreport/2023/cc176-catastrophic-cyber-risk-expert-panel-discussion-2-report.pdf</u>
- Tatar, U., Nussbaum, B., Keskin, O.F., & Dubois, E.V. (2023) "Setting the Scene: Framing Catastrophic Cyber Risk – An Expert Panel Discussion." Final Report for Society of Actuaries Research Institute. Available at <u>https://www.soa.org/48fcd2/globalassets/assets/files/resources/research-report/2023/cc176catastrophic-cyber-risk-expert-panel-discussion-1-report_.pdf</u>
- Dubois, E.V., Keskin, O.F., & Tatar, U. (2022) "Cyber Risk Modeling Methods and Datasets: A Systematic Interdisciplinary Literature Review for Actuaries." Final Report for Society of Actuaries. Available at <u>https://www.soa.org/4a81c2/globalassets/assets/files/resources/research-report/2022/cyberrisk-modeling.pdf</u>
- Gheorghe, A.V., Keskin, O.F., Pour, F.S.A. & **Tatar, U.** (2022) "Exploring Blockchain Adoption Supply Chains: Opportunities and Challenges." Final Report for Naval

Postgraduate School's Acquisition Research Program. Available at https://dair.nps.edu/bitstream/123456789/4709/1/ODU-AM-22-026.pdf

- Pinto, C.A., Tatar, U., **Keskin, O.F., **Kucukkaya, G., **Poyraz, O., **Alfaqiri, A., & Kucukozyigit, A. (2021). "Cybersecurity Investment Planning Framework: An Economic Business Process View Perspective." Final Report for Naval Postgraduate School's Acquisition Research Program.
- Tatar, U., **Keskin, O.F., Bahsi, H., & Pinto. C.A. (2020). "Quantification of Cyber Risk for Actuaries." Final Report for Society of Actuaries. Available at <u>https://www.soa.org/globalassets/assets/files/resources/research-report/2020/quantificationcyber-risk.pdf</u>
- Turetsky, D., Nussbaum, B., & Tatar, U. (2020). "Success Stories in Cybersecurity Information Sharing." Final Report for the Cyber Initiative at the William and Flora Hewlett Foundation. Available at <u>https://www.albany.edu/sscis</u>

Public Writing

- Nussbaum, B., **Tatar, U.,** Yankson, B., Ackerman, G., & Behlendorf, B. (2021). "The Internet of Very Cold Things." Lawfare. <u>https://www.lawfareblog.com/internet-very-cold-things</u>
- Turetsky, D., Nussbaum, B., & **Tatar, U.** (2020). "Cybersecurity Information Sharing Success Stories." Lawfare. <u>https://www.lawfareblog.com/cybersecurity-information-sharing-</u> <u>success-stories</u>

GRANT FUNDING

Federal

Role: Principal Investigator Project: Virtual Institute of Cyber Operation and Research (VICOR) Source: Department of Defense – Air Force Research Lab Time Period: 03/2022 – 02/2024 Total Funding: \$1,500,000

Role: Co-Principal Investigator (with Principal Investigator Bilge Karabacak) Project: Module and Lab Development Ransomware: Detection, Response, and Prevention Source: NSA Time Period: 09/01/2022 – 08/31/2023 Total Funding: \$50,000 Role: Principal Investigator Project: CRII: SaTC: Graph-based Probabilistic Cyber Risk Modeling Source: NSF Time Period: 04/01/2020 – 03/31/2022 Total Funding: \$191,000

Role: Co-Principal Investigator (with Principal Investigator Adrian Gheorghe)
Project: Integration of Blockchain Technology into Supply Network for Resilient and Efficient Acquisition
Source: Department of Defense
Time Period: 05/01/2020 – 12/31/2021
Total Funding: \$120,000

Role: Co-Principal Investigator (with Principal Investigator C. Ariel Pinto)
Project: Cybersecurity Acquisition Framework Based on Risk Management: Economics Perspective
Source: Office of Naval Research
Time Period: 08/01/2018 – 05/31/2020
Total Funding: \$120,000

Role: Co-Principal Investigator (with Principal Investigator Adrian Gheorghe) Project: Blockchain and Cybersecurity: Course Development Source: National Security Agency Time Period: 09/01/2017 – 09/01/2019 Total Funding: \$178,787

Role: Senior Researcher (with Principal Investigator Ariel Pinto) Project: Multidisciplinary Risk Management in CyberSecurity: Course Development Source: National Security Agency Time Period: 03/01/2017 – 08/31/2018 Total Funding: \$115,000

International

Role: Project Director Project: NATO SPS award for editing a book entitled "Strategic Cyber defense: A Multidisciplinary Perspective" Source: NATO Time Period: 03/01/2016 – 04/30/2017 Total Funding: €2,500

Role: Project Director Project: Advanced Research Workshop: "A Framework for a Military Cyber Defense Strategy" Source: NATO Time Period: 11/01/2014 – 04/01/2016 Total Funding: €42,000

Foundations

Role: Principal Investigator Project: Red Teaming Analysis for Catastrophic Cyber Risk Source: Society of Actuaries Time Period: 06/01/2022 – 06/30/2023 Total Funding: \$49,500

Role: Principal Investigator Project: A Systematic Review and Compendium of Cyber Risk for Actuaries Source: Society of Actuaries Time Period: 01/15/2022 – 07/30/2022 Total Funding: \$19,180

Role: Co-Principal Investigator (with Principal Investigator Jean-Robert Hountomey) Project: Guidance for CSIRT Capacity Building in Low-Income Countries Source: Global Forum on Cyber Expertise Time Period: 03/08/2021 – 09/07/2021 Total Funding: \$50,000

Role: Principal Investigator Project: Quantification of Cyber Risk for Actuaries: An Economic-Functional Approach Source: Society of Actuaries Time Period: 01/01/2019 – 12/31/2020 Total Funding: \$55,000

University at Albany

Role: Co-Principal Investigator (with Principal Investigator Tolga Soyata) Project: Pain Detection and Support through Community Oriented IoT Sensing Network Source: SUNY Research Foundation Time Period: 08/01/2019 – 07/31/2020 Total Funding: \$25,000

Role: Principal Investigator
Project: FRAP-B Erasing the Borders between the Digital and Physical: A Predictive Analysis of Cyber Conflicts and Political Disputes
Source: University at Albany Office of Research
Time Period: 06/01/2019 – 06/30/2021
Total Funding: \$4,000

PUBLISHED ABSTRACTS AND PRESENTATIONS AT SCHOLARLY CONFERENCES

(*indicates undergraduate student co-author, **indicates graduate student co-author)

- **Tatar U.,** Thekdi, S., Santos, J., & Chatterjee, S. (2022). Synergies and Incompatibilities between AI and Fundamental Risk Principles in Disaster Risk Management. Society for Risk Analysis 2022 Annual Meeting. Tampa, FL.
- *Bace, B., **Tatar U.,** & Turetsky, D. (2022). The Interdisciplinary Nature of Cybersecurity: Insights from Cyber 9/12 Strategy Challenge Experience. New York Celebration of Women in Computing (NYCWIC '22)
- **Tatar, U.,** Hountomey, J-R., Bahsi, H., Hashem, S., & Usmani, K.A. (2022) Approaches and Practices for Increasing Maturity and Capabilities for CSIRTs in Emerging Economies. FIRST TF CSIRT Symposium.
- **Tatar, U.**, Santos, J., & Thekdi, S., (2021). Economic Risk for Physical System Disruptions: A Case of Transportation Systems. Society for Risk Analysis 2021 Annual Meeting. (Virtual)
- **Caramancion, K., **Tatar, I., **Keskin, O., & Tatar, U. (2021). Demystifying the variations in non-intrusive cyber risk scores: a comparative analysis on vendors. Society for Risk Analysis 2021 Annual Meeting. (Virtual)
- **Keskin, O., & Tatar, U. (2021). Cyber Vulnerability Prioritization: A Cost-Benefit Analysis Through Attack and Impact Graph Integration. Society for Risk Analysis 2021 Annual Meeting. (Virtual)
- Thekdi, S., **Tatar, U.**, Santos, J., & Chatterjee, S. (2021). Balancing artificial intelligence and risk: How the risk and decision-making fields can address the new technological frontiers. Decision Making for Emerging Risks - A virtual mini-conference, Informs. (Virtual).
- **Keskin, O.F., *Gannon, N., *Lopez, B., & Tatar U. (2021). Vulnerability Evaluation and Prioritization for Cyber Resilient Systems. HotSoS '21: Proceedings of the 8th Annual Symposium on Hot Topics in the Science of Security. (Virtual)
- *Capollari, B., **Knight, T., & **Tatar U.** (2021). Analyzing Ethical Risks of Artificial Intelligence Empowered Products. New York Celebration of Women in Computing (NYCWIC '21)
- *Portalatin, M., & Tatar U. (2021). Data Analysis on Impact of Cyber Incidents within Institutions Using VERIS Database. New York Celebration of Women in Computing (NYCWIC '21)

- **Keskin, O.F., **Caramancion, K., **Tatar, I., *Raza, O., & Tatar U. (2021). Benchmarking Vendor Cyber Risk Scoring Approaches in Practice. 16th International Conference on Cyber Warfare and Security. (Virtual)
- **Park, S. & Tatar, U. (2020). Turning Crisis into Celebration: Organizational Resilience in Responding to a Cyber Threat to Healthcare Critical Infrastructure. 13th Annual Homeland Defense & Security Education Summit. Online.
- Tatar, U., Santos, J., & Thekdi, S., (2020). Network-Based Input-Output Modeling of Disruptions to Critical Infrastructure Systems. Society for Risk Analysis 2020 Annual Meeting. (Virtual)
- **Knight, T., *Capollari, B., & Tatar, U. (2020). Assessment of Post-Development AI Ethical Risks. (Poster Presentation) Society for Risk Analysis 2020 Annual Meeting. (Virtual)
- *Portalatin, M., **Keskin, O., *Malneedi, S., *Raza, O., & Tatar, U. (2020). Data Analytics for Cyber Risk Analysis: Utilizing Cyber Incident Datasets. (Poster Presentation) Society for Risk Analysis 2020 Annual Meeting. Austin, TX.
- **Keskin, O. & **Tatar, U.** (2020). Probabilistic Cyber Risk Quantification by Using Bayesian Networks. Society for Risk Analysis 2020 Annual Meeting. Austin, TX.
- Turetsky, D., Nussbaum, B., & Tatar, U. (2020). Panelist at "Success Stories in Information Sharing: Lessons for ISAOs." International Information Sharing Conference. San Antonio, TX.
- **Tatar, U.**, Rorissa, A., & Demissie, D. (2020). Cybersecurity and Information Science: Towards a more holistic and interdisciplinary approach. Southern Association for Information Systems Conference. Myrtle Beach, SC.
- **Tatar, U.**, Rorissa, A., & **Keskin, O. (2020). Cybersecurity Education in iSchools. (Poster presentation) Undergraduate Education in Informatics. Austin, TX.
- **Tatar U.** & **Keskin, O. (2020). Resilience Informed Cybersecurity Decision Making. (Poster presentation) 15th International Conference on Cyber Warfare and Security.
- **Tatar, U.** (2019). Cyber Resilience Analysis: A Functional Dependency Approach. Society for Risk Analysis 2019 Annual Meeting. Arlington, VA.
- **Keskin, O. & **Tatar, U.** (2019). Attack Graph Based Probabilistic Cyber Risk Analysis. Society for Risk Analysis 2019 Annual Meeting. Arlington, VA.

- Rorissa, A. & Tatar, U. (2019). Cybersecurity and Information Assurance in Information Science Curricula. Association for Library and Information Science Education Conference. Knoxville, TN.
- Poyraz, O., Serttas, O., Keskin, O., Pinto, A., & Tatar, U. (2018). Calculating Impact of Cyber Incidents and Threats on Business Processes. International Conference on Complex Systems. Cambridge, MA.
- **Tatar, U.** (2018). Calculating Impact of Cyber Incidents and Threats on Business Processes. Society for Risk Analysis 2018 Annual Meeting. New Orleans, LA.
- **Tatar, U.** (2018). How to Manage Cybersecurity Risks: An Educational Perspective. 11th Annual Homeland Defense & Security Education Summit. Albany, NY.
- **Tatar, U.** (2017). Multidisciplinary Risk Management in Cybersecurity: Course Development. Society for Risk Analysis 2017 Annual Meeting. Arlington, VA.
- Tatar, U., **Poyraz, O.I., **Keskin, O.F., Gheorghe, A.V., Pinto, C.A. (2017). Quantification of Cyber Risk from Insurers' Perspective: An Economic-Functional Approach. Swarmfest 2017: 21st Annual Meeting on Agent-Based Modeling & Simulation. Suffolk, VA.
- **Tatar, U.** (2017). Blockchain Technology and Cyber Security. (Poster Presentation) ODU CyberOps 2017 Cybersecurity Education & Research Expo. Norfolk, VA.
- **Tatar, U.** (2017). Maritime Cyber Security: Risks and Strategies. Mission Engineering and Analysis, and Integration and Interoperability. Dahlgren, VA.
- Tatar, U. (2017). Decision Making on Cyber Security: What Do Strategic Level Decision Makers Need? (Poster Presentation) 12th International Conference on Cyber Warfare and Security. Dayton, OH.
- **Poyraz, O.I., Tatar, U., **Keskin, O.F., & Pinto, C.A. (2017). Cybersecurity Risk Management Curriculum Development. 8th Annual National Initiative for Cybersecurity Education (NICE) Conference and Expo. Dayton, OH.
- **Tatar, U.** (2016). Cyber Risk Analysis of Critical Energy Infrastructures: A Case Study. SEDC Conference. Washington DC, USA.
- **Tatar, U.** (2009). Panelist at "Peace and Security in the Cyberspace Workshop." United Nations Internet Governance Forum. Sharm el Sheikh, Egypt.

INVITED PRESENTATIONS

Keskin, O.F., **Dubois, E.V., & **Tatar, U.** (2023) Catastrophic Cyber Risks: Insights and Challenges from a Multi-Disciplinary Expert Panel Study. Hybrid Warfare Security Conference. Swansea, UK and online.

Dubois, E.V., & **Tatar, U. (2022) Cyber Risk Quantification for Actuaries: Methods, Challenges, and Future Directions. Canadian Institute of Actuaries Annual Conference.

- **Tatar, U.,** Hountomey, J-R., Bahsi, H., Hashem, S., & Usmani, K.A. (2022) Guidance for CSIRT Capacity Building in Low-Income Countries. GFCE Webinar.
- **Tatar, U.** Information Sharing Success Stories. Automotive Information Sharing and Analysis Center (Auto-ISAC) Community Meeting. Online, 2021
- Turetsky, D.S. & Tatar, U. Girl Scouts Cyber Fair. Girl Scouts, JCC in Albany. 2019.
- **Tatar, U.** (Moderator), State of Grace. Women in Cybersecurity Panel. University at Albany. Albany, NY. 2019.
- **Tatar, U.** Cyber Security from a Managerial Perspective" NATO Advanced Research Workshop on Terrorist Use of the Internet Assessment and Response. Dublin, Ireland. 2016.
- **Tatar, U.** Academia Panel discussion on Growing the Cyber Workforce. Joint Information Operations Range Users Conference. Suffolk, VA, USA. 2016.
- **Tatar, U.** An Assessment Model for Improving National Cybersecurity Postures. Terrorists' Use of the Internet: A Symposium. Swansea, UK. 2014.
- Tatar, U. Cyber Security Trends and Turkey. e-Crime Turkey Conference. Istanbul, Turkey. 2012.
- **Tatar, U.** Information Systems Risk Perspective for Energy Critical Infrastructure Security. NATO Advanced Research Workshop on Critical Energy Infrastructure Protection. Ankara, Turkey. 2012.

MEDIA APPEARANCES

- Quoted "CEHC Hosts Cybersecurity Camp for Capital Region JROTC Students" University at Albany News Center. 2023. <u>https://www.albany.edu/news-center/news/2023-cehc-hosts-</u> cybersecurity-camp-capital-region-jrotc-students
- *Featured "The Economic Cost of Critical Infrastructure Disruptions"* Academic Minute 2022 <u>https://academicminute.org/2022/05/unal-tatar-university-at-albany-the-economic-cost-of-critical-infrastructure-disruptions/</u>

- *Featured "The Economic Cost of Critical Infrastructure Disruptions"* Inside HigherEd 2022 <u>https://www.insidehighered.com/audio/2022/05/23/economic-cost-critical-infrastructure-disruptions</u>
- *Featured "University at Albany Week' Airs on WAMC's The Academic Minute"* University at Albany News Center. 2022. <u>https://www.albany.edu/news-center/news/2022-university-albany-week-airs-wamcs-academic-minute</u>
- Quoted "Cybersecurity Conference Draws Researchers from Academia, Industry and the Military" University at Albany News Center. 2022. <u>https://www.albany.edu/news-</u> <u>center/news/2022-cybersecurity-conference-draws-researchers-academia-industry-and-</u> <u>military</u>
- Quoted "UAlbany, FIU Researchers Team Up to Launch \$1.5 Million Virtual Cybersecurity Institute" University at Albany News Center. 2022. <u>https://www.albany.edu/news-</u> center/news/2022-ualbany-fiu-researchers-team-launch-15-million-virtual-cybersecurity
- Quoted "FIU and UAlbany Researchers Team Up to Launch \$1.5 Million Virtual Cybersecurity Institute" FIUNews. 2022. <u>https://news.fiu.edu/2022/fiu-and-ualbany-researchers-team-up-to-launch-1.5-million-virtual-cybersecurity-institute</u>
- *Featured*. "Cyber Disruptions of Infrastructure Networks Can Cost Millions in a Day." Insurance Journal 2021. <u>https://www.insurancejournal.com/news/national/2021/12/21/646679.htm</u>
- *Featured.* "Cybersecurity Professor Analyzes Economic Cost of Critical Infrastructure Disruptions." Times of News. 2021. <u>https://israel.timesofnews.com/political/cybersecurity-professor-analyzes-economic-cost-of-critical-infrastructure-disruptions.html</u>
- Featured. "Cyber disruption to infrastructure networks can cost millions a day." The New Zealand

 Times
 2021.
 <u>https://www.thenewzealandtimes.com/cyber-</u>

 %e2%80%8b%e2%80%8bdisruption-to-infrastructure-networks-can-cost-millions-a-day/
- *Featured*. "Highway Delays Can Cause Economic Losses of Up to \$250 Million in a Single Day." SciTechDaily 2021. <u>https://scitechdaily.com/highway-delays-can-cause-economic-losses-of-up-to-250-million-in-a-single-day/</u>
- *Featured*. "In a single day, highway delays can cost up to (dollar) 250 million in economic losses." Brinkwire 2021. <u>https://en.brinkwire.com/science/in-a-single-day-highway-delays-can-cost-up-to-dollar250-million-in-economic-losses/</u>
- Featured. "Cyber disruption to infrastructure networks can cost millions a day." The Us Express

 News
 2021.
 <u>https://www.theusexpressnews.com/cyber-</u>

 %E2%80%8B%E2%80%8Bdisruption-to-infrastructure-networks-can-cost-millions-a-day/

- *Featured*. "Highway Delays Can Cause Economic Losses of Up to \$250 Million in a Single Day." 24HTECH 2021. <u>https://24htech.asia/highway-delays-can-cause-economic-losses-of-up-to-</u> 250-million-in-a-single-day-s340508.html
- *Featured.* "Cybersecurity Professor Analyzes Economic Cost of Critical Infrastructure Disruptions." NewsWise. 2021. <u>https://www.newswise.com/politics/cybersecurity-professor-analyzes-economic-cost-of-critical-infrastructure-disruptions</u>
- Featured. "Study Finds that Highway Delays Can Cause Economic Losses of \$8 Million To \$250MillioninaSingleDay."PreventionWEB.2021.https://www.preventionweb.net/news/study-finds-highway-delays-can-cause-economic-losses-8-million-250-million-single-day
- *Featured.* "Six Junior Faculty are Recognized for Auspicious Beginnings to Careers." University at Albany News Center. 2021. <u>https://www.albany.edu/news-center/news/2021-six-junior-faculty-are-recognized-auspicious-beginnings-careers</u>
- Featured. "Episode 86: Quantification of Cyber Risk for Actuaries" 2021. http://cia-ica.cast.rocks/
- *Quoted* in Charlie Mitchel. "Defense supply chain, info-sharing and disinformation on the agenda for policymakers." Inside Cybersecurity. 2020. <u>https://insidecybersecurity.com/daily-news/week-ahead-defense-supply-chain-info-sharing-and-disinformation-agenda-policymakers</u>
- Quoted in Liz Young. "How this Schenectady County manufacturer dealt with a ransomware attack."
 Albany
 Business
 Review.
 2019.

 https://www.bizjournals.com/albany/news/2019/07/30/small-businesses-ransomware-attack-recovery.html
 Albany
 Business
 Review.
 2019.
- *Featured*. "CEHC Course Featured in NSA's National Cybersecurity Curriculum Program." University at Albany News Center. 2019. <u>https://www.albany.edu/news/91984.php</u>
- *Mentioned.* "ODU engineering cybersecurity curriculum to support president's Cybersecurity National Action Plan." WYDAILY. 2019. <u>https://wydaily.com/local-news/2019/02/01/oduengineering-cybersecurity-curriculum-to-support-presidents-cybersecurity-national-actionplan/</u>
- Mentioned. "UAlbany's College of Emergency Preparedness, Homeland Security and Cybersecurity Remains in High Demand." University at Albany News Center. 2018. https://www.albany.edu/news/87970.php

TEACHING

Undergraduate Courses Taught, University at Albany

- CYBR 124X Cybersecurity Basics (F21, F23)
- UFSP 100 Freshman Seminar: Exploring Cybersecurity
- CEHC 242 Cybersecurity (F18, S19, F19, S20, F20, S21, F21, S23)
- CINF 306 Information Security and Assurance (F20, S21)
- CEHC 391 Research Internship (S20, F20, W21)
- CEHC 445 Principles and Practices of Cybersecurity (F22)
- CINF 466 Independent Research in Informatics (F23)
- CINF 496 Special Topics in Informatics: Economics of Cybersecurity (F19)

Graduate Courses Taught, University at Albany

- CEHC 545 Principles and Practices of Cybersecurity (F22)
- CINF 596 Special Topics in Informatics: Economics of Cybersecurity (F19)
- CIST 677 Intelligence Analysis Research Seminar (S21)
- CIST 678 Internship Information Science (F19, F20)
- CINF 899 Doctoral Dissertation (S21, F21, S22, F22, S23)

Undergraduate Course Teaching Assistant, Old Dominion University

ENMA 670 – Cyber Systems Engineering (F16, F17)

Teaching Experience, Turkish Army War College

Cyber Warfare Course (Instructor, 2013-2014)

Teaching Experience, NATO Center of Excellence – Defense Against Terrorism

An Emerging Cyber Threat: Hacktivism – Technical Countermeasures (Instructor, 2013-2014)

Computer Emergency Response Teams (Instructor, 2011-2012)

Digital Forensics (Instructor, 2012-2014)

<u>Teaching Experience, Turkish Ministry of Defense, Defense Industry and Technology</u> <u>Training Center</u>

Establishment and Management of Computer Emergency Response Team (Instructor, 2009-2012)

Information Security Management for Military Decision-Makers (Instructor, 2009-2012) Information Security Awareness (Instructor, 2012)

Doctoral Dissertation Committees

Elisabeth Dubois (2023) University at Albany, Chair of the Dissertation Committee

- Thora Knight (in progress) University at Albany, Chair of the Dissertation Committee
- Vishwa Rao (in progress) University at Albany, Chair of the Dissertation Committee
- Mehdi Barati (in progress) University at Albany, Member of the Dissertation Committee.
- Omer Faruk Keskin (2019-2022) *Quantifying cyber risk by integrating attack graph and impact graph*. Old Dominion University, **Member of the Dissertation Committee**
- Farinaz Sabz Ali Pour (2019-2022) Old Dominion University, Member of the Dissertation Committee
- Xiaomai Liu (2020-2022) University at Albany, Member of the Doctoral Program Committee.
- Kevin Caramancion (2019-2021) University at Albany, Member of the Doctoral Program Committee.

Reece Lumsden (in progress) Old Dominion University, Member of the Dissertation Committee

Undergraduate Students Mentored

- Rian Davis (2022-2023) CEHC. Evaluation of Cyberattacks Targeting Space Infrastructure Under International Law. Research Project Mentor.
- Brianna Bace (2022-2023) CEHC. Evaluation of Cyberattacks Targeting Space Infrastructure Under International Law. Research Project Mentor.
- Dean Poeth (2021) CEHC. Analysis of Cyber Incident Datasets. Undergraduate internship. Supervisor.
- Bariela Capollari (2020). Assessing Ethics and Safety of AI. CEHC. Undergraduate internship. Supervisor.
- Brian Lopez (2020). *Building a Cyber Range for Attack Graph Generation*. CEHC. Undergraduate internship. Supervisor.
- Nick Gannon (2020). *Building a Cyber Range for Attack Graph Generation*. CEHC. Undergraduate internship. Supervisor.
- Owais Raza (2020). Cybersecurity Data Analytics. CEHC. Undergraduate internship. Supervisor.

- Melissa Portalatin (2020). *Cybersecurity Data Analytics*. CEHC. Undergraduate internship. Supervisor.
- Yasmine Sahawneh (2019). *Cybersecurity Data Analytics*. CEHC. Undergraduate internship. Supervisor.

High School Students Mentored

- Ansh Gang (2021). Cybersecurity Data Analytics for Risk Management. Guilderland High School
- Emily Lamb (2021). *Cybersecurity Data Analytics for Risk Management*. Shenendehowa High School
- Satvik Malneedi (2021). Cybersecurity Data Analytics for Risk Management. Shaker High School

Madeline Bisceglia (2021). Cybersecurity Data Analytics for Risk Management. Troy High School

- Sneha Malneedi (2020). *Analysis of VERISDB Cybersecurity Dataset*. Shaker High School. Summer internship. Supervisor.
- Sneha Malneedi (2019). *Cyber Crisis Management*. Shaker High School. Summer internship. Supervisor.

Sophia Lenigk (2019). Maritime Cybersecurity. High School. Summer internship. Supervisor.

Awards Students Received

Brianna Bace (2023) SUNY Chancellor's Award for Student Excellence

- Brianna Bace (2023) University at Albany President's Award for Leadership: Outstanding Senior Award
- Brianna Bace (2023) The Rockefeller College Undergraduate Community Service Award
- Brianna Bace (2023) Rockefeller College, Dept. of Political Science's Valedictorian Award and James Unger Memorial Undergraduate Award for an Outstanding Research Paper
- Brianna Bace (2023) CEHC's Women in Science, Technology, Engineering, and Math (STEM) Award
- Rian Davis (2023) CEHC's Academic Achievement Award
- Brian Lopez (2022) Dean's Award for Excellence in Published Works, CEHC Student Recognition Awards
- Bariela Capollari (2022) Dean's Award for Excellence in Academics, Leadership and Service, CEHC Student Recognition Awards

- Melissa Portalatin (2021) Women in Science, Technology, Engineering and Math (STEM) Award, CEHC Student Recognition Awards
- Owais Raza (2021) Excellence in Published Works Award, CEHC Student Recognition Awards
- Melissa Portalatin (2021) "Data Analytics for Cyber Risk Analysis: Utilizing Cyber Incident Datasets," Presidential Award for Undergraduate Research at the University at Albany
- Bariela Capollari (2021) "Analyzing Ethical Risks of Artificial Intelligence Empowered Products," Presidential Award for Undergraduate Research at the University at Albany
- Melissa Portalatin (2021) "Data Analytics for Cyber Risk Analysis: Utilizing Cyber Incident Datasets," Presidential Award for Undergraduate Research at the University at Albany
- Yasmine Sahawneh (2019). An investigation of Cybersecurity Curricula at i-Schools. Undergraduate award: CEHC outstanding research project award.

SERVICE

Cybersecurity Department at UAlbany

Chair, Undergraduate Program Committee, 2023-2024 **Chair**, Visiting Assistant Professor Search, 2023

College of Emergency Preparedness, Homeland Security and Cybersecurity at UAlbany

Member, Academic Programs Committee, 2023-2024
Member, Search Committee for Cybersecurity Department Chair, 2022-2023
Co-Organizer, Non-Academic Career Options for PhD. Graduates, Webinar, 2021
Member, Policy Committee, 2021-2022
Member, Information Science Ph.D. Program Admission Committee, 2019-2021
Member, College Graduate Program Committee, 2019-2021
Co-Chair, The Certificate of Advanced Study Comprehensive Examination Committee, 2019
Member, Ad-Hoc Cybersecurity Committee, 2018-2019
Member, Search Committee, 2018-2019

University at Albany, State University of New York

Member, Search Committee for Associate Vice Provost for Faculty Development, 2021
Member, Search Committee for Associate Vice Provost for Faculty Success, 2021
Member, University's Curriculum and Honors Committee, 2020-2021
Co-organizer, Capital Cyber Clash Online Cyber Defense Competition, 2020
Organizer, Diversity in Cybersecurity Talk Series, 2019-2020

Old Dominion University

- Senior Judge, 32nd and 33rd Great Computer Challenge and scenario preparation leader for Cybersecurity Challenge, 2017-2018
- Founder and President, Cyber Security Student Association, 2016-2018

Professional Service

Associate Editor, Information Security Journal: A Global Perspective, 2019 - present

- Editorial Board Member, Journal of Information Systems Education, 2022 present
- Editorial Board Member, International Journal of Cyberwarfare and Terrorism, 2019 present
- **Guest Editor**, International Journal of Cyber Warfare and Terrorism (IJCWT), Special Issue on: Decision Making in Cybersecurity, 2020 - 2021

Guest Editor, International Journal of Critical Infrastructures, Special Issue on: Cyber Security of Critical Infrastructures Recent Advances and Future Directions, 2016 - 2017

- Associate Editor, Data Analytics for Business and Societal Changes Track of ICIS, Austin, TX, 2021
- Chair, Economics and Benefits Specialty Group of the Society for Risk Analysis, 2023
- Vice-Chair, Economics and Benefits Specialty Group of the Society for Risk Analysis, 2022
- Secretary and Treasurer, Economics and Benefits Specialty Group of the Society for Risk Analysis, 2021
- **Conference Program Chair,** International Conference on Cyber Warfare and Security, 2022, Albany, NY
- Symposium Chair, "Management of Security and Safety Risks: A Cost and Benefits Perspective", Society for Risk Analysis Annual Meeting. Tampa, FL. 2022
- Symposium Chair, "Economics of Cybersecurity Risk", Society for Risk Analysis Annual Meeting. Virtual. 2021
- Symposium Chair, "Economics of Supply Chain and Disaster Risk Management", Society for Risk Analysis Annual Meeting. Virtual. 2021
- Symposium Chair, "Risk Analysis of Cybersecurity in Critical Infrastructure Systems", Society for Risk Analysis Annual Meeting. Arlington, VA. 2019
- Mini Track Chair, Analytic and Behavioral Approaches for Cybersecurity Decisions in the 16th International Conference on Cyber Warfare and Security, Tennessee, 2021
- **Mini Track Chair**, Economics of Cybersecurity in the 15th International Conference on Cyber Warfare and Security, Norfolk, VA, 2020
- Mini Track Co-Chair, Cyber Attacks and their Implications to National Security and Economic Strategies in the 13th International Conference on Cyber Warfare and Security, Washington DC, 2018
- Grant Reviewer, Oak Ridge Associated Universities (ORAU), 2022
- **Technical Program Committee Member and Reviewer**, ACM SIGSIM Conference on Principles of Advanced Discrete Simulation (PADS), Suffolk, VA, 2021

- **Technical Program Committee Member and Reviewer**, IEEE International Conference on Computational Science and Engineering (CSE), 2022
- **Technical Program Committee Member and Reviewer**, IEEE System of Systems Conference, 2017 present
- **Technical Program Committee Member and Reviewer**, 14th Annual Symposium on Information Assurance, 2018 present
- **Technical Program Committee Member and Reviewer**, European Conference on Cyber Warfare and Security, 2015 present
- **Technical Program Committee Member and Reviewer**, International Conference on Cyber Warfare and Security, 2014-present
- **Co-Director**, NATO Advanced Research Workshop, "A Framework for A Military Cyber Defense Strategy", Norfolk, VA, USA, 2016
- **Organization Committee Member and Session Chair**, NATO Advanced Research Workshop, "Critical Space Infrastructure: From Vulnerabilities and Threats to Resilience", Norfolk, VA, USA, 2019
- **Organization Committee Member**, NATO Advanced Research Workshop, "Terrorists Use of the Internet: Assessment and Response", Dublin, Ireland, June, 2016

Reviewer, Computer Law and Security Review, 2023 - present

Reviewer, Medicine, Science, and the Law, 2022 - present

Reviewer, Risk Analysis, 2021 - present

Reviewer, Security and Communication Networks, 2021 - present

Reviewer, IEEE Security and Privacy, 2019 - present

Reviewer, Journal of Information Systems Education, 2019 - present

Reviewer, Information Security Journal: A Global Perspective, 2018 - present

Reviewer, Journal of Defense Modeling and Simulation, 2018 - present

Reviewer, Journal of Information Systems Education, 2018 - present

Reviewer, International Journal of Critical Infrastructures, 2017 - present

Reviewer, International Journal of Sustainable Development, 2017 - present

Reviewer, Engineering Management Journal, 2017 - present

Reviewer, International Journal of Planning and Scheduling, 2017 - present

Reviewer, International Journal of Cyber Warfare and Terrorism, 2017 - present

Reviewer, International Journal of System of Systems, 2017 - present

Reviewer, Defence Against Terrorism Review, 2014

Reviewer, IEEE Systems and Information Engineering Design Symposium, 2020 – present

Reviewer, the 23rd Multi-conference on Systemics, Cybernetics and Informatics, 2019

Reviewer, Institute of Industrial and Systems Engineers Annual Conference, 2017

Judge, Virginia Beach Public Schools Cyber Innovation Challenge, 2016 - 2017

Executive Committee Member, 2nd International Cyber Warfare and Security Conference, Ankara, 2014

- **Program Committee Member**, NATO Symposium on "Analysis Support to Decision Making in Cyber Defence and Security" (SAS-106), Tallinn- Estonia, 2014
- **Steering Committee Member**, 1st International Cyber Warfare and Security Conference, Ankara, 2013

Planning Group Member, NATO Cyber Defense Exercise, Brussels, 2011 **National representative**, NATO Cyber Defense Exercise, Brussels, 2010

Professional Affiliations

Society for Risk Analysis, September 2017 - Present. International Risk Management Society, March 2019 - Present. Society of Information Risk Analysts, August 2022 - Present