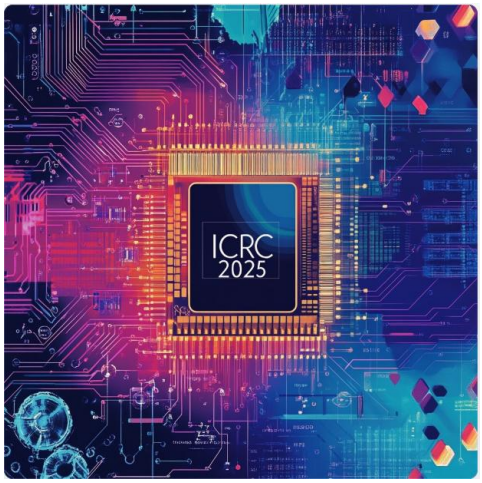
Call for Papers: The 10th Annual International Conference on Rebooting Computing (ICRC)*;* 15-16 December 2025; San Diego, CA, USA



The 10th International Conference on Rebooting Computing (ICRC) 2025 will be held from December 15-16, 2025, in San Diego, CA, USA. ICRC encourages forward-looking research across the computing stack, including novel materials, devices, circuits, algorithms, system software, and network architectures. To advance these goals, novel research contributions encompassing co-design across the computing stack are encouraged. Bridging analog and digital neuromorphic, alongside exotic new forms of probabilistic, reversible and quantum computing, the broad scope of ICRC extends to many areas of interest, such as harnessing novel device physics and materials for energy efficiency, performance, density, or new capabilities.

This year, ICRC is excited to announce a new partnership with SpringerNature's *npj Unconventional Computing*! All papers will be submitted for review for direct publication in *npj Unconventional Computing*, with selected submissions included in the ICRC program. Further details, including abstract-only submissions, are described on the next page.

Topics of Interest

- **Future Computing Paradigms**: Including but not limited to neuromorphic (brain-inspired) computing, approximate/probabilistic computing, analog computing, or schemes combining these approaches; energy-efficient computing including reversible computing, adiabatic computing, ballistic computing, and cryogenic computing; quantum computing; optical computing; biological and biochemical computing; non-von Neumann computer architectures (*e.g.*, in-memory processing, memory-based computing, content addressable memory, cellular automata, or neural networks).

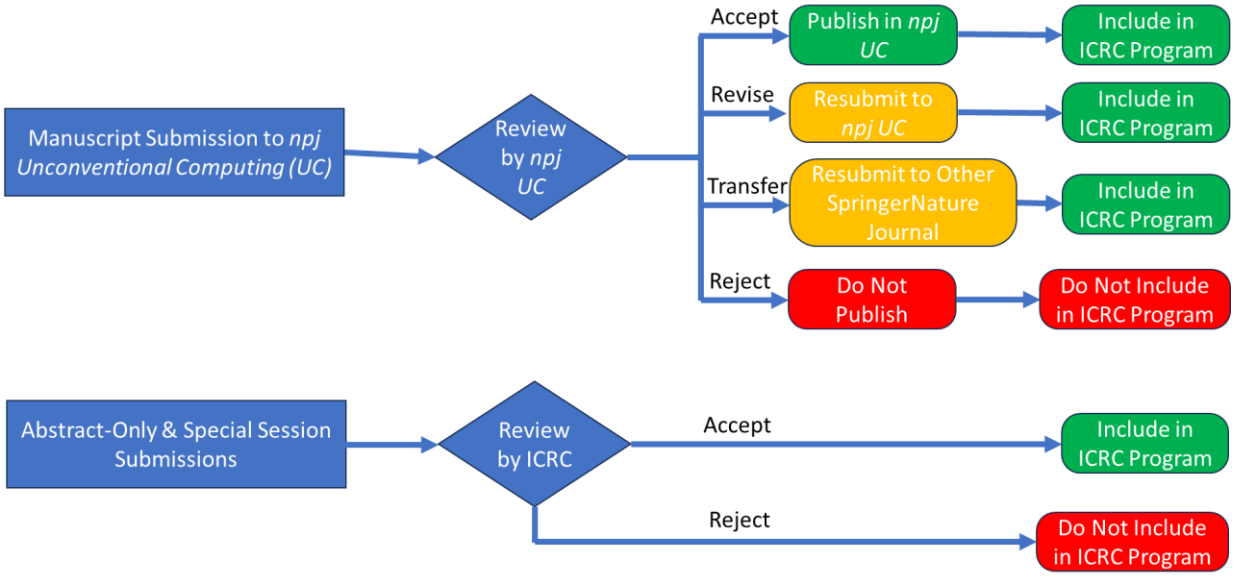
- **Future Design Aspects for Computing**: Including but not limited to extending Moore's law; error-tolerant logic and circuits; future of design automation; post-CMOS or memory-centric computing; 3D, 2.5D, or other novel heterogeneous integration/packaging approaches; future circuit scaling methods with high reliability and/or flexibility; cybersecurity in future computing systems.

- **Future Software and Applications**: Including but not limited to beyond von Neumann software design (operating systems, compilers, security, and resource management); future programming paradigms and languages; applications driving next generation computing hardware (*e.g.*, machine learning, deep learning, large language models).

Submission & Publication

Please select from the following formats that best fits your goals:

- **Full Papers**: Full papers will be submitted directly to *npj Unconventional* Computing at <Submission Link will be provided soon>, and will go through the standard review process according to the policies of *npj Unconventional Computing*. During submission, authors should select the Collection titled "<Title TBD>" and indicate their interest in presenting at ICRC 2025; the Guest Editors of the Collection include the ICRC Program Co-Chairs, and the reviewers will include members of the ICRC Program Committee. Papers accepted for publication will be subject to the standard Article Processing Charge (APC) of *npj Unconventional Computing*, unless otherwise waived. As illustrated below, the following process will be used to determine inclusion in the ICRC program based on the outcome of the first round of the standard review process for *npj Unconventional* Computing:
    - **Accept**: Papers accepted to *npj Unconventional Computing* will be published in *npj Unconventional Computing*, and the ICRC program will include presentation of this research.
    - **Revise**: Papers invited to revise and resubmit to *npj Unconventional Computing* will continue to go through the standard review process according to the policies of *npj Unconventional Computing*, and the ICRC program will include presentation of this research.
    - **Transfer**: Papers invited to transfer to other SpringerNature journals (*e.g.*, *Scientific Reports*) will go through the standard review process according to the policies of the journal to which it is transferred, and the ICRC program will include presentation of this research.
    - **Reject**: Papers rejected by *npj Unconventional Computing* will not be published in *npj Unconventional Computing*, and the ICRC program will not include presentation of this research.



- **Abstract-Only Submission (1 page maximum)**: Abstract-only submissions should be submitted via EasyChair at <Submission Link will be provided soon>. These submissions should present an idea, position, or results salient to the above topics of interest. They need *not* present original research. If accepted, these will be featured as short talks but NOT included in published proceedings or journals. The page limit includes references and all supporting material.

- **Special Session Proposals (2 pages)**: Special session proposals should be submitted via EasyChair at <Submission Link will be provided soon>. The special session proposals can include workshops, tutorials, panels, or demonstrations on any of the above topics of interest. These sessions need not present original research. The special sessions will last for 1-2 hours (proposers should include a rough time budget in the document). Submitted proposals will not be included in the conference proceedings. The page limit includes references and all supporting material.

Important Dates

- Paper submissions due: **6 October 2025 AoE (No Extensions)**
  Note: Paper submissions will be reviewed on a rolling basis. The earlier you submit your paper, the earlier you will be notified of acceptance.
- Author notification of acceptance to ICRC program by: **7 November 2025**
- Early registration deadline (required for presenters): **16 November 2025**
- Hotel reservation deadline: **16 November 2025**
- Conference: **15-16 December 2025**

Organizing Committee

- **General Chair**: Joseph S. Friedman, *University of Texas at Dallas, USA*
- **Program Co-Chair**: Christopher H. Bennett, *Sandia National Laboratories, USA*
- **Program Co-Chair**: Alexandru Paler, *University of Aalto, Finland*
- **Finance Chair**: Damien Querlioz, *Centre de Nanosciences et de Nanotechnologies, France*
- ***npj UC* Publication Liaison:** Christof Teuscher, *Portland State University, USA*
- **Publicity Co-Chair**: Akinaga Hiro, *Hokkaido University, Japan*
- **Publicity Co-Chair**: Catherine Schuman, *University of Tennessee, Knoxville, USA*
- **Publicity Co-Chair**: Jean Anne Incorvia, *University of Texas, Austin, USA*
- **Publicity Co-Chair**: Pedram Khalili, *Northwestern University, USA*
- **Publicity Co-Chair**: Alvaro Velasquez, *University of Colorado-Boulder, USA*

Website

For a live version of our Call for Papers, including future updates, please visit the conference webpage: <Website Link will be provided soon>