

# Vassil Roussev

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CANIZARO-LIVINGSTON ENDOWED PROFESSOR IN CYBERSECURITY  
DIRECTOR, Greater New Orleans Center for Information Assurance  
PROFESSOR, Department of Computer Science  
University of New Orleans

[vassil@roussev.net](mailto:vassil@roussev.net)  
<http://roussev.net>  
[SCHOLAR PROFILE](#)

## INTERESTS

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Cybersecurity, digital forensics, privacy, cloud security, cyber-physical systems, ICS  
SCADA security & forensics, cybersecurity education, distributed systems/cloud computing, high-performance computing, HCI, CSCW

## EDUCATION

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2003 PHD, Computer Science, University of North Carolina–Chapel Hill  
1998 MS, Computer Science, University of North Carolina–Chapel Hill  
1995 MS, Computer Science, Sofia University, Bulgaria  
1994 BS, Computer Science, Sofia University, Bulgaria

## APPOINTMENTS

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2017– *Canizaro-Livingston Endowed Professor in Cybersecurity I*, University of New Orleans  
2017– *Director*, Greater New Orleans Center for Information Assurance (GNOCIA), University of New Orleans  
2015– *Professor*, Computer Science, University of New Orleans  
2009-15 *Associate Professor*, Computer Science, University of New Orleans  
2011 *Visiting Professor*, Computer Science, Naval Postgraduate School  
2006-16 *Director*, Networking & Security Lab (NSSAL), Computer Science, University of New Orleans  
2003-09 *Assistant Professor*, Computer Science, University of New Orleans

## INSTITUTIONAL SERVICE

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2015-17 Vice President, UNO Faculty Senate  
2016- Member, UNO Faculty Senate Financial Board  
2016 Member, Search Committee: UNO Provost  
2016 Member, Search Committee: UNO VP of Research & Economic Development  
2013-15 Vice Chair/Chair, UNO Faculty Senate Budget Committee  
2012- Senator, UNO Faculty Senate  
2015,16,17 Chair, Faculty Search Committee, UNO Computer Science  
2013,14 Member, Faculty Search Committee, UNO Computer Science  
2013- Member, Graduate Committee, UNO Computer Science  
2013- Chair, Facilities Committee, UNO Computer Science  
2005-12 UNO Representative, Louisiana Optical Network Initiative (LONI) Large Allocations Committee  
2008,09 Coach, UNO Collegiate Cyber Defense Team

## SELECT GRANTS & CONTRACTS

[grants over \$50k; \$6.4M TOTAL, \$3M as PI]

- 2017-19 “CC\* Network Design: ARCHES (Advanced Research Computing in the Humanities Engineering and Sciences) Network at the University of New Orleans”, PI: D. Chakravorty, co-PI: V. Roussev, S. Rick, C. Summa, S. Ware, National Science Foundation, Award #1660241; \$333k.
- 2017-18 “Scalable Hands-On Cybersecurity Training”, PI: V. Roussev, co-PI: I. Ahmed, Department of Defense; \$555k.
- 2017-18 “Reverse Engineering of Modern Malware”, PI: V. Roussev, co-PI: J. Sylve, Department of Defense; \$119k.
- 2017-18 “GenCyber@UNO: An Intensive Cybersecurity Bootcamp for Secondary School Teachers”, PI: V. Roussev, co-PI: I. Ahmed, Department of Defense; \$116k.
- 2017-18 “Instructional Material for SCADA Security Course”, PI: I. Ahmed, co-PI: V. Roussev, S. Bhatia, Department of Defense; \$188k.
- 2017-18 “Concept Maps for Cybersecurity Education”, PI: V. Roussev, co-PI: I. Ahmed, Department of Defense; \$164k.
- 2016-18 “Automated Platform for Cyber Security Learning and Experimentation (AutoCUE)”, PI: V. Roussev, National Science Foundation, Award #1623253; \$300k.
- 2016 “Silicon Mechanics Fifth Annual Research Cluster Grant”, PI: D. Chakravorty, co-PI: V. Roussev, C. Summa, S. Rick, Silicon Mechanics; \$100k.
- 2015-17 “Peer Instruction for Cybersecurity Education”, PI: I. Ahmed, co-PI: V. Roussev, G. Richard, National Science Foundation, Award #1500101; \$300k.
- 2014-17 “Lightweight Environment for Network Security Education (LENSE)”, PI: V. Roussev, co-PI: I. Ahmed, G. Richard, National Science Foundation, Award #1419358; \$300k.
- 2015-16 “SCADA Testbed for Security and Forensics Research”, PI: I. Ahmed, co-PI: V. Roussev, G. Richard, DoD, Defense University Research Instrumentation Program (DURIP); \$96k.
- 2015-16 “Automatic Run-time Mitigation of Kernel Exploits in Cloud Environments”, PI: I. Ahmed, co-PI: V. Roussev, G. Richard, Department of Defense; \$75k.
- 2011-14 “Tools for Large-Scale Data Correlation”, PI: V. Roussev, Naval Postgraduate School; \$441k.
- 2007-14 “The LONI Institute: Advancing Biology, Materials, and Computational Sciences for Research, Education, and Economic Development”, PI: S. Whittenburg, co-PI: V. Roussev, S. Winters-Hilt, LA Board of Regents P-KSFI; \$1M.
- 2012-13 “High-Performance Infrastructure for Information Assurance Research and Education”, PI: V. Roussev, co-PI: G. Richard, J. Nino, LA Board of Regents; \$75k.
- 2011-12 “Cloud Environment Setup”, PI: S. Whittenburg, co-PI: V. Roussev, US Space and Naval Warfare Systems Command (SPAWAR); \$207k.
- 2010-11 “Tools for Large-Scale Analysis of Cyber Forensics & Security”, PI: V. Roussev, Naval Postgraduate School; \$140k.
- 2009-10 “A Laboratory for Next-Generation Information Assurance Instruction and Research”, PI: G. Richard, co-PI: V. Roussev, J. Nino, LA Board of Regents; \$112k.
- 2009-10 “Information Assurance Scholarships Program at UNO”, PI: G. Richard, co-PI: V. Roussev, J. Nino, Department of Defense; \$60k.
- 2007-10 “Advanced Digital Forensic Processing of Large Data Sets”, PI: V. Roussev, LA Board of Regents;

\$104k.

- 2009 “Scalable Data Fingerprinting for Large Forensic Data Sets”, PI: V. Rousev, Office of Naval Research; \$57k.
- 2009 “Security Assessment of Cloud Computing”, PI: V. Rousev, co-PI: G. Richard, D. Bilar, US Space and Naval Warfare Systems Command (SPAWAR); \$57k.
- 2008-09 “Dynamic Management of Security Policies for the METOC Data Bus”, PI: V. Rousev, US Space and Naval Warfare Systems Command (SPAWAR); \$70k.
- 2008-09 “Information Assurance Scholarship Program at UNO”, PI: G. Richard, co-PI: V. Rousev J. Nino, Department of Defense; \$113k.
- 2008-09 “Information Assurance Distance Learning”, PI: M. Abdelguerfi, co-PI: V. Rousev, G. Richard, US Space and Naval Warfare Systems Command (SPAWAR); \$70k.
- 2008 “Analysis of the Stennis Army Ammo Plant as a Multi-Agency Shared Services Center for Information Processing and Storage”, PI: K. R. Walsh, co-PI: V. Rousev *et al.*, US Space and Naval Warfare Systems Command (SPAWAR); \$998k.
- 2007-08 “Dynamic Policy Management System for Information Assurance”, PI: V. Rousev, US Space and Naval Warfare Systems Command (SPAWAR); \$145k.
- 2004 “Distributed Environment for Large-Scale Digital Forensic Investigations”, PI: V. Rousev, Sun Microsystems Academic Excellence Grant, Award: EDUD-7824-0501049-US; \$95k.

## PUBLICATIONS

- 2017 Rousev, V. “Digital Forensic Science: Issues, Methods, and Challenges”, Morgan & Claypool Publishers, 2016. ISBN: 978-1627059596 (paper), 978-1627054652 (ebook).

### BOOK CHAPTERS & JOURNAL ARTICLES

- 2017 Ali-Gombe, A., Ahmed, I., Richard, G., Rousev, V., “Towards a More Dependable Hybrid Analysis of Android Malware Using Aspect Oriented Programming”, Journal of Computer Virology and Hacking Techniques, Springer, 2017. (*in press*)
- 2017 Ahmed, I., Overmeier, S., Sudhakaran, S., Rousev, V., “Programmable Logic Controller Forensics”, IEEE Security & Privacy, Vol. 15(6), Nov 2017. (*to appear*)
- 2017 Ahmed, I., Rousev, V., “Analysis of Cloud Digital Evidence”, In Security, Privacy, and Digital Forensics in the Cloud, L. Chen, and H. Takabi (Eds.), IGI Global, 2017. (*in press*)
- 2016 Rousev, V., Ahmed, I., Barreto, A., McCulley, S., Shanmughan, V., “Cloud forensics—Tool development studies and future outlook”, Journal of Digital Investigation, 2016, Vol. 18, pp. 79-95. DOI: [10.1016/j.diin.2016.05.001](https://doi.org/10.1016/j.diin.2016.05.001).
- 2016 Rousev, V., Barreto, A., Ahmed, I., “API-based Forensic Acquisition of Cloud Drives”. In Peterson, G., Sheno, S. (Eds.), Research Advances in Digital Forensics XII, Springer, 2016, pp. 213-235. DOI: [10.1007/978-3-319-46279-0\\_11](https://doi.org/10.1007/978-3-319-46279-0_11).
- 2014 Rousev, V. “Digital Forensics”, In Computing Handbook, Third Edition: Two-Volume Set, A. Tucker, T. Gonzalez, H. Topi, J. Diaz-Herrera (Eds.), Vol. 2, Chapman and Hall/CRC, 2014, pp.56–1-29. ISBN: 978-1439898444.
- 2014 Brietinger, F., Stivaktakis, G., Rousev, V. “Evaluating detection error trade-offs for bitwise ap-

- proximate matching algorithms”, *Journal of Digital Investigation*, 2014, Vol. 11(2), pp. 81-89. DOI: [10.1016/j.diin.2014.05.002](https://doi.org/10.1016/j.diin.2014.05.002).
- 2013 Ahmed, I., Zoranic, A., Javaid, S., Richard, G., Roussev, V. “Rule-based Integrity Checking of Interrupt Descriptor Table in Cloud Environments”. In Peterson, G., Shenoi, S. (Eds.), *Research Advances in Digital Forensics IX*, Springer, 2013, pp. 305-328. DOI: [10.1007/978-3-642-41148-9\\_21](https://doi.org/10.1007/978-3-642-41148-9_21).
- 2013 Roussev, V., Quates, C., Martell, R., “Real-time Digital Forensics and Triage”, *Journal of Digital Investigation*, Sep 2013, Vol. 10(2), pp. 158-167. DOI: [10.1016/j.diin.2013.02.001](https://doi.org/10.1016/j.diin.2013.02.001).
- 2012 Roussev, V., “Managing Terabyte Scale Investigations with Similarity Digests”, In Peterson, G., Shenoi, S. (Eds.), *Research Advances in Digital Forensics VIII*, Springer, 2012, pp. 19-34. DOI: [10.1007/978-3-642-33962-2\\_2](https://doi.org/10.1007/978-3-642-33962-2_2).
- 2010 Roussev, V., “Data Fingerprinting with Similarity Digests”, In Chow, K.; Shenoi, S. (Eds.), *Research Advances in Digital Forensics VI*, Springer, 2010, pp. 207-226. doi: [10.1007/978-3-642-15506-2\\_15](https://doi.org/10.1007/978-3-642-15506-2_15)
- 2010 Marziale L., Movva S., Richard G., Roussev V., Schwiebert L., “Massively Threaded Digital Forensics Tools”, In Chang-Tsun Li (ed.), *Handbook of Research on Computational Forensics, Digital Crime, and Investigation: Methods and Solutions*. Information Science Publishing, 2010, pp.234-256. DOI: [10.4018/978-1-60566-836-9.ch010](https://doi.org/10.4018/978-1-60566-836-9.ch010)
- 2009 Roussev, V. “Hashing & Data Fingerprinting in Digital Forensics” *IEEE Security and Privacy*, Vol. 7(2), Mar-Apr 2009, pp.49-55. DOI: [10.1109/MSP.2009.40](https://doi.org/10.1109/MSP.2009.40).
- 2009 Roussev V., Wang L., Richard G., Marziale L., “A Cloud Computing Platform for Large-Scale Forensic Computing”. In Peterson G., Shenoi S. (eds.), *Research Advances in Digital Forensics V*. Springer, 2009, pp.201-214. DOI: [10.1007/978-3-642-04155-6\\_15](https://doi.org/10.1007/978-3-642-04155-6_15).
- 2008 Roussev, V., Richard, G., Marziale, L. “Class-aware Similarity Hashing for Data Classification” In Ray, I., Shenoi, S. (eds.), *Research Advances in Digital Forensics IV*. Springer, 2008, pp.101-113. DOI: [10.1007/978-0-387-84927-0\\_9](https://doi.org/10.1007/978-0-387-84927-0_9).
- 2007 Richard G., Roussev, V., Marziale, L. “In-place File Carving” In Craiger, P., Shenoi, S. (eds.), *Research Advances in Digital Forensics III*, Springer, 2007, pp. 217-230. ISBN: 978-0-387-73741-6. DOI: [10.1007/978-0-387-73742-3\\_15](https://doi.org/10.1007/978-0-387-73742-3_15).
- 2007 Richard, G., Roussev, V., Marziale, L. “Forensic Discovery Auditing of Digital Evidence Containers”, *Journal of Digital Investigation*, (4)2, 2007. DOI: [10.1016/j.diin.2007.04.002](https://doi.org/10.1016/j.diin.2007.04.002).
- 2006 Richard, G., Roussev, V. “Next Generation Digital Forensics”, *Communications of the ACM*, Vol. 49(2), Feb 2006. DOI: [10.1145/1113034.1113074](https://doi.org/10.1145/1113034.1113074).
- 2006 Richard, G., Roussev, V. “Digital Forensics Tools: The Next Generation.” In Kanellis et al (ed.), *Digital Crime and Forensic Science in Cyberspace*, Idea Group Publishing, 2006, pp.75-90. ISBN: 1591408725.
- 2006 Richard, G., Roussev, V. “Toward Secure, Audited Processing of Digital Evidence: Filesystem Support for Digital Evidence Bags.” In Olivier, M., Shenoi, S. (eds.), *Research Advances in Digital Forensics II*, Springer, 2006, pp.29-40. DOI: [10.1007/978-0-387-73742-3\\_15](https://doi.org/10.1007/978-0-387-73742-3_15).
- 2005 Chen, Y, Roussev, V., Richard, G., Gao, Y. “Content-Based Image Retrieval for Digital Forensics”. In Pollitt, M, Shenoi, S. (eds.), *Research Advances in Digital Forensics*. Springer, 2005, pp.271-282. DOI: [10.1007/0-387-31163-7\\_22](https://doi.org/10.1007/0-387-31163-7_22)
- 2004 Gao, Y., Richard, G. Roussev, V. [Bluepipe: A Scalable Architecture for On-the-spot Digital Forensics](https://doi.org/10.1007/978-1-4020-2500-0_15), *International Journal of Digital Evidence*, Summer 2004, Volume 3(1).

- 2017 Stelly, C., Roussev, V., “SCARF: A container-based approach to cloud-scale digital forensic processing”, 17<sup>th</sup> Annual Digital Forensic Research Conference (DFRWS), Aug 2017, Austin, TX. DOI: [10.1016/j.diin.2017.06.008](https://doi.org/10.1016/j.diin.2017.06.008)
- 2017 Senthivel, S., Ahmed, I., Roussev, V., “SCADA Network Forensics of the PCCC Protocol”, In the 17<sup>th</sup> Annual Digital Forensic Research Conference (DFRWS), Aug 2017, Austin, TX. DOI: [10.1016/j.diin.2017.06.012](https://doi.org/10.1016/j.diin.2017.06.012)
- 2017 Grimm, J., Ahmed, I., Roussev, V., Bhatt, M., Hong, M., “Automatic Mitigation of Kernel Rootkits in Cloud Environments”, 18<sup>th</sup> World Conference on Information Security Applications (WISA’17), Lecture Notes in Computer Science (LNCS) Springer, August 2017, Jeju Island, South Korea.
- 2017 Johnson, W., Ahmed, I., Roussev, V., Lee, C., “Peer Instruction for Digital Forensics”, USENIX Advances in Security Education Workshop (ASE’17), August 2017, Vancouver, BC, Canada.
- 2016 Ahmed, I., Roussev, V., Johnson, W., Senthivel, S., Sudhakaran, S., “A SCADA System Testbed for Cybersecurity and Forensic Research and Pedagogy”, Second Annual Industrial Control System Security Workshop (ICSS’16), Dec, Los Angeles, CA, USA. DOI: [10.1145/3018981.3018984](https://doi.org/10.1145/3018981.3018984)
- 2016 Johnson, W., Luzader, A., Ahmed, I., Roussev, V., Richard, G., Lee, C., “Development of Peer Instruction Questions for Cybersecurity Education”, USENIX Advances in Security Education Workshop (ASE’16), Aug 2016, Austin, TX.
- 2016 Ali-Gombe, A., Richard, G., Ahmed, I., Roussev, V., “Don’t Touch that Column: Portable, Fine-Grained Access Control for Android’s Native Content Providers”, In the Ninth ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec’16), July 2016, Darmstadt, Germany. DOI: [10.1145/2939918.2939927](https://doi.org/10.1145/2939918.2939927).
- 2016 Roussev, V., McCulley, “Forensic Analysis of Cloud-native Artifacts”, 3<sup>rd</sup> Annual Digital Forensic Research Conference Europe (DFRWS-EU), Mar 2016, Geneva, Switzerland. DOI: [10.1016/j.diin.2016.01.013](https://doi.org/10.1016/j.diin.2016.01.013).
- 2016 Ali-Gombe, A., Ahmed, I., Richard, G., Roussev, V., “AspectDroid: Android App Analysis System”, Sixth ACM Conference on Data and Application Security and Privacy (CODASPY), Mar 2016, New Orleans, LA, USA. DOI: [10.1145/2857705.2857739](https://doi.org/10.1145/2857705.2857739). Aisha Ali-Gombe, Irfan Ahmed, Golden G. Richard III, Vassil Roussev, “OpSeq: Android Malware Fingerprinting”, Fifth Program Protection and Reverse Engineering Workshop (PPREW’15), December 2015, Los Angeles, CA, USA. DOI: [10.1145/2843859.2843860](https://doi.org/10.1145/2843859.2843860).
- 2015 Ahmed, I., Roussev, V., Gombe, A., “Robust Fingerprinting for Relocatable Code”, Fifth ACM Conference on Data and Application Security and Privacy (CODASPY), Mar 2015, San Antonio, TX. DOI: [10.1145/2699026.2699104](https://doi.org/10.1145/2699026.2699104).
- 2015 Roussev, V., “Building a Forensic Computing Language”, 48<sup>th</sup> Hawaii International Conference on System Sciences (HICSS), Jan 2015, Koloa, HI. DOI: [10.1109/HICSS.2015.617](https://doi.org/10.1109/HICSS.2015.617).
- 2014 Roussev, V., Ahmed, I., Sires, T., “Image-Based Kernel Fingerprinting”, 14<sup>th</sup> Annual Digital Forensic Research Conference (DFRWS), Aug 2014, Denver, CO. DOI: [10.1016/j.diin.2014.05.013](https://doi.org/10.1016/j.diin.2014.05.013).
- 2014 Breitingner, F., Roussev, V., “Automated Evaluation of Approximate Matching Algorithms on Real Data”, First Annual Digital Forensic Research Conference – Europe (DFRWS-EU), pp.S10-17, May 2014, Amsterdam, The Neatherlands. DOI: [10.1016/j.diin.2014.03.002](https://doi.org/10.1016/j.diin.2014.03.002).
- 2013 Ahmed, I., Richard, G., Zoranic, A., Roussev, V. “Integrity Checking of Function Pointers in Kernel Pools via Virtual Machine Introspection”, 16<sup>th</sup> Information Security Conference (ISC),

- Nov 2013, Dallas, TX. DOI: [10.1007/978-3-319-27659-5\\_1](https://doi.org/10.1007/978-3-319-27659-5_1). (*best paper award*)
- 2013 Breitering, F., Stivaktakis, G., Roussev, V., “Evaluating Detection Error Trade-offs for Bitwise Approximate Matching Algorithms”, Fifth International Conference on Digital Forensics & Cyber Crime (ICDF2C), Sep 2013, Moscow, Russia. (*best paper award*)
- 2013 Roussev, V., Quates, C., “File Fragment Encoding Classification—An Empirical Approach”, 13<sup>th</sup> Annual Digital Forensic Research Conference (DFRWS), pp.S69-77, Aug 2013, Monterey, CA. DOI: [10.1016/j.diin.2013.06.008](https://doi.org/10.1016/j.diin.2013.06.008).
- 2012 Roussev, V., Quates, C., “Content Triage with Similarity Digests: The M57 Case Study”, Twelfth Annual Digital Forensic Research Conference (DFRWS), pp. S60-68, Aug 2012, Washington, DC. DOI: [10.1016/j.diin.2012.05.012](https://doi.org/10.1016/j.diin.2012.05.012).
- 2011 Roussev, V. “An Evaluation of Forensics Similarity Hashes”, Eleventh Annual Digital Forensic Research Conference (DFRWS), pp. S34-S41, Aug 2011, New Orleans, LA. DOI: [10.1016/j.diin.2011.05.005](https://doi.org/10.1016/j.diin.2011.05.005).
- 2011 Roussev, V., “Building Open and Scalable Digital Forensic Tools”, Sixth International Workshop on Systematic Approaches to Digital Forensic Engineering (IEEE/SADFE), May 2011, Oakland, CA. DOI: [10.1109/SADFE.2011.3](https://doi.org/10.1109/SADFE.2011.3).
- 2010 Garfinkel S., Nelson, A., White, D., and Roussev, V. “Using purpose-built functions and block hashes to enable small block and sub-file forensics”, Tenth Annual Digital Forensic Research Conference (DFRWS), pp. S13-S23, Aug 2010, Portland, OR. DOI: [10.1016/j.diin.2010.05.003](https://doi.org/10.1016/j.diin.2010.05.003).
- 2009 Garfinkel S., Farrell P., Roussev V., Dinolt G., “Bringing Science to Digital Forensics with Standardized Forensic Corpora”, Ninth Annual Digital Forensic Research Conference (DFRWS), pp.2-11, Aug 2009, Montreal, Canada. (*best paper award*) DOI: [10.1016/j.diin.2009.06.016](https://doi.org/10.1016/j.diin.2009.06.016).
- 2009 Roussev V., Garfinkel S., “File Fragment Classification—The Case for Specialized Approaches”, Fourth International IEEE Workshop on Systematic Approaches to Digital Forensic Engineering, Apr 2009, Oakland, CA. DOI: [10.1109/SADFE.2009.21](https://doi.org/10.1109/SADFE.2009.21).
- 2009 Roussev, V. “Building a Better Similarity Trap with Statistically Improbable Features”, 42nd Hawaii International Conference on System Sciences(HICSS), IEEE, Jan 2009, pp.1-10. DOI: [10.1109/HICSS.2009.97](https://doi.org/10.1109/HICSS.2009.97).
- 2008 Case, A., Cristina, A., Marziale, L., Richard, G., Roussev, V. “FACE: Automated Digital Evidence Discovery and Correlation”, Eighth Annual Digital Forensic Research Conference (DFRWS), pp. S65-S75, Aug 2008, Baltimore, MD. DOI: [10.1016/j.diin.2008.05.008](https://doi.org/10.1016/j.diin.2008.05.008).
- 2008 Roussev, V. Richard, G., Marziale, L. “Hash-based Classification of Data.” Fourth Annual IFIP WG 11.9 International Conference on Digital Forensics, Jan 2008, Kyoto, Japan. (*highest-ranked paper*)
- 2007 Roussev, V., Richard, G., Marziale, L. “Multi-Resolution Similarity Hashing”, Seventh Annual Digital Forensic Research Conference (DFRWS), pp. 105-114, Pittsburgh, PA, Aug 2007. DOI: [10.1016/j.diin.2007.06.011](https://doi.org/10.1016/j.diin.2007.06.011).
- 2007 Marziale, L., Richard, G., Roussev, G. “Massive Threading: Using GPU to Increase the Performance of Digital Forensic Tools” Seventh Annual Digital Forensic Research Conference (DFRWS), pp. S73-81, Pittsburgh, PA, Aug 2007. (*highest-ranked paper*) DOI: [10.1016/j.diin.2007.06.014](https://doi.org/10.1016/j.diin.2007.06.014).
- 2006 Roussev, V., Chen, Y., Bourg, R., Richard, G. “md5bloom: Forensic Filesystem Hashing Revisited”, In Proceedings of the 2006 Digital Forensics Research Workshop (DFRWS), Elsevier, pp. 82-90, West Lafayette, IN, Aug 2006. DOI: [10.1016/j.diin.2006.06.012](https://doi.org/10.1016/j.diin.2006.06.012).
- 2006 Roussev, V., Priego, G., Richard, G., “TouchSync: Lightweight Synchronization for Ad-Hoc Mobile Collaboration”, 2006 IEEE International Symposium on Collaborative Technologies and

Systems (CTS), pp.181-188, May 2006, Las Vegas, NV.

DOI: [10.1109/CTS.2006.67](https://doi.org/10.1109/CTS.2006.67).

- 2006 Roussev, V., Richard, G., Tingstrom, D. “dRamDisk: Efficient RAM Sharing on a Commodity Cluster”, 25th IEEE International Performance Computing and Communications Conference (IPCCC), Apr 2006, Phoenix, AZ. DOI: [10.1109/.2006.1629407](https://doi.org/10.1109/.2006.1629407).
- 2005 Roussev, V., Dewan, P. “Supporting High Coupling and User-Interface Flexibility”, Ninth European Conference on Computer-Supported Cooperative Work (ECSCW), pp.45-64, Sep 2005, Paris, France. DOI: [10.1007/1-4020-4023-7\\_3](https://doi.org/10.1007/1-4020-4023-7_3).
- 2005 Richard, G., Roussev, V. “Scalpel: A Frugal, High-Performance File Carver”, 2005 Digital Forensics Research Workshop (DFRWS), Aug 2005, New Orleans, LA.
- 2004 Roussev, V. “Abstraction Flexibility in a Collaborative Infrastructure”, International Conference on Knowledge Sharing and Collaborative Engineering (KSCE), Nov 2004, St. Thomas, US Virgin Islands.
- 2004 Roussev, V., Richard, G. “Breaking the Performance Wall: The Case for Distributed Digital Forensics”, 2004 Digital Forensics Research Workshop (DFRWS), Aug 2004, Baltimore, MD.
- 2003 Richard, G., Roussev, V., et al. “Bluepipe: Portable Tools for Minimally Invasive, On-the-Spot Computer Forensics Surveys”, Digital Forensics Research Workshop (DFRWS), Aug 2003, Cleveland, OH.
- 2000 Roussev, V., Dewan, P., Jain, V., “Composable Collaboration Infrastructures Based on Programming Patterns”, 2000 ACM Conference on Computer-Supported Cooperative Work (CSCW), pp.117-126, Dec 2000, Philadelphia, PA. DOI: [10.1145/358916.358982](https://doi.org/10.1145/358916.358982).
- 2000 Roussev, V., et al. “Integrating XML and Object-based Programming for Distributed Collaboration”, IEEE International Workshops on Enabling Technologies for Collaborative Enterprises (WET ICE), Jun 2000, Bethesda, MD. DOI: [10.1109/ENABL.2000.883739](https://doi.org/10.1109/ENABL.2000.883739).

#### OTHER MAJOR PUBLICATIONS

- 2014 Breitingner, F., Guttman, B., McCarrin, M., Roussev, V., “Approximate Matching: Definition and Terminology”, NIST Special Publication 800-168. May 31, 2014. DOI: [10.6028/NIST.SP.800-168](https://doi.org/10.6028/NIST.SP.800-168).
- 2003 Roussev, V. “Flexible Sharing of Distributed Objects Based on Programming Patterns”, Department of Computer Science, University of North Carolina, Chapel Hill, NC, 2003. Ph.D Thesis. Advisor: *Prasun Dewan*

#### SOFTWARE PROJECTS

- LENSE Lightweight Environment for Network Security Education
- sdhash Similarity hashing and fragment identification: [sdhash.org](https://sdhash.org)
- zsniff Sniffer/extractor for deflate-coded data fragments: [github.com/zsniff/zsniff](https://github.com/zsniff/zsniff)
- mp3scalpel Extractor for mp3-encoded data.
- mrshash Multi-resolution hashing (replaced by sdhash)
- md5bloom Client/server tool for manipulating Bloom filters (subsumed by sdhash)
- mnr MapReduce framework for distributed digital forensic processing
- FACE A framework for automated digital evidence discovery and correlation
- TouchSync Ad-hoc lightweight synchronization of Bluetooth devices

## PROFESSIONAL SERVICE

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- 2005- Member, Board of Directors/Co-Founder, DFRWS.org (non-profit)
- 2008- Editor, Journal of Digital Investigation (DIIN)
- 2014- Editor, Journal of Digital Forensics, Security and Law (JDFSL)
- 2017 Review panelist, NSF SaTC
- 2013-14 Member, NIST Working Group on Approximate Matching

### MEMBER, ORGANIZING COMMITTEE

- 2005-17 Annual Digital Forensic Research Conference (DFRWS), including:  
Conference Chair (2011), Vice-Chair (2010, 2015), TPC Chair (2007)
- 2014-17 European Digital Forensic Research Conference (DFRWS-EU)
- 2016 ACM Conference on Data and Application Security and Privacy (CODASPY)

### MEMBER, TECHNICAL PROGRAM COMMITTEE

- 2016-18 ACM Conference on Data and Application Security and Privacy (CODASPY)
- 2005-17 Annual Digital Forensic Research Conference (DFRWS)
- 2014-18 Annual Digital Forensic Research Conference – Europe (DFRWS-EU)
- 2006-18 IFIP 11.9 Working Group International Conference on Digital Forensics (ICDE)
- 2006-14 International Annual Workshop on Digital Forensics & Incident Analysis (WDFIA)
- 2012-16 International Workshop on Digital Forensics (WSDF)
- 2013-17 International Conference on Digital Forensics & Cyber Crime (ICDF2C)
- 2012-13 International Conference on Digital Forensics and Investigation (ISCDFI)
- 2012-13 Annual ISSA Conference
- 2005-11 IEEE International Workshop on Systematic Approaches to Digital Forensic Engineering (SADFE)
- 2010 The ACM Northeast Digital Forensics Exchange (NeFX)
- 2005-09 The International Symposium on Collaborative Technologies and System (CTS)

### JOURNAL REVIEWER

- 2008-17 IEEE Transactions on Information Forensics & Security
- 2013-17 Computers and Security
- 2006-17 IEEE Security & Privacy
- 2016 International Transactions in Operational Research
- 2015 Journal of Information Technology
- 2014 International Journal of Information Security
- 2014 Journal of Concurrency and Computation: Practice and Experience
- 2013 ACM Transactions on information and System Security
- 2013 Annals of Telecommunications/Annales des Télécommunications
- 2012 IEEE Internet Computing
- 2012 Journal of Parallel and Distributed Computing
- 2010 Knowledge-Based Systems (Elsevier)
- 2009-10 IEEE Globecom
- 2000-06 ACM Computer-Supported Cooperative Work (CSCW)
- 2004-06 Conference on Human Factors in Computing Systems (CHI)
- 2003-05 Journal of CSCW (JCSCW)





### UNDERGRADUATE COURSES

- Operating Systems
- Computer Networking and Telecommunications
- Network and System Administration
- Data Structures and Applications
- Undergraduate Seminar (public speaking & technical presentation)

### GRADUATE COURSES

- Distributed Systems
- Cloud Computing
- Network Penetration Testing & Defense
- High-Performance Computing
- Human-Computer Interaction/User Interface Design
- Data Compression
- Distributed Collaboration