



## 2020 Provost Award for Excellence in Research and Scholarship

### Dr. Gina MacDonald

*Department of Chemistry and Biochemistry*



Dr. Gina MacDonald is a professor of chemistry and biochemistry. She received her B.S. in biophysics from the University of Connecticut and a Ph.D. in molecular biology, biochemistry and biophysics from the University of Minnesota. Her postdoctoral work was at Los Alamos National Laboratory.

Dr. MacDonald's research has evolved and transitioned over the years but has been broadly focused on using spectroscopy to study how biomolecules and solution conditions alter protein structure and function. Dr. MacDonald has received the Margaret Oakley Dayhoff Memorial Award in Biophysics, the Cottrell Scholar Award from the Research Corporation, the Henry Dreyfus Teacher-Scholar Award, the National Science Foundation Presidential Early Career Award for Scientists and Engineers, the JMU Ford Faculty Award and the ACS Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences. Dr. MacDonald's first NSF research funding allowed her to initiate and develop a program that integrated Deaf and hard-of-hearing undergraduates, teachers and high-school students into her research laboratory. This program led to her contributions as the co-principle investigator on six NSF- Research Experiences for Undergraduates (REU) grants (1998-2018) that included deaf students, interpreters and interpreting students in summer research.

Dr. MacDonald's success is the result of her outstanding team of researchers that has included nearly eighty undergraduates as well as K-12 students and teachers. Some of these researchers are co-authors on peer-reviewed publications and some of their research results were integral in obtaining external funding. Dr. MacDonald believes that undergraduate research experiences can be the most important component of an undergraduate's education and one of the most effective means of promoting and enhancing diversity and inclusion in the sciences.