



Indiana University Department of Biology announces  
The eleventh annual  
**Carlos O. Miller Lecture in Plant Molecular Biology**

## “Mechanisms of microRNA turnover in *Arabidopsis*”

Presented by

### Professor Xuemei Chen

Department of Botany and Plant Sciences, University of California, Riverside  
Howard Hughes Medical Institute and Gordon and Betty Moore Foundation Investigator

**Thursday, October 30, 2014 • 4 p.m. • Myers Hall 130**



Photo courtesy of X. Chen

### About Professor Chen

#### Research

Dr. Chen and her lab focus on two major areas of research. In one, they dissect the genetic networks controlling stem cell maintenance and termination. In the other, they study the biogenesis, degradation, and mode of action of small RNAs and long noncoding RNAs. The topic of her talk will be microRNAs (miRNAs), a class of small regulatory RNAs that have large impacts on gene expression in both plants and animals. Chen and her lab have been studying the mechanisms underlying the metabolism of miRNAs in *Arabidopsis*. As the framework of miRNA biogenesis has been established, their recent studies have focused on the mechanisms of miRNA turnover. They identified two classes of enzymes, exonucleases and nucleotidyl transferases, which cause miRNA 3' truncation and 3' uridylation, respectively, to lead to miRNA degradation. They also found that an argonaute protein causes the degradation of its associated miRNA. Their studies seek to establish a molecular framework of miRNA turnover.

### Education

- Postdoctoral Fellow, California Institute of Technology, 1995-98
- Ph.D. Biochemistry, Cornell University, 1995
- Graduate Research Assistant, Boyce Thompson Institute, Cornell University, 1989-94
- B.S. Biology, Beijing University, 1988

### Honors

- Elected to the National Academy of Sciences, 2013
- Selected as HHMI-GBMF investigator, 2012
- Elected as American Association for the Advancement of Science Fellow, 2011
- University Scholar, UC Riverside, 2007-10
- Charles Albert Shull Award from the American Society of Plant Biologists, 2006
- Board of Trustees Research Fellowship for Scholarly Excellence, Rutgers University, 2005
- NIH Postdoctoral Fellowship, 1995-97



The Carlos O. Miller Lectures honor Professor Carlos Miller (1923-2012), a beloved member of the Indiana University Department of Biology faculty for 55 years, who had a longstanding interest in the mechanisms of plant growth and development. Established in 2004, the lecture series brings prominent scientists to Bloomington to discuss their research.