



UNIVERSITY OF MINNESOTA  
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# Department of Chemistry

## Gassman Lectureship in Chemistry

### March 23 - March 25, 2016



Professor & Chair

**M.G. Finn**

Department of Chemistry  
& Biochemistry  
Georgia Tech

Research focuses on developing chemical and biological tools for research in a range of fields, including chemistry, biology, immunology and evolution with viruses; development of reactions for organic synthesis, chemical biology, and materials science; and traditional and combinatorial synthesis of biologically active compounds

Website:  
[www.FinnLabResearch.org](http://www.FinnLabResearch.org)

Host:  
Mark Distefano

#### Lecture #1

**4 p.m. Wednesday, March 23, 331 Smith Hall**

*(reception follows Kate & Michael Barany Conference Room, 117/119 Smith Hall)*

#### ***Tailored Virus-Like Particles for Biomedicine and Catalysis***

Viruses and virus-like particles are the largest scaffolds conveniently available to the molecular scientist with structures known to atomic resolution. They therefore represent unique tools with which to explore a variety of questions in nanoscience, biology, and materials research. Our work in recent years has focused on the particle derived from the bacteriophage Q $\beta$  capsid as a model system. Methods for the chemical and genetic modification of the coat protein, its targeting to particular cell types, and its use in immunology and as a container for functional biological molecules will be described.

#### Lecture #2:

**9:45 a.m. Thursday, March 24, 331 Smith Hall**

#### ***Click Chemistry Returns Home: Development and Applications to Materials Science***

The art and science of both polymer chemistry and bioconjugation rely on highly reliable bond-forming reactions. New and optimized click reactions can have an immediate impact on these fields, often allowing access to new types of materials and functions. Three ligation reactions that meet click chemistry standards will be discussed, along with applications to biomolecule functionalization and degradable materials development.

#### Lecture #3:

**4 p.m. Friday, March 25, 331 Smith Hall**

#### ***New Ventures: Analytical Methods and Polyvalent Catalysis***

The efficient formation of bonds in complex aqueous environments is an important enabling technology of chemical biology. We have focused recently on three ligation reactions that meet click chemistry standard, two of which allow for controlled molecular fragmentation as well. Applications to biomolecule functionalization and degradable materials development will be discussed.

Regents Professor Paul G. Gassman died in April 1993, at the age of 57. He was internationally known in the chemical community, and left behind a legacy of achievement. During his career, he served as mentor and adviser to 85 doctoral and master's candidates as well as dozens of postdoctoral associates and undergraduate students. Numerous awards, honors, and honorary degrees were bestowed in recognition of his contributions to research and his service to the scientific, professional, and university communities. Some of these awards include election to the National Academy of Sciences (1989) and to the American Academy of Arts and Sciences (1992); the James Flack Norris Award in Physical Organic Chemistry (1985); Arthur C. Cope Scholar Award (1986); and the National Catalyst Award of the Chemical Manufacturers Association (1990). He served as president of the American Chemical Society in 1990. He was co-chair of the organizing committees of the National Organic Symposium (1991) and the National Conferences on Undergraduate Research meeting (1992), on the University of Minnesota campus. It was his wish that a lectureship be established to bring distinguished organic chemists to the Department of Chemistry. We are proud to present this lecture series in his honor.

