



# Explaining Complex Technical Topics to Researchers

Virtual Residency Workshop 2020

Gretta D Kellogg, ACI-REF  
Institute for Computational and Data Sciences, Penn State University





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As an ACI-REF or research facilitator – we work with researchers who are incredible in their disciplines!

So what do we provide?  
That link to the  
computational support  
that can make their life  
and their research better.



I really liked this topic because I'm actively working on improving my skills as I meet with the researchers. Not long ago, I failed while explaining an 'easy' topic....

- 1st I tried the 'rational' approach  
"this is more scalable, results much faster"
- 2<sup>nd</sup> try was using an analogy  
"using a bulldozer to put in a driveway...not a shovel"
- 3<sup>rd</sup> try was the real fail  
"burn out a cheap blender trying to crush ice"



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Unfortunately that 3rd analogy stuck  
.....I was sad.





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- Listen first to the faculty or researcher
  - Learn about their **goals, needs, and expectations**
  - Listen for **key words & phrases** they use to explain their own science
  - **Take notes and summarize** what you've heard back to them
  - Consider if some of the words or examples they used might work to help explain concepts back to them

Sources: Jack Zenger and Joseph Folkman, "[What Great Listeners Actually Do](#)"

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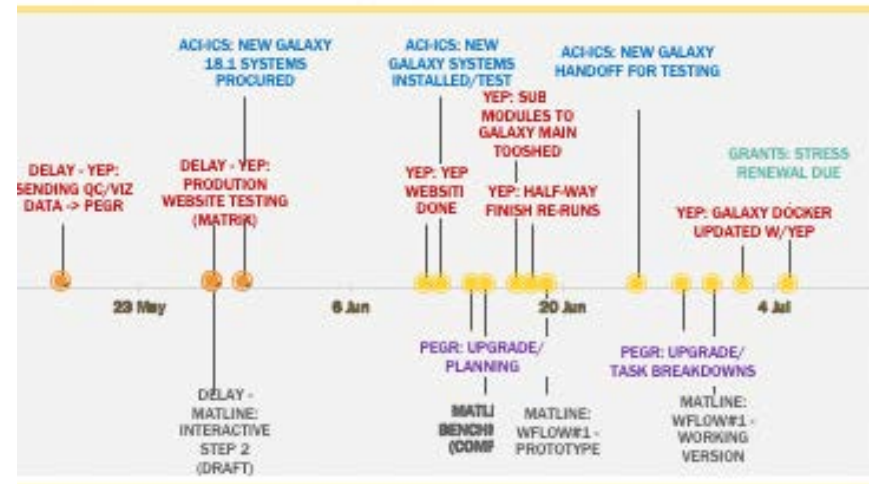
### Our role as research facilitators

- Work to provide explanations and examples in familiar terminology
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- Work to provide explanations and examples in familiar terminology
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- Don't minimize the value of setting down a 'seed' for later
- Take time to create visuals, slides or colored workflows
- Keep it simple and easy to implement

#### Bioinformatics Timeline



Example: colored visual implementation plan

Bottom line..... this community is willing to work at explaining how our available computing resources can enable more effective research.

It is ALL about enabling researchers to achieve better results. Leveraging IT technology that helps them get their research accomplished, published and funded.







I am an ACI-REF at Penn State for the Institute of Computational and Data Sciences. We have a wonderful team supporting PSU researchers and faculty. In prior years, I worked as an IT Project Manager in Enterprise Computing and have worked as a Program Manager of two Genomic centers at Penn State. I have always emphasized a customer service-oriented approach in my experience as an IT professional and educator.

You are welcome to contact me, my contact information is here:  
[www.linkedin.com/in/grettadkellogg](http://www.linkedin.com/in/grettadkellogg)



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