

# MSCS Mess

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Department of Mathematics, Statistics, and Computer Science  
St. Olaf College, Northfield, MN 55057

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## This Week's Colloquium

<b>Title:</b>	Building a 3D Model of Regents
<b>Speaker:</b>	Comp Sci Students
<b>Date:</b>	Monday, April 14th
<b>Time:</b>	3:30 PM
<b>Location:</b>	RNS 410

**About the talks:** These lightning talks provide a taste of seven topics involved in 3D modeling from photographs, as follows:

**Mobile Devices:** We will be talking about rendering large amounts of data in browser using WebGL. Specifically, how the use of this technology enables the rendering of large, indoor models.

**3D Modeling:** Our project first combines the parts of a single surface that appear in multiple camera images into a single polygon in three dimensions. It then creates new polygons that fill in the gaps between the polygons generated from camera data.

**Image features:** Feature matching is a well-developed research problem in computer vision. We present two optimizations for feature matching on planar objects: globally oriented features and partial feature descriptors.

**Object recognition:** As part of an endeavour to build a 3D model of Regents, we successfully developed a technique to recognize and name objects in the three-dimensional model.

**Dataset:** Our team designed and managed the project's underlying dataset, allowing many users to simultaneously generate new data.

**Better displays:** A new method for local color correction of display devices for real-time imaging in fixed lighting conditions.

**Optimization:** In order to accurately reconstruct a 3D model from a set of images, we use Bundle Adjustment, a non-linear minimization technique,

to reduce error within the 3D model by simultaneously adjusting camera position and points in the 3D model.

Speakers: Doug Binder, Tommy Markley, Maggie Wanek; Sam Bedell, Stephen Lee, Guanlun Mu; Stefan Mellem, Ian Zewiske; Kayla Bonnstetter, Adrian Rossing; Shane Allen, Armaan Bindra, Connor Wray; Andrew Crocker, Jon Sandness; Luke Bonde, Allison Brumfield, Irene Yuan; Olaf Hall-Holt

## This Week's Seminar

There is not an MSCS Seminar this week.

## SciTechsperience Internships

SciTechsperience is a paid internship program that connects college students in science, technology, engineering and math (STEM) disciplines with rewarding hands-on opportunities in small Minnesota businesses. If you are looking for a summer internship or opportunity to use your MSCS skills, consider applying to SciTechsperience and helping small businesses in Minnesota! More information can be found here: <http://scitechmn.org/>.

## Wanted: Talented MSCS Students

Do you sing, play an instrument, write poetry, juggle, dance, or have another talent? If so, perform at the nth annual MSCS recital to be held April 23, 2014 at 7:00 pm in Ytterboe Lounge. Contact Kay Smith at (smithk@stolaf.edu) to sign up.

## Mathematics Alumni Career Panel

On Sunday, April 13th, the Mathematics department is hosting an alumni career panel in RNS 356. Pizza

will be served at 5:30 pm, and the panel will begin at 6:00 pm. Come hear from four St. Olaf grads about their life after St. Olaf!

Editor-in-Chief:	Josh Jacobson
Faculty:	Marju Purin
Mess Czar:	Patty Martinez

*If you would like to submit an article or event to be published in the Math Mess, e-mail [jacobsoj@stolaf.edu](mailto:jacobsoj@stolaf.edu)*