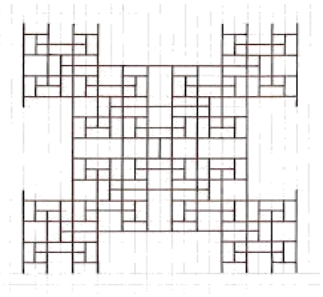
REU: Research Challenges Identifying Integer Sequences Using the OEIS

Muhlenberg College — Allentown, Pennsylvania

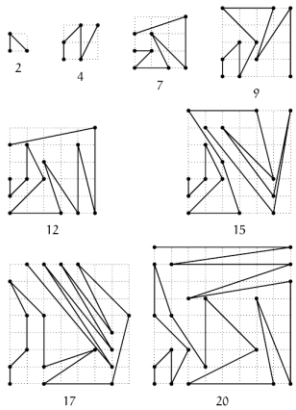


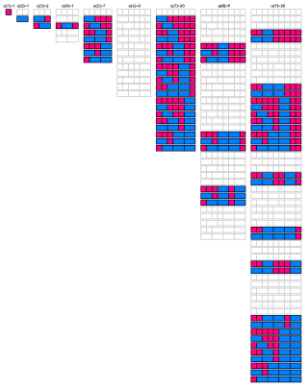
About the Program

The Mathematics and Computer Science Department of Muhlenberg College invites applications for a NSF Research Experiences for Undergraduates (REU) program in the summer (**May 29 - July 27**) of 2018 that will concentrate on research projects associated with the On-Line Encyclopedia of Integer Sequences® (OEIS®) and its role in stimulating new research. Sequences play an important role in mathematics and many other fields. They enumerate objects in sets and define relationships among items or properties shared between them. A particular emphasis of the program will be to discuss the important role the OEIS has played in developing conjectures in areas that include number theory, algorithmic and enumerative combinatorics, combinatorial number theory, and many other fields, as well as the tools necessary for identifying such conjectures.

About OEIS

The On-Line Encyclopedia of Integer Sequences (OEIS) was created in 1996 listing 10,000 sequences. Since then, the OEIS has grown to include nearly 250,000 sequences. The list was started by Neil J. A. Sloane in 1964 when, as a graduate student, he began collecting integer sequences on file cards. These were later transferred to punched cards and eventually published as A Handbook of Integer Sequences in 1973 by Academic Press. This first edition of the Handbook included more than 2,300 sequences. Several supplements to the Handbook were issued soon after that. The popularity of the Handbook eventually led to the publication of The Encyclopedia of Integer Sequences by Neil Sloane and Simon Plouffe in 1995, which contained 5488 sequences. The website followed within a year and has continued to add to its sequence database.





Call for Applicants

To submit an online application, go to

http://muhlenberg.edu/main/academics/mathcs/reu/

and follow the directions at the website. Participating students will be provided a stipend of $4,500, on-campus housing with support for a summer meal plan, and travel expenses to and from the Muhlenberg College campus. Applicants should be undergraduates with a major in Mathematics, Computer Science, or closely related STEM field.

Due to funding agency rules, only U.S. Citizens and Permanent Residents who will be full time undergraduate students in Fall 2016 are eligible to apply. Women, minorities, and students with disabilities are encouraged to apply.

Review of abstracts will begin **March 8, 2018** and continue until all slots are filled.

For more information, or contact program directors Dr. Eugene Fiorini (eugenefiorini at muhlenberg dot edu) or Dr. Byungchul Cha (cha at muhlenberg dot edu).

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