

PESO Team Contributes to HPSF Growth and Impact

Scientific Achievement

- The High Performance Software Foundation (HPSF), launched May 2024, supports use and sustainment of apps, libraries and tools for leadership scientific computing
- HPSF promotes and incentivizes improved software quality, availability, and use through better team practices, processes, testing, and access to resources and events
- HPSFCon25 brought over 200 leaders from DOE, and key industry, agency, and international partners together in May 2025 into a vibrant conversation about software
- **PESO team efforts and resources have been integral to HPSF growth and success**

Significance and Impact

- HPSF promises to be the critical community element that brings together all parties with common interests in high-quality, open-source, scientific software
- HPSF provides funding and collaboration that enable DOE, other US agencies, industry, and international groups to work together on common software interests
- **HPSF provides a key element for sustaining DOE investments in scientific software**

Technical Approach

- PESO members play key HPSF leadership roles. 10 PESO members attended HPSFCon
- PESO-supported products Spack and E4S are HPSF member products
- PESO-supported software integration staffing and the "Frank" system with the latest GPU nodes provides critical CI testing for HPSF products



HPSF
HIGH PERFORMANCE
SOFTWARE FOUNDATION

"The High Performance Software Foundation (HPSF) is a neutral hub for open source high performance software. By increasing adoption, aiding community growth, and enabling development efforts, HPSF supports projects that advance portable software for diverse hardware. HPSF is lowering barriers to productive use of today's and future high performance computing systems. HPSF is part of the nonprofit Linux Foundation." (Source: hpsf.io)

PESO provides funding for key resources, including the "Frank" continuous integration (CI) testing platform that contains the latest in accelerator devices from NVIDIA, AMD, and Intel, and many CPU types for robust testing.

Many PESO Team members have significant HPSF involvement, including:

- **Todd Gamblin:** HPSF founder, Governing Board (GB) Chair, lead HPSF Core Project Spack
- **Damien Lebrun-Grandie:** GB member, HPSF Technical Advisory Committee (TAC) member
- **Bill Hoffman** (TAC), **Jim Willenbring:** TAC, E4S Technical Steering Committee (TSC), **Sameer Shende,** E4S Project Lead/TSC member, **Greg Becker,** Spack, **Tammy Dahlgren,** Spack, **Ryan Krattiger,** Spack, **Satish Balay,** E4S, **Luke Peyralans,** E4S, **Wyatt Spear,** E4S, **Mike Heroux,** E4S TSC member, HPSF "Cheerleader"

PIs: Michael Heroux, (ParaTools, Inc.), Lois Curfman McInnes (Argonne)

HPSF/Spack lead: Todd Gamblin (LLNL), E4S lead: Sameer Shende (U of Oregon)

Collaborating Institutions: ANL, U of Oregon/ParaTools, LLNL, ORNL, Kitware, SNL

ASCR Program: Next-Generation Scientific Software Technologies

ASCR PM: David Rabson

High Performance Software Foundation website: <https://hpsf.io>

HPSFCon website: <https://hpsf.io/event/hpsf-conference/>



<https://pesoproject.org>

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