18th Workshop on Workflows in Support of Large-Scale Science (WORKS)

Welcome from the Chairs

Silvina Caino-Lores, French Institute for Research in Computer Science and Automation (Inria), silvina.caino-lores@inria.fr

Anirban Mandal, Renaissance Computing Institute (RENCI), UNC-Chapel Hill, anirban@renci.org

November 12-13, Denver, CO, USA

Co-located with The International Conference for High Performance Computing, Networking, Storage, and Analysis

Workshop Overview

- Submissions: 29 → All-time record!
    - Full papers: 21
    - Abstracts: 8

- Accepted: 17
    - Full papers: 12 (57%)
    - Abstracts: 5 (63%)

- Reviews per submission: 3.5

- Full papers and combined paper with materials from abstract papers published in the Workshop Proceedings of SC

    - https://dl.acm.org/doi/proceedings/10.1145/3624062

- Two invited talks

- **Upgraded to full-day workshop consisting of two parts**

Part I (Sunday 12th, 2pm to 5:30pm, Rooms 501-502)

14:00	14:10	Welcome - Part I
14:10	14:42	**Workflow Building Blocks: The Success Story of Environmental Modeling, HPC, and AI for Predicting Farmed Seafood Bacteria Contamination** *Montella*
14:42	15:00	**End-to-end Workflows for Climate Science: Integrating HPC Simulations, Big Data Processing and Machine Learning** *Elia, Scardigno, Ejarque, D'Anca, Accarino, Scoccimarro, Donno, Peano, Immorlano, Aloisio*
15:00	15:30	Break
15:30	15:48	**Scale Composite BaaS Services With AFCL Workflows** *Larcher, Ristov*
15:48	16:06	**A Systematic Mapping Study of Italian Research on Workflows** *Aldinucci, Baralis, Cardellini, Colonnelli, Danelutto, Decherchi, Di Modica, Ferrucci, Gribaudo, Iannone, Lapegna, Medic, Muscianisi, Righetti, Sciacca, Tonellotto, Tortonesi, Trunfio, Vardanega*
16:06	16:16	**Transcriptomics Atlas Pipeline: Cloud vs HPC** *Kica, Lichołai, Malawski*
16:16	16:26	**Patterns and Anti-Patterns in Migrating from Legacy Workflows to Workflow Management Systems** *Cassol, Froula, Kirton, Sul, Melara, Kothadia, Player, Sarrafan, Chan, Fagnan*
16:26	16:44	**Accelerating Data-Intensive Seismic Research Through Parallel Workflow Optimization and Federated Cyberinfrastructure** *Adair, Rodero, Parashar, Melgar*
16:44	17:02	**Laminar: A New Serverless Stream-based Framework with Semantic Code Search and Code Completion** *Zahra, Li, Filgueira*
17:02	17:20	**Optimization towards Efficiency and Stateful of dispel4py** *Liang, Zhang, Yang, Heinis, Filgueira*
17:20	17:30	Wrap Up - Part I

Part II (Monday 13th, 9am to 12:30pm, Rooms 704-706)

09:00	09:05	Welcome - Part II
09:05	09:37	**FAIRIST of Them All: Meeting Researchers Where They Are With Just-in-Time, FAIR Implementation Advice** *Kirkpatrick*
09:37	09:55	**A data science pipeline synchronisation method for edge-fog-cloud continuum** *Sanchez-Gallegos, Gonzalez-Compean, Carretero, Marin-Castro*
09:55	10:25	Break
10:43	10:53	**Leveraging Large Language Models to Build and Execute Computational Workflows** *Duque, Syed, Day, Berry, Katz, Kindratenko*
10:53	11:11	**Delivering Rules-Based Workflows for Science** *Marchant, Blomqvist, Jensen, Lilholm, Nørgaard*
11:11	11:29	**Julia as a Unifying End-to-End Workflow Language on the Frontier Exascale System** *Godoy, Valero-Lara, Anderson, Lee, Gainaru, Ferreira da Silva, Vetter*
11:29	11:39	**Scaling on Frontier: Uncertainty Quantification Workflow Applications using ExaWorks to Enable Full System Utilization** *Titov, Carson, Rolchigo, Coleman, Belak, Bement, Laney, Turilli, Jha*
11:39	11:57	**Distributed Data Locality-Aware Job Allocation** *Markovic, Kolovos, Soares Indrusiak*
11:57	12:15	**Fluxion: A Scalable Graph-Based Resource Model for HPC Scheduling Challenges** *Patki, Ahn, Milroy, Yeom, Garlick, Grondona, Herbein, Scogland*
12:15	12:25	**The Common Workflow Scheduler Interface: Status Quo and Future Plans** *Lehmann, Bader, Thamsen, Leser*
12:25	12:30	Wrap Up - Part II

Invited talk	Paper talk	Lightning talk

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		...Workflows for Science *...ensen, Lilholm, Nørgaard*
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| Invited talk | Paper talk | Lightning talk |

More details on the website
https://works-workshop.org/

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Join us for Part II tomorrow at 9am on rooms 704-706

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Best Paper Distinction

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Julia as a Unifying End-to-End Workflow Language on the Frontier Exascale System

William Godoy, Pedro Valero-Lara, Caira Anderson, Katrina Lee, Ana Gainaru,
Rafael Ferreira da Silva, Jeffrey Vetter

Presentation during **Part II on Monday, November 13th at 11:11am in rooms 704-706**

Logistics

- We have a tight schedule, please adhere to the following time restrictions
  - Invited talks: 32-minute time slot (28+4)
  - Paper talks (i.e., full papers): 18-minute time slot (15+3)
  - Lightning talks (i.e., abstracts): 10-minute time slot (8+2)

- Online participants must submit their questions to the Digital Experience platform. Chair will monitor and select the questions to the room

- Make sure you test your laptop during the break preceding your presentation

- In case of technical difficulties, we will show the copy of the presentation you had submitted

- Presenters will come to the front to set up their presentation during the last minute of questions of the previous presentation

Thank you!

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Frédéric Suter
Ketan C. Maheshwari
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SC organizers and volunteers

Thank you!