



INTERSECT

Research Software Engineering Training

<https://intersect-training.org>

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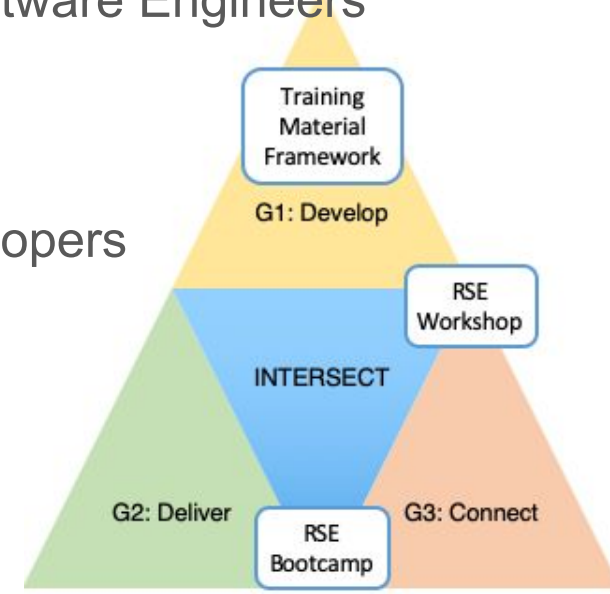


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Introducing: INTERSECT

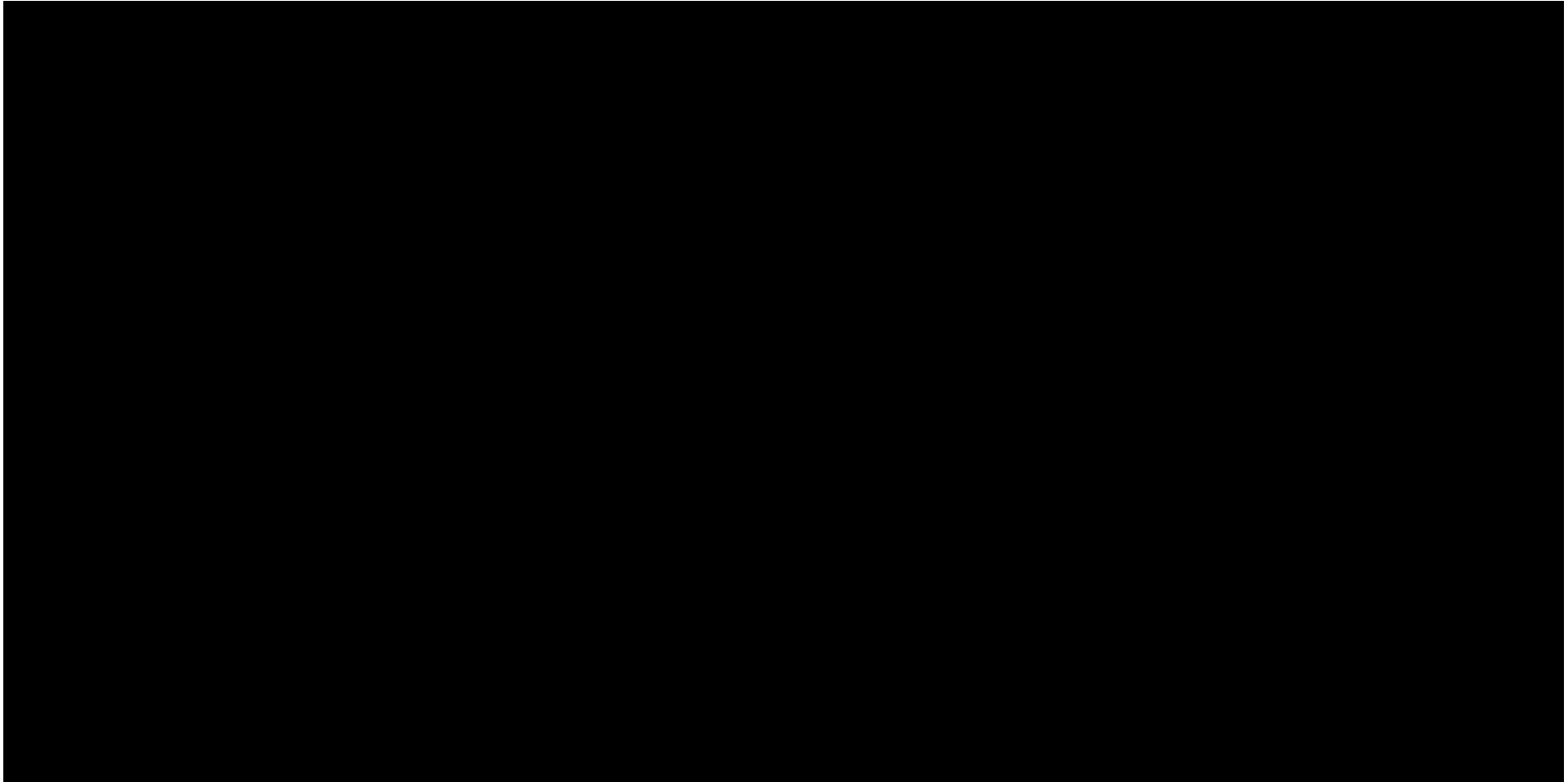
- Innovative Training Enabled by a Research Software Engineering Community of Trainers
 - NSF-Funded CyberTraining project
- 3 main goals:
 - Develop an open-source modular training framework conducive to community contribution
 - Deliver RSE-led research software engineering training targeting developers
 - Deepen the connection within the national community of Research Software Engineers
- Sponsor two annual events:
 - Workshops for RSEs to develop/refine material
 - RSE-led bootcamp for intermediate/advanced research software developers



Anticipated Bootcamp Curriculum

- Intro
 - Welcome and Introductions
 - Overview and Landscape
- Design
 - Design patterns and approaches
 - Refactoring & Legacy Code
- Working Collaboratively
 - Advanced Git
 - Making good PRs
 - Documentation
 - Project management and Issue Tracking
 - Code Review
- Testing
 - Types of testing
 - Writing good tests
 - Testing frameworks
 - Debugging
- Continuous Integration
 - Linters
 - Code Coverage
- Packaging & distribution
 - Versioning
 - Licensing
 - Building a Python package
 - Publishing and citation
- Performance
 - Overview of architecture and hardware (HPC)
 - Speeding up scientific Python
 - Profiling
- Machine Learning Basics
 - What every RSE should know about ML
- Deployment & DevOps
 - Containerization
 - Continuous Deployment

Existing Training Links



Project Timeline

- 2022-Aug: 1st Workshop @Princeton
- 2022-2023: Virtual workshops/meetings to develop curriculum
- 2023-Jun: 1st sponsored Bootcamp @ Princeton



Participation Options in INTERSECT

- **Workshops** - Target audience RSEs of one of the following:
 - Experience giving research software development training
 - Never formally served as a trainer
 - Want to give input on the material and skills that are needed in the profession
- **Bootcamps** - Targeting domain researchers, aspiring RSEs, with baseline knowledge who are looking to expand research software engineering skill set
- **Asynchronous Training Material** - Community contributions curating, developing and refining specific training topics

<https://intersect-training.org/participate>