

**RAFAEL FERREIRA DA SILVA, Ph.D.**  
*IEEE and ACM Senior Member*

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**APPOINTMENTS**

- 2023–present Oak Ridge National Laboratory, National Center for Computational Sciences, USA  
**Group Leader**, Workflow and Ecosystem Services
- 2021–present **Senior Research Scientist**
- 2023–present Future Generation Computer Systems Journal, Elsevier  
**Special Content Editor**
- 2022–present Workflows Community Initiative (WCI) – <https://workflows.community>  
**Co-Founder** and **Executive Director**
- 2021–present University of Southern California, Department of Computer Science, USA  
**Adjunct Research Assistant Professor**
- 2016–2021 **Research Assistant Professor**
- 2019–2021 University of Southern California, Information Sciences Institute, USA  
**Research Lead**
- 2013–2019 **Computer Scientist**
- 2010–2013 Centre National de la Recherche Scientifique (CNRS), France  
**Software Engineer**

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**EDUCATION**

- 2013 **Doctor of Philosophy in Computer Science**  
Institut National des Sciences Appliquées de Lyon, France  
Thesis Title: “A science-gateway for workflow executions: online and non-clairvoyant self-healing of workflow executions on grids”
- 2010 **Master of Science in Computer Science**  
Federal University of Campina Grande (UFCG), Brazil
- 2007 **Bachelor of Science in Computer Science**  
Federal University of Paraiba (UFPB), Brazil

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**PROFESSIONAL**

**ACTIVITIES**

- Funding Agencies Reviewer
- 2017–2024, U.S. National Science Foundation (NSF), Office of Advanced Cyberinfrastructure (CISE/OAC), In-person and Virtual Review Panels Reviewer.
  - 2021–2024, U.S. Department of Energy (DoE), Advanced Scientific Computing Research (ASCR), Mail In Reviews.
  - 2020, U.S. Army Research Office (ARO), Ad-hoc Reviewer.
  - 2019, Netherlands Organisation for Scientific Research (NWO), Ad-hoc reviewer.

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| Chair                    | <ol style="list-style-type: none"> <li>1. <b>Track Chair:</b> Data Analytics, Visualization, &amp; Storage, IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC24), Atlanta, GA, USA, 2024.</li> <li>2. <b>Publication Chair,</b> 33<sup>rd</sup> ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Pisa, Italy, 2024.</li> <li>3. <b>Program Chair,</b> 19<sup>th</sup> IEEE International Conference on eScience (eScience), Conference, Limassol, Cyprus, 2023.</li> <li>4. <b>Publication Chair,</b> 32<sup>nd</sup> ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Orlando, FL, USA, 2023.</li> <li>5. <b>Track Chair:</b> Performance Evaluation, 35<sup>th</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Conference, Porto Alegre, Brazil, 2023.</li> <li>6. <b>Program Chair,</b> 17<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Dallas, USA, 2022.</li> <li>7. <b>Co-Program Chair,</b> 2<sup>nd</sup> Workshop on E-science ReseaRch leading tO negative Results (ERROR), Workshop, Salt Lake City, USA, 2022.</li> <li>8. <b>Publicity and Web Chair,</b> 18<sup>th</sup> IEEE International Conference on eScience (eScience), Salt Lake City, USA, 2022.</li> <li>9. <b>Publication Chair,</b> Gateways 2022 Conference, San Diego, USA, 2022.</li> <li>10. <b>Program Chair,</b> 16<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Saint Louis, USA, 2021.</li> <li>11. <b>Publicity and Web Chair,</b> 17<sup>th</sup> IEEE International Conference on e-Science (eScience), Conference, Innsbruck, Austria, 2021.</li> <li>12. <b>Program Chair,</b> 15<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Atlanta, USA, 2020.</li> <li>13. <b>Program Chair,</b> 14<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Denver, USA, 2019.</li> <li>14. <b>Program Chair,</b> Bridging from Concepts to Data and Computation for eScience (BC2DC), Workshop, San Diego, USA, 2019.</li> <li>15. <b>Track Chair,</b> 15<sup>th</sup> International Conference on eScience (eScience), Conference, San Diego, USA, 2019.</li> <li>16. <b>Program Chair,</b> 13<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Dallas, USA, 2018.</li> <li>17. <b>Organizer,</b> 2018 National Science Foundation Software Infrastructure for Sustained Innovation Principal Investigators Meeting (NSF SI2 PI Meeting), Washington, USA, 2018.</li> <li>18. <b>Publicity Chair,</b> 12<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Denver, USA, 2017.</li> <li>19. <b>Publicity Chair,</b> 11<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Workshop, Salt Lake City, USA, 2016.</li> <li>20. <b>Local Arrangements Chair,</b> 28<sup>th</sup> International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Conference, Los Angeles, USA, 2016.</li> </ol> |
| Program Committee Member | <ol style="list-style-type: none"> <li>1. 33<sup>rd</sup> ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Pisa, Italy, 2024.</li> <li>2. IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC23), Workshops, Denver, CO, USA, 2023.</li> <li>3. IEEE Cluster, Santa Fe, NM, USA, 2023.</li> <li>4. 52<sup>nd</sup> International Conference on Parallel Processing (ICPP), Salt Lake City, UT, USA, 2023.</li> <li>5. 29<sup>th</sup> International European Conference on Parallel and Distributed Computing (Euro-Par), Limassol, Cyprus, 2023.</li> <li>6. 32<sup>nd</sup> ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Orlando, FL, USA, 2023.</li> <li>7. 23<sup>rd</sup> IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing</li> </ol>  |

- (CCGrid), Bangalore, India, 2023.
8. IEEE International Conference on Cloud Computing (CLOUD), Chicago, USA, 2023.
  9. 34<sup>th</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Bordeaux, France, 2022.
  10. 36<sup>th</sup> IEEE International Parallel & Distributed Processing Symposium (IPDPS), Lyon, France, 2022.
  11. 31<sup>st</sup> ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Minneapolis, USA, 2022.
  12. 22<sup>nd</sup> IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CCGrid), Taormina, Italy, 2022.
  13. ACM Platform for Advanced Scientific Computing (PASC), Basel, Switzerland, 2022.
  14. 2<sup>nd</sup> Workshop on Reproducible Workflows, Data Management, and Security (ReWorDS), Salt Lake City, USA, 2022.
  15. 35<sup>th</sup> IEEE International Parallel & Distributed Processing Symposium (IPDPS), Portland, USA, 2021.
  16. IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC21), Saint Louis, USA, 2021.
  17. 33<sup>rd</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Belo Horizonte, Brazil, 2021.
  18. IEEE Cluster, Portland, USA, 2021.
  19. 10<sup>th</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'21), Leicester, UK, 2021.
  20. IEEE Workshop on Monitoring and Analysis for HPC Systems Plus Applications (HPCMASPA), Portland, USA, 2021.
  21. 1<sup>st</sup> Workshop on Reproducible Workflows, Data Management, and Security (ReWorDS), Innsbruck, Austria, 2021.
  22. 1<sup>st</sup> Workshop on High Performance Serverless Computing (HiPS), Stockholm, Sweden, 2021.
  23. 9<sup>th</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'20), Leicester, UK, 2020.
  24. 15<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Atlanta, USA, 2020.
  25. 40<sup>th</sup> IEEE International Conference on Distributed Computing Systems (ICDCS), Singapore, 2020.
  26. 31<sup>st</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Campo Grande, Brazil, 2019.
  27. IEEE Cluster, Albuquerque, NM, USA, 2019.
  28. 48<sup>th</sup> International Conference on Parallel Processing (ICPP 2019), Kyoto, Japan, 2019.
  29. 14<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Denver, USA, 2019.
  30. 8<sup>th</sup> International Workshop on Clouds and (eScience) Applications Management (CloudAM'19), Auckland, New Zealand, 2019.
  31. IEEE Cluster, Belfast, UK, 2018.
  32. 30<sup>th</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Lyon, France, 2018.
  33. 13th Workflows in Support of Large-Scale Science (WORKS), Dallas, USA, 2018.
  34. 7th IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'18), Zurich, Switzerland, 2018.
  35. 16<sup>th</sup> International Conference on High Performance Computing & Simulation (HPCS), Orléans, France, 2018.
  36. IEEE Cluster, Honolulu, USA, 2017.
  37. 17<sup>th</sup> IEEE/ACM International Symposium on Cluster, Cloud, and Grid Computing (CCGrid'17), Madrid, Spain, 2017.
  38. 29<sup>th</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Campinas, Brazil, 2017.

39. 12<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Denver, USA, 2017.
40. 6<sup>th</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'17), Austin, USA, 2017.
41. 15<sup>th</sup> International Conference on High Performance Computing & Simulation (HPCS), Genoa, Italy, 2017.
42. 16<sup>th</sup> IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'16), Cartagena, Colombia, 2016.
43. 28<sup>th</sup> IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Los Angeles, USA, 2016.
44. 11<sup>th</sup> Workflows in Support of Large-Scale Science (WORKS), Salt Lake City, USA, 2016.
45. 5<sup>th</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'16), Shanghai, China, 2016.
46. 1<sup>st</sup> International Workshop on Reproducible Open Science (RepScience), Hannover, Germany, 2016.
47. 15<sup>th</sup> IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGrid'15), Shenzhen, Guangdong, China, 2015.
48. 4<sup>th</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'15), Limassol, Cyprus, 2015.
49. 3<sup>rd</sup> IEEE/ACM International Workshop on Clouds and (eScience) Applications Management (CloudAM'14), London, UK, 2014.

- Editor
- **2023-present**, Special Content Editor, Future Generation Computer Systems (IF: 7.5).
  - 2019-2024, Associated Editor, Journal of Parallel and Distributed Computing (IF: 3.8).
  - 2020-2023, Editor, Future Generation Computer Systems (IF: 7.5).
  - 2023, Guest Editor, IEEE Computer Society, Computing in Science & Engineering (IF: 2.1).
  - 2018, Guest Editor, Future Generation Computer Systems (IF: 7.5), Special Issue on Workflows in Support of Large-Scale Science.

Steering Committees **2023-present**, IEEE eScience Conference

- Journal Reviewer
- IEEE Transactions on Parallel and Distributed Systems, 2014–2022.
  - IEEE Computer, 2022.
  - IEEE Transactions on Services Computing, 2022.
  - PeerJ Computer Science, 2020-2023.
  - Future Generation Computer Systems, 2013–2021.
  - IEEE Transactions on Cloud Computing, 2016-2021.
  - Concurrency and Computation: Practice and Experience, 2013–2019.
  - ACM Computer Surveys, 2018-2019.
  - SoftwareX, 2018-2019.
  - Journal of Grid Computing, 2016–2018.
  - ACM Transactions on Parallel Computing, 2017–2018.
  - Computers & Electrical Engineering, 2015–2017.
  - Journal of Parallel and Distributed Computing, 2015.
  - Computing and Informatics, 2015.
  - IEEE Communications Magazine, 2014.
  - Scientific Programming, 2014.
  - The Computer Journal, 2014.

Professional • **2023-present**, ACM, Senior Member

- Associations
- **2022-present**, IEEE, Senior Member
  - 2018-2023, ACM, Member
  - 2017-2022, IEEE, Member

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- TEACHING ACTIVITIES
- USC, Computer Science Department, INF 553 Data Mining (graduate level), Fall 2018.
  - USC, Computer Science Department, CS 104 Data Structures and Object-Oriented Design (undergraduate level), Spring 2017.

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- INVITED TALKS (SELECTION)
1. Modern Scientific Workflows in the Era of an Integrated Research Infrastructure, *Monterey Data Conference 2023*, Monterey, CA, USA, 2023.
  2. The Workflows Community Initiative and Recent Summit, *U.S. National Science Foundation (NSF) Office of Advanced Cyberinfrastructure (OAC) Brownbag*, online event, 2023.
  3. An Overview of AI Workflows for HPC Systems, *Middleware and Grid Interagency Coordination (MAGIC) Meeting*, online event, 2023.
  4. Modern Scientific Workflows: State-of-the-art and Challenges, *2023 Computer Science Department Inaugural Lecture*, Fluminense Federal University, Rio de Janeiro, Brazil, 2023.
  5. Scientific Workflows: State-of-the-art and Challenges, **Keynote** for the *Foundations of Workflows for Large-Scale Scientific Data Analysis (FONDA) Retreat*, Berlin, Germany, 2022.
  6. Workflows Community Initiative – Bringing the workflows community together: users, developers, researchers, and facilities, *BoF: Software Engineering and Reuse in Modeling, Simulation, and Data Analytics for Science and Engineering*, ISC HPC 2022, Hamburg, Germany, 2022.
  7. Building a FAIR Workflows Community: The Dawn of the Workflows Community Initiative, *Data FAIR Working Session: FAIR Workflows - Best practices, services, and tools for helping researchers increase the portability and reproducibility of their work*, AGU 2021, online event, 2021.
  8. The Role of Scientific Workflows in Modern Computational Science: State-of-the-art and Challenges, *CS&E colloquium series*, University of Minnesota, Minneapolis, MN, 2021.
  9. Towards an Infrastructure for Enabling Systematic Development and Research of Scientific Workflow Systems and Applications, *FONDA – Foundations of Workflows for Large-Scale Scientific Data Analysis*, online event, 2021.
  10. FAIR Workflow Traces for Scientific Workflow Research and Development (workflowhub.org), *International FAIR Convergence Symposium, FAIR Workflows Session*, online event, 2020.
  11. Computational methods for improving reproducible results in analysis, *EPI Symposium: Toward more rigorous and informative nutritional epidemiology: the rational space between dismissal and defense of the status quo*, Indiana University, online event, 2020.
  12. The Interplay of Workflow Execution and Resource Provisioning, *18th SIAM Conference on Parallel Processing for Scientific Computing – Resource Management, Scheduling, Workflows: Critical Middleware for HPC and Clouds*, SIAM PP 18, Tokyo, Japan, 2018.
  13. Automating Real-Time Seismic Analysis: Through Streaming and High Throughput Workflows, *Workshop on Environmental Computing Applications – State of the art*, ICCS, San Diego, CA, USA, 2016.
  14. Automating Scientific Computations: From the User’s Desktop to Clouds and World-Class Supercomputers, *IRIS Workshop*, Vancouver, WA, USA, 2016.

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- RESEARCH
1. **PI**, Center for Sustaining Workflows and Application Services, DOE, 04/2023-04/2024,

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**GRANTS**

- \$120,000.
2. **Co-PI**, *ExaWorks: ECP Workflows Project*, DOE, 2017-09/2023, \$3,773,833, grant #17-SC-20-SC.
  3. **Co-PI**, *Collaborative Research: OAC Core: Simulation-driven runtime resource management for distributed workflow applications*, NSF, 10/2021-09/2024, \$499,988, grants #2106059, #2106147.
  4. **PI**, *Collaborative Research: Elements: Simulation-driven Evaluation of Cyberinfrastructure Systems*, NSF, 08/2021-07/2024, \$600,000, grants #2103489, #2103508.
  5. **Co-PI**, *Collaborative Research: EAGER: VisDict - Visual Dictionaries for Enhancing the Communication between Domain Scientists and Scientific Workflow Providers*, NSF, 05/2021-10/2022, \$264,500, grants #2100561, #2100636.
  6. **PI**, *Integrating Cyberinfrastructure Literacy into University Curricula*, USC URAP, 08/2021–05/2022, \$4,400.
  7. **Co-PI**, *REU Site: SURF-I: Safe, Usable, Resilient and Fair Internet*, NSF, 03/2021-02/2024, \$405,000, grant #2051101.
  8. **PI**, *CCRI: Planning: Collaborative Research: Infrastructure for Enabling Systematic Development and Research of Scientific Workflow Management Systems*, NSF, 10/2020-09/2021, \$100,000, grants #2016610, #2016619, and #2016682.
  9. **Co-PI**, *Collaborative Research: PPOSS: Planning: Performance Scalability, Trust, and Reproducibility: A Community Roadmap to Robust Science in High-throughput Applications*, NSF, 10/2020-09/2021, \$250,000, grants #2028881, #2028923, #2028930, #2028955, and #2028956.
  10. **PI**, *Teaching Parallel and Distributed Computing Concepts in Simulation*, USC URAP, 08/2020-05/2021, \$3,300.
  11. **Co-PI**, *Collaborative Research: CyberTraining: Implementation: Small: Integrating core CI literacy and skills into university curricula via simulation-driven activities*, NSF, 10/2019–09/2022, \$500,000, grants #1923539 and #1923621.
  12. **PI**, *Integrating core CI literacy and skills into university curricula via simulation-driven activities*, USC URAP, 08/2019-05/2020, \$2,825.
  13. **Co-PI**, *Coordinating Curricula and User Preferences to Increase the Participation of Women and Students of Color in Engineering*, NSF, 10/2018–09/2020, \$300,000, grant #1826632.
  14. **Co-PI**, *2018 Software Infrastructure for Sustained Innovation (SI2) Principal Investigators Workshop*, NSF, 06/2018–05/2019, \$85,065, grant #1831393.
  15. **Co-PI**, *MINT: Model Integration through Knowledge-Rich Data and Process Composition*, DARPA, 12/2017–11/2021, \$12,979,881, grant #W911NF-18-1-0027.
  16. **Co-PI**, *BIGDATA: IA: Collaborative Research: In Situ Data Analytics for Next Generation Molecular Dynamics Workflows*, NSF, 10/2017–09/2021, \$1,993,043, grants #1741057, #1740990, and #1741040.
  17. **Co-PI**, *Collaborative Research: SI2-SSE: WRENCH: A Simulation Workbench for Scientific Workflow for Users, Developers, and Researchers*, NSF, 01/2017–12/2019, \$497,956, grants #1642369 and #1642335.

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**PEER-REVIEWED PUBLICATIONS****Journals**

1. T. Coleman, H. Casanova, R. Ferreira da Silva, Automated Generation of Scientific Workflow Generators with WfChef, *Future Generation Computer Systems*, vol 147, p.16-29, 2023.
2. T. Coleman, H. Casanova, L. Pottier, M. Kaushik, E. Deelman, R. Ferreira da Silva, WfCommons: A Framework for Enabling Scientific Workflow Research and Development, *Future Generation Computer Systems*, vol. 128, p.16-27, 2022.
3. T. M. A. Do, L. Pottier, R. Ferreira da Silva, S. Caíno-Lores, M. Taufer, E. Deelman, Performance assessment of ensembles of in situ workflows under resource constraints, *Concurrency and Computation: Practice and Experience*, 2022.



4. A. W. Brown, S. Aslibekyan, D. Bier, R. Ferreira da Silva, A. Hoover, D.M. Klurfeld, E. Loken, E. Mayo-Wilson, N. Menachemi, G. D. Pavela, P. Quinn, D. Schoeller, T. Carmen, V. Danny, C. J. Vorland, L. D. Whigham, D. B. Allison, Toward more rigorous and informative nutritional epidemiology: The rational space between dismissal and defense of the status quo, *Critical Reviews in Food Science and Nutrition*, p.1–18, 2021.
5. Y. Gil, D. Garijo, D. Khider, C. A. Knoblock, V. Ratnakar, M. Osorio, H. Vargas, M. Pham, J. Pujara, B. Shbita, B. Vu, Y. Chiang, D. Feldman, Y. Lin, H. Song, V. Kumar, A. Khandelwal, M. Steinbach, K. Tayal, S. Xu, S. A. Pierce, L. Pearson, D. Hardesty-Lewis, E. Deelman, R. Ferreira da Silva, R. Mayani, A. R. Kemanian, Y. Shi, L. Leonard, S. Peckham, M. Stoica, K. Cobourn, Z. Zhang, C. Duffy, L. Shu, Artificial Intelligence for Modeling Complex Systems: Taming the Complexity of Expert Models to Improve Decision Making, *ACM Transactions on Interactive Intelligent Systems*, vol. 11, iss. 2, p.1-49, 2021.
6. H. Casanova, R. Tanaka, W. Koch, R. Ferreira da Silva, Teaching Parallel and Distributed Computing Concepts in Simulation with WRENCH, *Journal of Parallel and Distributed Computing*, vol. 156, p.53-63, 2021.
7. T. M. A. Do, L. Pottier, S. Caño-Lores, R. Ferreira da Silva, M. A. Cuendet, H. Weinstein, T. Estrada, M. Taufer, and E. Deelman, A Lightweight Method for Evaluating In Situ Workflow Efficiency, *Journal of Computational Science*, 2020.
8. G. Papadimitriou, C. Wang, K. Vahi, R. Ferreira da Silva, A. Mandal, L. Zhengchun, R. Mayani, M. Rynge, M. Kiran, V. E. Lynch, R. Kettimuthu, E. Deelman, J. S. Vetter, and I. Foster, End-to-End Online Performance Data Capture and Analysis for Scientific Workflows, *Future Generation Computer Systems*, 2020. (FGCS 2021 Best Paper Award)
9. R. Ferreira da Silva, H. Casanova, A. Orgerie, R. Tanaka, E. Deelman, and F. Suter, Characterizing, Modeling, and Accurately Simulating Power and Energy Consumption of I/O-intensive Scientific Workflows, *Journal of Computational Science*, vol. 44, 2020.
10. E. Deelman, R. Ferreira da Silva, K. Vahi, M. Rynge, R. Mayani, R. Tanaka, W. Whitcup, and M. Livny, “The Pegasus Workflow Management System: Translational Computer Science in Practice,” *Journal of Computational Science*, 2020.
11. H. Casanova, R. Ferreira da Silva, R. Tanaka, S. Pandey, G. Jethwani, W. Koch, S. Albrecht, J. Oeth, and F. Suter, Developing Accurate and Scalable Simulators of Production Workflow Management Systems with WRENCH, *Future Generation Computer Systems*, vol. 112, p. 162-175, 2020.
12. R. Ferreira da Silva, S. Callaghan, T. M. A. Do, G. Papadimitriou, and E. Deelman, Measuring the Impact of Burst Buffers on Data-Intensive Scientific Workflows, *Future Generation Computer Systems*, vol. 101, p. 208–220, 2019.
13. E. Deelman, K. Vahi, M. Rynge, R. Mayani, R. Ferreira da Silva, G. Papadimitriou, and M. Livny, The Evolution of the Pegasus Workflow Management Software, *Computing in Science Engineering*, vol. 21, iss. 4, p. 22–36, 2019.
14. R. Ferreira da Silva, R. Filgueira, E. Deelman, E. Pairo-Castineira, I. M. Overton, and M. Atkinson, Using Simple PID-inspired Controllers for Online Resilient Resource Management of Distributed Scientific Workflows, *Future Generation Computer Systems*, vol. 95, pp.615-628, 2019.
15. A. Brinckman, E. Deelman, S. Gupta, J. Nabrzyski, S. Park, R. Ferreira da Silva, I. J. Taylor, and K. Vahi, Collaborative Circuit Designs using the CRAFT Repository, *Future Generation Computer Systems*, vol. 94, pp.841-853, 2019.
16. T. Glatard, G. Kiar, T. Aumentado-Armstrong, N. Beck, P. Bellec, R. Bernard, A. Bonnet, S. T. Brown, S. Camarasu-Pop, F. Cervenansky, S. Das, R. Ferreira da Silva, G. Flandin, P. Girard, and others, Boutiques: a flexible framework to integrate command-line applications in computing platforms, *GigaScience*, 2018.
17. B. Tovar, R. Ferreira da Silva, G. Juve, E. Deelman, W. Allcock, D. Thain, and M. Livny, A Job Sizing Strategy for High-Throughput Scientific Workflows, *IEEE Transactions on Parallel and Distributed Systems*, vol. 29, iss. 2, pp. 240-253, 2018.
18. R. Ferreira da Silva, R. Filgueira, I. Pietri, M. Jiang, R. Sakellariou, and E. Deelman, A

- Characterization of Workflow Management Systems for Extreme-Scale Applications, *Future Generation Computer Systems*, vol. 75, pp. 228-238, 2017.
19. T. Glatard, M. Rousseau, S. Camarasu-Pop, R. Adalat, N. Beck, S. Das, R. Ferreira da Silva, N. Khalili-Mahani, V. Korkhov, P. Quirion, P. Rioux, S. D. Olabbarriaga, P. Bellec, and A. C. Evans, Software architectures to integrate workflow engines in science gateways, *Future Generation Computer Systems*, vol. 75, pp. 239-255, 2017.
  20. I. Santana-Perez, R. Ferreira da Silva, M. Rynge, E. Deelman, M. S. Pérez-Hernández, and O. Corcho, Reproducibility of execution environments in computational science using semantics and clouds, *Future Generation Computer Systems*, vol. 67, pp.354-367, 2017.
  21. E. Deelman, C. Carothers, A. Mandal, B. Tierney, J. S. Vetter, I. Baldin, C. Castillo, G. Juve, D. Krol, V. Lynch, B. Mayer, J. Meredith, T. Proffen, P. Ruth, and R. Ferreira da Silva, PANORAMA: An Approach to Performance Modeling and Diagnosis of Extreme Scale Workflows, *International Journal of High Performance Computing Applications*, vol. 31, iss. 1, pp. 4-18, 2017.
  22. E. Deelman, K. Vahi, M. Rynge, G. Juve, R. Mayani, and R. Ferreira da Silva, Pegasus in the Cloud: Science Automation through Workflow Technologies, *IEEE Internet Computing*, 20(1), pp. 70-76, 2016.
  23. R. Ferreira da Silva, G. Juve, M. Rynge, E. Deelman, and M. Livny, Online Task Resource Consumption Prediction for Scientific Workflows, *Parallel Processing Letters*, 25(3), 2015.
  24. W. Chen, R. Ferreira da Silva, E. Deelman, and R. Sakellariou, Using imbalance metrics to optimize task clustering in scientific workflow executions, *Future Generation Computer Systems*, vol. 46, pp. 69-84, 2015.
  25. E. Deelman, K. Vahi, G. Juve, M. Rynge, S. Callaghan, P. J. Maechling, R. Mayani, W. Chen, R. Ferreira da Silva, M. Livny, and K. Wenger, Pegasus, a workflow management system for science automation, *Future Generation Computer Systems*, vol. 46, pp. 17-35, 2015.
  26. T. Glatard, L. B. Lewis, R. Ferreira da Silva, R. Adalat, N. Beck, C. Lepage, P. Rioux, M. Rousseau, T. Sherif, E. Deelman, N. Khalili-Mahani, and A. C. Evans, Reproducibility of neuroimaging analyses across operating systems, *Frontiers in Neuroinformatics*, 9(12), 2015.
  27. J. Howison, E. Deelman, M. J. McLennan, R. Ferreira da Silva, and J. D. Herbsleb, Understanding the scientific software ecosystem and its impact: Current and future measures, *Research Evaluation*, 2015.
  28. W. Chen, R. Ferreira da Silva, E. Deelman, and T. Fahringer, Dynamic and fault-tolerant clustering for scientific workflows, *IEEE Transactions on Cloud Computing*, 2015.
  29. T. Glatard, L. B. Lewis, R. Ferreira da Silva, R. Adalat, N. Beck, C. Lepage, P. Rioux, M. Rousseau, T. Sherif, E. Deelman, N. Khalili-Mahani, and A. C. Evans, Reproducibility of neuroimaging analyses across operating systems, *Frontiers in Neuroinformatics*, 9(12), 2015.
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LICENSES AND  
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- **Ground Instructor**, Federal Aviation Administration, December 2020.
- **Private Aircraft Pilot**, Federal Aviation Administration, November 2020.