



*2019 Virtual Residency
CI Milieu: Organizations
Campus Champions &
Campus Research
Computing Consortium*



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Who am I?



Mathematics BS & MS



TEXAS

The University of Texas at Austin

Math PhD, 2005

High school and before...



High Performance Computing Center
2007



internet2.edu

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Campus Champions

(Funded by NSF XSEDE project and sponsor of Virtual Residency)





Campus Champions

Research computing community facilitating computing- and data-intensive research and education

Campus Champion Institutions	
Total Academic Institutions	264
Academic institutions in EPSCoR jurisdictions	77
Minority Serving Institutions	51
Minority Serving Institutions in EPSCoR jurisdictions	17
Non-academic, not-for-profit organizations	29
Total Campus Champion Institutions	293
Total Number of Champions	596

- Champions help their local researchers and educators find and use the advanced digital services that best meet their needs; and,
- Champions share CI challenges and solutions

With support from:



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XSEDE

Extreme Science and Engineering
Discovery Environment

Evolution of Champions

TeraGrid 2004-2011

- Fall 2007: Planning for Champions began
- 2008: Campus Champions official started
- May 2008: First Champion selected
- December 2009: Champion Leadership team formed

XSEDE 1: 2011-2016

- August 2011: 100th Institution joined
- May 2012: Champion Fellows program began
- June 2013: 200th Champion joined
- July 2013: Domain and Student Champion program initiated
- January 2015: Regional Champion Program Initiated
- August 2015: 200th Institution joined

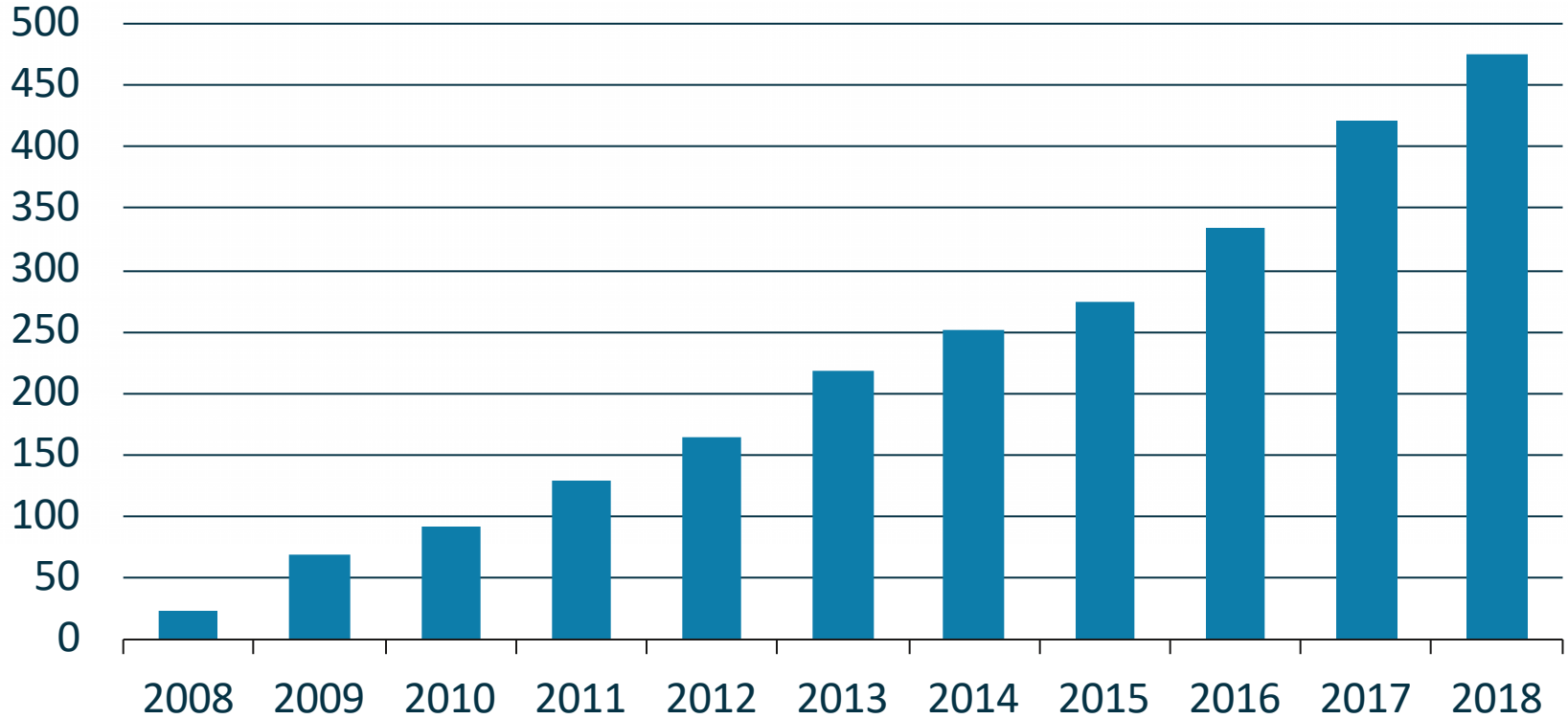
XSEDE 2: 2016- present – (Brunson, Neeman)

- July 2017: Elected first half of leadership team
- September 2017: 400th Champion joined
- April 2018: **Champion institutions in every state and EPSCoR jurisdiction**
- July 2018: **Fully elected Leadership team**
- Oct 2018: 500th Champion joined

Current numbers:

- Total Academic Institutions : 264
 - Academic institutions in EPSCoR jurisdictions : 77
 - Minority Serving Institutions: 51
 - MSIs in EPSCoR jurisdictions: 17
- Non-academic, not-for-profit organizations: 29
- Total Campus Champion Institutions: 293
- Total Number of Champions: 596

Champions Over Time



Synchronous Champions

- 1st Tuesday -- Leadership team
- 2nd Tuesday -- Community Chats
- 3rd Tuesday -- The All Champions Call:
Guest speakers + community updates
- 4th Tuesday -- Sustainability working group
- Ad hoc special topics calls
- Face-to-face meetings at regional and national conferences

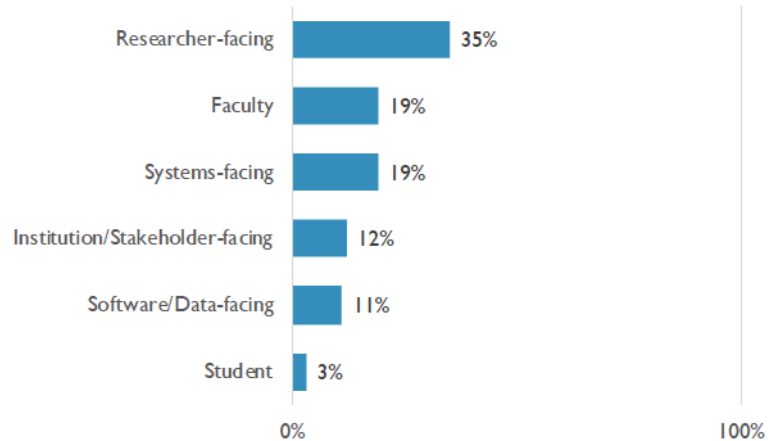


All Champion Monthly call

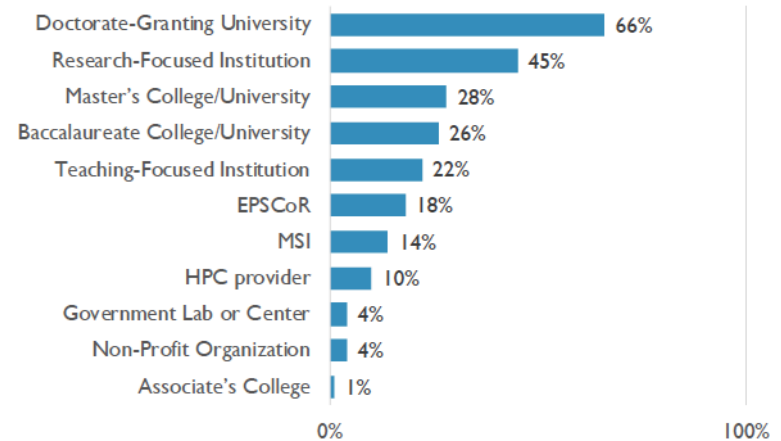


2018 Climate study - demographics

Self Reported Primary Roles, N=203

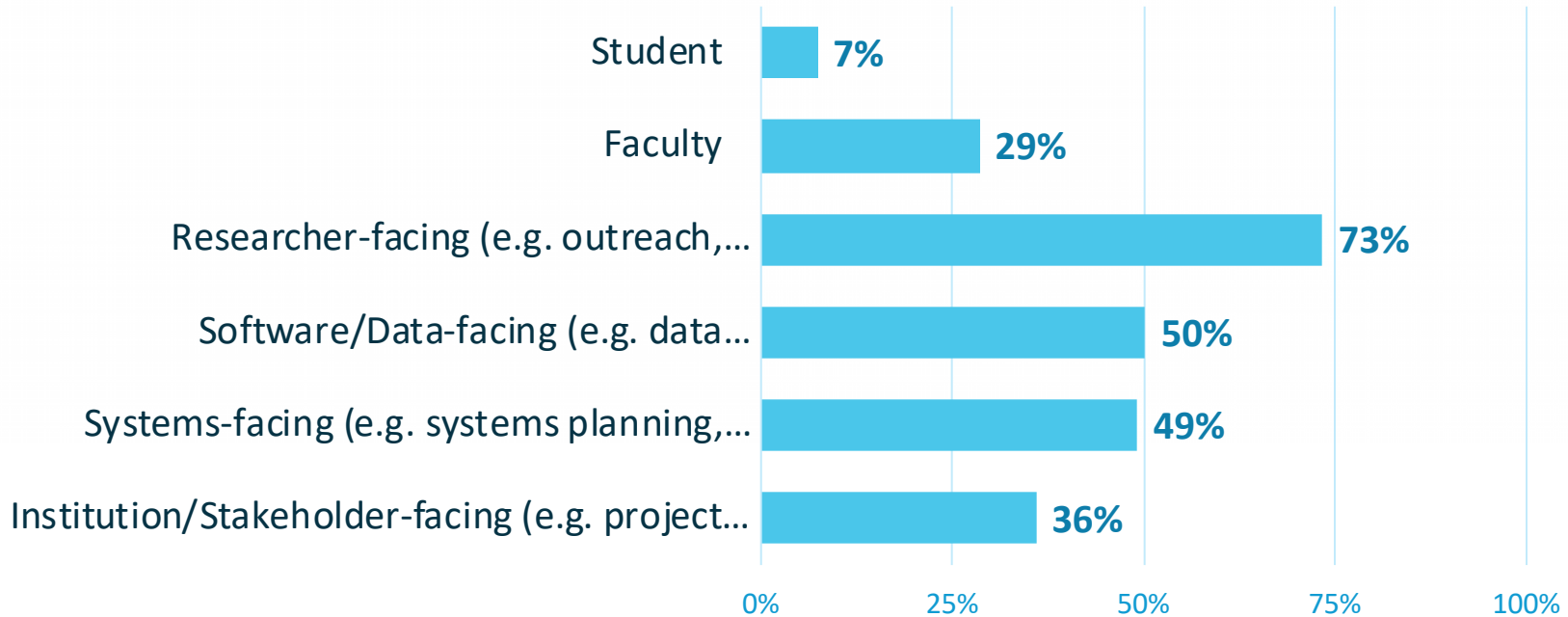


Self Reported Organization Type, N=219*

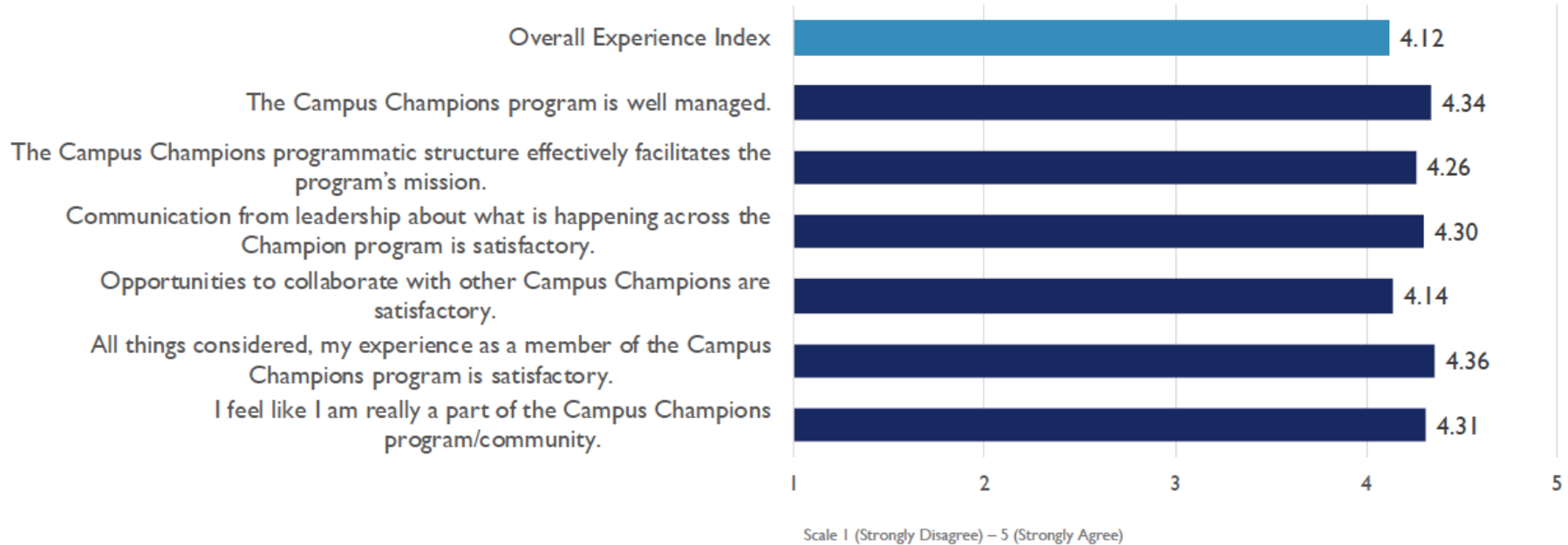


*Respondents could select more than one type.

Current Roles and Responsibilities, N=203*



Overall Experience



Champion Focus Group Quotes:

What value do you gain from the Champions program?

- ...It gives you a position not necessarily of authority but you have expertise of how to help someone with their work and they take you seriously.
- ...When I talk to the CS faculty in their ivory towers I know exactly what the cutting edge is and can interact with them.
- I don't think I could've survived without it. So having a job is a benefit
- It's a very welcoming community...I came to the community 2 years ago...I have no hesitation about sending something to the champions list or the slack channel even if it's a dumb question
- There are other communities that don't receive my dumb questions well but not the Champions community

2018 Climate study key findings highlights

- Champions reported high Overall Experience in the program. Newer members expressed **exceptionally high satisfaction** and accounted for more than half of the respondents.
- The Champion community's impact extends beyond individual knowledge and skills improvement to institutionalization of the Champion role, **changes in institutional research computing policy**, and inclusion of Champions in **strategic talent recruitment** for their organizations.
- Some Champions are considering **sustainability following XSEDE**. They would also like to see the program continue to expand beyond advocating for NSF systems to other agencies.
- Respondents from non-research-intensive organizations and members of marginalized groups including women and underrepresented racial/ethnic groups in HPC, report **positive experiences in the organization**.

Campus Champions & Friends: Community of Communities



To join write to: info@campuschampions.org

Photo Credit: Tiffany Jolley

Campus Research Computing Consortium (CaRCC)

NSF ACI-1620695: “RCN: Advancing Research and Education Through a National Network of **C**ampus **R**esearch **C**omputing Infrastructures - The **CaRC** Consortium”

Initially, a group of 28 institutions intent on developing charter, membership rules, etc.

Now producing deliverables for the community and open to all interested and willing to contribute.

<https://carcc.org/>
info@carcc.org



CaRCC stakeholder survey – May 2017

The survey was sent to a broad constituency (CASC, CC, ACI-REF EDUCAUSE RC, OSG, Virtual Residency).

- **255 responses from 150 universities!**
- Survey participants were asked about their primary role relative to CaRCC and their roles in university research computing, including demographics.
- If CaRCC could deliver one thing, “a must have”, what would it be?
- What is the biggest barrier preventing or limiting your “must have”?

This survey and many other CI community and CaRCC activities made possible by Joel Cutcher-Gershenfeld, Brandeis U

stakeholder survey – May 2017: “what can CaRCC do for you?”

- The next series of questions were on a sliding scale of “**how important**” from “**not important**” to “**very important**” and “**how challenging**” from “**very easy**” to “**very difficult**”.
 - Importance/challenge of effective models for **return on investment** in research computing resources?
 - ...**innovating in the design and operation** of campus research CI?
 - ...**workforce development** for CI administrators?
 - ...**supporting facilitators** (broadly defined) on campus, bridging between research teams and research computing resources?
 - ...**defining roles and career paths** in campus research computing?
 - ...research computing **expertise sharing** among universities?
 - ...research computing **resource sharing** among universities?
 - ...identifying leading practices for **balancing resource allocation** for campus IT functions and campus CI research support?
 - ...identifying leading practices for **regulatory compliance** in mixed funding environments (government costing, appropriate use of funds, etc.)?
 - ...**influencing state and federal policies** impacting research CI?

Top interests

(not important=0; very important=1; very difficult=0; very easy=1)

Rank by importance:

1. **Workforce development** for cyberinfrastructure administrators and staff (mean=.84)
2. **Supporting facilitators** (broadly defined) on campus, bridging between research teams and research computing resources (mean=.84)
3. Research computing **expertise sharing** among universities (mean=.84)

Rank by difficulty:

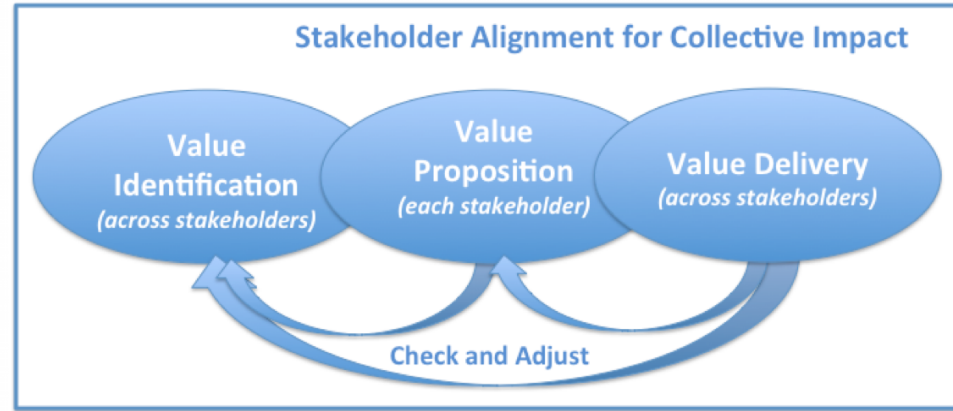
1. Influencing **state and federal policies** impacting research cyberinfrastructure (mean=.18)
2. Research computing **resource sharing** among universities (mean=.26)
3. Effective models for demonstrating **return on investment (ROI)** in research computing resources (mean=.26)

Gaps between importance and difficulty:

1. Influencing **state and federal policies** impacting research cyberinfrastructure (gap=.59)
2. **Workforce development** for cyberinfrastructure administrators and staff (gap=.56)
3. **Supporting facilitators** (broadly defined) on campus, bridging between research teams and research computing resources (gap=.54)

Campus Research Computing Stakeholders and Value Proposition

- Document for the community
- Articulates key stakeholder categories
 - Researchers
 - Students
 - Campus Research Computing Facilitators
 - Campus Executive Leadership
 - Campus Information and Research Leadership (e.g. CIOs, VPRs)
 - Campus Research Computing Leadership (e.g. VP, AVP or Director RC; Associate CIO)
 - Research Funders
- Describes value proposition for each
- Available at <https://carcc.org/products/>



Source: Adapted from *Lean Enterprise Value*, Palgrave (2002)

CI Professionalization – Job Elements and Career Guide

- Initialized during March 2018 workshop
- Leading practices regarding cyberinfrastructure (CI) job definitions and career paths
- Suggest a flexible framework to organize CI hiring, career development, retention and other aspect of HR in the CI ecosystem
- Apply the framework for research computing and data work that is:
 - Researcher facing roles
 - Systems facing roles
 - Software facing roles
 - Data facing roles
 - Sponsors / Stakeholder facing roles
- Continuing work to develop HR-friendly career advancement matrix
- Available at: <https://carcc.org/products/>

CI Ecosystem workshop – April 2019 workshop:

Goals:

- Identify key organizations and initiatives in the research computing and data ecosystem
- Appreciate unique areas of expertise and points of overlap among the organizations and initiatives
- Develop a shared visualization representing the ecosystem
- Generate potential operating principles under which the organizations and initiatives can maintain their independence, while also advancing their points of interdependence
- Ensure mechanisms for communication, coordination, and collective impact
- Specify next step action implications, including future workshop panels and additional outreach
- Consider potential workshop publications reporting on these development for relevant outlets

Several joint working groups formed from the workshop! Panel scheduled for PEARC19

Collaboration with Internet2, CaRCC, and EDUCAUSE

Research Computing and Data Maturity Model – Coordinated by Internet2 research engagement working group (2017) engaged with CaRCC and EDUCAUSE. Workshop held December 2018.

Developing a questionnaire for self-assessment for campus research IT across a range of measures from infrastructure, to training and consulting support, to collaboration and sustainability.

Workshops to introduce model will occur at PEARC19 and at EDUCAUSE Fall 2019 meeting.

Building Community: the People Network

Initially organized around the five “facings”, each track provides for focused discussion

Each has (or will have) monthly videoconferences and mailing list.

- **Researcher-facing:** Outreach, education/training, consulting/facilitation, leasing collaborations, etc. (Launched Spring 2018)
- **Systems-facing:** Systems planning, engineering, security, optimization, middleware, virtualization, and cloud, among other topics. (Launched Jan 2019)
- **Data-facing:** Data production, curation, management, publishing/sharing, data science, workflow execution and optimization, among other topics. (Launching now – May 2019!)
- **Software-Facing:** Software development, portability, installation, optimization, support, etc. (Launching at a future date)
- **Sponsor/Stakeholder-facing:** Project and personnel management, service evaluation, funding/finance, and running a research computing and data team, among other topics. January 2019: This facing is on hold and likely being developed in collaboration with [CASC \(Coalition for Academic Scientific Computation\)](#).

More info and join: <https://carcc.org/people-network/>

pearc19.pearc.org

July 28 - Aug 1, 2019
Chicago, IL

PEARC19

Rise of the Machines (Learning)

