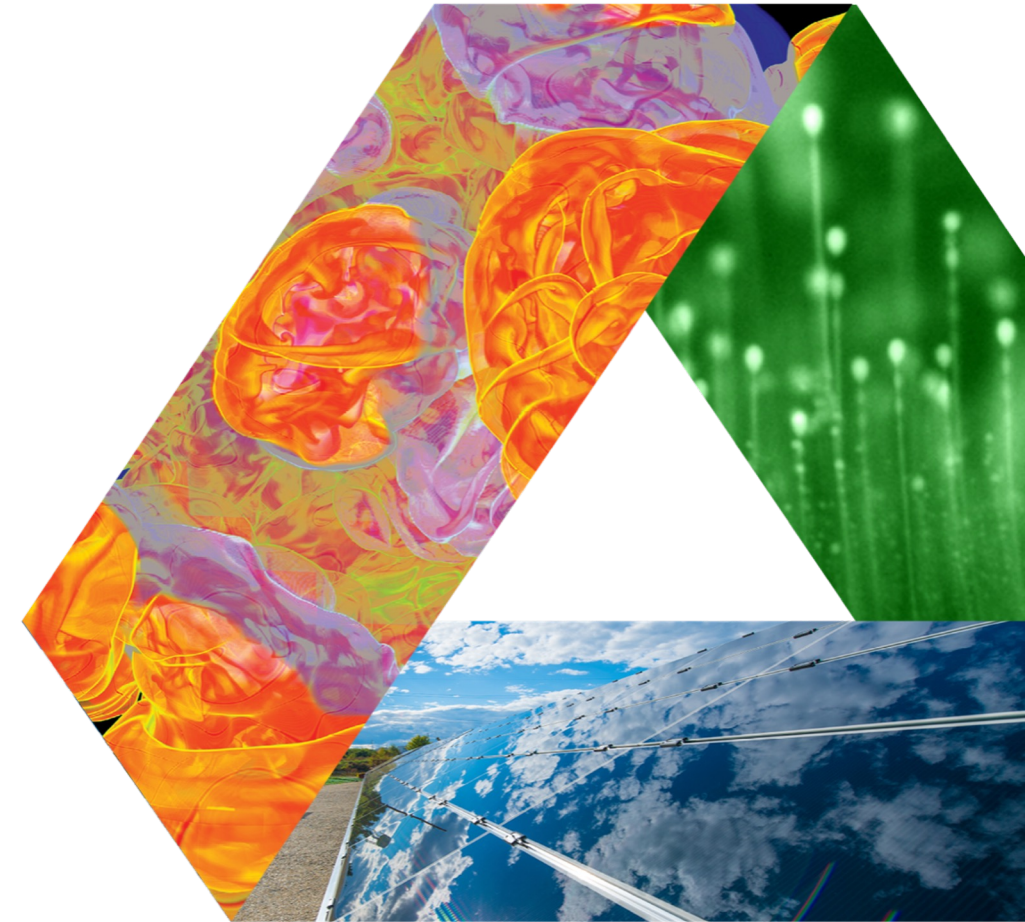# COLABS: Collaboration for Better Software (for Science)

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https://colabs-science.github.io

Argonne National Laboratory

U.S. DEPARTMENT OF ENERGY | Office of Science

Good scientific process requires good software practices

→

Good software practices increase software sustainability

↓

Good software practices increase scientific productivity

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Software sustainability increases scientific productivity

Science with Computing is at best as good as the software that produces it

COLABS

Comprehensive services in support of scientific software stewardship and sustainability

Elevate scientific software development through

- Availability of well-trained professionals
- Extensive training
- Education
- Community-building efforts
- Advocacy for both better software and for the people responsible for it

A modest research component on the "science of scientific software"

- In the spirit of SSSDU workshop report
- To help improve COLABS services and training and the broader community.

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The Research Software Engineer role

People with many job titles contribute to the development and maintenance of scientific software

Software professional

Computer Scientist

Domain scientist

Computational Scientist

COLABS adoption of term RSE

❑ ..As part of a world-wide movement which has settled on the term "research software engineer" (RSE) for this role
- ❑ "those who regularly use expertise in programming to advance research" -- US-RSE (professional society)

❑ Many research-oriented institutions have a hard time valuing contributions to software development and sustainment
- ❑ This applies to full and part time RSE's

❑ COLABS will advocate for better recognition and rewards for software-related contributions with member institutions and sponsors

Any of them can assume full or part time role of research software engineer

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❑ Project staff can become members of COLABS for negotiated fractions of their time
❑ COLABS will also have a pool of full time staff for sustainability services in its catalog
❑ Project staff in COLABS will have the option of joining the pool of service providers

Any of them can assume full or part time role of research software engineer

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Workforce Development and Research

- ❏ We believe more people are needed in RSE role – plan for significant workforce development activity to help address that need
  - ❏ Engage with teaching institutions to incorporate practical scientific software development and engineering into their curricula
  - ❏ Complement with internship and co-op programs to give students hands-on experience
- ❏ Emphasize inclusion of people from underrepresented and marginalized groups in education, internship, co-op efforts
  - ❏ Reach out to minority serving institutions and those that have no or limited connection to HPC
- ❏ COLABS staff will be encouraged to serve as instructors, mentors

- ❏ A modest R&D activity with the goal of improving COLABS services and training
  - ❏ In the spirit of the findings of the Workshop on the Science of Scientific Software Development and Use (SSSDU) report to be published soon
- ❏ Involvement in software science R&D is another professional development opportunity for COLABS team members

Brochure for SSSDU available

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Workshop Goals

Get community input on how to create and sustain a well-trained workforce that can fulfil RSE role as and where needed

❏ Teaching at educational institutions

❏ In-house training

❏ Internships and co-op opportunities

❏ Professional development opportunities

❏ Advocacy for the role and for personnel involved in the role

Workshop Information

https://colabs-science.github.io/2023-07-18-workshop/

COLABS Virtual Workshop -- July 18-19

Posted on July 18, 2023

COLABS is holding a virtual workshop to engage the computational science community in ways to get ready a workforce that is well trained in all aspects of software sustainability, and is well recognized and rewarded for their contributions towards enabling high quality science output.

Time: 1:00pm–5:00pm CDT
Date: Tuesday 18 - Wednesday 19 July 2023

Title: COLABS: Virtual Workshop on Workforce Development

- Agenda: PDF
- Breakout notes : Google Drive
- Zoom link : Connect