Fall 2014 Departmental Meeting

Wednesday, August 27
4:10 p.m.
Carver 0001
Introducing New Faculty

Bernard Lidický
Assistant Professor
Graph Theory

Michael Young
Assistant Professor
Graph Theory
Introducing New Faculty

Jonathan Axtell
Post Doc
Representation Theory

Marcus Bishop
Post Doc
Representation Theory

Zheng Chen
Post Doc
Numerical Analysis

Changbum Chun
Visiting Associate Professor
PDE’s
Introducing New Faculty

William DeMeo  
Post Doc  
Universal Algebra

Jyy-I Hong  
Post Doc  
Probability Theory

Yeansu Kim  
Post Doc  
Number Theory

Mohit Kumbhat  
Post Doc  
Combinatorics

Thanh T Nguyen  
Post Doc  
PDE’s
Introducing New Graduate Students

Madeline Anderson
Philip Bauer
Victoria Blumen
Tyler Brown
Jorge Chavez

Tyler Chenhall
Christopher Cox
Emelie Curl
Matt Jacobs
Ayse Kizilkaya
Graduate Students with Departmental Roles

Kirstin Hogenson
Lead TA

Anna Lischke
Lab Coordinator

Volodymyr Sukhinin
My Labs Plus Coordinator

Jeremiah Goertz
140s SMI Coordinator

Steven Noren
Help Room Coordinator

Shanise Walker
150 SMI Coordinator
Introducing New TA’s

Motassem Al-Tarazi
Rebecca Ehlers
Xiying Liu
Department Staff Members

Sunny Hsu
Receptionist & Undergraduate Secretary

Jan Nyhus
Administrative Specialist

Ellen Olson
Departmental Secretary

Melanie Erickson
Graduate Secretary & Disability Liaison

Danielle Bursell
Alyssa Lentch
Office Assistants
Department Staff Members

Rod Ragner
System Support Specialist

Sue Ellen Tuttle
Communications Specialist

Dawn Walker
First Year Advising

Zach Miller
Daniel Petty
Computer Aides
Student Groups

- ISU SIAM Student Chapter – Kubilay Dagtorus, President
- Mathematicians of Color Alliance (MOCA) – Michael Young, Mentor
- Mathematics Graduate Student Organization – Stefanie Wang, President
Event Announcements

• Departmental Picnic
  Sunday, Sept. 7 from 4:00-7:00 pm
  McCarthy Lee Park

• Undergraduate Teas
  Thursdays at 3:10 pm
  Sprague Lounge

• Visit by Dean Schmittmann
  Wednesday, Nov. 5 @ Noon
Undergraduate Programming

Kristopher Lee

William DeMeo

Filling in for Steve Butler
Departmental Awards

Hailiang Liu
Vinograde Graduate Advising Award

Ryan Martin
ISU Award for Exemplary Mentor

Steve Butler
Cassling Family Faculty Award
LAS Early Achievement in Teaching
Promotions

Ryan Martin
Professor

Tim McNicholl
Tenure

James Rossmanith
Associate Professor

Chris Schultz
Senior Lecturer
Retirements

Roger Alexander

Gary Lieberman
On Leave

• FPDA
  Leslie Hogben, Hailiang Liu, Zhijun Wu

• On Leave
  Steve Butler, Ryan Martin

• On Loan to Provost
  Wolfgang Kliemann
New Research Funding

- Songting **Luo** (NSF, 3 years)
- James **Rossmanith** (NSF, 1 year)
- Glenn **Luecke** (Cray, 1 year)
- Tim **McNicholl** (Simons, 5 years)
- Ananda **Weerasinghe** (Simons, 5 years)
- Ryan **Martin** (teaching buyout from IMA)
- Steve **Butler** (teaching buyout from IMA)
State of Departmental Programs

Graduate Programs in Math and Applied Math

Justin Peters
Director of Graduate Education
State of Departmental Programs:
Graduate Program - Enrollment

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>First Year</th>
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</thead>
<tbody>
<tr>
<td>Total enrollment</td>
<td>83</td>
<td>20</td>
</tr>
<tr>
<td>Ph. D.</td>
<td>73</td>
<td>16</td>
</tr>
<tr>
<td>Female</td>
<td>30</td>
<td>09</td>
</tr>
<tr>
<td>Underrepresented</td>
<td>11</td>
<td>01</td>
</tr>
<tr>
<td>International</td>
<td>27</td>
<td>04</td>
</tr>
<tr>
<td>Funded (at ISU)</td>
<td>75</td>
<td>20</td>
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</table>
State of Departmental Programs:
Graduate Programs

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>First year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>55</td>
<td>12</td>
</tr>
<tr>
<td>Applied Mathematics</td>
<td>27</td>
<td>07</td>
</tr>
<tr>
<td>BCB</td>
<td>00</td>
<td>00</td>
</tr>
<tr>
<td>Info Assurance</td>
<td>01</td>
<td>01</td>
</tr>
</tbody>
</table>
# State of Departmental Programs:

## Graduate Program:

### Core Course Enrollment

<table>
<thead>
<tr>
<th>Course</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algebra (504)</td>
<td>15</td>
</tr>
<tr>
<td>Linear Algebra (510)</td>
<td>21</td>
</tr>
<tr>
<td>Analysis (515)</td>
<td>20</td>
</tr>
<tr>
<td>Appl. Math. (519)</td>
<td>09</td>
</tr>
<tr>
<td>ODEs (557)</td>
<td>07</td>
</tr>
<tr>
<td>Num. Anal. (561)</td>
<td>17</td>
</tr>
</tbody>
</table>

501 (8) 407/507 (17) 554 (14) 605 (10) 615 (9) 631X (10) 655 (8) 666 (13)
State of Departmental Programs:
Graduate Program: Degrees Awarded
Fall 2013 – Summer 2014

- PhD 11
- MS 04
State of Departmental Programs:
Master of School Mathematics Program

Alejandro Andreotti
Director of School Mathematics Program
State of Departmental Programs:
Master of School Mathematics Program

School Mathematics Program Enrollment

<table>
<thead>
<tr>
<th>Enrollment Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduated Summer 2014</td>
<td>06</td>
</tr>
<tr>
<td>3rd Year or All But CC</td>
<td>04</td>
</tr>
<tr>
<td>Finished 2nd year</td>
<td>08</td>
</tr>
<tr>
<td>Finished 1st year</td>
<td>04</td>
</tr>
<tr>
<td>Non-MSM</td>
<td>02</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>24</strong></td>
</tr>
</tbody>
</table>

Off-campus students include two out-of-state students (MN, KS).
State of Departmental Programs:
Master of School Mathematics Program
Summer 2014 Course Enrollment

<table>
<thead>
<tr>
<th>Course</th>
<th>Total</th>
<th>On-campus</th>
<th>Off-campus*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seminar in Math Ed (540B)</td>
<td>18</td>
<td>06</td>
<td>12</td>
</tr>
<tr>
<td>Statistical Methods for Mathematics Teachers</td>
<td>20</td>
<td>06</td>
<td>14</td>
</tr>
</tbody>
</table>
State of Departmental Programs:
Master of School Mathematics Program
Graduated Fall 2013 – Summer 2014

Callie Budden, Annie Carpenter, Robbie Cundy, Matthew Jacobs (now in our PhD program), Sarah Jacques, Sarah Snell

Summer 2015 Courses

- Math 540B Seminar in Mathematics Education – Alejandro Andreotti
- Math 547 Discrete Mathematics and Applications – Irvin Hentzel
- Math 549 Intermediate Geometry – Mark Hunacek
State of Departmental Programs:
Undergraduate Program

James Wilson
Director of Undergraduate Studies
State of Departmental Programs

Undergraduate Program: Number of Math Majors
State of Departmental Programs

Undergraduate Program

Math Majors’ Interests:

• Secondary Education  25%
• Economics/Finance Applications  25%
• Computer Science, Computer Engineering  12.5%
• Science, Engineering  20%
State of Departmental Programs

Undergraduate Program: Program Changes

- MATH 143X (4 cr) Preparation for Calculus
- MATH 145X (3 cr) Applied Trigonometry
- MATH 331 (3 cr) Topology
- MATH 407 (4 cr) Applied Linear Algebra
- Two-Course Sequence option: Discrete Mathematics
- Undergraduate Thesis approval standards
State of Departmental Programs

Undergraduate Program: Undergraduate Life

- Speakers: Mathematics and Careers
- Weekly Undergraduate Bulletin
- Sprague Room Activities
- Contests and coaching
- Math Club
- Undergraduate Research
State of Departmental Programs
Undergraduate Program: Undergraduate Forecast

• Advertising
• Relations with employers, internships, tracking graduates
• Advising and mentoring changes
• MATH 495: Special Topics in Mathematics
State of Departmental Programs

Jennifer (Davidson) Newman
Associate Chair
State of Departmental Programs
Personnel and Classes

- Team teaching only in 207
- ODEs: changed delivery method
  - Math 266: single sections of 50 with one instructor
  - Math 267: large lecture format (calculus)
- 14X series:
  - No longer offer Math 142
  - 143X: precalculus class in second year
  - 145X: new “142” for design and kinesiology

<table>
<thead>
<tr>
<th>Fall</th>
<th>2013</th>
<th>2014</th>
<th>Notes for 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Sections</td>
<td>301</td>
<td>322</td>
<td>More of 165; 266/7</td>
</tr>
<tr>
<td>TE Faculty teaching sections</td>
<td>60</td>
<td>50</td>
<td>Fac on leave: IMA, etc.</td>
</tr>
<tr>
<td>Lecturer/Post Doc teaching sections</td>
<td>72</td>
<td>93</td>
<td>24 current; 4 ISU PD; 8 new</td>
</tr>
<tr>
<td>TAs teaching sections</td>
<td>69</td>
<td>70</td>
<td>48 current; 19 new; 3 outside</td>
</tr>
</tbody>
</table>
# State of Departmental Programs

## More Numbers

<table>
<thead>
<tr>
<th>Class</th>
<th>141/2</th>
<th>143X</th>
<th>145X</th>
<th>150</th>
<th>165/6/265</th>
<th>266/7</th>
<th>207/307</th>
<th>3XX</th>
<th>4XX</th>
<th>5/6XX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall 2010</td>
<td>873</td>
<td>927</td>
<td>2708</td>
<td>548</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2011</td>
<td>815</td>
<td>1038</td>
<td>2904</td>
<td>620</td>
<td>141</td>
<td>172</td>
<td>90</td>
<td>245</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2012</td>
<td>814</td>
<td>908</td>
<td>3274</td>
<td>695</td>
<td>218</td>
<td>185</td>
<td>79</td>
<td>233</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall 2013</td>
<td>931</td>
<td>191</td>
<td>N/A</td>
<td>1019</td>
<td>3485</td>
<td>756</td>
<td>223</td>
<td>179</td>
<td>89</td>
<td>224</td>
</tr>
<tr>
<td>Fall 2014</td>
<td>N/A</td>
<td>752</td>
<td>223</td>
<td>1008</td>
<td>3579</td>
<td>755</td>
<td>230</td>
<td>206</td>
<td>118</td>
<td>212</td>
</tr>
</tbody>
</table>

**% incr. 10-11**
-6.6% \(\text{+12.0\%} \text{+7.2\%} \text{+13.1\%}

**% incr. 11-12**
0% \(-12.5\% \text{+12.7\%} \text{+12.1\%} \text{+54.6\%} \text{+7.6\%} \text{+12.2\%} \text{-4.9\%}

**% incr. 12-13**
+14.4% \(+12.2\% \text{+6.4\%} \text{+8.8\%} \text{+2.3\%} \text{-3.2\%} \text{+12.7\%} \text{-3.9\%}

**% incr. 13-14**
N/A \(-13.1\% \text{-1\%} \text{+2.7\%} \text{0\%} \text{+3.1\%} \text{+15.1\%} \text{+32.6\%} \text{-5.4\%}

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### Total SCH
- Fall 2010: 25,379
- Fall 2011: 27,658
- Fall 2012: 29,735
- Fall 2013: 31,762
- Fall 2014: 34,195

**% Change**
- 3.8% \(\text{6.9\%} \text{12.9\%} \text{0.3\%}

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### Date of Record
- Day -2
- Day 6
- Day 10
- Day -2

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### Date of Record Day...
- 6 Day
- 2 Day
- 10 Day
State of Departmental Programs

Important information on our web pages

Visit: {Undergrad|Graduate}:Current Students:Classroom Policies
http://www.math.iastate.edu/Faculty/ClassPolicies.html

Important information: An instructor must not give make up exams unless fits one of 5 reasons:

- Medical excuse - student's own medical emergency.
- Medical excuse - a member of the student's family has a medical emergency.
- Extra curricular activities as a representative of Iowa State University (e.g., sponsored sports, band, etc.).
- Armed forces deployment (military duty).
- Officially mandated court appearances, including jury duty.

“Official Documentation required”: verified by instructor
Exception:

• If an instructor gives three or more hour exams during the semester (including a departmental midterm) and discards the lowest hour exam score for the course grade calculations, then the instructor is not required to give a make-up exam for a missed exam, even in the case of the excusable absences. The Final exam must always be taken and cannot be dropped.

• Also academic misconduct; disability; student behavior; harassment and discrimination; religious accommodation

• Continuous assessment: discussed by Elgin Johnston
  – Impacts instructor effort
State of Departmental Programs:
Center for Excellence in Undergraduate Mathematics Education

Elgin Johnston
Director of the Center for Excellence in Undergraduate Mathematics Education
State of Departmental Programs: Center for Excellence in Undergraduate Mathematics Education

ALEKS introduced a new assessment exam in Spring of 2013. Most of our incoming Fall 2014 freshmen took this assessment.

Research conducted on Fall 2013 results indicated our cut scores for Math 140, 142/3, 165, 166, 265 were about five points high so we reduced the ALEKS cut scores by five points for these courses, for example to 70 from 75 for Math 165.
State of Departmental Programs: Center for Excellence in Undergraduate Mathematics Education

We continue to build an archive of materials and resources for Calculus instruction, including:

- clicker questions
- BlackBoard based reading quizzes
- class projects

We are always interested in contributions. Please contact Heather or I if you do not already have access to the Center Blackboard site.
State of Departmental Programs:
Center for Excellence in Undergraduate Mathematics Education

Please make undergraduates aware of problem solving activities in the Department:

• Problem of the Week

• Putnam Exam – Saturday, December 6, 2014 – Practice sessions will begin soon.
State of Departmental Programs:
Center for Excellence in Undergraduate Mathematics Education

The CEUME will again be organizing seminars and discussion groups on topics and issues related to teaching. Watch your email for announcements.

We will again be inviting one or two speakers to talk on issues in teaching and education relevant to the department’s efforts and interests.

Please contact Heather or I if you have an idea for a good speaker.
State of Departmental Programs:
Center for Excellence in Undergraduate Mathematics Education

The State Regent’s Institutions are now into second year of implementation of the Quirmbach Law. This year we must perform outcomes assessment and give a plan for continuing improvement in courses with yearly enrollments of 200 or more (17 courses in Mathematics.)

We will rely on instructors of these courses to provide data on which to base our reports. Stay tuned for updates from course coordinators for more about this.
State of the Department
Update on Searches

• Assistant Professor in Probability and Stochastic Processes
• Assistant Professor in PDEs (not yet approved)
State of the Department
Changes in Office Staff

- Karen Stein contract expired
- Jan Nyhus on phased retirement (half time)
- New Administrative Assistant coming shortly
State of the Department
Introducing Assistant to the Chair

Eli Stines

Primary role will be scheduling classes
Announcements

• **TIER study** is on hold
• **ISU Accreditation** in November 2015
  Syllabus **required** for every class
• Department **self-study** due this spring
  External review in Fall 2015
• **$$ needed** for Colloquium Cookies
• **Nominations** for Standing Committees
IMA Annual Workshops

• The IMA is desperate for ideas for annual programs and workshops

They will settle for “letter of intent” and will help develop the idea