ANNUAL MEETING OF THE
GRADUATE FACULTY

Emerging Trends in
Graduate Education

Patricia R. Komuniecki, Ph.D.
Vice Provost for Graduate Affairs
Dean, College of Graduate Studies

Thursday, January 30, 2014
12:30 – 1:30 p.m.
Student Union, Room 2592

Light refreshments served
Overview

- COGS Overview/Annual Report
- Goal 2: Directions 2011 – Directions 2014
- Emerging Trends in Graduate Education
Graduate and Professional Students-
Fall Enrollments 2007-13
Graduate Student Demographics - Fall 2013

- **Enrollment:** 4,590 graduate students
- **Diversity:** 64% White, 27% Ethnic Minority, 9% unknown
- **Gender:** 55% female, 45% male
- **Load:** 56.6% full-time, 43.4% part-time
- **Residency:**
  - 72.8% in-state
  - 11.3% out-of-state
  - 15.9% international
AY 2012-13:
- Degrees Awarded: 1,682
- GSA Funding: $154,000
- Professional Development Programs: 28

Fall 2013:
- Headcount: 4,590
- FTE: 3,254
- Applications: 3,686
- Admits: 1,149
- GAPA’s/ePAF’s: 1,036
Graduate Degrees Awarded 2012-13

Total=1,682

1,569 degrees
AY 2011-12

Doctoral: 106
Master's: 1,035
First Professional: 75
Education Specialist: 16
Certificates: 450
Graduate Faculty AY 2012-13

- Graduate Faculty Membership Applications: 330
- Graduate Council Curriculum Actions: 132
- National Surveys Submitted by COGS: NSF-NIH, CGS-GRE, ACT
Graduate Council - Curricular Activities

ECM: 40%
NCP: 40%
PRR: 17%
NPP: 3%

N=132
Strategic Planning

Directions 2011
The Strategic Plan of the University of Toledo

Directions 2014
The Strategic Plan of the University of Toledo
Goal 2: Graduate and Professional Academic Programs

- Our graduate and professional academic programs will be regionally relevant, nationally distinguished and highly ranked.

- These programs at UT will be known for high quality while maintaining accessibility, affordability and engagement. STEMM (Science, Technology, Engineering, Mathematics, Medicine) and professional programs will have high visibility.
Goal 2: Sub-goals

2.1 We will enhance the **quality and stature** of all of our programs.
2.2 We will work to assure **affordability** of our graduate and professional programs.
2.3 We will work to ensure **accessibility** to a diverse student population.
2.4 We will establish a recognized role in **economic leadership** and stimulation of the regional economy.

- 28 Implementation Strategies
- 79 Measurements & Metrics
- ~95% completed!
Subgoal 2.1- Quality/Stature

- National Graduate Student Recognitions
- New Graduate Programs
- Second Cohort of Woodrow Wilson Fellows (JHCE)
- Fulbright Scholars (5 – Indonesia, Kenya, Russia and Iraq)
- New Professional Science Master’s (PSM’s)
Graduate Student Recognitions

- 2013 National Optical Astronomy Observatory Recognition - astrophysics doctoral student/international paper on starbirth (CNSM)
- 2013 National Ethics Competition (American Counseling Association) won by 4 Counselor Ed Master’s students (CSJHS)
- 2013 National Board of Certified Counselors Minority Fellowship - $22,000 to a doctoral student in Counselor Education (CSJHS)
- 2013 National Graduate Research Award - $10,000 from the FAA/US Dept Transportation to an SISS doctoral student (CLLSS)
- 2013 Outstanding Young Investigator Award @ the 15th Annual International Congress of Immunology-recent doctoral student/current postdoctoral immunology fellow (COMLS)
- 2012-2014 NIH K31 pre-doctoral fellowships (@$126,000) to doctoral students (COMLS and COPPS)
Graduate Student Association (GSA) AY2012-13

- National Recognition by NAGPS
- New budget to support graduate student research awards, professional travel, student activities/speakers
- Midwest Graduate Research Symposium Symposium 2013-14th Annual MGRS hosted 200 students from 20 Midwest universities across 5 states
Woodrow Wilson Fellows 2013-2014

Back row left to right: Noah Bleckner, Samuel Östling, Corbin Brangham, Robert Abramoff, Christopher Wojciechowski.

Front row left to right: Dr. Patricia Komuniecki, Shelby McElroy, Alicia Schifferly, Mary Kreuz, Adam Thieroff, Rafael Soler.
New Graduate Programs
Fall 2013/Fall 2014

- **UG-Grad Pipelines:**
  - BSN to DNP *(Nursing)*
  - BSPS to MS in Medicinal Chemistry *(COPPS)*

- **New Degrees:**
  - Ph.D. in Experimental Therapeutics *(COPPS)*

- **New Certificates:**
  - Child Advocacy *(CSJHS)*
  - Healthcare Business Excellence *(for physicians and med students)* *(COBI)*
  - Women and Gender Studies *(CLLSS)*
  - Higher Education Administration *(JHCOE)*
FY15 Stipend and Tuition Scholarship Budget: 95% of the COGS FY14 Budget already released to the colleges (December 2013) for FY15
- Hope to keep graduate tuition flat for AY14-15
- ~25-35% of degree seeking graduate students receive graduate assistantships (TAs, RAs, AAs)
- ~4% have paid internships (IN) by local businesses
Graduate Assistant Funding 2012-13

- TA's: 55%
- RA's: 32%
- AA's: 10%
- IN's: 4%

N=883
## COGS Exit Surveys - Fall 2012 and Spring 2013

(700 responses - 94% response rate)

<table>
<thead>
<tr>
<th>Pre-degree employment</th>
<th>Fall 2012 (n=198)</th>
<th>Spring 2013 (n=498)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate Assistantship</td>
<td>34%</td>
<td>27%</td>
</tr>
<tr>
<td>Full-time job</td>
<td>32%</td>
<td>26%</td>
</tr>
<tr>
<td>Part-time job</td>
<td>12%</td>
<td>25%</td>
</tr>
<tr>
<td>Worked occasionally</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Did not work</td>
<td>11%</td>
<td>13%</td>
</tr>
</tbody>
</table>
Online Graduate Opportunities:

- Increased focus on online graduate courses, certificates, and degree programs
- Working with academic colleges and UT World Campus on new online graduate degree and certificate program opportunities

Diversity initiatives:

- COGS provides ~$400,000 in diversity funding annually through GOAP and McNair programs
COGS Dean to lead Goal 2 Workgroup
Workgroup Leads to meet with President Jacobs on January 31, 2014

Goal 2 Workgroup Charge:
- Prepare new sub-goals
- Consider the following suggested topics (and others):
  - Connection between Graduate Faculty & Research
  - Job markets and the UT reaction to them
  - Increase in Professional Degrees

First Goal 2 Workgroup meeting- 1st week of February
Directions 2014 Workgroup

- David Giovannucci, Graduate Council Chair (COMLS)
- Ron Opp, GC Vice Chair (CSJHS)
- Susan Pocotte, COGS Associate Dean/Academic Affairs (CON)
- Aaron Shaw, GSA President (COMLS)
- Joelynn Laux, GSA Vice President (COL/COBI)
- Barbara Kopp-Miller, Associate Provost/Online Programs (CSJHS)
- Jerry Van Hoy, Sociology/Director, MLS Program (LLSS)
- Glenn Lipscomb, Chemical Engineering (COE)
- Bill Maltese, Professor/Chair, Biochemistry & Cancer Biology (COMLS)
- Rebecca Schneider, Curriculum & Instruction (JHCOE)
- Michelle Masterson, Rehabilitation Sciences, DPT Director (CHS)
- Thea Sawicki, Vice Chancellor-Health Science Grad Programs (COMLS)

[Marcia McInerney, DUP, Medicinal Chemistry, Associate Dean (COPPS)-link with Research Council and Goal 3]*most of the above have already agreed to serve
Emerging Trends in Graduate Education

- Career Pathway Focus
- UG to Graduate Pipeline Programs
- Professional Science Master’s (PSM’s)
- Interprofessional Options
- Online Programs
- Job Opportunities
- Global Opportunities

- Financial Issues will be discussed at the next Graduate Council meeting on Feb 4
“Universities play a critical role in helping students find pathways through graduate school and into careers”

April 2012

www.pathwaysreport.org
COGS Exit Surveys-Fall 2012 and Spring 2013
(700 responses- 94% response rate)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Response (Strongly agree/Agree)</th>
<th>Response (Strongly agree/Agree)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fall 2012</td>
<td>Spring 2013</td>
</tr>
<tr>
<td>Academic program prepared student for professional</td>
<td>90%</td>
<td>91%</td>
</tr>
<tr>
<td>career goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of graduate education was high</td>
<td>89%</td>
<td>91%</td>
</tr>
<tr>
<td>Program was intellectually challenging</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td>Student was satisfied with COGS office: accessibility,</td>
<td>87-94%</td>
<td>85-91%</td>
</tr>
<tr>
<td>responsiveness, efficiency, effectiveness (several</td>
<td></td>
<td></td>
</tr>
<tr>
<td>questions)*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*~6% no response/not applicable
### COGS Exit Surveys-Fall 2012 and Spring 2013

(700 responses- 94% response rate)

<table>
<thead>
<tr>
<th>Post-degree employment</th>
<th>Fall 2012</th>
<th>Spring 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begin new position with new employer</td>
<td>30%</td>
<td>32%</td>
</tr>
<tr>
<td>Continue in same position with same employer</td>
<td>24%</td>
<td>16%</td>
</tr>
<tr>
<td>Continue with same employer in a <strong>new</strong> position</td>
<td>11%</td>
<td>10%</td>
</tr>
<tr>
<td>Seek new employment</td>
<td>24%</td>
<td>31%</td>
</tr>
<tr>
<td>Continue graduate education</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Will remain in Ohio</td>
<td>56%</td>
<td>62%</td>
</tr>
</tbody>
</table>
UG-Graduate Program Pipeline

Professional Degrees:
- BSN to DNP (CON)
- Baccalaureate degree (typically STEM) to MSBS in Medical Sciences to Medical School (students apply to COMLS for MSBS and then are interviewed for MD)

Research Degrees:
- BSPS to MS in Medicinal Chemistry (COPPS)
- BS in Biology (CNSM) to MS in Bioinformatics (COMLS)
- BA to MA in Social Sciences (CLLSS)

Consider new options in other disciplines
PSM Milestone - 2013

300 programs
127 universities
16 systems
6000 enrolled

The Professional Science Masters Program reached its 300th affiliated program in 2013.

The Professional Science Masters Program is designed to train the next generation of STEM professionals for integrator and leadership roles in science-intensive industries. By helping translate research into commercialization, PSM graduates are able to fuel innovation and economic growth.
UT PSM’s: Photovoltaics (PV) Biomarkers & Diagnostics [1st PSM’s at an Ohio public university]
- Fall 2013: 4th PV cohort recruited
- Fall 2014: 1st cohorts for PSM’s in Green Chemistry & Engineering Human Donation Science
- PSM’s in development: applied statistics, biotechnology, environmental sustainability, geospatial systems, cyber security
Interprofessional Options

- **School of Interprofessional Training**
  - Interprofessional Education (IPE) in the professional healthcare doctorates-Teams of students from Nursing, Medicine, Health Sciences, Pharmacy
  - Course/clinic work side-by-side for students from the following programs: DPT, OTD, DNP, MD, and PharmD
  - Can involve students in professional master’s programs including SPL, MSW and PA programs

- **School of Interprofessional Teaming (SOIT)**
  - New SOIT certificate program ready for GC review-involves students/faculty from three colleges (JHCOE, CSJHS and CHS)

Consider new options in other disciplines
Online Graduate Programs

Current:
- Doctoral degree: Doctor of Nursing Practice (BSN and MSN pathways to DNP)
- Master’s degree programs: Engineering, Nurse Educator, Early Childhood /Special Education, Early Childhood Education, Liberal Studies, MBA...
- Certificates: Elder Law, Patient Advocacy, Gerontological Practice, and Child Advocacy

New:
- **Fall 2013:** Master’s in Educational Technology
  Certificate in Foundations of Peace Education
- **Spring 2014:** Master’s in Criminal Justice
  Master’s in Higher Education
- **Fall 2014:** Master’s in Recreation and Leisure Studies
Online Graduate Programs

Programs in development:
- MS in Bioinformatics (COMLS)
- MES in Biology - targeted for high school science teachers “Appalachia Collaborative” (JHCOE/CNSM) funded by “Battelle for Kids”
- RESM/Educational Assessment Certificate (JHCOE)
- Others??
Job Opportunities

By 2020, 65 percent of all jobs will require postsecondary education and training, up from 28 percent in 1973.

*FIGURE 4: Postsecondary education and training*

<table>
<thead>
<tr>
<th>Year</th>
<th>1973</th>
<th>1992</th>
<th>2010</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs</td>
<td>91 million</td>
<td>129 million</td>
<td>143 million</td>
<td>164 million</td>
</tr>
<tr>
<td>Master's Degree or Better</td>
<td>7%</td>
<td>10%</td>
<td>11%</td>
<td>11%</td>
</tr>
<tr>
<td>Bachelor's Degree</td>
<td>9%</td>
<td>19%</td>
<td>21%</td>
<td>24%</td>
</tr>
<tr>
<td>Associate's Degree</td>
<td>12%</td>
<td>8%</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Some College/No Degree</td>
<td>40%</td>
<td>19%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>High School Diploma</td>
<td>32%</td>
<td>34%</td>
<td>30%</td>
<td>24%</td>
</tr>
<tr>
<td>Less Than High School</td>
<td>10%</td>
<td>11%</td>
<td>12%</td>
<td></td>
</tr>
</tbody>
</table>

Note: Numbers may not sum to 100 percent due to rounding.
Georgetown University Center on Education the Workforce (July 2013) projects a Shortage of Educated Workers by 2020

- 5M shortfall for 55M projected jobs (24M new and 31M ‘baby boomer’ replacements)

By 2020, BLS estimates that the number of jobs requiring advanced degrees will increase by 2.6 million

- 22% increase in jobs requiring Master’s
- 20% increase in jobs requiring Doctorates
# Employment Projections

## Earnings and unemployment rates by educational attainment

<table>
<thead>
<tr>
<th>Unemployment rate in 2012 (%)</th>
<th>Unemployment rate</th>
<th>Median weekly earnings in 2012 ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Doc. degree</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>Prof. degree</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Bachelor’s degree</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td>Associate’s degree</td>
<td>6.2</td>
</tr>
<tr>
<td></td>
<td>Some college, no degree</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>High school diploma</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>Less than a high school diploma</td>
<td>12.4</td>
</tr>
</tbody>
</table>

All workers: 6.8%


All workers: $815
### Job Opportunities - Ohio

<table>
<thead>
<tr>
<th>Occupations</th>
<th>#Jobs 2010</th>
<th>#Jobs 2020</th>
<th>Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare-Support</td>
<td>181,950</td>
<td>247,600</td>
<td>36%</td>
</tr>
<tr>
<td>Healthcare-Professional/Technical</td>
<td>287,500</td>
<td>340,250</td>
<td>22%</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>20,060</td>
<td>24,400</td>
<td>22%</td>
</tr>
<tr>
<td>STEM</td>
<td>210,460</td>
<td>248,850</td>
<td>18%</td>
</tr>
<tr>
<td>Managerial/Professional</td>
<td>645,100</td>
<td>755,200</td>
<td>17%</td>
</tr>
<tr>
<td>Community Service/The Arts</td>
<td>209,870</td>
<td>245,060</td>
<td>17%</td>
</tr>
<tr>
<td>Food/Personal Services</td>
<td>843,490</td>
<td>972,870</td>
<td>15%</td>
</tr>
<tr>
<td>Education</td>
<td>289,130</td>
<td>327,360</td>
<td>13%</td>
</tr>
<tr>
<td>Sales/Office Support</td>
<td>1,389,700</td>
<td>1,533,290</td>
<td>10%</td>
</tr>
<tr>
<td>Blue Collar</td>
<td>1,183,770</td>
<td>1,271,890</td>
<td>7%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>5,252,160</strong></td>
<td><strong>5,967,040</strong></td>
<td><strong>14%</strong></td>
</tr>
</tbody>
</table>
Global Opportunities

- Well-established programs with partners in Asia and Africa
  - MBA in India at PSG/Coimbatore (8 cohorts/500 students)
  - MS in Mechanical Engineering at PSG/Coimbatore (2 cohorts)
  - MBA in Egypt - partnership with the American Chamber of Commerce in Cairo (2 cohorts)

- Developing new relationships with universities in Africa (Sierra Leone and Botswana), South America (Brazil-USP...) and the Middle East

- Consider other opportunities (use of One World Schoolhouse to reach students across the globe?)
Final Thoughts

- Graduate degrees are necessary for 21st century careers - baccalaureate degrees do not distinguish a student anymore.

- UT is 1/17 public universities with breadth of degree programs.

- ~60% of UT graduate/professional students take jobs in Ohio.

- UT should recruit undergraduate students with clear expectations for 21st century careers that will require graduate degrees. **UT can and should distinguish itself with an emphasis on graduate and professional education, including expansion into emerging areas.**
Questions?