

# Publications

2019-05-05T13:07:29+02:00

- I am one of the authoring member of the First.org/NIST Common Vulnerability Scoring System Standard. *First.org CVSS Special Interest Group (Authoring member)*. Common Vulnerability Scoring System (CVSS) v3. Published at <http://www.first.org/cvss>.

## Some highlights

- Martin Rosso, Michele Campobasso, Ganduulga Gankhuyag, Luca Allodi. SAIBERSOC: Synthetic Attack Injection to Benchmark and Evaluate the Performance of Security Operation Centers. **In Proceedings of the 36th Annual Computer Security Applications Conference (ACSAC 2020)**. (acc. rate 23%).
- Michele Campobasso, Luca Allodi. Impersonation-as-a-Service: Characterizing the Emerging Criminal Infrastructure for User Impersonation at Scale. **In Proceedings of the ACM Conference on Computer and Communications Security (ACM CCS 2020)** Preprint.
- Amber van der Heijden, Luca Allodi. Cognitive Triaging of Phishing Attacks. **In Proceedings of Usenix Security 2019** (Acc. rate 16%). Preprint.
- Luca Allodi. 2017. Economic Factors of Vulnerability Trade and Exploitation. In Proceedings of the **2017 ACM SIGSAC Conference on Computer and Communications Security (CCS '17)**. ACM, New York, NY, USA, 1483-1499. DOI: <https://doi.org/10.1145/3133956.3133960> (Acc. rate 18%). Preprint.
- Allodi, L. and Massacci, F. (2017), Security Events and Vulnerability Data for Cybersecurity Risk Estimation. *Risk Analysis*, 37: 1606–1627. doi:10.1111/risa.12864 Impact factor: 2.225, ISI Journal Citation Reports Ranking: 2015: 6/49 (Social Sciences Mathematical Methods); 17/101 (Mathematics Interdisciplinary Applications). Pre pub version.

## Journals

1. Allodi, L., Cremonini, M., Massacci, F. et al. Measuring the accuracy of software vulnerability assessments: experiments with students and professionals. *Empirical Software Engineering* (2020). Scopus citescore 2018: 5.61. 91st percentile (31/358 in CS:Software). Open Access, doi:10.1007/s10664-019-09797-4.
- Allodi, L. and Massacci, F. (2017), Security Events and Vulnerability Data for Cybersecurity Risk Estimation. *Risk Analysis*, 37: 1606–1627. doi:10.1111/risa.12864 Impact factor: 2.225, ISI Journal Citation Reports Ranking: 2015: 6/49 (Social Sciences Mathematical Methods); 17/101 (Mathematics Interdisciplinary Applications). Pre pub version
- Luca Allodi, Marco Corradin, Fabio Massacci. Then and Now: On The Maturity of the Cybercrime Markets. The lesson black-hat marketers learned. *IEEE Transactions on Emerging Topics in Computing*, 4(1):35–46, Jan 2016. Impact factor: 4.12 (2016 Scopus CiteScore). Pre pub version
- Luca Allodi, Fabio Massacci. Comparing vulnerability severity and exploits using case-control studies. *ACM Transactions on Information and System Security (TISSEC)*. 17, 1, Article 1 (August 2014), 20 pages. Impact factor: 3.45 (2014 Scopus CiteScore); flagship ACM journal on security. PDF

## Conferences

5. Martin Rosso, Michele Campobasso, Ganduulga Gankhuyag, Luca Allodi. SAIBERSOC: Synthetic Attack Injection to Benchmark and Evaluate the Performance of Security Operation Centers. **In Proceedings of ACSAC 2020** (acc. rate 23%) Preprint not yet available
- Michele Campobasso, Luca Allodi. Impersonation-as-a-Service: Characterizing the Emerging Criminal Infrastructure for User Impersonation at Scale. **In Proceedings of the ACM Conference on Computer and Communications Security (ACM CCS 2020)** Preprint
- Pavlo Burda, Luca Allodi, Nicola Zannone. Don't Forget the Human: a Crowdsourced Approach to Automate Response and Containment Against Spear Phishing Attacks. **In Proceedings of EuroSP WACCO 2020**. Proceedings version
- Pavlo Burda, Tzouliano Chotza, Luca Allodi, Nicola Zannone. Testing the effectiveness of tailored phishing techniques in industry and academia: a field experiment. **In Proceedings of ARES 2020**. Preprint
- Amber van der Heijden, Luca Allodi. Cognitive Triaging of Phishing Attacks. **In Proceedings of Usenix Security 2019** (Acc. rate 16%). Preprint
- Luca Allodi, Tzouliano Chotza, Ekaterina Panina, and Nicola Zannone. On the need for new anti-phishing measures against spear phishing attacks. **IEEE Security & Privacy**, 18(2), 23-34 (2019).. Preprint.

- Pavlo Burda, Cohen Boot, Luca Allodi. Characterizing the Redundancy of DarkWeb .onion Services. **In Proceedings of the 2019 International Conference on Availability, Reliability, and Security (ARES)**. Proceedings version.
- Donatello Luna, Luca Allodi, and Marco Cremonini. Productivity and patterns of activity in bug bounty programs: Analysis of hackerone and google vulnerability research. **In Proceedings of the 2019 International Conference on Availability, Reliability and Security (ARES)**
- Michele Campobasso, Pavlo Burda, Luca Allodi. CARONTE: Crawling Adversarial Resources Over Non-Trusted, High-Profile Environments. **In Proceedings of the 2019 IEEE EuroS&P Workshop on Attackers and Cyber-Crime Operations**. Preprint.
- Laura Genga, Luca Allodi, Nicola Zannone. Unveiling Systematic Biases in Decisional Processes. An Application to Discrimination Discovery. **In Proceedings of ASIACCS 2019**. PDF
- Roland van Rijswijk-Deij, Gijs Rijnders, Matthijs Bomhoff, Luca Allodi. Privacy-Conscious Threat Intelligence Using DNSBLOOM. **2019 IFIP/IEEE International Symposium on Integrated Network Management (IM 2019)**. Link to open access paper
- Luca Allodi. Underground Economics for Vulnerability Risk. **Usenix ;login: (2018), Vol 43, no. 1**. Link to publisher Preprint
- Luca Allodi, Marco Cremonini, Fabio Massacci, Woohyun Shim. The effect of security education and expertise on security assessments: the case of software vulnerabilities. **Presented at WEIS 2018, Innsbruck, AT**. Preprint
- Jukka Ruohonen, Luca Allodi. A bug bounty perspective on the disclosure of web vulnerabilities. **Presented at WEIS 2018, Innsbruck, AT**. Preprint
- Tho Le, Roland van Rijswijk-Deij, Luca Allodi and Nicola Zannone. Economic Incentives on DNSSEC Deployment: Time to Move from Quantity to Quality. **Proceedings of the 16th IEEE/IFIP Network Operations and Management Symposium (NOMS 2018)**. Preprint
- Luca Allodi and Sandro Etalle. 2017. Towards Realistic Threat Modeling: Attack Commodification, Irrelevant Vulnerabilities, and Unrealistic Assumptions. **In Proceedings of the 2017 Workshop on Automated Decision Making for Active Cyber Defense (SafeConfig '17)**. ACM, New York, NY, USA, 23-26. DOI: <https://doi.org/10.1145/3140368.3140372> Preprint
- Luca Allodi. 2017. Economic Factors of Vulnerability Trade and Exploitation. In Proceedings of the **2017 ACM SIGSAC Conference on Computer and Communications Security (CCS '17)**. ACM, New York, NY, USA, 1483-1499. DOI: <https://doi.org/10.1145/3133956.3133960> (Acc. rate 18%). Preprint
- Luca Allodi, Fabio Massacci. Attack potential in Impact and Complexity. In the Proceedings of ARES 2017. Preprint
- Allodi, L., Biagioni, S., Crispo, B., Labunets, K., Massacci, F., & Santos,

- W. (2017, November). Estimating the Assessment Difficulty of CVSS Environmental Metrics: An Experiment. In International Conference on Future Data and Security Engineering (pp. 23-39). Springer, Cham.
- Luca Allodi, Fabio Massacci, Julian Williams. The Work-Averse Cyber Attacker Model. Evidence from two million attack signatures. Presented at WEIS 2017. SSRN version
  - Luca Allodi, Fabio Massacci. The Work-Averse Attacker Model. In the Proceedings of the 2015 European Conference on Information Systems (ECIS 2015). PDF
  - Luca Allodi. The Heavy Tails of Vulnerability Exploitation In the Proceedings of ESSoS 2015. To be published by Springer by March 2015. PDF
  - Luca Allodi, Luca Chiodi, Marco Cremonini. Self-Organizing Techniques for Knowledge Diffusion in Dynamic Social Networks. in Proceedings of the 5th Workshop on Complex Networks. CompleNET 2014. PDF
  - Luca Allodi. Attacker economics for Internet-scale vulnerability risk assessment (Extended Abstract) Research proposal, in Proceedings of Usenix LEET 2013. PDF
  - Luca Allodi, Vadim Kotov, Fabio Massacci. MalwareLab: Experimentation with Cybercrime Attack Tools. In Proceedings of Usenix CSET 2013. PDF
  - Luca Allodi, Fabio Massacci. How CVSS is DOSsing your patching policy (and wasting your money). Presentation at BlackHat USA 2013. Slides | White paper to come too (end of Aug)
  - Luca Allodi Fabio Massacci. Analysis of exploits in the wild. Or: do Cybersecurity Standards Make Sense? Poster at IEEE Symposium on Security & Privacy 2013. PDF
  - Luca Allodi, Woohyun Shim, Fabio Massacci. Quantitative assessment of risk reduction with cybercrime black market monitoring. Proceedings of IEEE S&P 2013 International Workshop on Cyber Crime. PDF
  - Woohyun Shim, Luca Allodi, Fabio Massacci. Crime Pays If You Are Just an Average Hacker. Proceedings of IEEE/ASE 2012 Cyber Security Conference. PDF Conference acceptance rate: 9%. Complementary publication in ASE Journal, 2012, Vol. 2. Journal acceptance rate: 3%. Best paper award.
  - Luca Allodi, Fabio Massacci. A Preliminary Analysis of Vulnerability Scores for Attacks in Wild. Proceedings of BADGERS 2012 CCS Workshop. PDF
  - Luca Allodi, Fabio Massacci, Woohyun Shim. Crime payes if you are just an average hacker. Accepted Poster at GameSec 2012.+ Luca Allodi. The dark side of vulnerability exploitation. Proceedings of the 2012 ESSoS Conference Doctoral Symposium. link [PDF]
  - Luca Allodi, Marco Cremonini, Luca Chiodi. The asymmetric diffusion of trust between communities: Simulations in dynamic social networks. Proceedings of the 2011 Winter Simulation Conference. June 13, 2011. Finalist “Best Theoretical Paper Award Wintersim 2011” link
  - Luca Allodi, Marco Cremonini, Luca Chiodi. Modifying Trust Dynamics

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