

2021 Collegeville Workshop on Scientific Software

Software Teams

July 20 – 22, 2020



Thanks to Our Sponsor

- College of Saint Benedict & Saint John's University
 - Home institution, host of Zoom resources
- Thank you!

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Meeting Purpose

Code of Conduct

Be considerate, respectful, and collaborative. Communicate openly with respect for others, critiquing ideas rather than individuals. Avoid personal attacks directed toward other attendees, participants, and CW21 staff. Be mindful of your surroundings and of your fellow participants.

- Explore commonalities, differences, complementarities, workforces of
 - Academia
 - Industry
 - Labs
- Build knowledge and awareness to improve software teams
- Main purpose: Build community

Workshop Agenda

- All live sessions use Zoom
 - Single Zoom link (via registration)
 - Breakout rooms for discussions & teatimes

Time (US CDT)	July 22 Get Details
9:45 am	
10:00 am	Panel 3: Cultural Approaches to Improved Software Teams
11:30 am	Break & Slack Discussions
12:30 pm	Discussion 3: Cultural Approaches to Improved Software Teams <
2:00 pm	Break & Slack Discussions
3:00 pm	TeaTime 3: Cultural Approaches to Improved Software Teams
4:30 pm	Closing Remarks

Whitepapers & Recorded Content

- 13 whitepapers on website
- 16 videos on Collegeville YouTube Channel

*Make use of this content
during and after the workshop*

Use of Slack during meeting

- We encourage Slack chat during the meeting at any time
 - Especially during panels and breaks
- Try to keep Zoom panel chat reserved for Q&A

Panel 3: Cultural Approaches to Improved Software Teams

Moderator: Daniel S. Katz, University of Illinois

Panelists:

- Anshu Dubey, Argonne National Laboratory
- Nur Fadel, Swiss National Supercomputing Center (CSCS)
- Carina Haupt, German Aerospace Center (DLR)
- David Moulton, Los Alamos National Laboratory
- Elaine Raybourn, Sandia National Laboratories

Anshu Dubey - Opening Remarks: Cultural improvement approaches

- Perception of the value of SW team to the larger project:
 - Assuming that others will also talk about this, I have another one.
- Define development standards and incorporate them into the workflow
 - Not just coding or testing standards, but the overall quality of work standards
 - Cognizant of how work of one team member impacts the work of others in the team
 - Examples:
 - technical debt with quick and dirty -- someone may have to unwind and redo the work
 - documentation -- can quickly go out of sync with development
- Standards czar -- with authority to enforce standards agreed upon by the team as a whole
- A team where everyone is taking responsibility for their work quality, and are respectful of each other's work
- Flash-X team is experimenting with many aspects of this idea, hopefully we will have a good methodology figured out by the end.

Opening Remarks: Cultural improvement approaches

Nur A. Fadel - CSCS experience

1. Establish a familiar environment (but still competitive)
2. Establish a culture of Fail: Fail is not bad, hiding the issue is bad

Key role of the managers to establish them

Several small recipes: no marks/positive discussions, open discussions among people of different background, coffee breaks, encourage self-learning, after work activities, use irony

Positive impact: self empowering the employees (independent, proactive), the team is cohesive, more resilient

Negative impact: overworking employees, difficulty to divide work and private life for certain employees

Cultural improvement approaches for developing scientists

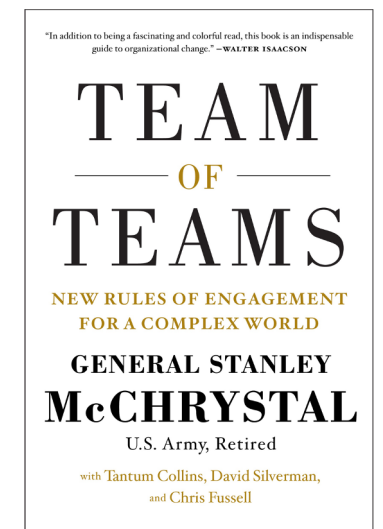
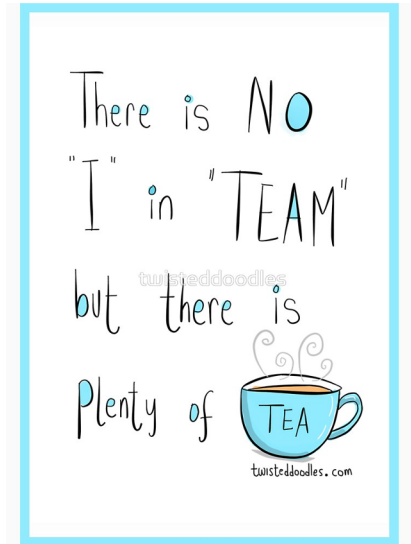
Carina Haupt

- Scientists focus on their research, development is a tool
- Get from development as a burden to development as part of the research process
 - Approach low hanging fruits
 - Use appropriate tools
 - Focus on results not “standard” IT processes/tools
 - RSE (consultant) as moderator
- Impact / Bright Spots
 - Insecurities reduced
 - Development gets “fun”
 - Software quality increases

**BETTER
SOFTWARE
BETTER
RESEARCH**

David Moulton Opening Remarks: Cultural improvement approaches

- Bridge silos through informal meetings
 - Tea Time (Aimee Hungerford)
- Aligning narrative to ensure autonomous development
 - Select specific scientific use cases to help focus the team and drive phased development and testing
- Key Roles:
 - Leader: a gardener not a chess master (similar to lead from the bottom)
 - Liaisons: bridging teams, facilitating communication, tracking the aligning narrative, identifying opportunities
- Impact:
 - Enriched science outcomes, ideally faster (happier team)
- Outcomes: IDEAS-Watersheds has demonstrated ...
 - Efficiency gains through code reuse and leveraging expertise.
 - Broader silos, i.e., between projects at different labs, and not just code based silos, give way to collaboration and teamwork.



Elaine Raybourn

Sandia National Laboratories

Q&A Protocol

- Use Zoom chat to type your question (brief form)
- When your question is mentioned, unmute to ask verbally
- Unless asked to speak, please keep muted
- For general chat about panel, use Slack #general
- Panel ends at 11:30 am CT or when no more questions
- Stopping screen sharing now so we can see faces 😊
- Will start up to give instructions for Discussions

Discussions Instructions

- Please return to Zoom session promptly at 12:30 pm US CDT
- At 12:35 pm, we will use Zoom breakout rooms with automatic assignments to form discussion groups of 6 – 8 people
- Discussions are scheduled from 12:30 – 2:00 pm CDT
- Each discussion group creates a Group Notes file via shared Google doc:
 - Find Day 3 Group Notes template (linked in Slack#contribute)
 - Make a copy (one person from your discussion group)
 - Co-edit the document, recording names, experiences, challenges
- Contents of Group Notes will be synthesized into a blog posting on <https://bssw.io>
 - Separate blog post for each day
 - List your name in your Group Notes if you want attribution as a contributor

Teatimes Instructions

- Teatime theme discussions start at 3:00 pm CDT
 - Use the same Zoom link
 - There are five teatime themes each day
 - Each discussion has its own breakout room
 - We will send a broadcast on the half-hour to signal an opportunity to change themes (or stay)
- We will not gather as one group until closing remarks at 4:30 CDT
- Questions?