



NAC SETAC 24th Annual Meeting Short Course: *Creating Effective Graphics for Scientific Presentations*

Instructor: Kevin Bonham, Ph.D., kbonham@broadinstitute.org

Short Course Date: Monday, May 21, 2018 (8 a.m. – 5 p.m.)

Location: University of New Hampshire Durham Campus Conference Center

Registration: <http://nacsetac.org/2018-annual-meeting-and-short-course-registration/>

Communicating complex scientific ideas in words alone is often challenging, especially when the target audience does not come with an understanding of the data's fundamental background. Well-crafted images, illustrations, and graphics are essential tools for communicating scientific information that will supplement chemical and biological data. Yet scientists rarely receive any training in visual arts.

This short course provides an introduction to the creation of effective, high-quality vector images for use in scientific presentations and publications through a combination of lectures, discussions and hands-on workshops. In addition to discussing the aesthetics of effective graphics, the workshop will include an introduction to the use of *Adobe Illustrator* for creating graphics.

Creating effective figures starts with an understanding the visual elements of a graphic. Some elements such as color, line weight, and font can be used to communicate a great deal of meaning, but overuse or excessive variation in visual elements can be distracting or misleading. Even as visual elements are understood, avoiding overuse in our own work can be challenging. This one-day course is designed to help scientists identify and avoid these pitfalls when generating figures. Students are encouraged to bring ideas or data (e.g., on a thumb drive) that could potentially be used as examples during the workshop.

After successfully completing this workshop, participants will be able to:

- Identify graphic elements that are distracting or irrelevant in published figures.
- Compare visual elements (such as color, weight, and positioning) that communicate meaning.
- Use vector-editing software to modify and improve existing figures generated using other software.
- Create a vector illustration from scratch modeled on a hand-drawn sketch.

About the instructor

Kevin Bonham received his PhD in immunology from Harvard in 2014, and is currently a computational biologist at the Broad Institute of Harvard and MIT. Not satisfied with using PowerPoint to make scientific figures in graduate school, Kevin watched hours of YouTube tutorials about drawing strawberries and advertising logos to learn how to use *Adobe Illustrator*. Dr. Bonham became the go-to figure creator in his department. To ensure no scientist would have to go through the same torment, he created a series of YouTube tutorials specifically tailored to the tools that scientists need.

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8:00-8:30am	Introductions and set-up
8:30-9:30am	Why Care About Graphics? <ul style="list-style-type: none">- Lecture (30 min): Why care about graphics?- Discussion (30 min): Best and worst practices of visual presentations of ideas and data
9:30-10:15am	Getting Started with Adobe Illustrator <ul style="list-style-type: none">- Lecture (20 min): Creating, editing and saving files- Workshop (25 min): Open a file, move things around, save as rasterized and vector image.
10:15-10:30am	**Break** Participants - begin thinking about graphic you want to make
10:30am-12:30pm	Visual Elements of Graphics <ul style="list-style-type: none">- Lecture (30 min): What are the visual elements of graphics?- Discussion (30 min): What makes a good graphic?- Workshop (60 min): Create and modify shapes (regular and irregular), colors, gradients, lines
12:30pm-1:00pm	**Break for Lunch**
1:00-2:00pm	Text and Fonts <ul style="list-style-type: none">- Lecture (20 min): Best practices for text, common pitfalls- Workshop (40 min): Creating font styles, text effects
2:00-3:00pm	Layouts and Layers <ul style="list-style-type: none">- Lecture (30 min): Why care about layout?- Workshop (30 min): Using guides, using layers
3:00-4:00pm	Advanced Topics (by request)
4:00-5:00pm	Workshop: Create your own / group critique

Possible Advanced Topics:

- Image creation workflow, asset organization
- Custom color palettes, gradients
- Masks and groups
- Transfer between *Adobe Illustrator* and MS Office software
- Creating graphs and charts within *Adobe Illustrator*