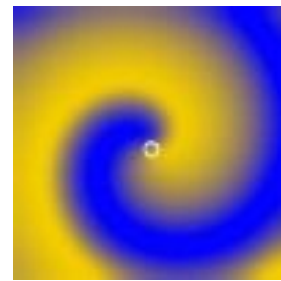


Summer 2012 Research Experience for Undergraduates (REU) in the Dynamics of Pattern Formation (May 21st to July 13th)

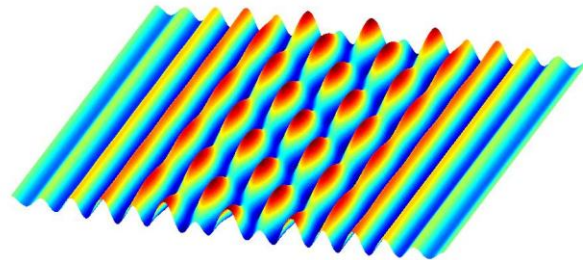
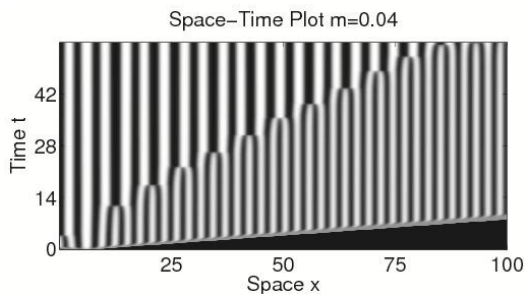
We seek motivated undergraduate students for an eight week summer program at the University of Minnesota, Minneapolis, in the dynamics of pattern formation. This program is ideal for students contemplating graduate school or a career in mathematics that would like to gain experience performing mathematical research.

Pattern formation is the study of general mechanisms leading to the appearance of complex spatial patterns. It is motivated by the existence of similar patterns in seemingly dissimilar systems (e.g. animal coat markings, vegetation patterns, phase separation problems, convection patterns). This REU will focus on several examples of pattern forming phenomena, using numerical simulations and proving theorems to gain better insight into the underlying dynamics. Examples include,

Spiral patterns in cactus, chemical precipitation models, and cardiac dynamics



Pattern forming fronts in models of chemical precipitation and convection



No previous research experience is expected. The only firm requirement is an undergraduate course in differential equations, although higher level coursework and a familiarity with or interest in learning Matlab would be helpful. Participating students must be US citizens or permanent residents

Selected students will receive a \$4000 stipend. Housing in university dorms can be arranged.

How to apply: Interested students should contact Matt Holzer (mdholzer@umn.edu) or Arnd Scheel (scheel@umn.edu). Applicants must 1) send a brief letter/email explaining their interest, 2) send a current (unofficial) transcript and 3) arrange a letter of recommendation to be sent to one of the people above at the School of Mathematics, 127 Vincent Hall, 206 Church St SE, Minneapolis MN 55455. More information at www.math.umn.edu/~scheel/

Deadline: Applications will be considered until the positions are filled. We will begin to review applications and make offers on March 1st.