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

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APPOINTMENTS

Oak Ridge National Laboratory, National Center for Computational Sciences, USA
2023–present **Group Leader**, Workflow and Ecosystem Services
2021–present **Senior Research Scientist**

Future Generation Computer Systems Journal, Elsevier
2023–present **Special Content Editor**

Workflows Community Initiative (WCI) – https://workflows.community
2022–present **Co-Founder** and **Executive Director**

University of Southern California, Department of Computer Science, USA
2021–present **Adjunct Research Assistant Professor**
2016–2021 **Research Assistant Professor**

University of Southern California, Information Sciences Institute, USA
2019–2021 **Research Lead**
2013–2019 **Computer Scientist**

Centre National de la Recherche Scientifique (CNRS), France
2010–2013 **Software Engineer**

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

PROFESSIONAL ACTIVITIES

Funding Agencies Reviewer
- 2017–2023, U.S. National Science Foundation (NSF), In-person and Virtual Review Panels, and Ad-hoc Reviewer.
- 2021–2023, U.S. Department of Energy (DoE), Mail In Reviews.
- 2020, U.S. Army Research Office (ARO), Ad-hoc Reviewer.
- 2019, Netherlands Organisation for Scientific Research (NWO), Ad-hoc reviewer.

Chair	1. **Track Chair**: Data Analytics, Visualization, & Storage, IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC24), Atlanta, GA, USA, 2024.
	2. **Publication Chair**, 33rd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Pisa, Italy, 2024.
	3. **Program Chair**, 19th IEEE International Conference on eScience (eScience), Conference, Limassol, Cyprus, 2023.
	4. **Publication Chair**, 32nd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Orlando, FL, USA, 2023.
	5. **Track Chair**: Performance Evaluation, 35th IEEE International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Conference, Porto Alegre, Brazil, 2023.
	6. **Program Chair**, 17th Workflows in Support of Large-Scale Science (WORKS), Workshop, Dallas, USA, 2022.
	7. **Co-Program Chair**, 2nd Workshop on E-science ReseaRch leading tO negative Results (ERROR), Workshop, Salt Lake City, USA, 2022.
	8. **Publicity and Web Chair**, 18th IEEE International Conference on eScience (eScience), Salt Lake City, USA, 2022.
	9. **Publication Chair**, Gateways 2022 Conference, San Diego, USA, 2022.
	10. **Program Chair**, 16th Workflows in Support of Large-Scale Science (WORKS), Workshop, Saint Louis, USA, 2021.
	11. **Publicity and Web Chair**, 17th IEEE International Conference on e-Science (eScience), Conference, Innsbruck, Austria, 2021.
	12. **Program Chair**, 15th Workflows in Support of Large-Scale Science (WORKS), Workshop, Atlanta, USA, 2020.
	13. **Program Chair**, 14th Workflows in Support of Large-Scale Science (WORKS), Workshop, Denver, USA, 2019.
	14. **Program Chair**, Bridging from Concepts to Data and Computation for eScience (BC2DC), Workshop, San Diego, USA, 2019.
	15. **Track Chair**, 15th International Conference on eScience (eScience), Conference, San Diego, USA, 2019.
	16. **Program Chair**, 13th Workflows in Support of Large-Scale Science (WORKS), Workshop, Dallas, USA, 2018.
	17. **Organizer**, 2018 National Science Foundation Software Infrastructure for Sustained Innovation Principal Investigators Meeting (NSF SI2 PI Meeting), Washington, USA, 2018.
	18. **Publicity Chair**, 12th Workflows in Support of Large-Scale Science (WORKS), Workshop, Denver, USA, 2017.
	19. **Publicity Chair**, 11th Workflows in Support of Large-Scale Science (WORKS), Workshop, Salt Lake City, USA, 2016.
	20. **Local Arrangements Chair**, 28th International Symposium on Computer Architecture and High Performance Computing (SBAC-PAD), Conference, Los Angeles, USA, 2016.
Program Committee Member	1. 33rd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Conference, Pisa, Italy, 2024.
	2. IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (SC23), Workshops, Denver, CO, USA, 2023.
	3. IEEE Cluster, Santa Fe, NM, USA, 2023.
	4. 52nd International Conference on Parallel Processing (ICPP), Salt Lake City, UT, USA, 2023.
	5. 29th International European Conference on Parallel and Distributed Computing (Euro-Par), Limassol, Cyprus, 2023.
	6. 32nd ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC), Orlando, FL, USA, 2023.
	7. 23rd IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing

(CCGrid), Bangalore, India, 2023.

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

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

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

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

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.

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.

RESEARCH GRANTS	1. **PI,** Center for Sustaining Workflows and Application Services, DOE, 04/2023-04/2024, $120,000.
	2. **Co-PI**, *ExaWorks: ECP Workflows Project,* DOE, 2017-09/2023, $3,773,833, grant #17-SC-20-SC.

Rafael Ferreira da Silva, Ph.D.

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.

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

Rafael Ferreira da Silva, Ph.D.

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. Caíno-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. Olabarriaga, 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, <u>R. Ferreira da Silva</u>, 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 <u>R. Ferreira da Silva</u>, 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 <u>R. Ferreira da Silva</u>, Pegasus in the Cloud: Science Automation through Workflow Technologies, *IEEE Internet Computing*, 20(1), pp. 70-76, 2016.

23. <u>R. Ferreira da Silva</u>, 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, <u>R. Ferreira da Silva</u>, 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, <u>R. Ferreira da Silva</u>, 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, <u>R. Ferreira da Silva</u>, 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, <u>R. Ferreira da Silva</u>, and J. D. Herbsleb, Understanding the scientific software ecosystem and its impact: Current and future measures, Research Evaluation, 2015.

28. W. Chen, <u>R. Ferreira da Silva</u>, 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, <u>R. Ferreira da Silva</u>, 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.

30. <u>R. Ferreira da Silva</u>, T. Glatard, and F. Desprez, Controlling fairness and task granularity in distributed, online, non-clairvoyant workflow executions, *Concurrency and Computation: Practice and Experience*, 26(14), pp. 2347-2366, 2014.

31. <u>R. Ferreira da Silva</u>, T. Glatard, and F. Desprez, Self-healing of workflow activity incidents on distributed computing infrastructures, *Future Generation Computer Systems*, 29(8), pp. 2284-2294, 2013.

32. T. Glatard, C. Lartizien, B. Gibaud, <u>R. Ferreira da Silva</u>, G. Forestier, F. Cervenansky, M. Alessandrini, H. Benoit-Cattin, O. Bernard, S. Camarasu-Pop, N. Cerezo, P. Clarysse, A. Gaignard, P. Hugonnard, H. Liebgott, S. Marache, A. Marion, J. Montagnat, J. Tabary, and D. Friboulet, A virtual imaging platform for multi-modality medical image simulation, *IEEE Transactions on Medical Imaging*, 32(1), pp. 110-118, 2013.

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Rafael Ferreira da Silva, Ph.D.

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Rafael Ferreira da Silva, Ph.D.

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Rafael Ferreira da Silva, Ph.D.

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LICENSES AND CERTIFICATIONS

- **Ground Instructor,** Federal Aviation Administration, December 2020.
- **Private Aircraft Pilot**, Federal Aviation Administration, November 2020.

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