The Voices of JupyterHub

November 5, 2025

JupyterCon



ORGANIZATIONAL MYCOLOGY

jupyter

https://voicesofjupyterhub.orgmycology.com

Motivations (why we're here)

- JupyterHub is committed to community development efforts
  - CZI Diversity & Inclusion Grant
  - Ongoing efforts/desire to improve contributor pathways
  - Minimal time/capacity to devote to these efforts
- JupyterHub has interesting leadership challenges
  - Incredible project impacts without formal structure
  - Suboptimality and individual burdens
- Who was invited and why?



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

Voices of JupyterHub work:

A bit about what we've learned

https://voicesofjupyterhub.orgmycology.com

…with a few caveats

- We are outsiders, and JupyterHub can be hard to wrap your head around
- We only talked to people who we ethically had access to
- Positive experiences are generally easier to share than negative experiences
- The goal of the grant was to improve diversity and inclusion
- Contributor pathways depend on championing the project and actively addressing blockers to engagement/retention



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

JupyterHub has been by many measures successful

JupyterHub has...

- enabled the delivery of computing and scientific research education to hundreds of thousands of students.
- catalyzed scientific innovation, from small lab day-to-day operations to supporting Nobel Prize-winning international collaborations.
- accomplished most of this by fostering a positive, mission-driven culture–aimed at improving computing in education and research.



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

JupyterHub can be better:

- JupyterHub struggles with onboarding new contributors and delegating responsibility, owing largely to its collective humility.
- JupyterHub exists in a complex organizational ecosystem.
- JupyterHub's culture needs collective leadership structures that seek to better retain contributors and avoid burnout.

ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

What's not in the report

- Everyone in the project wears multiple hats
- Organizational history includes uncomfortable incidents and conversations
- In open communities, there is no difference between perceived injustice/mistreatment and "actual" injustice/mistreatment
- Community norms are better and less reactive solutions than policies (though good rules are still needed)



ORGANIZATIONAL MYCOLOGY

Celebrating JupyterHub

Successes & Impact

https://voicesofjupyterhub.orgmycology.com

JupyterHub has many ways forward:

- Take pride in the project and tell the stories of JupyterHub
- Recognize that JupyterHub is a model subproject
- Develop a more unified voice and enhance communication
- Improve onboarding/offboarding, engagement and contributor pathways
- Have frank conversations about technical and organizational debt
- Make commitments to diversity and community health
- Get into a strategic mindset to move towards long term goals
- Build organizational capacity



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

Recap of what we heard about success

- Impact on research and education is core to the community's motivation
- Commitment to research and education has fostered a mission-driven culture
- Leaders' 1:1 engagement with newcomers has been beneficial, but difficult to scale
- Participation in JupyterHub has been beneficial to individuals' careers
- When people leave or step back, they usually continue to do amazing things



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

Empowering People

https://voicesofjupyterhub.orgmycology.com

"*I think that is probably the thing I'm most proud of with Jupyter, it's not the awards and all of that.* ***It's how many people we've actually touched.***"

— Carol

"*Honestly, it's used. It's used. It's amazing. It's used by thousands around the world every day. And it's cloud agnostic and it's open source. And that's just really cool.*"

— Kirstie

> *"It is about empowering people to use the computer to think interactively about data, about the world around them, about a computational question, about an algorithm, and to do that work openly, collaboratively, and to share the results of their work. And therefore, oh, well, if I want to do that work, but not on my laptop, but on a shared resource, I'm going to need something like JupyterHub."*
>
> **— Fernando**

Improving Education

https://voicesofjupyterhub.orgmycology.com

Goal of Improving Education

> "*One of the big challenges is that people want to bring their users to different computers to solve the installation problem. You can have a person responsible for setting up your environment and the students only need to log in. And* ***you don't have to deal with installing a scientific Python stack on everybody's laptop****. And you don't have to deal with installing a scientific Python stack on everybody's laptop, which was another big source of pain in educational environments*"
>
> **— Min**

Goal of Improving Education

> *"I could get lost in the details of certain aspects of JupyterHub running in the cloud because I'm familiar with that technology as well. And at some point I realized I need to zoom out and focus on the intended use. That being the students who are going to leverage this. Not what it's like to be a student trying to install these things on their own computer."*
>
> **— Carol**

Goal of Improving Education

> *“A growing number of researchers and a growing number of professionals, I'll say, are aware of Jupyter. That's largely because it's become a platform for teaching and training. I know that even here on the psychology department, students that want to get a … Bachelor's of Science have to take, a basically ‘how to program for research type class. So they use Jupyter and they use JupyterHub. … which is amazing because it's just saying like, even folks that may end up becoming therapists or psychiatrists or something like that have used Jupyter.”*
>
> **— Rick**

Goal of Improving Education

> *“Cal-sponsored and California Learning Lab-sponsored JupyterHubs for UCs, Cal States, and California Community Colleges that can't afford a tech team. So we're actually going to start hosting users this summer with some summer classes as our test, and then we'll have probably at least a couple thousand users across a few different hubs in the fall.”*
>
> **— Shane**

Enabling Scientific Innovation

https://voicesofjupyterhub.orgmycology.com

Enabling Scientific Innovation

> *“One of the stronger memories I have is, at some JupyterCon or somewhere, the IPCC [Intergovernmental Panel on Climate Change] people were using a MyBinder link to demonstrate some of their stuff.”*
>
> **— Yuvi**

ORGANIZATIONAL MYCOLOGY

Enabling Scientific Innovation

> *"I'm lucky to have an employer, a job that lets me work on JupyterHub as part of my day job. So we work with a bunch of teams within NASA that deploy their own JupyterHub instance, in collaboration with 2i2c, of course. And they all have this common problem where they need a lot of storage for their users.* ***And the general solution was to use something offered by Amazon, which is kind of pricey, also doesn't let you kind of limit the amount of storage that users get. This is a common problem that all the hubs that run for NASA had and I got involved trying to solve this problem."***
>
> **— Tarashish**

Enabling Scientific Innovation

> *“I remember talking to the Azure Notebooks people and I realized that the JupyterHub I was running for UC Berkeley for a fraction of the cost that they were spending, was so much bigger than the entire Azure Notebooks customer base. And somehow that felt fulfilling as well.”*
>
> **— Yuvi**

Enabling Scientific Innovation

> *“The community, you know, and then this goes back to Fernando, um, setting the bar and then everyone else aligning with him, fortunately is very inclusive, very supportive of contributions in a lot of different ways.* ***Not everything is about code, even though we know that's fundamental. Without that attitude, I don't think Jupyter as a whole would have succeeded as far if it was all strictly about the code.”***
>
> **— Rick**

The People

> *"For me, open source and open science has always been about participation, not about access."*
>
> **— Fernando**

> *"So I think, you know, the other thing that JupyterHub has done, early on, we made a conscious decision to try and be inclusive and not just say it, but actually do something about it."*
>
> **— Carol**

The People

> *“I remember interacting with Carol with Tim and other people there. I was like, ‘The people here are so nice,’ and they were using lots of hearts emojis and I just love this …* ***And I felt that people were very, very welcoming and supporting. And they were answering the questions in such a way that I felt encouraged to continue*** *rather than feeling just like, ‘Oh, I shouldn't have asked this,’ or feeling bad that I don't know something and so on.”*
>
> **— Georgiana**

The People

“We have a team compass that defines the organizational policies and the organizational structures in a more explicit way. That was an intentional outcome of those early days on the project. Initially, the idea of team compasses came from Carol Willing, who's another collaborator on the JupyterHub project. She's also been in the Jupyter ecosystem writ large. She's what I would call a first-generation Jupyterian. ***But, you know, it was the idea that we need to have more structure as an organization to help define these pathways, define the roles, things like that.*** *So the team compass was a big part of that.”*

— Chris

Newcomer Engagement with Leadership

“I went to SciPy. I got to meet Fernando, which was actually a really lovely story because I was like nobody. I think this was 2014 or whatever. And, you know, it's a whole room of mostly men or maybe all men, I don't know, but maybe like 40 people. And at some point, Fernando, who was sort of leading the discussion, was like, ‘Oh, what do you think?’ ***And it was just so gracious that, and as a woman in science or tech, oftentimes that doesn't happen. So it really had a nice impact on me and we got chatting about how I was using the notebook.*** *And that was about the same time Jupyter got their $6 million big grant. So they asked me at some point in that, like, would I work at Cal Poly on the grant? And so I did, which was fantastic.”*

— Carol

Newcomer Engagement with Leadership

“This is where the privilege of living in the Bay Area comes into the picture because Wikimedia has an office in San Francisco. And Fernando was invited to the Christmas party, because he's just around here and then he is very generous with his time, sometimes to a fault. So he says yes to everyone. So he was there at the party and then we were able to talk, and then he mentioned, ‘Oh yeah, like there's a bunch of us at Berkeley. If you want to just come say hi, you should do that.’ I was like, ‘Yes, I will come say hi.’ ***And then that just kept escalating to the point where I was spending three days a week at UC Berkeley. And then eventually I was just running their infrastructure,*** *because you know, I had all that expertise [from working on large-scale deployments at Wikimedia].”*

— Yuvi

Impact on Careers

> *“I think the other benefit has been, it has sort of kept me on the forefront of technology in many ways, at least, you know, when we moved over to Kubernetes, it was very early days with Kubernetes. So it gave me the foundational knowledge that I then needed when I went and worked at a startup and became their VP of engineering. You know, we were offering a SaaS product. So I was familiar with the ecosystem and the terms and the, you know, where the gotchas were.”*
>
> **— Carol**

Impact on Careers

“I joined via an internship through Outreachy, which is a program that supports people in underrepresented groups in tech to join projects. And to be honest, I wasn't like a Jupyter power user before any of this. I saw the project. I had some relevant background. The project was about implementing some form of proxy and I had done this before in a prior internship. And I said, ‘Why not give it a go?’ … While I was doing the contribution period and interacting with the community, ***I got so hooked.*** *I actually didn't try another project. I had it in mind to try other projects, but* ***I was just so convinced that I wanted that internship and to get involved so much. I just poured all my efforts into JupyterHub only.”***

— Georgiana

Impact on Careers

“I like to participate in the open source arena because I think that ***is a way to be transformative and have an impact on other people's lives.*** *So that is my driving force to actually join all these projects. And JupyterHub particularly has been super impactful, and to be able to further the impact on others' lives. I was able to help provide the infrastructure for people in different areas to actually do research analysis and have essentially decisions on top of those analyses that somehow impacted their lives, their environment, their community.”*

— Damián

Impact on Careers

> *"There is a certain amount of social capital I get as well in the open source community. You know, having my name attached to a Jupyter project."*
>
> **— Sarah**

> *"Working on the open source project gets your name out there."*
>
> **— Tim**

Impact on Careers

“I've had this opportunity to cover the security topic for primarily the National Science Foundation research community and centers and using JupyterHub as one of the framing devices. It is very focused on a JupyterHub deployment, but it's Jupyter so complex that JupyterHub itself, like here, here's a model, I can draw you some lines and boxes that this is how this component talks to this component. You can run it in different places. ***And by doing that, it helped to establish my credibility as somebody that is not just - I'm one of those classic folks. I'm an astrophysicist by training. I'm currently working as a Chief Technology Officer, but I've got this interest in security. So like a lot of folks you talk to, we find different lanes over time to work in. And the opportunity to be one of the few people that have basically collected this disparate information into a reasonably cohesive whole to talk about security in Jupyter.”***

— Rick

Next: What is JupyterHub?

https://voicesofjupyterhub.orgmycology.com

JupyterHub has many ways forward:

- Take pride in the project and tell the stories of JupyterHub
- Recognize that JupyterHub is a model subproject
- Develop a more unified voice and enhance communication
- Improve onboarding/offboarding, engagement and contributor pathways
- Have frank conversations about technical and organizational debt
- Make commitments to diversity and community health
- Get into a strategic mindset to move towards long term goals
- Build organizational capacity

ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

HubDash

December 2-3rd Community Event

Sign up - https://tinyurl.com/hubdash2025

The HubDash is a collaborative online event where you'll work with others to reflect and contribute to the JupyterHub project in a variety of different ways.

This event is aimed at previous contributors and experienced users of JupyterHub who want to spend some focused time collaborating on new or existing contributions to the project.



ORGANIZATIONAL MYCOLOGY

https://voicesofjupyterhub.orgmycology.com

Thank You!



ORGANIZATIONAL
MYCOLOGY

info@orgmycology.com

https://voicesofjupyterhub.orgmycology.com