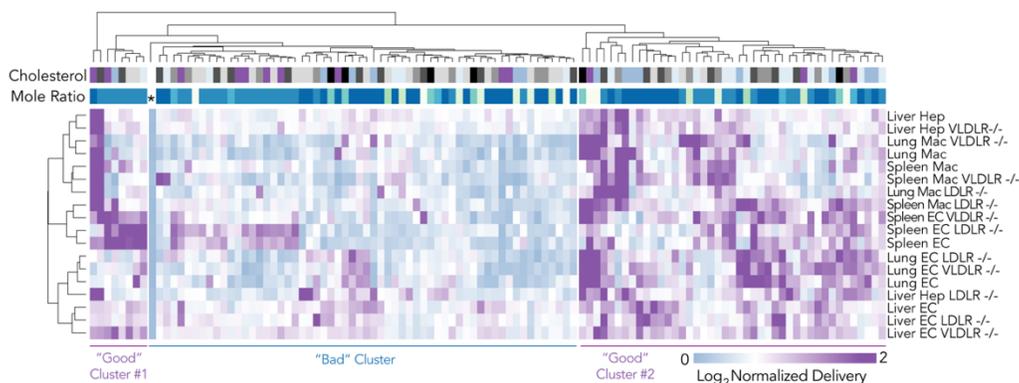




## Developing safe Cas9 therapies for lung disease using DNA barcoded nanoparticles

The Dahlman Lab at Georgia Tech and Emory Medical School ([dahlmanlab.org](http://dahlmanlab.org)) is pioneering the use of DNA barcoded nanoparticles. **For the first time, we can evaluate how thousands of nanoparticles deliver RNA and DNA drugs in mice instead of evaluating them in cell culture.** Since 2016, we have generated ~200,000 *in vivo* drug delivery data points. As an example, the heatmap below depicts ~8,000 *in vivo* drug delivery data points generated from a single experiment. Using a custom bioinformatics pipeline, we have used these data to develop new Cas9 therapies.



The lab started in 2016; by spring 2019, we will employ 10 full time scientists (masters – postdoc) and 8 undergraduates. **We are now hiring post-docs with backgrounds in (i) organic / medicinal / synthetic chemistry, (ii) vascular biology, (iv) lung biology, and (v) immunology.** Chemists will synthesize novel lipid- or polymer-based compounds and will evaluate how thousands of nanoparticles deliver DNA and RNA drugs directly *in vivo*. They will work with biologists to develop Cas9 therapies. **We have several industry partners interested in translating these delivery vehicles into the clinic.**

Post-docs will be trained to efficiently write papers. For example, a current Ph.D. student in the lab published 7 papers (PNAS, JACS, etc.) in their first 2 years.

This is a unique opportunity. First, you will be a member of a fun, diverse, and interdisciplinary group. Second, you will learn about nanoparticle DNA barcoding, which combines high throughput chemistry, nanoparticle characterization, RNA therapies, Cas9, and genomics. Third, you will be working in a cutting-edge field (Cas9 drug development). Finally, the Georgia Tech and Emory Medical School Department of Biomedical Engineering is ranked #3 and #2 for undergraduate and graduate studies, respectively. It is located in Atlanta, a thriving city with major cultural, professional, and athletic institutions. Atlanta is called the 'city in a forest', and offers great food, music, breweries, hiking, biking, and weather. A standard salary goes much farther in Atlanta than in other cities with major research institutions. Finally, the DahlmanLab is a supportive and inclusive environment; we care deeply about all our lab members, independent of their background, experiences, preferences, or beliefs.

Email a CV to [james.dahlman@bme.gatech.edu](mailto:james.dahlman@bme.gatech.edu). **To be fully considered, contact us before 12/28/18.**