

EVGENIA SMIRNI

Chockley Professor and Chair of Computer Science School of Computing, Data Sciences, and Physics
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RESEARCH INTERESTS

Performance Evaluation, Reliability, Dependability, High-Performance Computing, Applied Machine Learning, Workload Characterization and Analysis, Queueing Networks, Markov Chains, Matrix-Analytic Methods, Performance Tools.

ACADEMIC APPOINTMENTS

Chockley Professor & Dept. Chair	William & Mary, Computer Science	July 2022 – Present
Visiting Faculty	Monash University, Melbourne, Australia	Jan. 2020 – March 2020
Sidney P. Chockley Professor	William and Mary	Aug. 2014 – Present
Visiting Researcher	IBM Research, Zurich Research Lab, Switzerland	Aug. 2010 – July 2011
Professor	William & Mary, Computer Science	Aug. 2008 – July 2014
Claiborne Stephens Associate Professor	William & Mary, Computer Science	Aug. 2005 – July 2008
Graduate Director	William & Mary, Computer Science	Aug. 2004 – Dec. 2014
Associate Professor	William & Mary, Computer Science	Aug. 2002 – July 2005
Assistant Professor	William & Mary, Computer Science	Aug. 1997 – July 2002
Postdoctoral Research Associate	UIUC, Computer Science	Aug. 1995 – June 1997

EDUCATION

Ph.D. in Computer Science	Vanderbilt University	May 1995
M.S. in Computer Science	Vanderbilt University	May 1993
Diploma in Computer Engineering	Computer Eng. and Informatics, University of Patras	Spring 1988

AWARDS and HONORS

2024	IEEE CLUSTER 2024, Best Paper Finalist
2023	AAIA Fellow , class of 2023
2020	Elected Member to the IFIP W.G. 10.4 on Dependable Computing and Fault-Tolerance
2020	IEEE Fellow , class of 2020.
2015	IEEE CLOUD 2015, Best Paper Award
2015	<i>23rd of the IEEE International Conference on Network Protocols (ICNP 2015)</i> , Best Paper Finalist
2014	Sidney P. Chockley Professor of Computer Science.
2013	ACM Distinguished Scientist .
2012	Plumeri Award for Faculty Excellence, William and Mary
2012	One of Selected Best Papers, <i>High Performance Distributed Computing 2012</i>
2010	Elected Member to the IFIP W.G. 7.3 on Computer System Modeling
2010	International Teletraffic Congress 2010 (ITC22), Best Student Paper Award
2008	Middleware'08 Best Paper Award

2008	QUEST'08 Best Student Paper Award
2007	One of Selected Best Papers, <i>International Conference on Autonomic Computing 2007</i> .
2006	ΦBK Award for the Advancement of Scholarship
2005 – 2008	Wilson and Martha Claiborne Stephens Term Distinguished Associate Professor.
2002	One of Selected Best Papers, <i>Internet Performance Symposium</i> , GLOBECOM 2002.
1997	One of Selected Best Papers, 9 th <i>International Conference on Modeling Techniques and Tools for Computer Performance Evaluation</i> , 1997.

UNIVERSITY SERVICE

Fall 2025 –	Faculty Advancement Fellow.
Spring 2025	Search Committee of the CDSP Director of Development.
Spring 2025	Search Committee of the Vice-Provost of Research.
Spring 2025 –	CDSP Dean Advisory Committee.
Spring 2023	Search Committee of the Dean of Arts & Sciences.
Fall 2020 – Spring 2024	Faculty Assembly (elected member, university-wide committee).
Summer 2020 – 2022	Faculty Ombuds for Graduate Studies.
Fall 2017 – Spring 2020	Arts & Sciences Committee on Faculty Awards, Prizes, and Professorships (CFAPP).
Fall 2013 – Spring 2016	Arts & Sciences Nominations and Elections Committee.
Fall 2014 –	Freshman Advisor

SERVICE and LEADERSHIP ACCOMPLISHMENTS since 2022

- **Department Chair (July 1, 2022 to now):** Lead overall department operations including including faculty and staff hiring with a commitment to faculty and staff success, departmental budget and space allocation, delivery and direction of the program including curricular oversight and continuous improvement, teaching assignments, teaching assistantship support, student issues, management of the shared governance structures (e.g., faculty committees), and stewardship of financial and personnel resources.

Scaled and positioned CS@W&M as a flagship unit: CS@W&M has currently the *largest* student population in the School of Computing, Data Sciences, and Physics (CDSP) and Arts & Sciences: 387 undergraduate students as of Spring 2025 and 141 graduate students as of Fall 2025, 32 faculty members, and 5 staff.

Strengthened departmental administrative structure. Restructured the departmental committee model. Redefined the internal leadership model to include an Associate Chair, and clarified responsibility-sharing for the undergraduate program among the Chair, Associate Chair, and Undergraduate Director.

- **Institution-building: School of Computing, Data Sciences, and Physics (CDSP).** (Approved by SCHEV in July 2024): Supported the Provost in developing the school by compiling/analyzing key data and presenting findings that supported the reasons for the creation of the new school: two presentations to Faculty Assembly (Fall 2022), one presentation to the Faculty of Arts & Sciences (Fall 2022), two town halls with students (Fall 2022). Member of the “Steering Committee for the Computing, Data Science and Applied Science Initiative” (Spring 2023) that created the report advocating the creation of the CDSP School.

- **W&M Cybersecurity Center:** Approved by the Provost in Spring 2024. Served on the Cybersecurity Steering Committee in Spring 2023 to explore the creation of joint degrees with Business and Law and options to obtain the designation of Center of Academic Excellence for Cyber-Defense and/or Cyber Research. Drafted with Chris Shenefiel the Center Proposal outlining its initial structure and finalized its director description. Adwait Nadkarni (Associate Prof. of Computer Science) was appointed as the inaugural center director by the Provost in Spring 2024. The Center already won the NSA designation of Center of Academic Excellence in Cyber Reseach (**CAE-R**) in November 2024, shortly after its launch.
- **Program Visibility and Rankings:** U.S. News & World Report Undergraduate CS Rankings (2026): the CS undergraduate program **rose 28 places to #54** (prior: #82 in 2023; #64 in 2025) among 584 ranked programs. Peer institutions at #54 include Michigan State, University of Arizona, Stony Brook, UC Riverside, Indiana University Bloomington, RIT, Tufts, and Rutgers. The undergraduate program is ranked #3 in Virginia (after Virginia Tech and UVA) and #35 among all public undergraduate programs.
- **Strategically Hired and Integrated Talent:** Hired 14 new faculty members (10 tenure track and 4 teaching track) since August 2022 (with Andreas Stathopoulos), bringing the size of the faculty to 32. **50%** of the new hires are women. During my tenure as chair, no faculty left CS@W&M while the faculty body **increased by 77%**. Successfully advocated for the hiring of a fourth staff member in the CS main office who started in Fall 2024.
- **Program Growth and Degree Development**
 - Re-instated the BA in Computer Science in Fall 2022 (with Peter Kemper).
 - Established a Bridge Program to MS in CS for non-CS majors (*new MS program*, with Denys Poshyvanyk and Pieter Peers), with external seed funding of \$70K (Fall 2022).
 - Two *new* undergraduate concentrations: a) in Cybersecurity and b) in AI/ML (with Kevin Coogan) in Fall 2023.
 - Two *new* MS concentrations: a) in Cybersecurity and b) in AI/ML (with Denys Poshyvanyk) in Fall 2023.
 - *New Interdisciplinary Minor* in AI (with Data Science) in Fall 2025.
 - *New Minor* in Cybersecurity (led by Matt Chapman and Adwait Nadkarni) in Spring 2026.
 - *New Interdisciplinary Minor* in AI Ethics (with Philosophy), Spring 2026. This interdisciplinary minor is in the last stages of its approval.
 - **Curricular modernization.** Led the department-wide initiative to integrate **AI across the CS curriculum** (Fall 2025–present; with Kevin Coogan and Tim Davis).
- **Fundraising and External Support**
 - Established the yearly “**Phil Kearns Award**” in Fall 2022 (with Advancement) for a graduating senior.
 - Fundraised with MS and PhD Alumni for the **First Graduate Recruitment Symposium** in Fall 2022.
 - Worked with G. Bullock (A&S Advancement) for the establishment of the yearly **Paparis Scholarship** (starting Fall 2022).

- Facilitated the inaugural “**Schmidt Family Distinguished Lecture Series**” (w/ D. Evtushkin) in Fall 2022. This series brought 15 distinguished speakers to CS@W&M to date and encouraged the donor to commit more funding to this endowment.
- Fundraised in Spring 2024 to establish the student-voted **Greatest of All Time (GOAT)**” CS Teacher Award and **Best TA of the Year**” Award, selected each spring by graduating seniors to honor the professor and TA with the greatest impact on their educational journey.
- Created the “**CS Student Success Fund**” (w/ Gerald Bullock, A&S Advancement) in Fall 2022. Fundraised with CISCO Systems and Northrop-Grumman to support student scholarships, the W&M student-run hackathon, and create a paid outreach program (after-school robotics club) of the W&M Society of Women in Computing. The afterschool robotics club now expanded to all Williamsburg-James City County middleschools and is starting its expansion to area elementary schools. Both companies provided support yearly since 2022.

- **Facilities and Infrastructure**

- Successfully advocated for sufficient space allocation and specialized labs in **ISC-4**, a new building that opened in **Spring 2026**, and led the department’s move into the building; CS received **50%** more square footage than originally planned.
- Advocated for the creation of a state-of-the-art, Data Center Facility in ISC-4 (with Jim Deverick) to consolidate CS and Data Science servers.

- **Undergraduate Program**

- **Expanded the undergraduate major.** Grew from **295 majors (May 2022)** to **392 majors (May 2024)** (+**33%** in two years), sustaining **387 majors (May 2025)**. Notably, more than **30%** of our undergraduate majors are women.
- **Program Employment Outcomes.** Showcased program success through annual employment outcomes reports for B.S. graduates, documenting strong placement and career trajectories that supported broader assessment and recruiting efforts.
- **Built recruiting and yield strategies** (with Vanessa Godwin, Kevin Coogan, and Tim Davis): enhanced CS presence at My First W&M Weekend and ensured at least one “Major Sign Up” event per semester.
- Fostered a strong partnership with the **Cohen Career Center** to support the student-run annual CS Hackathon, the yearly “Computer Science Night” with alumni, and created the inaugural employer-funded “Lunch and Learn” recruiting series in collaboration with Cohen.
- **Deepened student engagement and feedback loops.** Partnered with student organizations (ACM, Society of Women in Computing, Google Developers’ Club, Robotics Club, Game Developers’ Club, AI Club, and TribeCyber) and established the annual *Undergraduate Town Hall* with ACM to give a voice to students to express their concerns and priorities.
- **Faculty Advisor, Society of Women in Computing (W&M ACM-W Chapter), 10 years.** Sustained and supported a student organization dedicated to creating an inclusive and supportive environment for women in computing, contributing to the continued growth of women in CS at William & Mary. The club developed outreach to local middle schools and was recognized with ACM Student Chapter Excellence Awards for Outstanding Community Service in 2018, 2019, and 2023.

- **Graduate Program**

- **Expanded the graduate program.** Grew from **82** students (Spring 2022) to **141** (Fall 2025) (+**72%** increase).
- **Secured increased TA support.** Increased annual TA lines for CS from 12 (AY 2021–22) to 19 (AY 2022–23 and 2023–24) (+**58%**), and to 20 (AY 2025–26).
- **Created “teacher of record” opportunities** (starting Fall 2022): enabled graduate students to teach introductory undergraduate courses with compensation *in addition to* RA stipends.
- **Built a scalable recruiting engine.** Founded the annual **Graduate Recruiting Symposium** (with Adwait Nadkarni in 2022, Oscar Chaparro in 2023, Yifan Sun in 2024). Symposium impact: graduate applications tripled in 2025 compared to 2022.
- **Established graduate student voice and governance.** Partnered with the Graduate Student Association and launched an annual *Graduate Town Hall* for program feedback and continuous improvement.

- **Faculty and Staff Development and Recognition:**

- *Enhanced Compensation and Rewards:*
 - Successfully led the negotiation of performance-based raises for the CS **faculty** in Spring 2021 (with Michael Lewis and Andreas Stathopoulos) and negotiated continuous corrections for salaries of targeted faculty in 2023 and 2024 to reward scholarship excellence.
 - Successfully nominated Prof. Adwait Nadkarni for the *Class of 1953* Professorship in Fall 2022. Successfully nominated Prof. Gang Zhou for the *Class of 2027* Professorship in Fall 2023. Successfully nominated Prof. Bin Ren for the *Taggart* junior term associate professorship in Fall 2024.
 - Successfully achieved performance-based raises for all **staff**. Two of the main office staff members were promoted (Fall 2023 and Spring 2026). Successfully argued for a yearly bonus to CS staff for exceptional performance.
- *Facilitated Academic Advancement:*
 - Led (with Qun Li and Gang Zhou, Personnel Committee Chairs) successful promotion and tenure cases, as well as mid-tenure reviews.
- *Nurtured Emerging Leaders:*
 - Nominated department faculty members to CRA Career Development programs and staff members to similar career enhancement events.

- **Strategically engaged and communicated with key stakeholders**

- Restructured committee assignments for enhanced outcomes and visibility, including the formation of a committee (led by Gang Zhou) focused on Broadening Participation in Computing (BPC) that produced the departmental BPC plan approved by BPCnet in Fall 2022.
- *Strengthened CRA community engagement:*
 - Fostered connections with the **Computing Research Association (CRA)**, including participating as panelist at the New Chairs Workshop at Snowbird 2024. Panelist for “How to build your vision as CS chair”, attended by 50+ new CS chairs.
 - Participated in the 2024 and 2025 Congressional Day Visits to lobby with CRA for the NSF budget.

- *Established Yearly Alumni Events and Communication:*
 - Starting in Fall 2022, developed a series of yearly events and activities for alumni (with CS staff).
 - Created **Alumni Newsletters** sent out three times per year.
- *Showcased Achievements and Enhanced our Online Presence:*
 - Ensured that the departmental web page is up-to-date to highlight the variety and volume of the achievements of our alumni, students, faculty, and staff.
 - Created a LinkedIn CS@W&M Alumni and Student group (with Joe Hause).
- *Developed marketing materials*
 - Created new marketing materials including the yearly departmental page for CRA (2023, 2024, 2025).
 - Created (with faculty) one-page summaries of the various research strengths of the department (2024 – present).
 - Created the “departmental X-ray slide” that gives a bird’s eye view of the profile of the department.
 - Initiated the process of sending “postcards” to all CS chairs about CS@W&M faculty achievements in Fall 2025.

KEYNOTES

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| 2025 | 44th International Symposium on Reliable Distributed Systems, SRDS 2025
Porto, Portugal
Title: “Securing the Machine Learning Components of Autonomous Vehicles” |
| 2025 | 8th Workshop on Dependable and Secure Machine Learning (DSML 2025)
Naples, Italy
Title: “Securing the Machine Learning Components of Autonomous Vehicles” |
| 2023 | 53rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks, DSN 2023, Porto, Portugal
Title: “Queuing Theory for Performance and Reliability in the Era of ChatGPT: Simplifying Inherent Complexity” |
| 2022 | 5th Workshop on Hot Topics in Cloud Computing Performance (HotCloudPerf 2022), part of ICPE 2022
Title: “Serverless Machine Learning Serving for Scalable Workflows”. |
| 2021 | 1st International Workshop on Serverless Machine Learning for Intelligent and Scalable AI Workflow, part of IEEE BigData 2021
Title: “Machine learning inference serving on serverless platforms with adaptive batching”. |
| 2020 | 17th International Conference on Quantitative Evaluation of SysTems (QEST 2020), part of QONFEST 2020 (CONCUR-FMICS-FORMATS-QEST)
Title: “Machine Learning for Reliability Analysis of Large Scale Distributed Systems”. |
| 2019 | 10th ACM/SPEC International Conference on Performance Engineering (ICPE 2019), IIT-Bombay, Mumbai, India.
Title: “Practical Reliability Analysis of GPGPUs in the Wild: from Systems to Applications” |
| 2017 | PABS 2017 (ICPE 2017 Workshop), L’Aquila, Italy.
Title: “Powering the Service Responsiveness of Deep Neural Networks: How Queuing Models can Help”. |

RESEARCH FUNDING

- 2024 NSF, #2402942, Computing and Communication Foundations(SHF) Collaborative Research, Core Medium \$272,238, PI
“End-to-End Resilience in Autonomous Driving Systems: Strategic Vulnerability Assessment and Mitigation”
July 15, 2024 to June 30 2027.
- 2024 CCI: (HC-3Q24-047): Securing the Machine Learning Components of Autonomous Systems: Risk Assessment and Mitigation, \$100,000, PI
January 15 2024 – January 31, 2025
- 2023 Cisco Systems: From Vulnerability Reports to Exploits: Which Ones to Prioritize and Why \$75,000, co-PI
August 1, 2023 – July 29, 2024
- 2022 CCI: Developing Infrastructure for Advancing Research and Teaching in Security and Reliability, \$79,670, co-PI
January 1, 2022 – December 31, 2022
- 2021 CCI: C-Q122-WM-02: Toward Trustworthiness in Autonomous Vehicles \$150,000, PI
July 1, 2021 – June 30, 2022
- 2021 NSF, #IIS-2130681, Information & Intelligent Systems (IIS) \$205,708, PI
“EAGER: Epidemic Spread Modeling Using Hard Data”,
Oct. 1, 2021 – Sept. 30, 2023
- 2018 NSF, #IIS-1838022, Information & Intelligent Systems (IIS) \$357,987, PI
“BIGDATA: IA: Collaborative Research: Protecting Yourself from Wildfire Smoke: Big Data-Driven Adaptive Air Quality Prediction Methodologies”,
Jan. 1, 2019 to Dec. 31, 2021.
- 2017 NSF, #CCF-1717532, Computing and Communication Foundations \$449,999, co-PI
“SHF: Small: Enabling and Analyzing Accuracy-aware Reliable GPU Computing”,
Aug. 1, 2017 to July 31, 2020.
- 2016 NSF, #CCF-1649087, Computing and Communication Foundations \$299,994, PI
“EAGER: Using Machine Learning to Increase the Operational Efficiency of Large, Distributed Systems”
Sept. 1, 2016 to August 31, 2018.
- 2015 AWS (Amazon Web Services) in Education grant, \$6,000, PI
- 2012 NSF, #CCF-1218758, Computing and Communication Foundations \$490,816, PI
“SHF-Small: Robust Methodologies for Effective Data Center Management”,
June 1, 2012 to February 28, 2017.
- 2009 NSF, #CCF-0937925, Computing and Communication Foundations, (HECURA) \$700,000, co-PI
“Interleaving Workloads with Performance Guarantees on Storage Clusters”,
Sept. 1, 2009 to August 31, 2014.
- 2008 NSF, #CCF-0811417, Computing and Communication Foundations – Computing Processes and Artifacts, \$300,000, PI
“Effective Resource Allocation under Temporal Dependence”,
August 1, 2008 to July 31, 2011.
- 2007 NSF, #0720699, Computing Systems Research – Systems Modeling and Analysis Program, (CSR-SMA) \$200,000, PI
“Autocorrelated Flows in Systems: Analytic Models and Applications”
September 1, 2007 to August 31, 2010.
- 2007 HP Labs Gift, \$30,0000, PI
“A Practical Capacity Planning Framework for Multi-Tier Enterprise Services with Real Workloads”

- 2004 NSF, #0428330, Information Technology Research (ITR), \$413,941, PI
 “Reconfigurable, Data-driven Resource Allocation in Complex Systems: Practice and Theoretical Foundations”
 September 15, 2004 to August 31, 2008.
- 2001 NSF, #0090221, Advanced Computational Research Program, \$185,449, PI
 “Collaborative Research: Adaptive Data Parallel Storage”
 October 1, 2001 to September 30, 2005.
- 2001 NSF, #0098278, Operating Systems and Compilers Program, \$279,997), PI
 “Effective Techniques and Tools for Resource Management in Clustered Web Servers ”
 July 15, 2001 to June 30, 2005.
- 1999 NSF, #9974992, Next Generation Software Program, (NGS), \$350,000, PI
 “Coordinated Allocation of Processor and and I/O Resources in Parallel Systems”
 September 1, 1999 to February 29, 2004.
- 1999 NSF, #9977030, Major Research Instrumentation Grant, (MRI), \$461,820, co-PI
 “MRI: Acquisition of High Performance Clusters for Effective Parallel Computing in Computational Science Research and Education”
 August 15, 1999 to July 31, 2002 (multi-faculty grant).

SERVICE TO THE PROFESSION

Board of Directors

2011 – 2015 ACM SIGMETRICS, elected member, Spring 2011

Editorial Boards

- 2026 Special Issue Guest Editor (with L. Carnevali and P. Chen), *Performance Evaluation Journal*
 Special Issue on Artificial Intelligence for Performance and Reliability Evaluation of Software Systems.
- 2024 Special Issue Guest Editor (with A. Toosi, B. Javadi, A. Iosup, S. Dustdar),
 Future Generation Computer Systems
 Special Issue on Serverless Computing for Next-generation Application Development
- 2023 – Associate Editor, IEEE Transactions on Parallel and Distributed Systems
- 2023 – Associate Editor, IEEE Transactions on Computers
- 2019 – 2022 Associate Editor, IEEE Transactions of Dependable and Secure Computing
- 2018 – Senior Associate Editor, ACM Transactions on Modeling and Performance Evaluation of
 Computing Systems (ACM ToMPECS).
- 2018 Special Issue Editor (with Anne Koziolk) , ACM ToMPECS 3(2), 2018
 Selected Papers from the 8th ACM/SPEC International Conference on Performance Engineering (ICPE 2017).
- 2014 – 2017 Associate Editor, ACM Transactions on Modeling and Performance Evaluation of Computing Systems (ACM ToMPECS).
- 2003 – 2009 Editor, ACM SIGMETRICS Performance Evaluation Review (PER).

General Chair

- 2025 *ACM/SPEC International Conference on Performance Engineering (ICPE 2025)*
May 5-9, York University, Toronto, Canada. General co-Chair with Marin Litoiu.
- 2023 *ACM SIGMETRICS 2023*
June 19-23 2023, Orlando, FL (part of ACM FCRC 2023).
- 2010 *5th International Conference on Quantitative Evaluation of SysTems (QEST'10)*
September 2010, Williamsburg, VA. General co-Chair with Peter Kemper.
- 2010 *Numerical Solution of Markov Chains 2010 (NSMC'10)*
September 2010, Williamsburg, VA. General co-Chair with Peter Kemper.

Program Committee co-Chair

- 2021 *41st IEEE International Conference on Distributed Computing Systems, ICDCS 2021*
Program Vice-chair: Cloud Computing and Data Centers
July 2021, Washington, DC
- 2019 *28th International Symposium on High-Performance Parallel and Distributed Computing, HPDC 2019*
June 2019, Ploenix, AR, part of ACM FCRC 2019
- 2019 *38th IEEE International Symposium on Reliable Distributed Systems, SRDS 2019*
October 2019, Lyon, France.
- 2017 *47th IEEE/IFIP International Conference on Dependable Systems and Networks,*
June 2017, Denver, CO.
- 2017 *8th ACM/SPEC International Conference on Performance Engineering, ICPE 2017*
April 2017, L'Aquila, Italy.
- 2010 *ACM HotMetrics 2010 Workshop*
June 2010, New York, NY.
- 2006 *Joint ACM SIGMETRICS/IFIP W.G. 7.3 Performance 2006 Conference*
June 2006, Saint-Malo, France.
- 2005 *Second International Conference on Quantitative Evaluation of Systems*
QEST 2005, (former TOOLS, PNPM, and PAPM-ProbMIV)
September 2005, Torino, Italy.

Award Committees (outside William and Mary)

- 2026 Rising Star Award Committee, DSN 2026.
- 2026 2026 William C. Carter Ph.D. Dissertation Award on Dependability.
- 2025 Jean-Claulde Laprie Award in Dependability Selection Committee
- 2025 SIGMETRICS 2025 Best Paper Awards Committee
- 2022 Rising Star Award Committee, DSN 2022.
- 2021 2021 Kaivalya Dixit Distinguished Dissertation Award.
- 2021 2021 William C. Carter Ph.D. Dissertation Award on Dependability.
- 2021 Jean-Claude Laprie Award on Dependable Computing.
- 2020 Most Influential Paper award Committee for SEAMS 2006/2007.
- 2020 Most influential paper presented at the WOSP/SIPEW 2010 conference.
- 2020 Test of Time Award Committee, SIGMETRICS 2020.
- 2020 Rising Star Award Committee, DSN 2020.
- 2018 2018 Kaivalya Dixit Distinguished Dissertation Award, **Selection Committee Chair**
- 2013 Test of Time Award Committee, SIGMETRICS 2013.

Steering Committees

2025–	ACM/SPEC International Conference on Performance Engineering, ICPE
2025–	IEEE Dependable Systems and Networks, DSN
2019–	ACM International Symposium on High-Performance Parallel and Distributed Computing, HPDC
2018–2021	IEEE Dependable Systems and Networks, DSN
2010	QEST Conference (two year term as QEST'10 general co-chair), (www.qest.org).
2005	QEST Conference (three year term), elected September 2005, (www.qest.org).

Program Committee Member

2026	Sigmetrics 2026, EDCC 2026, MIDDLEWARE 2026, HPDC 2026, SAFECOMP 2026, SC 2026
2025	Sigmetrics 2025, DSN 2025, SAFECOMP 2025
2024	Sigmetrics/Performance 2024, ICPE 2024, SAFECOMP 2024, AppLied 2024, DSN-Disrupt 2024
2023	DSN 2023, ICPE 2023, WEPPE 2023, ValueTools 2023, MAMA 2023, AppLied 2023
2022	Sigmetrics 2022, DSN 2022, SEAMS 2022, ICPE 2022, MAMA 2022, UCC 2022
2021	ICPE 2021, Performance 2021, MAMA 2021, Sigmetrics 2021, UCC 2021, SEAMS 2021, DSN 2021
2020	ICPE 2020, Sigmetrics 2020, ValueTools 2020, ICDCS 2020, HPDC 2020, SEAMS 2020, Performance 2020, UCC 2020, MAMA 2020
2019	Sigmetrics 2019, DSN 2019, ICPE 2019, ValueTools 2019, ICDCS 2019, UCC 2019
2018	SIGMETRICS 2018, HPDC 2018, ICPE 2018, ICDCS 2018, CLOUD 2018, UCC 2018, E2DC'18, DIDL'18
2017	HPDC 2017, ICDCS 2017, ICAC 2017, CLOUD 2017, DIDL 2017, MWDS'17
2016	Supercomputing 2016, DSN 2016, ICPE 2016, IC2E 2016, QEST 2016, MAMA 2016
2015	DSN 2015, SIGMETRICS 2015, QEST 2015, ICSC 2015, Performance 2015, ICDCS 2015, MAMA 2015
2014	DSN 2014, SIGMETRICS 2014, QEST 2014, IWCA14, ICAC 2014, MOBIHOC 2014, Performance 2014, Inf-Q 2014, MAMA 2014
2013	SIGMETRICS 2013, DSN-PDS 2013, CC-Grid 2013, ICAC 2013, Performance 2013, Inf-Q 2013, MAMA 2013, Matrix Analytic Methods 2013
2012	Joint SIGMETRICS/Performance 2012, QEST 2012, ITC24, Inf-Q 2012, MAMA 2012
2011	ITC23, QEST'11, LSAP 2011, Performance 2011, Inf-Q 2011, MAM 2011, MAMA 2011
2010	DSN 2010, SIGMETRICS 2010, ICDCS 2010, Performance 2010, LSAP 2010, ITC22
2009	SIGMETRICS/Performance 2009, DSN 2009, ICPP 2009, ICPP-LBS'09, QTNS'04, Middleware'09 Doctoral Symposium,
2008	41st Annual Simulation Symposium, SIGMETRICS 2008, QEST 2008, MAMA 2008, HotMetrics 2008
2007	SMCtools'07, Performance 2007, 40th Annual Simulation Symposium, SIGMETRICS 2007, QEST 2007, MAMA 2007
2006	SMCTools'06, MAMA 2006, QEST 2006, Markov Anniversary Meeting, 3rd European Performance Engineering Workshop, 39th Annual Simulation Symposium
2005	Performance 2005, SIGMETRICS'05, Fifth International Conference on Matrix, Analytic Methods in Stochastic Models (MAM5), IPDPS International Workshop , on Parallel and Distributed Real-Time Systems (WPDRTS), 38th Annual Simulation Symposium
2004	QEST 2004, Joint <i>SIGMETRICS'04</i> and Performance'04, 37th Annual Simulation Symposium

- 2003 TOOLS 2003, 4th Meeting on the *Numerical Solution of Markov Chains*, SIGMETRICS'03, *Workshop on Parallel I/O in Cluster Computing and Comp. Grids*, 36th Annual Simulation Symposium
- 2002 Performance 2002
- 2001 Joint *SIGMETRICS'01* and Performance'01 Conference, 10th *Siam Conference on Parallel Processing for Scientific Computing*,
- 2000 *IPDS'00, International Computer Performance and Dependability Symposium*
- 1999 SIGMETRICS 1999
- 1997 ICDCS'97

Minisymposium Organizer

- 2007 “Numerical Solutions of Markov Chains: Techniques and Applications”
co-organizer with A. Stathopoulos,
ICIAM'07, Zurich, Switzerland, July 2007

Proceedings Chair

- 2013 *ICPE 2013*, Prague, Czech Republic, April 2013
- 2003 *SIGMETRICS'03*, June 2003, San Diego, CA.

Workshops and Tools Chair

- 2021 *Performance 2021, 39th International Symposium on Computer Performance, Modeling, Measurements and Evaluation 2021*,
October 2021, Milano, Italy.
- 1999 *ICATPN'99, 20th International Conference on Application and Theory of Petri Nets*,
June 1999, Williamsburg, VA.

PATENTS

- P1. A. Riska, N. Mi, E. Riedel, E. Smirni, “Data Storage Device with Histogram of Idle Time and Scheduling of Background and Foreground Jobs”, US patent 7,904,673, granted on March 11, 2011.

RESEARCH PUBLICATIONS

J. Articles in Refereed Journals

1. A. Schmedding, R. Pinciroli, L. Yang, and E. Smirni, “Epidemic Spread Modeling for COVID-19 Using Cross-Fertilization of Mobility Data”, in *IEEE Trans. Big Data* 9(5): 1260-1275 (2023), DOI:10.1109/TBDATA.2023.3248650.
2. R. Pinciroli, L. Yang, J. Alter and E. Smirni, ”Lifespan and Failures of SSDs and HDDs: Similarities, Differences, and Prediction Models,” in *IEEE Transactions on Dependable and Secure Computing*, 20(1): 256-272 (2023), DOI: 10.1109/TDSC.2021.3131571.
3. R. Pinciroli, A. Ali, F. Yan, E. Smirni, “CEDULE+: Resource Management for Burstable Cloud Instances Using Predictive Analytics”, in *IEEE Transactions on Network and Service Management*, 18(1): 945-957 (2021) DOI:10.1109/TNSM.2020.3039942
4. L. Yang, B. Nie, A. Jog, E. Smirni, “Practical Resilience Analysis of GPGPU Applications in the Presence of Single- and Multi-bit Faults”, in *IEEE Transactions on Computers*, 70(1): 30-44 (2021) DOI:10.1109/TC.2020.2980541

5. F. Yan, Y. He, O. Ruwase, E. Smirni, "Efficient Deep Neural Network Serving: Fast and Furious", in *IEEE Transactions on Network and Service Management (TNSM)*, 15(1): 39-52 (2018).
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OJ. Articles in Other Journals

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B. Book Chapters

1. N. Herbst, S. Becker, S. Kounev, H. Koziolk, M. Maggio, A. Milenkoski, Evgenia Smirni, "Metrics and Benchmarks for Self-aware Computing Systems", *Self-Aware Computing Systems 2017*, *Springer International Publishing*, pp. 437-464.
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6. E. Smirni, R.A. Aydt, A.A. Chien, and D.A. Reed, “I/O Requirements of Scientific Applications: An Evolutionary View”, *High Performance Mass Storage and Parallel I/O: Technologies and Applications*, pp. 576-595, Ch. 40, T. Cortes, H. Jin, and R. Buyya, (editors), IEEE and Wiley Press, ISBN: 0-471-20809-4, New York, USA, 2001. **Invited Chapter.**

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C. Refereed Conference Publications

(Acceptance rates are provided when known.)

1. Y. Lu, J. Ren, E. Smirni: “Mantis:Decoding HPC Telemetry Data for Robust System Prediction”, In Proceedings of the 40th ACM International Conference on Supercomputing (ICS 2026), ICS 2026, Belfast, Ireland, July 2026 (*to appear*).
2. B. Sun, C. D. Antonopoulos, E. Smirni, B. Ren, N. Bellas, S. Lalis: “Green or Fast? Learning to Balance Cold Starts and Idle Carbon in Serverless Computing”, In Proceedings of the 26th IEEE International Symposium on Cluster, Cloud, and Internet Computing (CCGrid 2026), Sydney Australia, June 2026 (*to appear*). Acceptance Rate: 25%.
3. J. Guan, Z. Hu, C. D. Antonopoulos, N. Bellas, S. Lalis, E. Smirni, G. Zhou, G. Agrawal, B. Ren: “TMMModel: Modeling Texture Memory and Mobile GPU Performance to Accelerate DNN Computations”, In Proceedings of the 39th ACM International Conference on Supercomputing (ICS 2025), ICS 2025: 205-220. Acceptance Rate: 26%.
4. B. Sun, R. Pincioli, G. Casale, E. Smirni: “DeepBAT: Performance and Cost Optimization of Serverless Inference Using Transformers”, 39th IEEE International Parallel & Distributed Processing Symposium (IPDPS’25), IPDPS 2025: 335-346. Acceptance Rate: 24.6%.
5. C. Chen, G. Xiao, D. Lee, L. Yang, E. Smirni, H. Alemzadeh, X. Zhou: Safety Interventions against Adversarial Patches in an Open-Source Driver Assistance System, DSN 2025: 599-608. Acceptance Rate 20.2%.
6. A. Schmedding, L. Yang, A. Jog, and E. Smirni: “Aspis: Lightweight NN Protection Against Soft Errors”, in Proceedings of the 35th IEEE International Symposium on Software Reliability Engineering (ISSRE 2024): 248-259. Acceptance Rate 26%.
7. A. Schmedding, P. Schowitz, X. Zhou, Y. Lu, L. Yang, H. Alemzadeh, E. Smirni: “Strategic Resilience Evaluation of Neural Networks Within Autonomous Vehicle Software”, in Proceedings of the 43rd International Conference on Computer Safety, Reliability, and Security (SAFECOMP 2024): 33-48. Acceptance rate: 23.75%.
8. L. Yang, G. Papadimitriou, D. Sartzetakis, A. Jog, E. Smirni, D. Gizopoulos: “GPU Reliability Assessment: Insights Across the Abstraction Layers”, in Proceedings of the 26th IEEE International Conference on Cluster Computing (CLUSTER 2024), pp. 1–12. Acceptance rate: 26.8%.

9. V. Oles, A. Schmedding, G. Ostrouchov, W. Shin, E. Smirni, and C. Engelmann: “Understanding GPU Memory Corruption at Extreme Scale: The Summit Case Study”, In Proceedings of the 38th ACM International Conference on Supercomputing (ICS 2024), Kyoto, Japan, June 4-7, 2024, ICS 2024: 188–200.
10. A. Ali, R. Pincioli, F. Yan, E. Smirni: “Optimizing Inference Serving on Serverless Platforms”, Proc. VLDB Endow. 15(10): 2071-2084 (2022)
11. A. Schmedding, L. Yang, R. Pincioli, E. Smirni, “GeoSpread: an Epidemic Spread Modeling Tool for COVID-19 Using Mobility Data”, GoodIT 2022: 125-131
12. X. Zhou, A. Schmedding, H. Ren, L. Yang, P. Schowitz, E. Smirni, H. Alemzadeh, “Strategic Safety-Critical Attacks against an Advanced Driver Assistance System”, DSN 2022, Baltimore, MD, June 2022, pp. 79-87. Acceptance Rate: 18.7%.
13. G. Kadam, E. Smirni, A. Jog, “Data-centric Reliability Management on GPUs.”, in Proceedings of the 51th IEEE/IFIP International Conference on Dependable Systems and Networks, DSN 2021, (Taipei, Taiwan, online event), June 2021. Acceptance Rate: 16.5%.
14. L. Yang, B. Nie, A. Jog, and E. Smirni, “SUGAR: Speeding-up GPGPU Application Resilience Estimation with Input Sizing”, Proceedings of the ACM on Measurement and Analysis of Computing Systems, 5(1) (2021): 1–29. (SIGMETRICS 2021, Fall Deadline, Acceptance Rate: 12%), DOI:doi.org/10.1145/3447375
15. L. Yang, B. Nie, A. Jog, and E. Smirni, “Enabling Software Resilience in GPGPU Applications via Partial Thread Protection”, in ICSE 2021: 1248-1259, Acceptance Rate: 23%.
16. A. Ali, R. Pincioli, F. Yang, E. Smirni: “BATCH: Machine Learning Inference Serving on Serverless Platforms with Adaptive Batching”, in Proceedings of Supercomputing 2020, Atlanta, GA, November 2020, SC 2020: 69:1-69:15, Acceptance Rate: 25%.
17. B. Nie, J. Xu, J. Alter, H. Chen, E. Smirni: “Mining Multivariate Discrete Event Sequences for Knowledge Discovery and Anomaly Detection”, in Proceedings of the 50th IEEE/IFIP International Conference on Dependable Systems and Networks, DSN 2020: 552-563, Valencia, Spain, June 2020. Acceptance Rate: 16.5%.
18. B. Nie, A. Jog, E. Smirni: “Characterizing Accuracy-Aware Resilience of GPGPU Applications”, in Proceedings of the 20th IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing, CCGrid 2020:111-120. Melbourne, Australia, May 2020. Acceptance Rate: 28%.
19. A. Ali, R. Pincioli, F. Yan, E. Smirni: “It’s not a Sprint, it’s a Marathon: Stretching Multi-resource Burstable Performance in Public Clouds.” Middleware 2019: 36-42
20. J. Alter, J. Xu, A. Riska, E. Smirni, “SSD Failures in the Field: Symptoms, Causes, and Prediction Models”, in Proceedings of Supercomputing 2019, Denver, CO, November 2019, pp.75:1-75:14. Acceptance Rate: 20%.
21. B. Nie, L. Yang, A. Jog, E. Smirni, “Error Site Pruning for Practical Reliability Analysis of GPGPU Applications”, in Proceedings of the 51st Annual IEEE/ACM International Symposium on Microarchitecture, MICRO 2018, Fukuoka City, Japan, October 2018, pp. 749-761. Acceptance Rate: 21%.
22. A. Ali, R. Pincioli, F. Yan, E. Smirni, “CEDULE: A Scheduling Framework for Burstable Performance in Cloud Computing”, in Proceedings of the 15th IEEE International Conference on Autonomic Computing (ICAC 2018), Trento, Italy, September 2018, pp. 141-150.

23. B. Nie, J. Xue, S. Gupta, T. Patel, C. Engelmann, E. Smirni, D. Tiwari, "Machine Learning Models for GPU Error Prediction in a Large Scale HPC System", in Proceedings of the 48th International Conference on Dependable Systems and Networks (DSN), Luxembourg City, Luxembourg, June 2018, pp. 96-106. Acceptance rate: 25%.
24. L. Yang, L. Cherkasova, R. Badgajar, J. Blancaflor, R. Konde, J. Mills, E. Smirni: "Evaluating Scalability and Performance of a Security Management Solution in Large Virtualized Environments", in Proceedings of the 2018 ACM/SPEC International Conference on Performance Engineering, ICPE 2018, Berlin, Germany, April 09-13, 2018, ICPE 2018, pp. 168-175.
25. J. Xue, B. Nie, E. Smirni, "Fill-in the Gaps: Spatial-Temporal Models for Missing Data", in Proceedings of the 13th International Conference on Network and Service Management (CNSM 2017), Tokyo, Japan, November, 2017, pp. 1-9. Acceptance Rate: 17%.
26. F. Yan, L. Ren, D. J. Dubois, G. Casale, J. Wen, E. Smirni, "How to Supercharge the Amazon T2: Observations and Suggestions", in Proceedings of the *IEEE CLOUD 2017*, Honolulu, HI, USA, June 2017, pp. 278-285. Acceptance Rate: 18%.
27. B. Nie, J. Xue, S. Gupta, C. Engelmann, E. Smirni, D. Tiwari, "Characterizing Temperature, Power, and Soft-Error Behaviors in Data Center Systems: Insights, Challenges, and Opportunities", in Proceedings of the *2017 IEEE 25th International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS)*, Banff, Canada, September 2017, pp: 22-31. Acceptance Rate: 30%.
28. F. Yan, Y. He, O. Ruwase, E. Smirni, "SERF: Efficient Scheduling for Fast Deep Neural Network Serving via Judicious Parallelism", in Proceedings of the *International Conference for High Performance Computing, Networking, Storage and Analysis (SC 2016)*, Salt Lake City, USA, Nov, 2016, pp. 26. Acceptance rate: 18.4%.
29. J. Xue, R. Birke, L. Y. Chen, E. Smirni, "Tale of Tails: Anomaly Avoidance in Data Centers", in Proceedings of the *35th IEEE Symposium on Reliable Distributed Systems (SRDS)*, Budapest, Hungary, September 2016, pp. 91-100.
30. J. Xue, R. Birke, L. Chen, E. Smirni, "Managing Data Center Tickets: Prediction and Active Sizing", in Proceedings the *46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)*, Toulouse, France, June 2016, pp. 335-346. Acceptance Rate 22%.
31. F. Yan and E. Smirni, "Workload Interleaving with Performance Guarantees in Data Centers", in Proceedings of the *IEEE/IFIP Network Operations and Management Symposium (NOMS 2016)*, Istanbul, Turkey, April 2016, pp. 967-972.
32. B. Nie, D. Tiwari, S. Gupta, E. Smirni, J. H. Rogers, "A Large-Scale Study of Soft-Errors on GPUs in the Field", in Proceedings of the *22nd IEEE Symposium on High Performance Computer Architecture (HPCA 2016)*, Barcelona, Spain, March 2016, pp. 519-530. Acceptance Rate 22%.
33. S. Hao, H. Wang, A. Stavrou, E. Smirni, "On the DNS Deployment of Modern Web Services", in Proceedings of the *23rd of the IEEE International Conference on Network Protocols (ICNP 2015)*, San Francisco, CA, November 2015, pp. 100-110 **Best Paper Finalist**. Acceptance Rate 20.3%.
34. J. Xue, F. Yan, R. Birke, L. Y. Chen, T. Scherer, E. Smirni, "PRACTISE: Robust Prediction of Data Center Time Series," in Proceedings of the *11th International Conference on*

- Network and Service Management (CNSM 15)*, 126-134, Barcelona, Spain, November, 2015, pp. 126-134. Acceptance Rate 17.6%.
35. J. Xue, F. Yan, A. Riska, E. Smirni, “Proactive Management of Systems via Hybrid Analytic Techniques”, in *Proceedings of the 2015 IEEE International Conference on Cloud and Autonomic Computing (ICCAC 2015)*, pp. 137-148, IEEE Press, Cambridge, MA, September, 2015. (Acceptance Rate: 33%).
 36. J. Wen, L. Lu, G. Casale, E. Smirni, “Less can be More: micro-Managing VMs in Amazon EC2”, in *Proceedings of the 8th IEEE International Conference on Cloud Computing (IEEE CLOUD 2015)*, New York, NY, USA, June, 2015, pp. 317-324. Acceptance rate: 17%. **Best Paper Award**.
 37. J. Xue, F. Yan, A. Riska, E. Smirni, “Storage Workload Isolation via Tier Warming: How Models Can Help”, *11th International Conference on Autonomic Computing, ICAC '14*, pp.1-11, Philadelphia, PA, USA, June 18-20, 2014, Acceptance Rate: 22.6%.
 38. F. Yan, L. Cherkasova, Z. Zhang, and E. Smirni, “Optimizing Power and Performance Trade-offs of MapReduce Job Processing with Heterogeneous Multi-Core Processors”, in *Proceedings of the 7th IEEE International Conference on Cloud Computing (IEEE CLOUD 2014)*, pp. 240-247, Alaska, USA, June, 2014, Acceptance rate: 20%.
 39. F. Yan, S. Hughes, A. Riska, and E. Smirni, “Agile Middleware for Scheduling: Meeting Competing Performance Requirements of Diverse Tasks”, in *Proceedings of the 5th ACM/SPEC International Conference in Performance Engineering (ICPE 2014)*, Dublin, Ireland, March, 2014, pp. 185-196. Acceptance rate: 30%.
 40. R. Birke, M. Bjoerkqvist, L. Y. Chen, E. Smirni, T. Engbersen, “(Big)Data in a Virtualized World: Volume, Velocity, and Variety in Cloud Datacenters”, *12th USENIX Conference on File and Storage Technologies (FAST '14)*, pp. 177-189, February 2014, Santa Clara, CA. Acceptance rate: 18%.
 41. L. Lu, X. Zhu, R. Griffith, P. Padala, A. Parosh, P. Shah, and E. Smirni, “Application-Driven Dynamic Vertical Scaling of Virtual Machines in Resource Pools”, in *the IEEE/IFIP Network Operations and Management Symposium, NOMS 2014*, pp. 1-9, May 2014, Krakow, Poland. Acceptance Rate: 29%
 42. R. Birke, L. Y. Chen, and E. Smirni, “Multi-Resource (In)dependency in Production Datacenters”, in *the IEEE/IFIP Network Operations and Management Symposium, NOMS 2014*, pp. 1-6, May 2014, Krakow, Poland.
 43. L. Lu and E. Smirni, “Effective Resource and Workload Management in Data Centers”, in *the IEEE/IFIP Network Operations and Management Symposium, NOMS 2014*, pp. 1-7, May 2014, Krakow, Poland. (Dissertation Paper).
 44. F. Yan, S. Hughes, A. Riska, and E. Smirni, “Overcoming Limitations of Off-the-shelf Priority Schedulers in Dynamic Environments”, in *Proceedings of IEEE 21st International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS 2013)*, San Fransisco, CA, August 2013, pp. 505-514. Acceptance rate: 27%.
 45. L. Lu, H. Zhang, E. Smirni, G. Jiang, and K. Yoshihira, “Predictive VM Consolidation on Multiple Resources: Beyond Load Balancing”, in *Proceedings of the 2013 the IEEE/ACM IWQoS Symposium (IWQoS 2013)*, Montreal, Canada, June 2013, pp. 83-92. Acceptance rate: 28%.

46. R. Birke, A. Podzimek, L. Chen, and E. Smirni, "State-of-the-Practice in Data Center Virtualization: Towards a Better Understanding of VM Consolidation", in *Proceedings of the 43rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2013)*, Budapest, Hungary, June 2013, pp. 1-12. Acceptance rate: 19%.
47. S. Spicuglia, M. Bjoerkqvist, L. Y. Chen, G. Serazzi, W. Binder, and E. Smirni, "On Load Balancing: A Mix-aware Algorithm for Heterogeneous Systems", in *Proceedings of the 4th ACM/SPEC International Conference on Performance Engineering (ICPE 2013)*, Prague, Czech Republic, April 2013, pp. 71-76.
48. F. Yan, X. Mountrouidou, A. Riska, E. Smirni, "Quantitative Estimation of the Performance Delay with Propagation Effects in Disk Power Savings", in *HotPower 2012 (in conjunction with OSDI 2012)*, Hollywood, CA, October, 2012. Acceptance rate: 25%.
49. R. Birke, L.Y. Chen, E. Smirni, "Usage Patterns in Multi-Tenant Data Centers: a Temporal Perspective", in *Proceedings of ICAC 2012*, San Jose, CA, September 2012, pp. 161-166. Acceptance Rate: 24%
50. F. Yan, A. Riska, E. Smirni, "Toward Fast Eventual Consistency with Performance Guarantees", in *Proceedings of ICAC 2012*, San Jose, CA, September 2012, pp. 167-171. Acceptance Rate: 24%
51. D. Ansaloni, L. Y. Chen, E. Smirni, W. Binder, "Model-Driven Consolidation of Java Workloads on Multicores", in *Proceedings of the 42nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2012)*, Boston, MA, June 2012. Acceptance rate 17%.
52. L. Y. Chen, D. Ansaloni, E. Smirni, A. Yokokawa, W. Binder, "Achieving application-centric performance targets via consolidation on multicores: myth or reality?", in *Proceedings of HPDC 2012*, Delft, the Netherlands, June 2012, pp. 37-48. Acceptance Rate 16%.
53. R. Birke, L. Y. Chen, E. Smirni, "Data Centers in the Cloud: A Large Scale Performance Study", in *Proceedings of IEEE CLOUD 2012, 5th International Conference on Cloud Computing*, Research Track, June 2012, Honolulu, Hawaii, pp. 336-343. Acceptance Rate 18%.
54. F. Yan, A. Riska, E. Smirni, "Fast Eventual Consistency with Performance Guarantees for Distributed Storage", in *Proceedings of DCPperf (Data Center Performance) Workshop, in conjunction with ICDCS 2012*, Macau, China, June 2012, pp. 23-28. Invited Paper.
55. F. Yan, A. Riska, E. Smirni, "Busy bee: how to use traffic information for better scheduling of background tasks", in *Proceedings of ICPE 2012*, Boston, MA, April 2012, pp. 145-156. Acceptance Rate 28%.
56. G. Casale, E. Smirni, "KPC-toolbox: fitting Markovian arrival processes and phase-type distributions with MATLAB", *SIGMETRICS Performance Evaluation Review* 39(4): 47 (2012), appeared in *Matrix Analytic Methods 7*, New York, NY, June 2011.
57. F. Yan, X. Mountrouidou, A. Riska, E. Smirni, "Copy rate synchronization with performance guarantees for work consolidation in storage clusters", *SIGMETRICS Performance Evaluation Review* 39(3): 82-86 (2011), San Jose, CA, June 2011, appeared in *GreenMetrics 2011*.
58. F. Yan, X. Mountrouidou, A. Riska, and E. Smirni, "Toward Automating Work Consolidation in Storage Clusters with Performance Guarantees", in *Proceedings of the 19th ACM/IEEE International Symposium on Modeling, Analysis, and Simulation of Computer*

- and *Telecommunication Systems (MASCOTS 2011)*, Singapore, IEEE Press, July 2011, pp. 326–335. Acceptance rate 26%.
59. X. Mountrouidou, A. Riska, and E. Smirni, “Saving Power without Compromising Disk Drive Reliability”, *ERSS: Workshop on Energy Consumption and Reliability of Storage Systems*, part of International Green Computing Conference, Orlando, FL., June 2011, pp. 1–6.
 60. L. Lu, H. Zhang, G. Jiang, H. Chen, K. Yoshihira, and E. Smirni, “Untangling Mixed Information to Calibrate Resource Utilization in Virtual Machines” , in *Proceedings of the 8th International Conference on Autonomic Computing (ICAC 2011)*, Karlsruhe, Germany, June 2011, pp. 151 – 160. Acceptance rate 22%.
 61. V. De Nitto Persone, G. Casale, and E. Smirni, “Approximate Analysis of Blocking Queueing Networks with Temporal Dependence” , in *Proceedings of the 41st IEEE/IFIP International Conference on Dependable Systems and Networks (DSN’11) (PDS track)*, Hong Kong, June 2011, pp. 574 – 585. Acceptance rate 17%.
 62. X. Mountrouidou, A. Riska, E. Smirni, “Adaptive Workload Shaping for Power Savings on Disk Drives” , in *Proceedings of the 2nd ACM/SPEC International Conference in Performance Engineering (WOSP/SIPEW 2011)*, Karlsruhe, Germany, March 2011, pp. 109 – 120. Acceptance rate 30%.
 63. A. Caniff, L. Lu, N. Mi, L. Cherkasova, and E. Smirni, “Fastrack for Taming Burstiness and Saving Power in Multi-Tiered Systems”, in *Proceedings of the 22nd International Teletraffic Congress (ITC22)*, Amsterdam, the Netherlands, September 2010, **Best Student Paper Award**. Acceptance Rate: 30%.
 64. L. Lu, L. Cherkasova, V. de Nitto Persone, N. Mi, and E. Smirni, “AWAIT: Efficient Overload Management for Busy Multi-tier Web Services under Bursty Workloads” , in *Proceedings of the 10th International Conference on Web Engineering (ICWE 2010)*, Vienna, Austria, July 2010, Lecture Notes in Computer Science 6189 Springer, pp. 81 – 97. Acceptance Rate: 20%.
 65. A. Riska and E. Smirni, “Autonomic Exploration of Trade-offs between Power and Performance in Disk Drives”, in *Proceedings of the International Conference on Autonomic Computing and Communications (ICAC’10)*, Washington, D.C., June 2010, pp. 131–140. Acceptance Rate: 25%.
 66. G. Casale, N. Mi, and E. Smirni, “CWS: a Model-Driven Scheduling Policy for Correlated Workloads”, in *Proceedings of ACM SIGMETRICS 2010*, June 2010, pp. 251–262. Acceptance Rate: 16%.
 67. N. Mi, G. Casale, A. Riska, Q. Zhang, and E. Smirni, ”Autocorrelation-Driven Load Control in Distributed Systems” in *Proceedings of MASCOTS’09*, London, U.K., IEEE Press, September 2009, pp. 269–278. Acceptance Rate: 20%.
 68. Q. Zhang, A. Heindl, A. Stathopoulos, and E. Smirni, “Comparison of two output models for the BMAP/MAP/1 departure process”, in *Proceedings of QEST’09*, Budapest, Hungary, September 2009, pp. 143–154.
 69. N. Mi, A. Riska, X. Li, E. Smirni, and E. Riedel, “Restrained Utilization of Idleness for Transparent Scheduling of Background Tasks”, in *Proceedings of the Joint 2009 ACM SIGMETRICS/Performance Conference*, Seattle, WA, June 2009, 205-216. Acceptance Rate: 15%.

70. A. Riska, N. Mi, G. Casale, and E. Smirni, "Feasibility Regions: Exploiting Trade-offs between Power and Performance in Disk Drives", HotMetrics'09, Seattle, WA, June 2009, *ACM Performance Evaluation Review*, Vol. 37 (3), pp. 43–48.
71. N. Mi, G. Casale, L. Cherkasova, and E. Smirni, "Injecting Realistic Burstiness to a Traditional Client-Server Benchmark", in *Proceedings of the International Conference on Autonomous Computing and Communications (ICAC'09)*, Barcelona, Spain, 2009, pp. 149-158. Acceptance Rate: 15%.
72. G. Casale and E. Smirni, "MAP-AMVA: Approximate Mean Value Analysis of Bursty Systems", in *Proceedings of the International Conference on Dependable Systems and Networks (DSN'09)*, Lisbon, Portugal, July 2009. Acceptance Rate: 25%.
73. N. Mi, G. Casale, L. Cherkasova, and E. Smirni, "Burstiness in Multi-Tier Applications: Symptoms, Causes, and New Models", *Middleware 2008*, Leuven, Belgium, December 2008, Lecture Notes in Computer Science, Volume 5346, pp. 265-286, Springer Berlin / Heidelberg, 2008. Acceptance Rate: 17%. **Best Paper Award.**
74. G. Casale, E. Z. Zhang, and E. Smirni, "KPC Toolbox: Simple Fitting Using Markovian Arrival Processes", in *Proceedings of the 5th International Conf. on Quantitative Evaluation of Systems (QEST 2008)*, pp. 83–92, St.Malo, France, IEEE Press, September 2008. **Best Student Paper Award.**
75. G. Casale, N. Mi, L. Cherkasova, and E. Smirni, "How to Parameterize Models with Bursty Workloads", HotMetrics'08, Annapolis, MD, June 2008, *Performance Evaluation Review*, Vol. 36(2), pp. 38–44. Acceptance Rate: 27%.
76. N. Mi, G. Casale, and E. Smirni, "Scheduling for Performance and Availability in Systems with Temporal Dependent Workloads", in *Proceedings of the International Conference on Dependable Systems and Networks (DSN'08)*, Anchorage, AK, 2008, pp. 336-345. Acceptance Rate: 26%.
77. N. Mi, A. Riska, E. Smirni, and Erik Riedel, "Enhancing Data Availability through Background Activities", in *Proceedings of the International Conference on Dependable Systems and Networks (DSN'08)*, Anchorage, AK, 2008, pp. 492-501. Acceptance Rate: 26%.
78. L. Cherkasova, K. Ozonat, N. Mi, J. Symons, and E. Smirni, "Anomaly? Application Change? or Workload Change?", in *Proceedings of the International Conference on Dependable Systems and Networks (DSN'08)*, Anchorage, AK, 2008, pp. 452-461. Acceptance Rate: 26%.
79. G. Casale, N. Mi, and E. Smirni, "Bound Analysis of Closed Queueing Networks with Nonrenewal Service", in *Proceedings of ACM SIGMETRICS'08*, Annapolis, MD, June 2008, pp. 13-24. Acceptance Rate: 18%.
80. N. Mi, L. Cherkasova, K. Ozonat, J. Symons, and E. Smirni, "Analysis of Application Performance and Its Change via Representative Application Signatures", in *Proceedings of the IEEE/IFIP Network Operations and Management Symposium (NOMS'08)*, Salvador-Bahia, Brazil, April 2008. Acceptance Rate: 27%.
81. Q. Zhang, L. Cherkasova, G. Mathews, W. Greene, E. Smirni, "R-Capriccio: A Capacity Planning and Anomaly Detection Tool for Enterprise Services with Live Workloads", *Middleware 2007*, Newport Beach, CA, Lecture Notes in Computer Science, Vol. (4834), Nov. 2007, pp. 244-265. Acceptance Rate: 20%.

82. Q. Zhang, L. Cherkasova, and E. Smirni, "A Regression-Based Analytic Model for Dynamic Resource Provisioning of Multi-Tier Applications", in *Proc. of the 4th IEEE International Conference on Autonomic Computing (ICAC'2007)*, Jacksonville, Florida, USA, June 2007, pp. 27. Acceptance Rate: 14%.
83. N. Mi, Q. Zhang, A. Riska, and E. Smirni, "Load Balancing for Performance Differentiation in Dual-Priority Clustered Servers", in *Proceedings of the third International Conference on Quantitative Analysis of Systems (QEST 2006)*, Riverside, CA, September 2006, pp. 385–394.
84. Q. Zhang, A. Riska, N. Mi, E. Riedel and E. Smirni, "Evaluating the Performability of Systems with Background Jobs", in *Proceedings of the International Conference on Dependable Systems and Networks (DSN'06) – PDS track*, Philadelphia, PA, June 2006, pp. 495–504. Acceptance Rate: 18%.
85. Q. Zhang, N. Mi, A. Riska and E. Smirni, "Load Unbalancing to Improve Performance under Autocorrelated Traffic", in *Proceedings of the 26th International Conference on Distributed Computing Systems (ICDCS2006)*, Lisboa, Portugal, July 2006, pp. 20 (CD-ROM). Acceptance Rate: 13.8%.
86. Q. Zhang, L. Cherkasova, and E. Smirni, "FlexSplit: A Workload-Aware, Adaptive Load Balancing Strategy for Media Clusters", in *Proceedings of Multimedia Computing and Networking 2006 (MMCN'06)*, January 2006 (CD-ROM).
87. B. Lawson and E. Smirni, "Power-aware Resource Allocation in High-end Systems via Online Simulation", in *Proceedings of the 19th ACM International Conference on Supercomputing (ICS'05)*, Cambridge, MA, June 2005, pp. 229–238. Acceptance Rate: 27.6%.
88. B. Lawson and E. Smirni, "Self-Adaptive Scheduler Parameterization via Online Simulation", in *Proceedings of the 19th IEEE International Parallel and Distributed Processing Symposium (IPDPS'05)*, Denver, CO, April 2005. Acceptance Rate: 33.5%.
89. Q. Zhang, A. Riska, E. Riedel, and E. Smirni, "Bottlenecks and their Performance Implications in E-Commerce Systems", in *Proceedings of the 9th International Workshop on Web Content Caching and Distribution (WCW2004)*, Beijing, China, Oct. 2004, C.-H. Chi, M. van Steen, and Craig Wills (eds), Springer-Verlag, Lecture Notes in Computer Science (3293), pp. 273–282.
90. A. Heindl, Q. Zhang, and E. Smirni, "ETAQA truncation models for the MAP/MAP/1 departure process", in *Proceedings of the 1st International Conference on Quantitative Evaluation of Systems (QEST'04) 2004*, Enschede, Netherlands, Sept. 2004, pp. 90-99. Acceptance Rate: 35%.
91. Q. Zhang, E. Smirni, and G. Ciardo, "Profit-driven service differentiation in transient environments", in *Proceedings of the 11th ACM/IEEE International Symposium on Modeling, Analysis, and Simulation of Computer and Telecommunication Systems (MASCOTS 2003)*, Orlando, FL, Oct. 2003, pp. 230–233.
92. A. Riska, V. Diev, and E. Smirni, "Efficient fitting of long-tailed data sets into hyperexponential distributions", Internet Performance Symposium, IEEE GlobeCom 2002, November 2002, Taipei, Taiwan. Paper selected as one of the **Best Papers** of the GlobeCom 2002 Internet Performance Symposium.
93. B. Lawson, E. Smirni, and D. Puiu, "Self-adapting Backfilling Scheduling for Parallel Systems", in *Proceedings of the 2002 International Conference on Parallel Processing (ICPP 2002)*, Vancouver, B.C. Canada, Aug. 2002, pp. 583-592. Acceptance Rate: 35.6%.

94. B. Lawson, E. Smirni, "Multiple-queue Backfilling Scheduling with Priorities and Reservations for Parallel Systems", in *Proceedings of the 8th Workshop on Job Scheduling Strategies for Parallel Processing*, Edinburgh, Scotland, July 2002, D. G. Feitelson et al. (eds), Springer-Verlag, Lecture Notes in Computer Science (2537), pp. 72-87.
95. A. Riska, W. Sun, E. Smirni, G. Ciardo, "AdaptLoad: effective balancing in clustered web servers under transient load conditions", *22nd International Conference on Distributed Computing Systems*, (ICDCS 2002), Vienna, Austria, July 2002, pp. 104-111. Acceptance Rate: 18%.
96. A. Riska and E. Smirni, "M/G/1-Aggregate: exact solution of M/G/1-type Markov processes by aggregation", in *Proceedings of the 2002 ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, Marina Del Rey, CA, June 2002, pp. 86-98. Acceptance Rate: 13.5%.
97. A. Riska, E. Smirni, "MAMSolver: A matrix-analytic methods tool", *12th International Conference on Modeling Tools and Techniques for Computer and Communication System Performance Evaluation*, (TOOLS 2002), London, U.K., April 2002, T. Field et al.(eds), Springer-Verlag, Lecture Notes in Computer Science (2324), pp. 205-211.
98. R. T. Mills, A. Stathopoulos, E. Smirni, "Algorithmic modifications to the Jacobi-Davidson parallel eigensolver to dynamically balance external CPU and memory load" in *Proceedings of the ACM International Conference on Supercomputing 2001*, Sorrento, Italy, June 2001, pp. 454-463 Acceptance Rate: 34%.
99. A. Riska, E. Smirni, G. Ciardo, "Analytic modeling of load balancing policies for tasks with heavy-tailed distributions", in *Proceedings of the 2000 ACM Workshop on Software and Performance, WOSP 2000*, pp. 147-157, Ottawa, Canada, September 2000.
100. G. Ciardo, A. Riska, E. Smirni, "An aggregation-based solution method for M/G/1-type processes" *3rd International Meeting on Numerical Solutions of Markov Chains NSMC'99*, Sept. 1999, Zaragoza, Spain, pp. 21-40.
101. M.A Rau, E. Smirni, "Adaptive CPU Scheduling Policies for Mixed Multimedia and Best-effort Workloads", *MASCOTS'99*, College Park, MD, October 1999, pp. 252-261.
102. E. Rosti, G. Serazzi, E. Smirni, M.S. Squillante, "The impact of Input/Output on Program Behavior and Parallel Scheduling", *ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, June 1998, Madison, WI, pp. 45-56. Acceptance Rate: 18%.
103. E. Smirni, C.L. Elford, A.J. Lavery, and A.A. Chien, "Algorithmic Influences on I/O Access Patterns and Parallel File System Performance", *1997 International Conference on Parallel and Distributed Systems*, December 1997, Seoul, Korea, pp. 794-801.
104. E. Smirni and D.A. Reed, "Workload Characterization of Input/Output Intensive Parallel Applications", *the 9th International Conference on Modeling Techniques and Tools for Computer Performance Evaluation*, St. Malo, France, June 1997, Marie et. al. (Eds.), Springer-Verlag, Lecture Notes in Computer Science (1245), pp. 169-180. Paper selected as one of the **Best Papers** of Tools'97.
105. E. Smirni, R.A. Aydt, A.A. Chien, and D.A. Reed, "I/O Requirements of Scientific Applications: An Evolutionary View", *Fifth IEEE International Symposium on High Performance Distributed Computing*, Syracuse, New York, August 1996, pp. 49-59.
An extended version of this paper appeared as invited chapter in *High Performance Storage and Parallel I/O*, T. Cortes, H. Jin, and R. Buyya (Eds.), IEEE Press, 2001 [B2].

106. J. Brehm, M. Madhukar, E. Smirni, L.W. Dowdy, “PerPreT - A Performance Prediction Tool for Massively Parallel Systems”, *Modeling Techniques and Tools for Computer Performance Evaluation*, H. Beilner and F. Bause (eds.), Springer-Verlag, Lecture Notes in Computer Science Vol. 977, pp. 284-298, 1995.
107. E. Smirni, C.A. Childers, E. Rosti, L.W. Dowdy, “Thread Placement on the Intel Paragon: Modeling and Experimentation”, *MASCOTS’95*, 1995, pp. 226-231.
108. E. Smirni, E. Rosti, “Modeling Speedup Behavior of SPMD applications on the Intel Paragon”, *International Conference on High Performance Computing and Networking*, L. Herzberger and G. Serazzi (eds.), Springer-Verlag, Lecture Notes in Computer Science Vol. 919, pp. 94-101, 1995.
109. E. Rosti, E. Smirni, G. Serazzi, L.W. Dowdy, “Analysis of Non-Work-Conserving Processor Partitioning Policies”, in *Job Scheduling Strategies for Parallel Processing*, D. G. Feitelson and L. Rudolph (eds.), Springer-Verlag, Lecture Notes in Computer Science Vol. 949, pp. 165-181, 1995.
110. E. Smirni, E. Rosti, G. Serazzi, L.W. Dowdy, K.C. Sevcik, “Performance Gains from Leaving Idle Processors in Multiprocessor Systems”, *1995 International Conference on Parallel Processing*, CRC Press, Vol. III, pp. 203-210, 1995.
111. T.D. Wagner, E. Smirni, A.W. Apon, M. Madhukar, and L.W. Dowdy, “The Effects of Thread Placement on the Kendall Square KSR1”, *Proceedings of the 8th International Parallel Processing Symposium, IPPS’94*, Cancun, Mexico, 1994, pp. 618–624.
An extended version of this paper appeared as an Oak Ridge National Lab Technical Report ORNL/TM-12462, 1994 [M2].
112. E. Rosti, E. Smirni, T.D. Wagner, A.W. Apon, and L.W. Dowdy, “The KSR1: Experimentation and Modeling of Poststore”, *ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, 1993, pp. 74–85.
An extended version of this paper appeared as Oak Ridge National Lab technical report, ORNL/TM-12287, [M1].
Also appeared as a book chapter in “Multiprocessor Performance Measurement and Evaluation”, pp. 292-303, L.N. Bhuyan and X. Zhang (*editors*), ISBN 0-8186-6522-X, November 1994, [B2].

B/P. Books/Proceedings Editor

1. M. Litoiu, E. Smirni, A. V. Papadopoulos, K. Wolter: *Proceedings of the 16th ACM/SPEC International Conference on Performance Engineering, ICPE 2025*, Toronto, ON, Canada, May 5-9, 2025. ACM 2025, ISBN 979-8-4007-1073-5
2. M. Litoiu, E. Smirni, A. V. Papadopoulos, K. Wolter: *Companion of the 16th ACM/SPEC International Conference on Performance Engineering, ICPE 2025*, Toronto, ON, Canada, May 5-9, 2025. ACM 2025, ISBN 979-8-4007-1130-5
3. A. N. Toosi, B. Javadi, A. Iosup, E. Smirni, S. Dustdar: *Serverless Computing for Next-generation Application Development*. *Future Gener. Comput. Syst.* 164: 107573 (2025)
4. E. Smirni, K. Avrachenkov, P. Gill, and B. Urgaonkar: *Abstract Proceedings of the 2023 ACM SIGMETRICS International Conference on Measurement and Modeling of Computer Systems, SIGMETRICS 2023*, Orlando, FL, USA, June 19-23, 2023. ACM 2023

5. Jon B. Weissman, Ali Raza Butt, Evgenia Smirni: Proceedings of the 28th International Symposium on High-Performance Parallel and Distributed Computing, HPDC 2019, Phoenix, AZ, USA, June 22-29, 2019. ACM 2019, ISBN 978-1-4503-6670-0
6. Walter Binder, Vittorio Cortellessa, Anne Koziulek, Evgenia Smirni, Meikel Poes: Proceedings of the 8th ACM/SPEC on International Conference on Performance Engineering, ICPE 2017, L'Aquila, Italy, April 22-26, 2017. ACM 2017, ISBN 978-1-4503-4404-3
7. Walter Binder, Vittorio Cortellessa, Anne Koziulek, Evgenia Smirni, Meikel Poes: Companion Proceedings of the 8th ACM/SPEC on International Conference on Performance Engineering, ICPE 2017, L'Aquila, Italy, April 22-26, 2017. ACM 2017, ISBN 978-1-4503-4899-7

I. Invited Publications

1. Evgenia Smirni, "Machine Learning for Reliability Analysis of Large Scale Systems", QEST 2020: 3-7
2. Evgenia Smirni, "Practical Reliability Analysis of GPGPUs in the Wild: From Systems to Applications", ICPE 2019: 3
3. E. Smirni, Q. Zhang, N. Mi, A. Riska, and G. Casale, "New Results on the Performance Effects of Autocorrelated Flows in Systems", in *Next Generation Software Workshop, IPDPS'07*, Long Beach, CA, March 2007.
4. E. Smirni, "Reconfigurable, Data-driven Resource Allocation in Complex systems: Practice and Theoretical Foundations", in *Next Generation Software Workshop, IPDPS'05*, Denver, CO, April 2005.
5. E. Smirni, C.L. Elford, D.A. Reed, and A.A. Chien, "Performance Modeling of a Parallel I/O System: An Application Based Approach" *8th SIAM Conference on Parallel Processing for Scientific Computing*, March 1997, CD-ROM.
6. D.A. Reed, C.L. Elford, T. Madhyastha, W.H. Scullin, R.A. Aydt, E. Smirni, "I/O, Performance Analysis, and Performance Data Immersion", *MASCOTS'96*, 1996, pp. 5-16.
7. D.A. Reed, C.L. Elford. T. Madhyastha, E. Smirni, and S.L. Lamm, "The Next Frontier: Interactive and Closed Loop Performance Steering", *1996 International Conference on Parallel Processing, Workshop on Challenges for Parallel Processing*, Chicago, Illinois, August 1996, pp. 20-31.
8. D.A. Reed, M.J. Gardner, and E. Smirni, "Performance Visualization: 2-D, 3-D, and Beyond", *IEEE International Computer Performance and Dependability Symposium*, Urbana-Champaign, Illinois, September 1996.

W. Workshop Publications (Refereed Abstracts)

1. J. Bor, G. Casale, W. Knottenbelt, E. Smirni, A. Stathopoulos, "Fitting with matrix exponential mixtures generated by discrete probabilistic scaling", ACM SIGMETRICS Performance Evaluation Review 51 (2), 15-17,2023. Special Issue on the MAMA 2023 Workshop.
2. G. Casale, E.Z. Zhang, E. Smirni, "Characterization and Synthesis of Markovian Workload Models", *GlobeCom 2007 Workshop on Future Service-Oriented Internet*, Washington, DC, Nov. 2007.

3. G. Casale, E.Z. Zhang, E. Smirni, "Characterization of Moments and Autocorrelation in MAPs", September 2007, Vol. 35(2), Sept. 2007. Special Issue on the MAMA 2007 Workshop.
4. Q. Zhang, A. Heindl, E. Smirni, "Models of the Departure Process of a BMAP/MAP/1 Queue", *Performance Evaluation Review*, September 2005, Vol. 33(2), pp. 18-20, Sept. 2005. Special Issue on the MAMA 2005 Workshop.
5. B. Lawson, C. Yue, E. Smirni, and D. Nikolopoulos, "Power-aware Resource Allocation via Online Simulation with Multiple-Queue Backfilling", *Seventh International Workshop on Performability Modeling of Computer and Communication Systems (PMCCS7)*, Torino, Italy, September 2005.
6. Q. Zhang, A. Riska, and E. Smirni, "Evaluating the performability of systems with background jobs", *Seventh International Workshop on Performability Modeling of Computer and Communication Systems (PMCCS7)*, Torino, Italy, September 2005.
7. A. Riska, E. Smirni, and G. Ciardo, "An Aggregation-based Method for the Exact Analysis of a Class of GI/G/1-type Processes", *Performance Evaluation Review*, Vol. 31 (2), pp. 28-30, September 2003. Special Issue on the MAMA 2003 Workshop.
8. A. Riska, V. Diev, and E. Smirni, "Efficient Fitting of Long-tailed Data Sets into Phase-type Distributions", *Performance Evaluation Review*, Vol. 30 (3), pp. 6-8, December 2002. Special Issue on the MAMA 2002 Workshop.
9. G. Ciardo, E. Smirni, "Projection: An efficient solution algorithm for a class of quasi-birth-death processes", *Fourth International Workshop on Performability Modeling of Computer and Communication Systems (PMCCS4)*, Sept. 1998, Williamsburg, VA, pp. 34-38.

P. Refereed Posters/Demos

1. L. Yang, G. Papadimitriou, D. Sartzetakis, A. Jog, E. Smirni, D. Gizopoulos: "Probing Weaknesses in GPU Reliability Assessment: A Cross-Layer Approach". ISPASS 2024: 331-333
2. L. Yang, A. Schmedding, R. Pincioli, E. Smirni, "Simulating COVID-19 containment measures using the South Korean patient data". SenSys 2020: 782-783
3. J. Xue, E. Smirni, R. Birke and L. Y. Chen, "PROST: Prediction for Resource Usages with Spatial and Temporal Dependencies", in Proceedings of the *7th ACM/SPEC International Conference on Performance Engineering*, Delft, the Netherlands, March 2016, pp. 125-126.
4. T. Scherer, J. Xue, F. Yan, R. Birke, L.Y. Chen, and E. Smirni, "PRACTISE – Demonstrating a Neural Network-based Framework for Robust Prediction of Datacenter Workloads", in Proceedings of the *8th IEEE/ACM International Conference on Utility and Cloud Computing (UCC)*, Limassol, Cyprus, December 2015, pp. 402-403.
5. F. Yan, L. Cherkasova, Z. Zhang, and E. Smirni, "Heterogeneous Cores For MapReduce Processing: Opportunity or Challenge?", in *the IEEE/IFIP Network Operations and Management Symposium, NOMS 2014*, pp. 1–4, May 2014, Krakow, Poland.
6. D. Ansaloni, L. Y. Chen, E. Smirni, A. Yokokawa, W. Binder, "Find your best match: predicting performance of consolidated workloads", in *Proceedings of ICPE 2012*, pp. 243-244.

7. D. Ansaloni, L. Y. Chen, E. Smirni, and W. Binder, “Towards Autonomic Consolidation of Heterogeneous Workloads”, in *Proceedings of Middleware 2011*, Posters Track, Lisboa, Portugal, December 2011.
8. A. Caniff, L. Lu, N. Mi, L. Cherkasova, E. Smirni, “Efficient Resource Allocation and Power Saving in Multi-Tiered Systems”, in *Proceedings of the 19th International World Wide Web Conference (WWW’2010)*, Posters Track, Raleigh, North Carolina, USA, April 26-30, 2010.
9. Q. Zhang, L. Cherkasova, G. Mathews, W. Greene, and E. Smirni, “R-Capriccio: A Capacity Planning Framework for Multi-tier Enterprise Services with Real Workloads”, in *Proceedings of the Tenth IFIP/IEEE International Symposium on Integrated Management (IM 2007)*, Posters Track, Munich, Germany, May 2007.
10. N. Mi, A. Riska, Q. Zhang, E. Smirni, and E. Riedel, “Efficient management of idleness in systems”, *Sigmetrics’07*, pp. 371-372, San Diego, CA., June 2011.

M. Miscellanea

1. W. Shin, V. Oles, A. Schmedding, G. Ostrouchov, E. Smirni, C. Engelmann, F. Wang, “OLCF Summit Supercomputer GPU Snapshots During Double-Bit Errors and Normal Operations”, Oak Ridge Leadership Computing Facility (OLCF), Data Repository, 4/2023.
2. E. Rosti, E. Smirni, T.D. Wagner, A.W. Apon, and L.W. Dowdy, “The KSR1: Experimentation and Modeling of Poststore”, Oak Ridge National Lab Technical Report ORNL/TM-12287, 1993.
Shorter version of this paper appeared at *Multiprocessor Performance Measurement and Evaluation*, pp. 292-303, L.N. Bhuyan and X. Zhang (editors), ISBN 0-8186-6522-X, November 1994 [B1].
Also appeared in the Proceedings of the *ACM SIGMETRICS Conference on Measurement and Modeling of Computer Systems*, 1993, pp. 74–85, [C23].
3. T.D. Wagner, E. Smirni, A.W. Apon, M. Madhukar, and L.W. Dowdy, “The Effects of Thread Placement on the Kendall Square KSR1”, Oak Ridge National Lab Technical Report ORNL/TM-12462, 1994.
This paper also appeared at the Proceedings of the *8th International Parallel Processing Symposium, IPPS’94*, Cancun, Mexico, 1994, pp. 618–624, [C22].
4. R. Bunt, D. Eager, L. Golubchik, G. Kotsis, S. Majumdar, R.R. Muntz, E. Rosti, G. Serazzi, and E. Smirni. Report of the Computer Resource Management Group, International Workshop on Performance Evaluation – Origins and Directions, Schloss Dagstuhl, Wadern, Germany, 1997. Organizers: G. Haring (Wien), Ch. Lindermann (GMD-FIRST Berlin), M. Reiser (Zurich).

TUTORIALS

- | | |
|------|---|
| 2002 | “M/G/1-type Markov Processes: A Tutorial”
Performance’02, with A. Riska. |
| 2002 | “Matrix-Analytic Methods for Solving M/G/1-type Markov Processes
SIGMETRICS’02, with A. Riska. |
| 1997 | “Processor Scheduling in Parallel and Distributed Systems”
SIGMETRICS’97, with M.S. Squillante and L.W. Dowdy. |

SOFTWARE

- 2023 “GeoSpread: an epidemic spread modeling tool for covid-19 using mobility data”
Available at <https://github.com/akschmedding/GeoSpread>.
- 2010 “KPC Toolbox: Best Recipes for Workload Fitting into MAPs”.
Available at <http://www.cs.wm.edu/MAPQN/kpctoolbox.html/>.
- 2003 “MAMSolver: A Matrix Analytic Methods Tool”.
Available at <http://www.cs.wm.edu/MAMSolver/>.

Students/Personnel/Job Placement

- Postdoctoral Associates*
- Xenia Mountrouidou** (January 2010 – August 2011).
First Placement: Assistant Professor of Computer Science, Jacksonville University.
- Giuliano Casale** (January 2007 – December 2008).
First placement SAP Research.
Current placement: Reader, Imperial College London.
- Riccardo Pincioli** (March 2019 – September 2020).
Current placement: Gran Sasso Institute, L’Aquila, Italy
- Ph.D.*
- Alma Riska** (graduated, November 2002).
Graduate Park Award.
First placement: Research Scientist at Seagate Research, Pittsburgh, PA.
Currently: Research Scientist at Facebook.
- Barry Lawson** (graduated, August 2002, co-advised with S. Park).
First placement: Assistant Professor at University of Richmond.
Currently: Colony Family Professor of Digital and Computational Studies, Bates College.
- Qi Zhang** (graduated, December 2006).
First and current placement: Microsoft Research Engineer , Redmond, WA.
- Ningfang Mi** (graduated, August 2009).
Graduate Park Award. NSF CAREER Award. AFOSR Young Investigator Award.
First placement: Assistant Professor, Northeastern University, Boston MA.
Currently: Associate Prof. of Electrical and Computer Engineering at Northeastern University.
- Lei Lu** (graduated December 2013).
First Placement: Research Engineer at VMWare, Palo Alto, CA.
- Feng Yan** (graduated May 2016)
NSF CAREER Award.
First Placement: Assistant Professor, University of Nevada at Reno, NV.
Current Placement: Associate Professor, University of Houston, TX.
- Ji Xue** (graduated May 2017)
First Placement: Software Engineer, Google, New York, NY.
- Bin Nie** (graduated May 2019)
First Placement: Software Engineer, Google Search Engine, Mountain View, CA.
Graduate Park Award. Runner-Up for the 2019 Standard Performance Evaluation Corporation (SPEC)
Kaivalya Dixit Distinguished Dissertation Award (international award)

Quote: “*Nie’s thesis is a perfect example of bridging the gap between theory and practice and generated a high number of high quality publications and patent submissions.*”

Lishan Yang (graduated May 2022)

First Placement: Assistant Professor, George Mason University,
Graduate Park Award. **Winner** of the 2022 Standard Performance Evaluation Corporation (SPEC)

Kaivalya Dixit Distinguished Dissertation Award (international award)

Quote: “*The selection committee was impressed by the high quality of scientific work conducted by Dr. Yang, and particularly by her ability to bridge multiple academic disciplines (spanning software engineering, performance, and computer systems).*”

Anna Schmedding (in progress)

Bowen Sun (in progress)

Yiyang Lu (in progress)

M.S. Melissa Rau, (graduated, May 1999).
Richard Tran Mills, (Co-advised with A. Stathopoulos).
Vesselin Diev, (graduated, August 2002).
Daniela Puiu, (graduated, August 2002).
Wei Sun, (Co-advised with G. Ciardo).
Ling Liu, (graduated, May 2004).
Zhili Hua, (graduated, August 2005).
Andrew Caniff (graduated, May 2010).
Shannon Hughes (graduated, May 2013).
Andy Kowalski (graduated, January 2014).
Kari Heffner (graduated, May 2014).
Jiawei Wen (graduated, August 2016).
Lihua Ren (graduated, December 2016).
Jacob Alter (graduated, May 2019).

Undergr. Student Research Philip Schowitz, graduated with Honors, May 2023.
Eric W. Davis, Spring 2002.
Andrew Otto, Fall 2004

Ph.D. Committee External Examiner Giuliano Casale, Politecnico di Milano, Italy (2006)
Tao Zheng, Carleton University, Canada (2007)
Marco Bessi, Politecnico di Milano, Italy (2014)
Andrea Sansottera, Politecnico di Milano, Italy (2014)
Monica Vitali, Politecnico di Milano, Italy (2014)
Fernando Fernandes dos Santos, Federal University of Rio Grande do Sul, Brazil (2021)

INVITED PRESENTATIONS

2026 U. of Sydney, Sydney, Australia.
Presentation Title: “Securing the Machine Learning Components of Autonomous Vehicles”

2020 Monash University, Melbourne, Australia (two invited talks).
Talk 1: “Machine Learning for Reliability Analysis of Large Scale Distributed Systems”

- Talk 2: “Practical Reliability Analysis of GPGPUs in the Wild: from Systems to Applications”
- 2019 Athens University of Economics and Business (ASOEE), Athens Greece.
Presentation Title: “Practical Reliability Analysis of GPGPUs in the Wild: from Systems to Applications”
- 2019 India Performance Workshop: Performance of AI, AI for Performance, Mumbai, India.
Presentation Title: “Time Series Prediction for Management of Data Centers”.
EBSIS 2018 Summer School, Villars, Switzerland, July 2018, Invited Speaker.
Presentation Title: “Queuing Models for Optimizing Performance of Deep Neural Network Serving.”
- 2017 11th Cloud Control Workshop, June 12-17, 2017, Haga Slott, 745 93 Enköping, Sweden.
Presentation Title: “Prediction Models for Service Responsiveness of DNNs in a Cloud Setting”.
- 2012 Imperial College Energy and Performance Colloquium, 29 May-June 2012, (two invited talks).
Talk 1: “How to Tame Burstiness and Save Power in Multi-Tiered Systems”.
Talk 2: “Autonomic Exploration of Trade-offs between Power and Performance in Disk Drives”.
- 2010 Università di Roma, Tor Vergata, October 2010
Presentation Title: “Burstiness in Multi-Tiered Systems: Performance Issues and New Models”.
- 2010 Politecnico di Milano, October 2010
Presentation Title: “Burstiness in Multi-Tiered Systems: Performance Issues and New Models”.
- 2009 IBM Research Zurich Lab, June 2009.
Presentation Title: “Burstiness in Multi-Tiered Systems: Performance Issues and New Models”.
- 2007 Carleton University, Ottawa, Canada, August 2007.
Presentation Title: “Performance Impacts of Autocorrelation in Systems”.
- 2006 NCSU, Raleigh, North Carolina, December 2006.
Presentation Title: “Performance Impacts of Autocorrelation in Systems”.
- 2005 Institute for Computer Science (ITE), Heraklion, Crete, Greece, December 2005.
Presentation Title: “The Impact of Autocorrelation in Multi-Tiered Systems”.
- 2005 IFIP W.G. 7.3 Meeting, Juan-les-Pins, France, October 2005.
Presentation Title: “Approximate Models of the Departure Process of a BMAP/MAP/1 Queue”.
- 2005 Carnegie-Mellon University, Department of Computer Science, Pittsburgh, PA, March 2005.
Presentation Title: “Modeling the Departure Process of a BMAP/MAP/1 Queue”.
- 2004 University of Erlangen-Nuremberg, Department of Computer Science, Erlangen, Germany, Jan. 2004.
Presentation Title: “Approximating long-tailed data sets with PH distributions”.
- 2003 University of Milano, Department of Informatics, Milano, Italy, Dec. 2003.
Presentation Title: “ETAQA as an Alternative to Matrix Analytic Methods”.
- 2003 University of Pisa, Department of Mathematics, Pisa Italy, Dec. 2003.
Presentation Title: “ETAQA as an Alternative to Matrix Analytic Methods”.

- 2003 University of Athens, Computer Science Department, Athens, Greece, June 2003.
Presentation Title: “Matrix Analytic Techniques: Theory and Practice”.
- 2003 Dagstuhl Seminar 03201 “Probabilistic Methods in verification and Planning”.
Presentation Title: “Using ETAQA for the Solution of Large, Structured Markov Chains”.
- 2003 University of Patras, Computer Science Department, Patras, Greece, May 2003.
Presentation Title: “Approximating long-tailed data sets with PH distributions”.
- 2003 Virginia Tech, Computer Science Department, Blacksburg, VA, January 2003.
Presentation Title: “Matrix Analytic Techniques: Theory and Practice”.
- 2002 University of Patras, Computer Science Department, Patras, Greece, June 2002.
Presentation Title: “Matrix Analytic Techniques: Theory and Practice”.
- 2002 NSF Next Generation Software Workshop, University of Texas at Austin, Feb. 2002.
Presentation Title: Coordinated Allocation of Multiple Resources in Distributed Systems”.
- 2001 University of Ioannina, Computer Science Department, Ioannina, Greece, June 2001.
Presentation Title: “Matrix Analytic Techniques: Theory and Practice”.
- 1997 Dagstuhl Workshop “Performance Evaluation - Where are we coming from – where are we going to”, Sept. 15 - 19, 1997, Schloss Dagstuhl, Germany.
Presentation Title: “Coordinated Allocation of Processor and Input/Output Resources in Parallel Systems”.
- 1997 *8th SIAM Conference on Parallel Processing for Scientific Computing*
Minneapolis, MN, March 1997.
Presentation Title: “I/O Requirements of Parallel Scientific Applications”.
- 1996 *Workshop on Software Tools for High Performance Computing*
Chatham, MA, October 1996.
Presentation Title: “Parallel I/O: Problems and Solutions”.

Letters of reference for tenure and promotion

1. Carnegie Mellon University
2. Denison University
3. Free University of Berlin, Germany
4. Imperial College-London
5. Louisiana State University
6. Ohio State
7. Stony Brook University
8. University of British Columbia, Canada
9. UMass-Amherst
10. University of Portland
11. University of California-Riverside

12. University of Texas at Arlington
13. University of Waterloo, Canada
14. Amherst College
15. Colorado School of Mines
16. University of Cambridge, UK.
17. Rutgers