

College of Natural and Applied Sciences

August 22, 2012

State of the College Address

Tammy Jahnke, Dean

follow your
PASSION
find your
PLACE

CNAS Vision

- The College of Natural and Applied Sciences at Missouri State University seeks to be recognized regionally and nationally for teaching, scholarly productivity, professional and community service, and our outstanding students and alumni.

CNAS Mission

- The College of Natural and Applied Sciences develops educated persons who, upon graduation, are prepared to make sound decisions relative to the natural and applied sciences and society and to be productive and successful in their careers – our commitment to public affairs. We are committed to excellence in teaching, research and scholarly activities, and community and professional service.







- Kyoungrae Kim
- Day Ligon
- Bob Paviowsky
- Alicia Mathis
- Paul Durham
- Russ Rhodes
- Laszlo Kovacs
- Gary Meints
- Nick Gerasimchuk
- Melanie Grand
- Dan Crafts
- Bob Egbert
- Erwin Mantel
- Tom Plymate
- Les Reid
- Bob Patterson
- Saibal Mitra
- Kartik Ghosh
- Lifeng Dong
- Andrzej Baran
- Bob Mayanovic

College of Natural and Applied Sciences | 5/9/2012 | 5





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Shared Values/Guiding Principles

- We value
 - our students and their success;
 - hands-on learning (applied and practical);
 - academic rigor and critical thinking;
 - faculty, staff and administrators;
 - excellence in teaching, research and service;
 - ethical behavior;
 - our research endeavors;
 - our community, alumni and friends; and
 - continuous improvement.



Faculty Promotions - 2012

- Professor
 - Nikolay Gerasimchuk – Chemistry
 - Jorge Rebaza – Mathematics
 - Mike Reed – Physics, Astronomy and Materials Science
- Associate Professor with Tenure
 - Adam Wanekaya – Chemistry
 - Jill Black – Geography, Geology and Planning
- Senior Instructor
 - Kathryn Shade – Chemistry
 - Pamela Henson – Mathematics



CNAS New Faculty

- BIO – Assistant Professor – Dr. Paul Schweiger
- CHM – Assistant Professor – Dr. Katye Fichter
- CHM – Assistant Professor – Dr. Matthew Siebert
- MTH – Assistant Professor – Dr. Adam Harbaugh
- BIO – Instructor – Dr. Jessica Sewald
- MTH – Instructor – Dr. Roger Bunn
- GGP – Visiting Assistant Professor – Dr. Caixia Wang
- HRA – Visiting Assistant Profesor – Ms. Lamae Koogler

CNAS New Staff

- PAMS – Laboratory Supervisor – Samuel Mensah
- BIO – Laboratory Supervisor – Rhy Norton
- EGR – Distance Learning/Lab Supervisor – Stephanie Murphy
- CNAS – Administrative Assistant– Sherry Jones
- CRPM – Accounting Specialist – Lynda Jochims
- EGR – Administrative Assistant – Sarah Morrissey
- GGP – Administrative Assistant – Joshua Winborne

Postdoctoral Associates

- PAMS – Postdoctoral Associate - Hao Yan
 - Sponsored and funded by Bob Mayanovic
- PAMS – Postdoctoral Associate – Andy Baran
 - Sponsored and funded by Mike Reed



CNAS New Leadership

- William Bray – Head – Department of Mathematics
- Daniel Beckman – Associate Dean
- Xingping Sun – Associate Dean

CNAS Facts

- [CNAS](#)
- 7 departments and cooperative engineering program
- Nearly 200 full-time faculty and staff
 - 101 tenured or tenure/track faculty
 - An additional 4 faculty are on half-time appointments this year.
 - 24 instructors (non-tenure eligible)
 - Over 100 graduate students on assistantship
 - 30 support staff (administrative/executive assistants, electronic support, etc...)
- Annual Budget – nearly \$15 million (actual \$14,877,105)

Summary of last year's budget cuts - \$336,887.78

- \$119,000 (per course salaries and fringe)
- \$9,000 (CNAS Travel)
- \$9,366 (Bull Shoals Field Station)
- \$1,000 (CSRE)
- \$4,000 (OEWRI)
- \$5,000 (CNAS student workers)
- \$20,000 (CNAS equipment fund)
- \$40,000 (operating from BIO, CHM, GGP, PAMS as they will receive a new fee for general education lab sections)
- \$69,318.48 (salary/fringe for full time associate dean)
- **\$65,203.30 (one time money)**

Fall 2012 1,870 Undergraduate and 79 Graduate Students

Department	Spring 2007 Majors Undergraduate/ Graduate	Spring 2008 Majors Undergraduate/ Graduate	Spring 2009 Majors Undergraduate/ Graduate	Spring 2010 Majors Undergraduate/ Graduate	Spring 2011 Majors Undergraduate / Graduate	Spring 2012 Majors Undergraduate / Graduate
Biology	420/45	458/50	518/42	520/36	545/52	563/56
Chemistry	126/14	130/18	131/13	151/20	173/16	175/24
Computer Science	134/4	147/1	115/2	117/3	131/8	150/8
Engineering	0/0	0/0	49	95	140	166
Geography, Geology & Planning	124/23	147/27	154/28	207/31	231/45	219/36
Hospitality and Restaurant Administration	273	271	249	254	246	229
Mathematics	144/23	133/20	136/20	140/21	148/30	145/27
Physics, Astronomy & Materials Science	60/12	66/16	58/13	58/8	81/13	78/12

of students in majors vs. # of graduates

Department	Spring 2011 Majors Undergraduate/ Graduate	Spring 2012 Majors Undergraduate/ Graduate	3-year rolling averages of BA/BS Graduates/year for past three years	3-year rolling averages of MS Graduates/year from 2009-2011
Biology	545/52	563/56	79-101	15-21
Chemistry	173/16	175/24	16-18	3-4
Computer Science	131/8	150/8	14-26	0-2 (MNAS)
Engineering	140	166	15	
Geography, Geology & Planning	231/45	219/36	30-60	4-7
Hospitality and Restaurant Administration	246	229	61-105	
Mathematics	148/30	145/27	23-30	4-7
Physics, Astronomy & Materials Science	81/13	78/12	5-9	5-6

Access to Success

- Course transformation projects going on in every department. Many involve technology and some are partially flipping classes.
 - Online – CHM106, GRY135, MTH135, CSC101, HRA499
 - iTunes – MTH135, AST114
 - Blended – BIO102, MTH320 and MTH360
 - Shared courses around the state – Physics
- Transformation Sharing Seminars –3:00 PM on September 7 and October 5
 - September 7 – Dianne Twigger, Pam Henson, Carolyn Shand-Hawkins, and Patti Blanton – MTH Course Transformation 100 level – Lessons Learned and Data Collected/Analyzed
 - October 5 – Drs. Plymate, Ragan and Killion – MTH320/360 Transformation – Lessons Learned
- Graduate Student Access – CNAS offers 3-5 online courses, 10-12 summer courses and 10-12 evening courses for graduate students. We will develop at least two packaged pathways for MNAS students to complete a degree in two years using these courses and others that might be developed for specific pathways.



Assessment and Program Review

- Assessment Workshop – 3:00 PM, Friday, August 31 in Temple Hall 001. All preliminary work is posted on Blackboard – CNAS Assessment. If you do not have access but would like to please let me know before you leave today. After the workshop all comprehensive assessment plans and annual reports will be posted on the CNAS website.
- Program Review
 - HRA Accreditation Results from CHRIE
 - Missouri S&T Accreditation Results from ABET
 - Computer Science Site Visit (ABET) is September 23-25, 2012
 - Planning Site Visit (PAB) is April 1-3, 2013

Public Affairs

- Student Learning Outcomes – Each program has identified SLO's and is measuring at least one this year.
- Centers/Institutes
 - Bull Shoals Field Station
 - OEWRI
 - CRPM
- Study Away – CNAS Faculty led 10 international short term trips
 - Short Term Study Away – Yachana, Ecuador, Greece, Scotland, Italy
 - 2009-2010 30 CNAS students participated out of 88 total at university
 - 2010-2011 60 CNAS students participated out of 154 total at university
 - 2011-2012 62 CNAS students participated out of 223 total at university
 - Faculty take students on a number of short term domestic trips as well.
 - Study away by semester/year.
 - 2009-2010 12 CNAS students participated out of 170 total at university
 - 2010-2011 9 CNAS students participated out of 144 total at university
 - 2011-2012 20 CNAS students participated out of 168 total at university

Outreach – 2012-2013

- October 6 – Expanding Your Horizons
- November 3 – ACM Programming Contest
- November 14 – Sustainable Energy Panel
 - Sustainability Advisory Committee
- February 2 – Regional Science Olympiad (on Missouri State campus)
- March 7 – Regional Missouri Junior Academy of Science
- April 2-4 - Ozarks Science and Engineering Fair
- April 10 - Pummill Relays – Mathematics
- June – Missouri Innovation Academy
- July – GLADE Academy – Bull Shoals Field Station
- - And much more!!!!



External Funding – FY11

- Our goal this year was to submit 100-120 external grant proposals in coming year including graduate students and faculty course buy-outs where appropriate. By May CNAS submitted 98 and our centers added another 39!!!
- Total funding to date – just over \$3.6 million!
- **FY12 numbers through May of 2012**
 - 98 submitted by CNAS plus 11 from BSFS, 19 from CRPM and 9 from OEWR
 - BIO – 22 (19 funded to date)
 - CHM – 13 (4 funded to date)
 - CSC – 3
 - Engineering – 1
 - GGP – 17 (9 funded to date)
 - MTH – 10 (4 funded to date)
 - PAMS – 16 (11 funded to date)
 - BSFS – 11 (11 funded to date)
 - CRPM – 19 (22 funded to date)
 - OEWR – 9 (6 funded to date)
 - CNAS – 3 (1 funded to date)



CNAS Grant Incentive Program

All faculty submitting grants in excess of \$30,000 receive \$400 for travel or research supplies.

	Spring 2009	Fall 2009	Spring 2010	Fall 2010	Spring 2011	Fall 2011	Spring 2012
Biology	\$400	\$2800	\$800	\$2000	\$400	\$1600	\$800
Chemistry	\$400	\$2000	-	\$800	\$400	\$1200	\$400
Computer Science	-	-	-	\$400	-	-	-
Geography, Geology and Planning	\$1200	\$800	\$400	\$2000	\$400	\$2000	\$800
Mathematics	\$1200	\$1200	-	\$800	-	\$1200	-
Physics, Astronomy and Materials Science	\$400	\$2800	\$400	\$1600	\$400	\$2000	\$400



Scholarship Activity

Includes books, book chapters, journal articles, performances and exhibitions

Year	2008	2009	2010	2011
	#Contributions	#Contributions	#Contributions	#Contributions
College	Value	Value	Value	Value
Agriculture, School of	11	12	7	8
Arts & Letters	78	77	76	58
Business Administration	47	47	57	57
Education	31	18	19	22
Health & Human Services	29	39	38	42
Humanities & Public Affairs	63	82	71	67
Library Science, Department of	1	0	1	2
Natural & Applied Sciences	89	91	95	107



Year		2008	2009	2010	2011
Department	Contribution_Type	#Contributions Value	#Contributions Value	#Contributions Value	#Contributions Value
Biology (16 tenure-track/tenured faculty)		21	34	26	22
	Book	0	3	0	0
	Book Chapter	5	3	3	1
	Journal Article	16	28	23	21
Chemistry (16 tenure-track/tenured faculty)		14	5	17	15
	Book Chapter	1	0	0	1
	Journal Article	13	5	17	14
Computer Science (6 tenured faculty)	Journal Article	0	4	2	0
Geography, Geology & Planning (19 tenure-track/tenured faculty)		19	13	16	18
	Book	0	1	1	0
	Book Chapter	5	1	6	2
	Journal Article	14	11	9	16
Hospitality & Restaurant Admin (6 tenure-track/tenured faculty)		1	0	5	2
	Book Chapter	1	0	4	0
	Journal Article	0	0	1	2
Mathematics (23 tenure-track/tenured faculty)		9	9	12	16
	Book	1	2	0	0
	Journal Article	8	7	12	16
Natural & App Sci/Sci & Engrng		1	1	0	3
	Book	1	0	0	0
	Journal Article	0	1	0	3
Physics, Astronomy, & Mat Sci (13 tenure-track/tenured faculty)		24	25	15	29
	Book Chapter	0	0	1	2
	Journal Article	24	25	14	27
Total by COLUMNS		89	91	95	107



Fourth Annual CNAS Undergraduate Research Day – April 26, 2013 Graduate College IDF – April 27, 2013

- The purpose of this event is to give undergraduates the chance to share their research and show their hard work to other students and the community. This is also a great opportunity for them to gain experience in presenting their work. Judges consist of emeritus faculty, invited faculty from other universities and community leaders.
- Year 1 – 45 poster presentations, over 300 attended
- Year 2 – 37 poster presentations, over 500 attended
- Year 3 – 39 poster presentations, over 500 attended



Facilities Update

- Vivarium – Temple Hall
 - Construction has started!
- Engineering
 - Construction has started and engineering will move to the Plaster Center for Free Enterprise during the spring/summer of 2013.
- Space Reallocations within CNAS will be proposed to the university reallocation committee this fall.

Development Report

- Missouri State Faculty/Staff Campaign begins in September.
- CNAS Dean's Equipment Fund Challenge – Dean matches \$1 for every \$5 donated up to \$5K
 - Dean is within \$1200 of her match!!!
 - Long term goal - \$5M in an endowed account for equipment

Gifts to MSU Foundation by Department

Department	FY10	FY11	FY12
Biology	30,707.04	26,711.50	32,415.60
Chemistry	112,885.30	18,815.27	14,889.96
Computer Science	3,980.00	28,150.00	16,341.18
Geography, Geology, and Planning	27,267.80	19,598.13	44,013.29
Hospitality and Restaurant Administration	15,019.25	30,243.00	16,556.94
Mathematics	15,087.50	63,595.00	23,953.00
Natural and App Sci/Science and Engineering	3,539.00	4,447.50	9,976.00
Physics, Astronomy, and Material Sciences	19,057.50	7,967.50	11,752.50
TOTALS	227,543.39	199,527.90	169,898.47



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Friendraising/Fundraising Advisory Boards in CNAS

- The following units have advisory boards that meet regularly –
 - Biology
 - Chemistry
 - Bull Shoals Field Station
 - Computer Science
 - Hospitality and Restaurant Administration
 - Physics, Astronomy and Materials Science
 - Geography, Geology and Planning
 - Professional Science Masters Advisory Board
 - Mathematics is forming an advisory board this year!!!

Scholarship Awards

Unit	Awards 2008-2009	Awards 2009-2010	Awards 2010-2011	Awards 2011-2012
Biology	\$2,400	\$21,150	\$7,500	\$5,000
Chemistry	\$25,744	\$24,062	\$20,050	\$26,625
CNAS	\$20,800	\$12,748	\$18,550	\$30,050
Computer Science	\$5,625	\$2,350	\$4,250	\$2,550
Engineering		\$2,000	-0-	-0-
Geography, Geology and Planning	\$3,875	\$4,858	\$5,750	\$4,950
Hospitality and Restaurant Administration	\$2,250	\$8,830	\$6,875	\$4,400
Mathematics	\$34,500	\$17,740	\$14,570	\$18,650
Physics, Astronomy and Materials Science	-	\$4,120	\$4,200	\$7,950
Total	\$95,194	\$97,858	\$81,745	\$100,175

- **Access to Success**

- Graduate Program Goals for recruitment/retention
- Recruit and welcome a more diverse student body (professional dev.)
- Course Transformation projects to increase retention and student success
- Increase STEM graduates - recruitment
- Assessment of Student Learning – continue, focus on completing plans for graduate programs
- Develop an online track for educators interested in MNAS.

- **Public Affairs**

- Focus on cultural competence through study away and diverse student body and professional development opportunities
- Focus on ethical leadership through responsible conduct in research and ethics statements for each discipline and our daily actions
- Focus on community engagement through the Center for Resource Planning and Management (CRPM), science competitions and other community events.
- Continue to support sustainability



- **Engaged Inquiry**
 - Submit 100-120 external grant proposals in coming year including graduate students and faculty course buy-outs where appropriate.
 - Find ways to work with Missouri EPSCoR
 - Support and mentor student research (undergraduate and graduate)
 - Support and mentor student internships (undergraduate and graduate)
 - Support faculty who mentor student research
 - Set productivity measures for centers and institutes in CNAS
- **Partners for Progress**
 - Continue to work on JVIC collaborations – quarterly meetings
 - Work with Design and Construction to develop plans for new HRA space
 - Move Engineering to new space in summer of 2013
 - Continue to work with community colleges – especially OTC, will have “fast-track” brochures for students and training for OTC faculty in the fall of 2012
 - Continue collaborations with K-12 schools including Nixa STEAM school and science/math competitions
 - Continue collaborations with National Park Service and others
 - Internships – undergraduate and graduate (PSM)
 - Each department (one or more faculty, could include students) will visit a minimum of two companies/agencies in the coming year to ensure contacts for internships, coops and jobs for graduates.



- **Valuing and Supporting People**
 - Continue CNAS Faculty/Staff Awards
 - Recognize student scholarship winners and other award winners annually
 - Recruit and retain a diverse workforce
 - Support meaningful professional faculty & staff development
 - Faculty workload policies – departmental and college
- **Responsible Stewardship**
 - Dean and heads will allocate resources appropriately
 - College Budget Committee will continue to meet regularly
 - Space review and reallocation

- “Synthesis, Characterization and Applications of Poly(ethylene glycol) Modified Dendrimers” Speaker: **Dr. Reza S. Herati**, Department of Chemistry
 - September 18, Tuesday, 7:30-8:30 PM, Temple Hall 002
- “Meeting our Future Energy Needs: Materials under Extreme Environments” Speaker: **Dr. Robert Mayanovic**, Department of Physics, Astronomy and Materials Science
 - October 16, Tuesday, 7:30-8:30 PM, Temple Hall 002
- “Turtles in Decline” Speaker: **Dr. Day Ligon**, Department of Biology
 - November 13, Tuesday, 7:30-8:30 PM, Temple Hall 002

PARKING WILL BE AVAILABLE IN LOT 4, SOUTH OF TEMPLE HALL

Have a wonderful semester!

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