

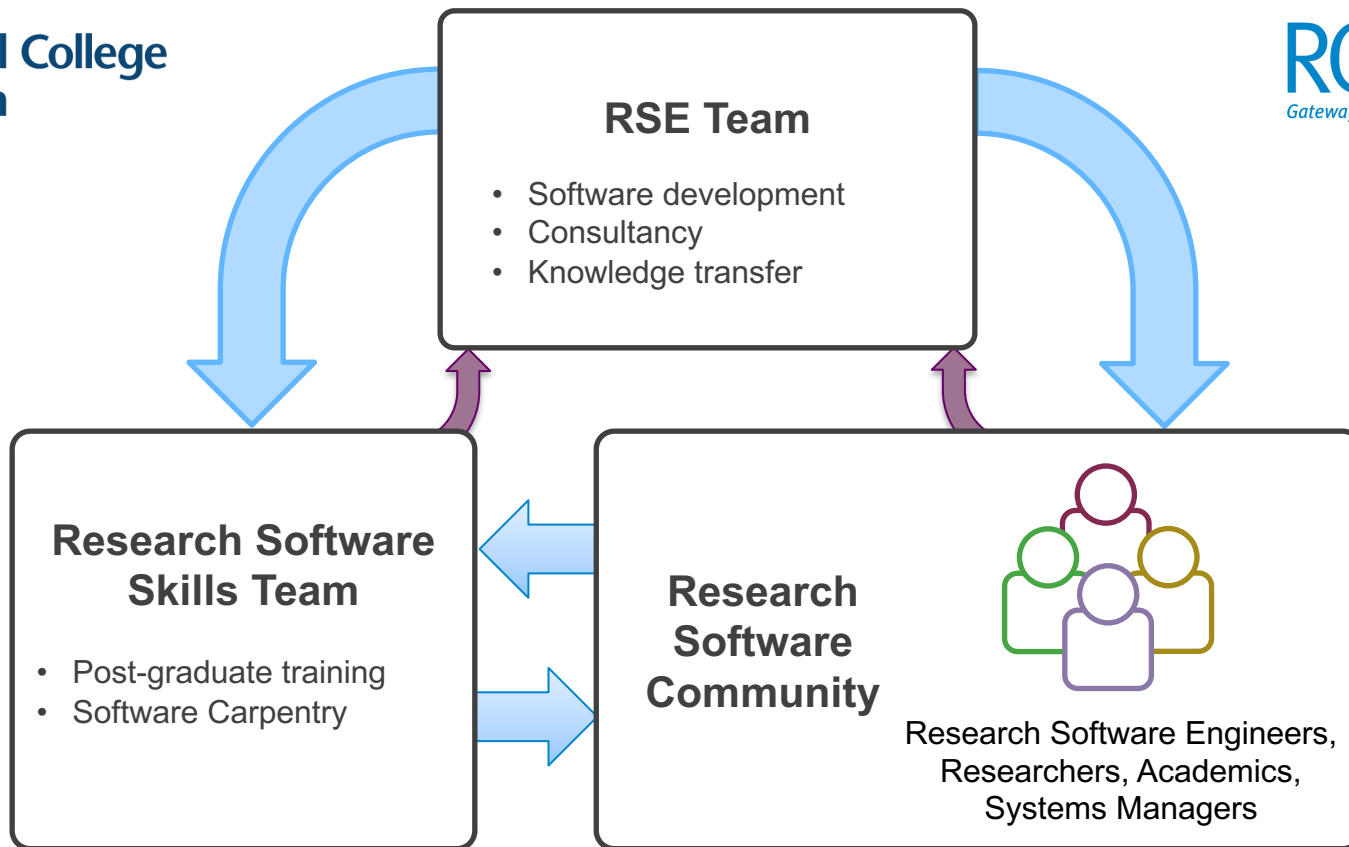
RSE @ Imperial College London

Mark Woodbridge & Jeremy Cohen

NL-RSE19, Amsterdam, November 2019

Agenda

1. The parties involved in RSE at Imperial and their roles
2. Our philosophy
3. Three collaborative activities and their benefits
4. Lessons learnt
5. Outstanding challenges and the future



RSE Team

- Led by Mark Woodbridge
- Established September 2017
- Based within central IT as part of Research Computing Service
- All non-academic positions
- Currently 5 members with ongoing growth in response to demand
- Bias towards physical sciences and engineering
- Combined project- and core-funding

RSE Team activities

- Software development engagements
 - Web, desktop and HPC development
 - Collaborations ranging from 1 week to 1 year
 - All faculties, other institutions, non-profit and commercial partners
- Training, teaching, advocacy, outreach, mentoring
- Resource/infrastructure provision
- Advising on grant applications, technology selection, recruitment...

EPSRC RSE Fellowship

- “A Research Software Engineering Hub for Computational Research”
- 5-year grant, awarded to Jeremy Cohen in 2017
- Scheme run twice: 2015 (7 awarded) and 2017 (4 awarded), only one in London
- Programme designed to support research-focused individuals based in an academic environment but looking for a software-focused research career
- Jeremy is affiliated to the Research Computing Service

EPSRC RSE Fellowship activities

- **Software development**
 - Enhancing usability of and access to complex scientific codes
 - Simplifying access to advanced infrastructure (e.g. HPC clusters) for end users of scientific codes
 - Helping to promote best practices and provide software-related advice and support
- **Community building and liaison**
 - Imperial research software community
 - Set up and run the RSLondon regional community
 - Organiser/chair for RSLondonSouthEast annual workshops 2019, 2020
- **Economics of RSE**
 - Investigating costs/benefits of different approaches to RSE (in collaboration with economist)
 - Aim to help develop effective long-term support for RSE activities across multiple institutions

Research Software Community

- Mailing list with over 200 members
- Includes RSEs, developers, researchers, systems professionals...
- Started in 2015, pre-dates all other RSE activities at Imperial
- Founded and co-ordinated by Jeremy Cohen
- Overseen by committee of volunteers from different departments/faculties

Research Software Community activities

- Raising awareness and profile of RSE across Imperial
- Departmental and institution-wide seminars
- Networking opportunities – building links between RSEs across the institution
- Other occasional events: Hacktoberfest, Advent of Code, seasonal socials...
- Contribution to Summer School
- Involvement in other initiatives to promote interests of members

Research Computing Skills Team

- A new team of 4 teaching fellows, developing a skills programme within the Graduate School
 - Research Computing
 - Data Science
- Credit-bearing courses for postgraduate students
- Entry-level training opportunities, open to all
 - HPC, Linux command line, Python/C++/MATLAB
- Software Carpentry
- By next term will be offering >100 short classes in ~20 topics

Our philosophy

- Be inclusive – a mere interest in research software is sufficient to participate!
- Raise awareness of the value of RSE at every level of the institution
- Reach as many RSEs as possible across the institution, improving skills and opportunities regardless of role, location or seniority
- Always consider software primarily as a means to better research
- Make Imperial (known as) a leading developer of Research Software
- **Integrate community, team and training efforts by focusing on activities that rely on and benefit all parties**

1: Software Carpentry

- Basic skills training and awareness in relation to RSE
- Raises awareness of community
- Instructors and helpers from RSE team, RS community and Teaching Fellows
- Informs development of follow-on courses/resources and shared infrastructure
- Promotes RSE and HPC services
- Courses in association with RSLondon foster engagement with wider community, and cross-institution collaboration

2: RS Community Newsletters

- Contemporary events listing (internal, local, national and international)
- Enduring knowledge base of relevant articles, tutorials, blog posts etc
- Drives membership of community and awareness of activities
- Collaboratively curated by community committee members and RSE team
- Promotes internal training agenda, RSE service, community events
- Research Software of the Month promotes Imperial's software (see also RSD)
- Every month: assists with community/ mailing list vitality

3: Research Software Development Services

- Knowledge transfer to community (pair programming etc)
- Work with researchers guides development of training programme and provides opportunity to promote community
- Results in presentations, case studies etc to promote RSE at Imperial
- Project-funded activities enable us to allocate resources to supporting community activities, teaching Software Carpentry, editing newsletters etc
- Promotes liaison between Professional Services and Academic staff
- Provide a career path for developer-minded community members

Outcomes

- A diverse range of synergistic activities
- A team that acutely understands the requirements of researchers
- A training programme that benefits from and provides opportunities to all involved – instructors and participants
- A community that provides value and support to its members
- Greater institutional awareness of the importance and relevance of RSE
- New careers opportunities for researchers within Imperial

Challenges

- Reaching RSEs – particularly those that don't identify as such
- Institutional understanding and recognition of RSE as a “third role”
- Funding
 - Community activities
 - Kickstart for formal collaborations
- Duplication of effort with student societies etc
- Pace of change – how do we keep our RSE activities relevant?

Thank you!

- Any questions?
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- RSE at Imperial <https://imperial.ac.uk/rse> | [Twitter](#) | [Blog](#) | [Newsletters](#)
- Slides: [10.5281/zenodo.3548308](https://zenodo.org/record/3548308)
- Poster: [Supporting Research Software Engineering at Imperial College London](#)

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