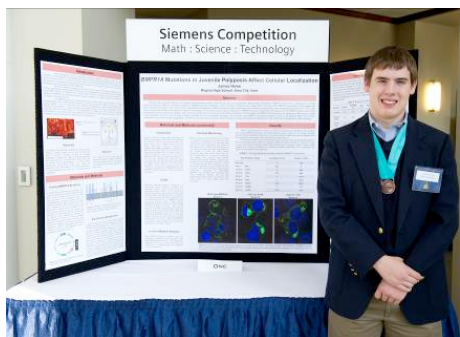


**2012 SIEMENS COMPETITION IN MATH, SCIENCE & TECHNOLOGY  
National Finalist**



**JAMES HOWE**

**Regina High School, Iowa City, Iowa**

**HOMETOWN: Iowa City, Iowa**

**PROJECT: BMPRI1A Mutations in Juvenile Polyposis Affect Cellular Localization**

**FIELD: Biology**

**MENTOR: Dr. James Howe, University of Iowa**

*"I have had an inquisitive mind for as long as I can remember. At a young age, I would keep wondering why things work in a certain way, which definitely led me to the sciences."*

Long interested in biology, James Howe welcomed the opportunity to work on a project related to the genetic basis of cancer. "It allowed me to greatly expand my knowledge of cellular biology and apply it to a real clinical problem." In his research, James found that missense mutations in BMPRI1A, as seen in juvenile polyposis patients, lead to impaired intracellular trafficking and loss of cell-surface expression.

James enjoys playing football, participating in his school's debate team and Key Club, and tutoring his schoolmates in math and science. He plans on majoring in biology or biochemistry and would like to become a doctor.