

# Research Experience for Undergraduates In Mathematics

## Grand Valley State University

### Summer NSF REU Fellowship Opportunity

Fellowship recipients will become active research partners with faculty members at Grand Valley State University and will work to improve their mathematical communication skills.

Past student projects have resulted in publications in professional journals and award-winning presentations at state and national conferences.

#### PROGRAM INFORMATION

**Dates:** Sunday, June 10 to Sunday, August 5, 2012

**Eligibility:** Participants must be citizens or permanent residents of the US or its possessions, current full-time undergraduates, and have completed one full year of calculus and one course in linear algebra.

**Setting:** Beautiful Summertime West Michigan!

**Support:** \$4000 research stipend, on-campus air conditioned housing with your own bedroom, and a generous food allowance.

**Application Deadline:** Applications received by **Friday, February 24, 2012** will receive full consideration. Review of applications will continue until all positions are filled. Applicants will be notified of their acceptance by the end of March.

**To Apply:** On-line application material at

<http://www.gvsu.edu/mathreu>

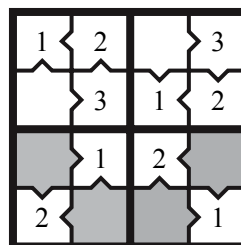
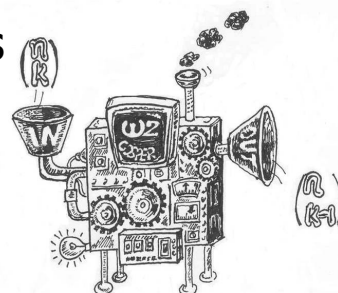
**Questions?** Email Dr. William Dickinson at [dickinsw@gvsu.edu](mailto:dickinsw@gvsu.edu)

**We particularly welcome applications from individuals belonging to groups traditionally underrepresented in mathematics.**

#### SUMMER RESEARCH TOPICS

##### Combinatorial Sums and Identities

Explore various proof techniques and solve problems related to combinatorial sums

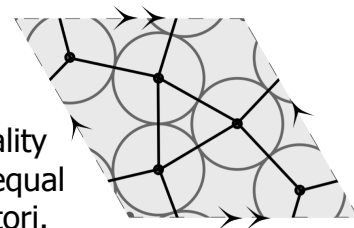


##### The Mathematics of Sudoku

Use techniques from discrete mathematics to enumerate and analyze variations of the popular puzzle Sudoku.

##### Equal Circle Packing

Find and prove the optimality of dense arrangements of equal circles on Klein bottles or tori.



##### Voting Theory

Develop and analyze models of cost-consciousness in referendum elections.

For more information about these projects and the program see our web site: <http://www.gvsu.edu/mathreu>

#### Alumni Comments

*This program gave me more confidence in my abilities to do mathematics and to communicate technical material in a professional manner; in doing so, it has made me more eager to pursue a career in mathematics.*

*The program helped me develop mathematical writing and speaking skills that I have found useful, especially now that I am in graduate school.*

*This research experience has made me realize how exciting discovering new ideas and having the opportunity to add my own two cents to the mathematics structure is.*