

Workforce Development : A Broad Perspective of (and on) Community Needs

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- **Coalition for Academic Scientific Computation (CASC)**, founded in 1989, is an educational nonprofit 501(c)(3) organization.
- **Members:** 95 Universities, national labs, and academic research centers.
- **Constituency:** People whose role focuses on strategy, vision, policy, funding, and advocacy of advanced research computing within their institution or organization
- **Most common constituent role:** People leading academic research computing organizations.



Mission

- **Advocate** for the importance of, and need for, public and private investment in research computing and data services to support academic research.
- Serve as a trusted **advisor** to federal agencies on the direction of relevant funding programs.
- Actively **engage** in discussions of policies related to research computing and data services.
- **Foster** advancement of a robust and diverse community of current and emerging leaders in this field.
- **Provide** a forum for the community to share strategic ideas and best practices.



Sample Focus Areas

- National computing platforms and partnerships/federations
- **Creation and retention of a diverse advanced research computing workforce**
- **Integrating research computing skills training into academic curricula**
- Longer-term technology trends
- Regulated Data strategy
- Modes of engaging and advocating to University stakeholders (CIO, VPR, Provost, Deans)
- Federal funding agencies – Funding trends
- Academic advanced research computing business strategy
 - Cost and policy models for hardware services (computing and storage)
 - Cost and policy models for specialized consulting
 - Return on investment (ROI) metrics and goals
- Engaging with and leveraging institutional Academic Federal Relations

A snapshot of CASC Fall 2018 meeting participants:



(We'll come back to this)

What does the CI and Advanced Research Computing workforce encompass?

- There is a tendency to think primarily about research computing practitioners.
- However, there are three distinct groups that need to be addressed:
 - Research computing practitioners - HPC sysadmins, consultants, RSEs, ...
 - Center leadership - Directors, AVPs, ...
 - Community and thought leaders
- Sometimes the three overlap, sometimes not.
- Some people will go from one group to the other as their career progresses, others will not (because of personal affinity, qualifications, or personal career goals)

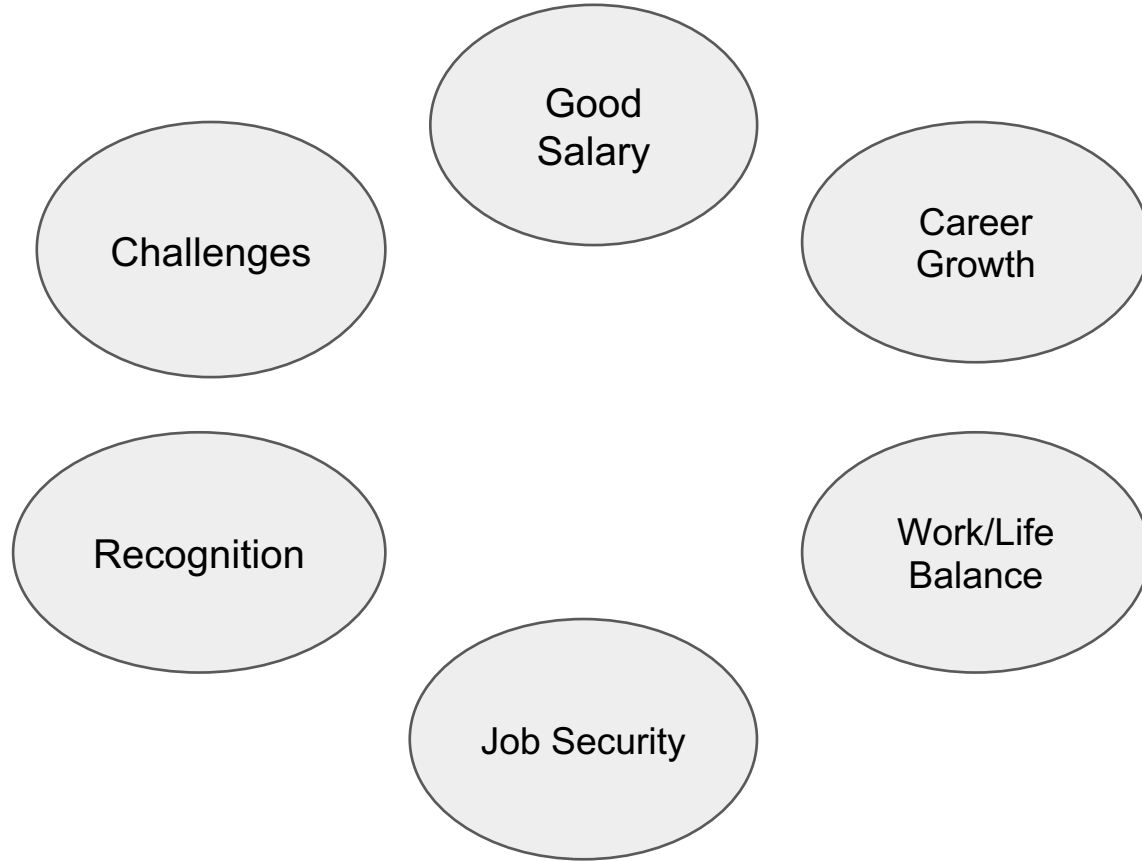
Research Computing Practitioners



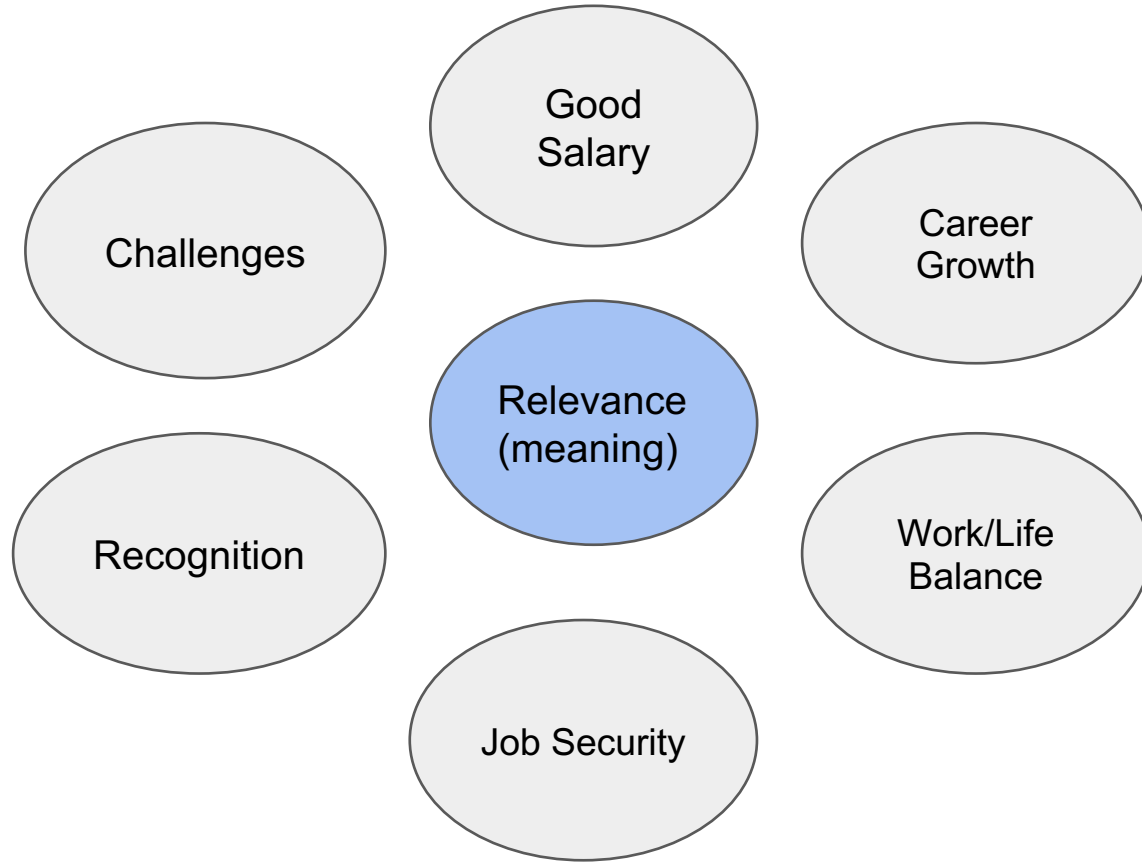
Photo by Susan Coghlan

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Job Satisfaction



Job Satisfaction



Questions:

- How do we convey relevance and meaning in job postings?
- How do we screen for interest beyond technical interest and skills?
- How do we convince administration that this is an important part of supporting and enabling research, along with keeping the trains running?
- How do we mesh standard IT functions with RCD (Research Computing and Data) functions?
- How do we keep people who are looking for relevance to research engaged and excited (while keeping the trains running)?
- How do we make sure people get professional development that will enable a career progression path?

Center Leadership

- There are multiple paths to this type of position and differing backgrounds:
 - RCD practitioner as part of career arc,
 - IT manager coming from enterprise IT,
 - Faculty/ex-faculty member.
- Primary job is to keep the trains running, and computational research supported, but that does involve dealing with policy, finances and politics as well.
- Arguably, should have a graduate degree in most cases, potentially a PhD*

* See CaRCC RCD Professionalization HR Job Family Matrix at carcc.org



Photo by Christina @ [wocintechchat.com](https://www.wocintechchat.com)
on Unsplash

Questions:

- Is there even a standard definition for this job?
- Should there be a standard?
- What exactly is the difference between a faculty member keeping the trains running and a non-faculty member keeping the trains running? Should these positions always be executive (in the meaning of being in charge of executing, not just as a career level title)
- How to recruit/develop leaders who would be good partners for researchers?
- How to convince administration that this position involves more than IT management (in places where it does)?

Community and Thought Leaders

- These are people who are not just impacting their own institution.
- Usually their day job includes directing at least part of the operations of an institutional center.
- Used to mostly hold faculty positions (Atkins, Reed, Berman, Roskies ...) . Now, not always.



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Questions:

- How do we include people from places that don't/won't fund them for this?
- How do we convince universities that this is can actually be an academic pursuit that is good for the university?
- How do we encourage people with the ability to make valuable contributions to do so?
- What can funding agencies do to elevate CI and advanced computing's scholarly standing regardless of the employment category (faculty/research scientist/librarian/staff) when scholarly standards are met?

Diversity

- In the very broad sense. We can't just focus on visible underrepresentation.
 - We need to stop looking for the “same” person to hire or promote each time.
 - Relevant to all the CI workforce groups.
 - Currently missing from all the groups.
 - Diversity isn't just about hiring. It is also about retention and inclusivity.
 - It's proven to improve organizations' results.
- This isn't just about “doing the right thing”
- Community organizations need to figure out ways to reach out to a diversity of institutions, not only R1s.



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