



## “Power Up”:

# A Strategic Communication Campaign to Increase Campus Awareness about Cyberinfrastructure

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### Overview

This project is motivated by the research question (RQ), “Can the awareness of cyberinfrastructure (CI) be further increased at the university level through a strategic communication campaign?” In order to answer this RQ, this project aims to create, design, and implement a series of posters to raise CI awareness at the university level. This project works under the OCT Group, a team of faculty and student researchers from Chapman University. We “aim to explore processes and develop strategies that enable productive, efficient, and successful human activities within and between virtual organizations.” The virtual organizations the OCT Group is studying are the (multi-institutional) CI projects across various science and engineering fields, in the scientific community funded primarily by the US National Science Foundation.

Together with OCT PI, Kerk Kee, and post-doctoral researcher, Andrew Schrock, we are researching CI, how it is used, and how it can better be implemented to empower science and engineering research and education. We are interested in the diffusion of innovations theory to better understand why and how fast CI is being spread.

Cyberinfrastructure is a relatively new term, but is revolutionary for modern and future technology and science. Adding it to a research project can drastically improve quality and/or quantity of results. Students and faculty who learn about it now will better be able to use it for future projects. However, the concept is complex and often difficult to grasp. Thus there is an awareness gap of its movement and benefits. The posters out of this campaign can be used by CI stakeholders across various campuses, including big research universities, state public universities, liberal arts universities, and community colleges. These stakeholders include CI users, developers, administrators, outreach educators, and other interested individuals.

### References

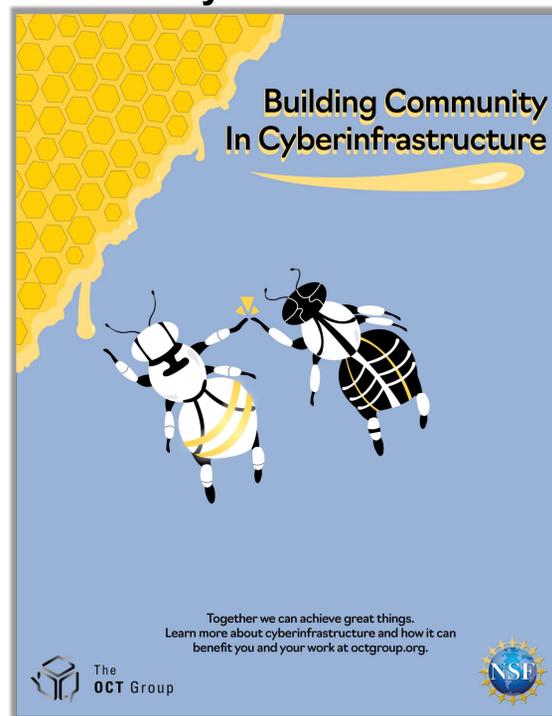
Atkins DE et al (2003) Revolutionizing science and engineering through cyberinfrastructure: report of the National Science Foundation Blue-Ribbon Advisory Panel on cyberinfrastructure. National Science Foundation, Washington, DC.

### Methodology

This project began with gathering information through outside perspectives and brainstorming through a mind map. It consisted of branching ideas which then turned into themes. For each theme, a set of thumbnails were designed. These were reworked into tight sketches, digital comps and finally the finished poster products.

### Products

#### “Cyber Bees”



**About**  
Cyber Bees was the first design that was crafted through exploration of outside perspectives on cyberinfrastructure. I interviewed Tyler, a computer science major, to get one view on the topic and of their science. Following the question: “If you could give your major a mascot, what would you pick?,” the answer he gave was a bee. Bees co-exist together in hives, creating a network of hard work, a complex system and communication. Just as the bees do, community members in cyberinfrastructure and other domain sciences collaborate, connect over forums and innovate to create the newest technologies, diverse methodologies and scientific discoveries. It is an important aspect to progression as we learn from each other and push forward into the future.

To show connection and networking in cyberinfrastructure through the bees, both subjects resemble robots. They represent the progress of technology. The cyber bees are high-fiving over the sweet victory of having created so much honey which would not have been possible or at least not as efficiently done without teamwork. The honey itself represents the results of community through cyberinfrastructure which is discovery and breakthrough. The bees “powered up” to get their job done faster.

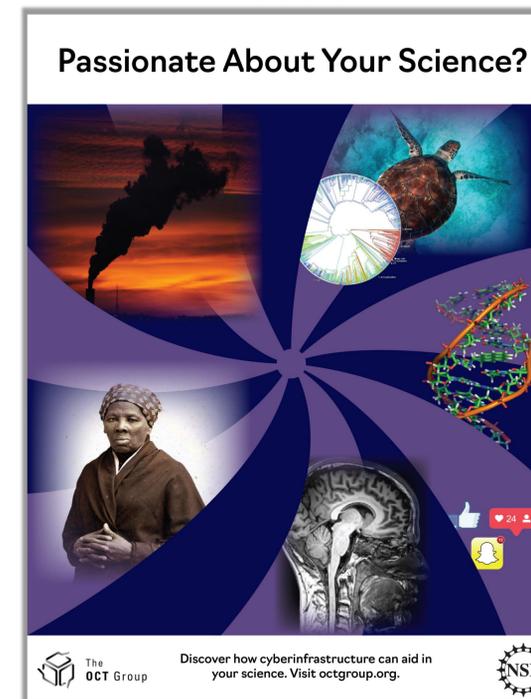
#### “Revolution”



**About**  
“Revolution” began under the theme of the “aha moment.” On the mind map, it started at the root, which was CI, branched to XSEDE, then to Twitter and social media, then to “a wave of sending messages of tech talk, coding, data, questions and aha-moments” which continued into collaboration and so on from there. It turned into a series of thumbnails, one which was headlined, “Revolutionize Today.” From there it expanded into revolutionizing science and engineering research and education and soon after, technology. That idea was then expanded to the reasons why people don’t use CI, one of which is lack of awareness or lack of education/understanding about how to obtain or use these advanced technologies. Education of the use of new technology will lead to a more rapid expansion and progression of research and ultimately scientific discoveries. However, while science and technology can work together hand in hand to improve each other, they also can be used to educate others on their findings and through their creations. They allow more people to gain better, faster and easier access to education. The three elements (of science, education, and technology) work together to progress society towards a better future. They may not always be on the same step as each other, unlike like how they are presented in this poster design, but they continue to help each other up, no matter what pace each is going at.

Silhouettes climb the stairs of progression, assisting each other with clasped hands to reach for a new tomorrow. One symbol cannot accurately describe all of science, education and technology. However, I picked icons that are easily recognizable, so the viewer will quickly be able to understand what each silhouette stands for. If the icon isn’t enough, the body copy beneath their feet clarifies their purpose. Green is a color often used to represent intelligence, ambition and education. Meanwhile, blue represents logic and order. It is perfect for science and technology. The blending of these colors match the message being sent.

#### “Passion”



**About**  
“Passion” began under a discovery and research theme. The goal was to reach a wide audience of people through identifiable, symbolic markers. The concept emerged early in the thumbnails. It touches upon a historical aspect of advancement and change. There was a long list of available choices that were narrowed. I researched ideas from various XSEDE and NSF materials to identify what was new and relevant real-world projects. Featured in this poster is Harriet Tubman (bottom left). She is also featured in XSEDE Accelerating Scientific Discovery, showcasing how researchers using XSEDE resources uncovered “Black women’s lost history”, one of these figures being abolitionist, Underground Railroad leader and women’s suffrage pioneer Harriet Tubman. Above her is a factory smoke stack (top left) (Sam Jotham Sutharson), representing environmental science. The smoke trail brings the eye into the next image (top right), the Tree of Life, a chart of all existing species. This image, supplemented by the sea turtle for species and evolution, represent biology. Beneath that (far right), is a strand of DNA, which is a widely recognized symbol to lead people into thoughts of science, chemistry, anatomy, and more. Following it (bottom right), are social media notifications because domain sciences are a part of a conversation. Being enabled to reach a wider audience is critical of capacity building and these famous icons promote the idea that progression can grow through community. Finally, at the bottom center of the page is a brain scan, representing not only the medical field, but also the complexity of the brain that can now be better interpreted through new technology. The vortex behind it all is an explosion of the domains and the ideas that come with it to advance together.