

# CNAS 2012 Annual Report

July 1, 2013

Tammy Jahnke, Dean

The CNAS Strategic Plan and Goals document is updated each year but is driven by our vision, mission and shared values.

**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.

**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.

**Shared Values** - 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.

The annual report is structured around a set of college goals which are tied to the university long range plan and annual goals. It is posted in full on our website -

<http://cnas.missouristate.edu/145966.htm> All college annual reports are posted on the college website - <http://cnas.missouristate.edu/145967.htm> All department annual reports which include assessment reports are posted on a password protected website – Go to <http://cnas.missouristate.edu/145966.htm> and click on assessment and reports.

**Goals 2012-2013**

- Access to Success
- Public Affairs
- Engaged Inquiry
- Partners for Progress
- Valuing and Supporting People
- Responsible Stewardship

## CNAS - STEM Graduates

Fiscal Year		FY2009	FY2010	FY2011	FY2012	FY2013
Department	Student Level	Headcount	Headcount	Headcount	Headcount	Best Est
		Value	Value	Value	Value	
Biology		113	140	130	111	128
	GR	22	27	11	17	10
	UG	91	113	119	94	118
Chemistry		21	21	28	39	18
	GR	7	2	7	9	2
	UG	14	19	21	30	16
Computer Science		14	30	17	25	18
	GR	0	2	1	4	1
	UG	14	28	16	21	17
Geography, Geology, & Planning		45	48	70	97	81
	GR	5	7	18	15	13
	UG	40	41	52	82	68
Hospitality & Restaurant Admin	UG	89	87	69	70	72
Mathematics		31	33	34	38	34
	GR	3	6	8	8	7
	UG	28	27	26	30	27
Natural & App Sci/Sci & Engrng					15	33
	GR	1	0	0	0	0
	UG	0	0	0	15	33
Physics, Astronomy, & Mat Sci		9	17	8	13	12
	GR	3	11	3	5	2
	UG	6	6	5	8	10

Number Tenured/tenure-track Faculty BY CNAS DEPARTMENT

<b>2013</b>	<b>Tenured/tenure-track Faculty</b>	<b>Instructors/Lab supervisors</b>
<b>BIO</b>	15 FTE 13 FT + 2- ½ time + Head + AD (2) Searching for 2 tenure track (1/2 positions end in Dec 2014)	3/5
<b>CHM</b>	14.5 FTE 14 FT + Head for fall 2013, another retirement in Jan 2014 Searching for two tenure track	3/
<b>CSC</b>	5.5 FTE 5 FT + Head	2/
<b>GGP</b>	18.5 FTE 18 FT + Head Searching for one tenure track	3/
<b>HRA</b>	4.5 4 FT + Interim Head Searching for one tenure track	1/
<b>MTH</b>	21 FTE 20 FT + Head + AD Searching for two tenure track	11/
<b>PAMS</b>	12.5 FTE 11 FT + Head + one leave Searching for one tenure track	2/1
<b>EGR</b>	5.5 FTE 5 FT + Director S&T searching for another civil engineer	1

## CNAS - # of Majors

		Fall 2009	Fall 2010	Fall 2011	Fall 2012
Department	Student Level	Headcount	Headcount	Headcount	Headcount
		Value	Value	Value	Value
Biology		671	662	662	716
	GR	47	46	60	46
	UG	624	616	602	670
Chemistry		180	209	224	204
	GR	16	18	25	16
	UG	164	191	199	188
Computer Science		150	152	179	197
	GR	4	7	7	1
	UG	146	145	172	196
Geography, Geology, & Planning		207	249	274	222
	GR	31	45	42	36
	UG	176	204	232	186
Hospitality & Restaurant Admin	UG	214	228	253	218
Mathematics		175	189	196	181
	GR	24	30	26	26
	UG	151	159	170	155
Natural & App Sci/Sci & Engrng		99	140	163	160
	GR	0	0	0	0
	UG	99	140	163	160
Physics, Astronomy, & Mat Sci		86	104	104	99
	GR	13	11	13	16
	UG	73	93	91	83

\*\*All UG majors listed within “Natural & App Sci/Sci & Engrng” are the cooperative engineering program students.

### Low Completer Programs to watch -

CNAS had two undergraduate programs that were declared “low completers” in 2010 - Geology (BS) and Physics (BS). Geology is no longer on the list and is in no danger of being on the list in the next several years. The PAMS department has included recruitment as a priority and the number of majors has increased. In addition PAMS is working with other units on campus to encourage students to seek a double major (second major in physics). These two efforts have increased the number of graduates to an average of 7/year. The department is working toward a goal of 10 graduates/year. An addition BS program was added to the list in 2013 – Planning. The three year rolling average of BS graduates dropped below 10. This program has the capacity to double of the number of majors and has been encouraged to do so. All efforts within this program will be focused on recruitment in the next few years with the goal of removing themselves from the “low completer” list.

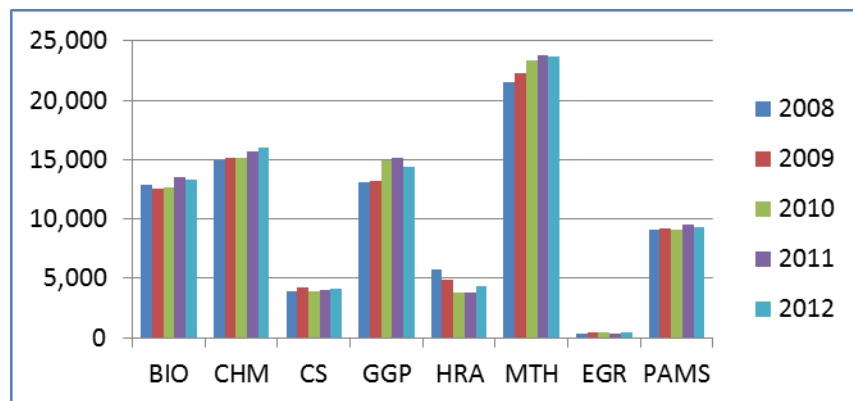
CNAS has four graduate programs that were declared “low completers” in 2010 – Chemistry, Geospatial Sciences, Mathematics and Materials Science. All units except for Materials Science have

successfully removed themselves from the 2013 listing. Materials Science has had a steady enrollment of 10-15 students in the program. They are working on the development of retention and completion plans for all current students. The program graduated three and five students the past fiscal years. CNAS will continue to monitor these three programs!

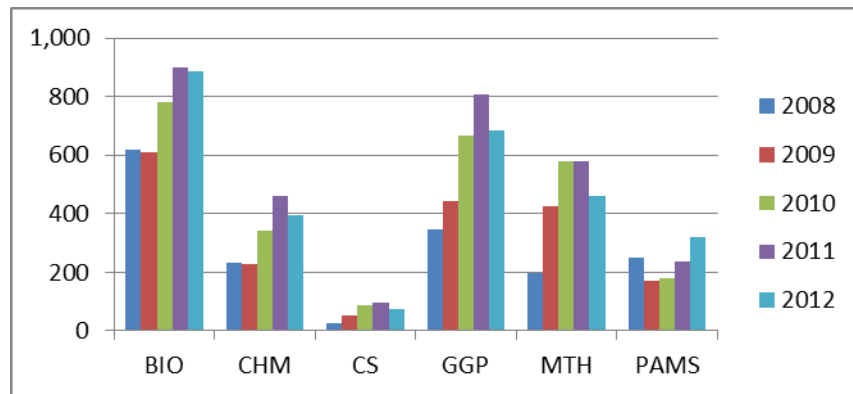
Although number of majors and number of graduates are important, it is also important to note credit hour production. We will be watching to see how the new general education program impacts credit hour production in CNAS.

Calendar Year		2008	2009	2010	2011	2012
College	Course Group	SCH	SCH	SCH	SCH	SCH
		Value	Value	Value	Value	Value
Agriculture, School of		0	0	0	5074	10273
Arts & Letters		91444	92467	94174	94767	94568
Business		97730	100625	105469	102843	99138
Education		33953	36162	35909	34570	34198
Enrollment Entry (Enrllmt Srv)	GEP/IDS/UHC	254	242	0	0	0
Graduate College	Graduate	0	0	0	0	0
Health & Human Services		71559	72841	74951	78038	80602
Humanities & Public Affairs		72787	74009	75124	77050	79140
Library Science, Department of		280	258	241	292	272
Natural & Applied Sciences		97338	97158	97422	92867	88306
	Graduate	1843	2132	3018	3269	2823
	Lower Division	66497	65464	66157	65795	62783
	Upper Division	28998	29562	28247	23803	22700
Undergraduate College/Provost	GEP/IDS/UHC	6530	3450	6946	7028	7041
Total by COLUMNS		471875	477212	490236	492529	493538

**SCH production for Undergraduates by department (CY)**



### SCH production for Graduates by department (CY)



### Scholarship Dollars awarded to CNAS students this year!

Department	Scholarships	Total Award Amounts
Biology	10	\$5,000
Chemistry	21	\$26,625
College of Natural and Applied Sciences	17	\$27,300
Computer Science	5	\$3,550
Geology, Geography, and Planning	9	\$4,950
Hospitality and Restaurant Administration	12	\$5,900
Mathematics	25	\$18,650
Physics, Astronomy, and Material Sciences	15	\$6,850
<b>Total</b>	<b>114</b>	<b>\$98,825</b>

\*\* The above spreadsheet does not reflect the scholarships that we give to students for study away trips. We will try to get that information for next year.

#### Access to Success (2012-2013 goals)

##### ✓ Graduate Programs

- Chemistry looking into a non-thesis option for degree completion – *not yet complete but the department is still working on it.*
- PAMS focusing on external funding and writing GA's into all grant proposals – *nearly all proposals submitted by PAMS included funded GA's*
- More attention to recruitment of graduate students for all programs within CNAS – *although I know that everyone pays attention to this – I believe that this year our attention was on general education and recruitment of transfer students. This will remain on our list for the coming year.*

- Develop tracks for MNAS and PSM for improving recruiting – online, blended, face-to-face - *brochure published and will be updated in the summer of 2013. Departments continue to work on developing online graduate level courses.*
- Continued attention to retention and timely graduation of all current graduate students - *This attention to detail has led to the removal of several programs off of the “low completer” list. The emphasis on timely graduation will continue to be emphasized.*
- ✓ Recruit and welcome a more diverse student body (professional dev.) - *In 2012-2013 we updated transfer guides to OTC, West Plains, Crowder and St. Charles CC. In 2013-2014 we will update transfer guides to St. Louis CC and KC area CC. We have developed a plan for a regular review process for these guides. In addition we are planning trips to CC to give faculty seminars and recruit students. Alicia Mathis went to Crowder in Spring 2013. Several plan to go to St. Charles CC in the fall to give seminars and we will also visit St. Louis CC at that time as well. OTC students visit the MSU campus to do labs and tour lab facilities each year. All department heads and faculty are encouraged to attend diversity workshops. The college has a diversity committee that is working toward building relationships with students from all backgrounds. We have a group of 20 students from China who will be taking two biology courses on campus in fall of 2013. We have mentored Brazilian students as part of the SWB program!*
- ✓ Course Transformation projects to increase retention and student success –

#### CNAS Course Transformation Summary

July 1, 2013

BIO102 – The transformation of this course remains a work in progress. The course has been changed from face-to-face to blended. The blending of the course is still being tweaked. Data has been collected related to student motivation and autonomous regulation. No data was presented in this report related to student learning and/or DFW rates. CNAS will follow-up with the department.

CHM105/106 – CHM106 lecture is now fully online. This was a conversation from a icourse to a fully online course. The DFW rates for the icourse were typically 40-60%. They have dropped to 20-30% for the online course – a significant improvement!

CHM107 lab-in-a-box – This transformation was a failure as the students were not interested and did not remain engaged in the laboratory. The course enrollment dropped and after a survey of students and the availability of a lab at Greenwood lab school – the face-to-face lab was reinstated in fall of 2012.

CHM160/161 – A one hour lab was added to CHM160 as a separate course – CHM161. The DFW rates prior to adding the lab were typically about 30%. The DFW rates after adding the lab dropped to 17-27%. This is only three semesters worth of data and we will continue to follow this transformation.

CSC130 – Python was the language used in this course for the first time in fall of 2011. CSC131 – Python was the language used in this course for the first time in the spring of 2012. CSC232 – Python to C++ was the language used in this course for the first time in the fall of 2012. This group of changes was made to help transfer students into the computer science program. Assessment data indicates that student learning outcomes are being met. The department is still analyzing retention data for these students and how the transformation has affected retention.

MTH101/102 – The biggest success story is that students who take a section which combines MTH101 and 102 into one section in one semester have better success in college algebra than if they take them separate. 64% of the students who took this combination course were successful in college algebra. In comparison data from previous years indicated that only 40% of the students who completed the sequence of MTH101 and 102 were successful in

college algebra. At this point the department plans to delete MTH102. Students who are not ready for college algebra will either be placed in MTH101 or MTH 103.

MTH135 (College Algebra) – MTH instructors have been piloting sections of MTH135 that require attendance in a computer lab and also had a much stricter attendance policy. The DFW rates have decreased slightly in this pilot. SLO’s have not changed significantly but the pilot is collecting and analyzing data. Further actions will be based on the data collected and analysis of the data by the faculty.

MTH320/360 – MTH faculty have been developing these courses as blended courses over the past several semesters. They have learned a great deal during this time period through student surveys and data collection on SLO’s. This is still in development but is certainly making progress.

GRY108 - The transition from multiple instructors (one from chemistry, one from geography) to a single instructor and from multiple sections in a regular (55 seat) classroom to an auditorium setting is complete. Student comments on course evaluations indicate most students prefer having a single instructor rather than changing back and forth every three or four weeks. Further, because the course now focuses on sustainability, there is less emphasis on the chemistry behind air and water pollution and more emphasis on the causes and prevention or remediation of polluting activities, for example. The department has DFW and other data for the course.

- ✓ Increase STEM graduates - recruitment – *The increases continue. We are offering more sections of several upper level courses in biology, chemistry and geology.*
- ✓ Assessment of Student Learning – continue, focus on completing plans for graduate programs – *Collected some very good annual reports that include assessment data and analysis. I’m not sure if any of them focused on assessing one of the graduate learning outcomes. This may remain on our list for 2013. All assessment reports can be found on a password protected website – Go to <http://cnas.missouristate.edu/4537.htm> and click on assessment and reports.*
- ✓ Develop an online track for educators interested MNAS. – *Done. Brochure is printed.*
- ☐☐ Be prepared to general education changes if passed by Faculty Senate – *CNAS departments spent a great deal of time on this over the past year. We are prepared for all of the changes and we know that there is much more work to do in preparation for implementation in fall of 2014. In addition CSC is preparing an exit strategy for CSC101.*
- ✓ Mathematics continues to work with West Plains students to offer a reasonable alternative to help students earn a BSEd in mathematics.
- ✓ The college works with high school teachers from throughout – but mostly SW Missouri – with professional development, dual credit and many other activities.

**Public Affairs**

- ✓ Study Away - Faculty led short term study away trips in 2012-2013

March 2012	Jamaica GRY	Linnea Iantria, Bob Pavlowsky
May/June 2012	British Isles GLG	Tom Plymate
May/June 2012	Jamaica BIO (SU12)	Dan Beckman
August 2012	Ecuador BIO/CHM	Janice Greene, Diann Thomas



Dec 2012/Jan 2013	Greece GRY (SP13)	Dimitri Ioannides, Ed Carawan
March 2013	Caribbean GRY	Linnea Iantria
May 2013	Galapagos Islands BIO	Daniel Beckman
July 2013	India IDS	Saibal Mitra
August 2013	Brazil BIO/CHM	Janice Greene, Diann Thomas

#### Short Term Study Away – Brazil, Caribbean, Galapagos Islands, Greece

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
2012-2013	48 CNAS students participated out of 304 total at university

We take students on a number of domestic trips as well!

- Focus on ethical leadership through responsible conduct in research and ethics statements for each discipline and our daily actions - *Departments have posted statements and continue to discuss this in courses.*
- Focus on community engagement through the Center for Resource Planning and Management (CRPM), science competitions and other community events.
  - ✓ *CNAS hosts STEM competitions – regional science fair, science Olympiad, JETS (TEAMS), Chemistry Olympiad, Pummill Relays (brings students and teachers to campus annually!)*
  - ✓ *Summer Camps/Activities – GLADE at Bull Shoals Field Station (16 HS), Missouri Innovation Academy (25-30 HS), and NSF REU Math Program (9 undergraduate students from across the country)*
  - ✓ *PhysBiz Truck – Focus on elementary science (second and fourth grade) students and teachers. Visited many fourth grade classrooms in spring of 2014, teacher training planned for summer of 2014. Applying for grant funding in August*
  - ✓ *Baker Observatory – public observing nights often have 200 people in attendance*
  - ✓ *Bull Shoals Field Station – many groups use the station*
  - ✓ *CNAS is helping with Nerd Night at the Library Center on June 26, 2013 (We have been involved with several projects with the Greene County Library.)*
  - ✓ *CNAS Public Lecture Series*
  - ✓ *CNAS faculty and departments stay connected with the Discovery Center and the Zoo and Department of Conservation and other units that hire our students or supervise service learning or volunteer activities for current students.*
  - ✓ *CRPM continues to work with the city, county and area communities to support SMCOG and many funded projects.*

#### Public Science

- ✓ Baker Observatory – public observing nights often have 200 people in attendance
- ✓ Bull Shoals Field Station – many groups use the station

- ✓ CNAS is helping with Nerd Night at the Library Center on June 26, 2013 (We have been involved with several projects with the Greene County Library.)
- ✓ CNAS Public Lecture Series
- ✓ We stay connected with the Discovery Center and the Zoo and Department of Conservation and other units that hire our students or supervise service learning or volunteer activities for current students.

#### Connections with STEM Teachers

- ✓ While math teachers are here for Pummill Relays they receive professional development.
  - ✓ We offer workshops for dual credit teachers in most STEM areas on a regular basis.
  - ✓ We stay connected with area STEM teachers through professional organizations and other communications.
  - ✓ Missouri State is the state-wide coordinator for Leopold Project and Project WET. We also help with Project Wild and Learning Tree. These are environmental education programs for K-12 teachers.
  - ✓ HRA held a workshop for 23 high school teachers this summer.
  - ✓ Gigi Saunders (BIO) and Bryan Breyfogle (CHM) have NSF Noyce funding for teacher development. 22 HS science teachers will be on campus for the next two weeks.
  - ✓ Lynda Plymate (MTH) has external funding to work with area math teachers – using technology in the classrooms.
  - ✓ Jill Black (GGP) has external funding to do professional development for elementary teachers who want to know more science.
  - ✓ Elementary Math Specialist Certificate Program is approved. We should have approximately 20 students admitted at Missouri State for this program (which is a state-wide program).
- Continue to support sustainability
- ✓ *A sustainability minor will be proposed in fall of 2013. (Alexander Wait) This will not report to the college but will be a university-wide endeavor.*
  - ✓ *Tammy Jahnke and Janice Greene continue to serve of the University Sustainability Advisory Committee.*
- Other
- ✓ Participation with the Tri-State Water Conference in November of 2012 and the Nanofrontiers Conference in June of 2013.
  - ✓ Many Project WET workshops were conducted around the state with educators trained. Missouri State University provides statewide coordination.

## **Engaged Inquiry**

- ✓ 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 and our centers submitted 96 proposals!!!

### ***FY13 numbers through May of 2013***

*96 proposals submitted by CNAS and our centers (BSFS, CRPM and OEWR)*

*BIO – 21 (19 funded to date)*

*CHM – 10 (3 funded to date)*

*CSC – 1*

*EGR – 3*

*GGP – 11 (4 funded to date)*

*MTH – 5 (5 funded to date)*

*PAMS – 16 (6 funded to date)*

*BSFS – 5 (5 funded to date)*

*CRPM – 14 (11 funded to date)*

*OEWR – 8 (9 funded to date)*

*CNAS – 2*

### ***Focused funding on nanotechnology***

Nanotechnology project - funded \$30 K from provost, VP research and CNAS dean for a total of \$90K. Proposals were resubmitted and reviewed in February. The guiding principle for funding proposals was if it fit into the Life Cycle Analysis of CarbonNanoTubes (CNTs).

The following projects were funded in late spring of 2013.

Kim (biology). \$10,000

Wanekaya (chemistry). \$10,000

CASE staff with Wanekaya. \$10,000

Schweiger (biology). \$10,000

Steinle (chemistry). \$10,000

Barnhart, Mathis, Beckman (biology). \$10,000

CBLS, Durham. \$10,000

Kovacs, Wait (biology) \$10,000

All of the above have agreed to have work done and are prepared to present results at a conference in fall of 2013 or early spring of 2014. All have agreed to submit a grant proposal for major research funding by January 2015 - either solo or in appropriate groups. I will have preliminary reports from all in August of 2013. That leaves \$10,000 to fund follow-up projects that are truly making an impact.

Peer Reviewed publications/books/chapters/etc from the past five years. CNAS had 74 peer reviewed journal articles and books/chapters. In addition there were many, many, many presentations by students and faculty in 2012. (And when someone can get Digital Measures programmed to easily provide a report on faculty/student presentations – I will add the data.) It is abundantly clear that CNAS faculty are a major contributor to the total number of peer reviewed publications for Missouri State University. This data is from data pulled from Digital Measures on 3/25/13.

Year	2008	2009	2010	2011	2012
	#Contributions	#Contributions	#Contributions	#Contributions	#Contributions
College	Value	Value	Value	Value	Value
Agriculture, School of	11	14	7	8	5
Arts & Letters	78	74	77	62	43
Business	80	79	76	77	43
Education	33	18	20	25	11
Health & Human Services	30	39	39	44	22
Humanities & Public Affairs	59	78	70	60	81
Library Science, Department of	1	0	1	3	2
Natural & Applied Sciences	92	91	97	107	74

Year	2009	2010	2011	2012
	#Contributions	#Contributions	#Contributions	#Contributions
Department	Value	Value	Value	Value
	91	97	107	74
Biology	34	26	23	19
Chemistry	6	21	19	16
Computer Science	4	2	0	0
Geography, Geology, & Planning	12	16	17	12
Hospitality & Restaurant Admin	0	5	2	2
Mathematics	9	12	14	8
Natural & App Sci/Sci & Engrng	1	0	3	0
Physics, Astronomy, & Mat Sci	25	15	29	17
Total by COLUMNS	91	97	107	74

- Find ways to work with Missouri EPSCoR - Dan Beckman is representing Missouri State University and is trying very hard to keep us in the playing field. The first NSF proposal was not funded. We have been successful with NASA.
- Set productivity measures for centers and institutes in CNAS – We did not do this in 2012

✓ Support and mentor student research (undergraduate and graduate)

<b>2012-2013</b>	<b>TOTAL # of GA's with assistantship</b>	<b>State Funded</b>	<b>Grant Funded</b>	<b>STEM Funded</b>
<b>MNAS</b>	5	5		
<b>Biology</b>	30	20	7	3
<b>Chemistry</b>	17	15	1	1
<b>Center for Resource Planning &amp; Management</b>	0	0	0	0
<b>Computer Science</b>	0	0	0	0
<b>Geography, Geology &amp; Planning</b>	23	9	12	2
<b>Hospitality &amp; Restaurant Administration</b>	1	1		
<b>Mathematics</b>	13	12		1
<b>Physics, Astronomy &amp; Materials Science</b>	12	8	3	1
<b>TOTAL AWARDED</b>	<b>101</b>	<b>70</b>	<b>23</b>	<b>8</b>
<b>Total Awarded in 2011-2012</b>	<b>106</b>	<b>71</b>	<b>26</b>	<b>9</b>

A first ever reallocation of GA lines within the college was made along with making the STEM funded assistantships permanent within the college budget.

CURRENT GA Allocations by department (includes 2% increase) 2013-2014 rates - \$8,160 or \$9,928

	2012-2013 allocations	Approved reallocation for 2013/2014
CNAS	\$36,799 (3.7-4.5)	\$36,799
BIO	\$199,615 (20-24) + 3 STEM	199,615 + \$20,000 (22-26)
CHM	\$129,227 (13-15) + 1 STEM	129,227 (13-15)
CSC	\$9,925 (1) + 1 STEM	0
GGP	\$76,333 (7.5-9) + 2 STEM	\$76,333 + \$50,000 (12.5-14)
MTH	\$100,722 (10-12) + 1 STEM	\$100,722 + \$10,000 (11-13)
PAMS	\$81,084 (8-10) + 1 STEM	\$81,084 + \$20,000 +10,000 (11-13)

Additions from Department heads which includes a decrease in per course funding.

✓ Support and mentor student research/internships

*There is no significant change in the data table below from the one for 2011.*

Department	Undergrad internship headcount	Undergrad internship SCH	Undergrad research headcount	Undergrad research SCH	Grad internship headcount	Grad internship SCH	Grad research and thesis headcount	Grad research and thesis SCH
BIO Courses	399	399	498/499	498/499	796	796	798/799	798/799
BIO 2012 data	27	72	15	38	0	0	54	276
CHM Courses	397	397	399/499	399/499	796	796	798/799	798/799
CHM 2012 data	1	2	35	73	2	4	23	100
CSC Courses	399	399	596	596	796	796	798/799	798/799
CSC 2012 data	21	66	8	20	4	15	4 (SP only)	15 (SP only)
GGP courses	GLG399/GRY399/PLN599	GLG399/GRY399/PLN599	GLG499/GRY599/PLN596	GLG499/GRY599/PLN596	GLG796/PLN699	GLG796/PLN699	GEO780/GLG798&799/PLN696GRY799	GEO780/GLG798&799/PLN696/GRY799
GGP 2012 data	2/2/5	3/6/15	17/0/0	41/0/0	0/0	0/0	23	75
HRA courses	499	499						
HRA 2012 data	66	396						
MTH courses			497	497	796	796	798/799	798/799
MTH 2012 data			31	31	0	0	22	64
PAMS courses			386/486	386/486	796	796	MAT&PHY799	MAT&PHY799
PAMS 2012 data			16	20	0	0	18	95

- ✓ CNAS/HRA Undergraduate Research Day – April 26, 2013 - 46 undergraduate research posters or CNAS and 12 posters for HRA (April 19, 2013)
- ✓ CNAS participation in IDF – 30 of student presentations
- ✓ 32/100 faculty mentored an undergraduate research day presentation.
- ✓ 31/100 faculty mentored a graduate student thesis in 2012.
- ✓ 21/100 faculty mentored a graduate student presentation at IDF.
- ✓ Unduplicated list for graduate student/undergraduate student faculty mentors 57/100 for 2012!!!! And this only includes the students who were able to present at the Missouri State University events. It does not include students who attended professional conferences in the region and across the nation.

## **Partners for Progress**

- ✓ Continue to work on JVIC collaborations – *Appointed Kartik Ghosh to serve as liaison, there are fewer and fewer companies at JVIC working on nanoparticles and science. We may need to refocus and see if CSC is willing to be more involved. It remains difficult to get access to JVIC instrumentation.*
- ✓ Work with Design and Construction to develop plans for new HRA space *Architects should be chosen within two weeks.*
- ✓ Move Engineering to new space in summer of 2013 - *Move should be complete by July 1. Everything should be installed by August 1. The grand opening is scheduled for October 3.*
- ✓ 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 - *We have an action plan and we are on schedule!*
- ✓ Continue collaborations with K-12 schools including Nixa STEAM school and science/math competitions - *The NSF grant submitted with Nixa was not funded again. This is the one that Bill Alter helped with. We have not gotten together to read the reviews yet.*
- ✓ Continue collaborations with National Park Service and others
- ✓ 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. – *Not all department heads were involved this past year. Bill Bray visited with ANPAC regarding actuarial math. HRA faculty visited several internship sites in the past year.*

## **Valuing and Supporting People**

University Award Winners - 2013

### ***Missouri State University Foundation Awards for Research***

*Kevin Mickus, Geography, Geology and Planning*

### ***Missouri State University Foundation Awards for Service***

*Doug Gouzie, Geography, Geology and Planning*

### ***Graduate College Awards***

Outstanding Thesis Advisor Award—Brian Greene, Biology

Outstanding Graduate Mentor—Day Ligon, Biology

### **BOG Staff and Faculty Awards for Excellence in Public Affairs**

Bob Pavlowsky – Geography, Geology and Planning

- ✓ CNAS established a new awards process in 2011 for faculty and staff to recognize outstanding work. First awards given in May of 2012 and listed below are the 2013 award winners based on their 2012 performance.
  - **Atwood Research and Teaching Award**
    - Day Ligon, Biology
  - **CNAS Excellence in Teaching Award Winners**
    - Bryan Breyfogle, Chemistry
    - Debbie Corcoran, Geography, Geology and Planning
    - John Heywood, Biology

- Kathy Hughes, Biology
- Diann Thomas, Chemistry
- **CNAS Excellence in Service Award Winners**
  - Richard Biagioni, Chemistry
  - Jill Black, Geography, Geology and Planning
  - Lynda Plymate, Mathematics
  - Becky Baker, Physics, Astronomy and Materials Science
  - Michelle Bowe, Biology
- **CNAS Excellence in Research Award Winners**
  - John Havel, Biology
  - Bob Pavlowsky, Geography, Geology and Planning
  - Adam Wanekaya, Chemistry
- **Faculty Excellence Awards—Student Nominated, Student Selected**
  - Richard Biagioni, Chemistry
  - Mario Daoust, Geography, Geology and Planning
  - Paula Kemp, Mathematics
  - Alicia Mathis, Biology
- **CNAS Excellence Awards – Staff**
  - Angela Plank, Biology
  - Laura Rios, Physics, Astronomy and Materials Science
  - Katie Tucker, Hospitality and Restaurant Administration

✓ Successful searches to date – All starting in 2013.

Faculty

2013 Stephanie Hein, Hospitality & Restaurant Administration Interim Department Head

2013 Gary Michelfelder, Geology Visiting Assistant Professor (one year only)

2013 Lamae Koogler, HRA Visiting Assistant Professor (one year only)

2013 Ron Malega, Geography Assistant Professor – tenure track

Staff hired during the 2012-2013 academic year

Katie Tucker, Hospitality & Restaurant Administration Academic Advisor/ Marketing & Recruitment Specialist

Wendy Evans, Biology Laboratory Supervisor

Susan Blade, Geography, Geology and Planning Administrative Assistant

Lee Amundson, Mathematics Administrative Assistant

Linda Coroleuski, Biology Administrative Assistant

Stephanie Murphy, Engineering Distance Education and Laboratory Supervisor

Marc Owen, Assistant Director – OEWRI

Tyler Smith, Research Specialist I - OWERI

Student Scholarship Winners – Chemistry and HRA hold annual banquets to recognize scholarship recipients. CNAS held an event for all other scholarship recipients in fall of 2012. The next all-college scholarship reception will be held September 25, 2013.



## Responsible Stewardship

Fiscal_Year	2010			2011		
Area	MSU_SCH_COST	DE_AVG_SCH_COST	MSU_SCH_DEL_AVG	MSU_SCH_COST	DE_AVG_SCH_COST	MSU_SCH_DEL_AVG
	Value	Value	Value	Value	Value	Value
Biology	188	196	95.92	168	204	82.35
Chemistry	138	211	65.40	143	228	62.72
Computer Science	235	276	85.14	225	271	83.03
Geography & Planning	166	156	106.41	150	152	98.68
Geology	148	194	76.29	124	196	63.27
Restaurant Administration	187	189	98.94	213	200	106.50
Mathematics	145	144	100.69	136	145	93.79
Physics, Astronomy, & Material Science	188	246	76.42	202	240	84.17

✓ Dean and heads will allocate resources appropriately and college budget committee will continue to meet regularly.

We reallocated GA positions within the college and made all of the STEM positions permanent.

There is no consensus among members of the budget committee on student fees.

The budget committee did determine a list of guiding principles that will be reviewed annually.

A great deal of data was shared with the budget committee this year.

✓ Space review and reallocation

Several spaces were reallocated in 2012-2013. The electrical engineering lab in Kemper Hall will now be used as a teaching lab for GGP. This allows for a shift to offer bigger sections of high demand GIS courses in Temple Hall. One first floor engineering office was reallocated to chemistry for storage. The engineering office complex on second floor of Kemper Hall will become the graduate student office for PAMS. The current student graduate office for PAMS is an open room that will be allocated for research but it has not yet been allocated. Alexander Wait lost research space due to the vivarium construction and his new space is in Kemper hall – former research space for engineering. GGP lost a great deal of space with the vivarium installation. They now have storage near the Temple Hall loading dock. This forced the movement of Ray Phillips office from this area to space that Mike Murphy and electronic support currently occupy.

I do not yet have a plan from Alicia for when the animals move. This was due to my on June 1.

We have chosen an architect to look for new space/renovated space for CNAS – three new teaching labs for chemistry and biology, 5-6 new research labs (unassigned but intended for biology and GGP), and possible relocation of CRPM (not sure where) and CSC (maybe Plaster Center for Free Enterprise). The planning study is to be complete by November 2013.

## Excecutive SWOT Summary

CNAS met nearly all of our goals for 2012-2013 and we had a very productive year. A new action plan will be adopted for the coming year. Our retreat is the week of July 16 and at that time I will hear the list of every department's goals. We will then align them with university goals and submit our plan.

The items not completed this year but that remain on the list –

Update college workload policy. In particular develop a plan to fund undergraduate/graduate research as well as internships.

Space issues are not done and we have lots and lots of work to do in the coming year!

We did not set productivity measures for centers and institutes in CNAS this year.

A few items that I expect to see on our goals list for 2013-2014 based on annual reports.

General education – It will be interesting to see how the new general education program affects SCH and enrollment patterns within CNAS. An exit plan for CSC101.

What if every department had a goal to graduate 25% of majors every year? What would that mean? What would you have to change or do different to make that happen?

What is an appropriate advising load for faculty? What is an appropriate advising load for a staff member who has this as part of their load? Should those loads be different? I see advising loads from 24 (MTH max) to 57 (BIO max) to 29 (CHM max) to 37 (CSC max) to HRA (used to be 50 max but now have hired an advisor/recruiter) to 12 (PAMS faculty max although the department head has 42)

Assessment – We need to re-emphasize graduate student assessment. I don't think I saw that in any of the department reports this year. I know that most have learning outcomes. We should not be ignoring our graduate programs in assessment.

Strengths – Faculty/student research; excellence in teaching by many, many faculty; external funding (submissions are up, funding is steady); instrumentation and facilities; outstanding students; study away opportunities for students.

Weaknesses – most science teaching facilities remain dated; centers need to work toward being more self-funded; need for more research space in the sciences – especially if we are to increase the number of STEM graduates.

Opportunities – Interest at the federal and state level to increase the number of STEM graduates; external funding opportunities in the sciences; cooperation with JVIC; MNAS program; PSM program; all graduate programs in the college. HRA new space and renovated additional space for CNAS.

Threats – Declining state funding has decreased the number of tenure track/tenured faculty in the college which directly conflicts with the increasing student demand and the federal/state demands to increase STEM graduates. Lack of space for growth. Lack of recurring funding for service contracts on major instrumentation.

We have a list of goals for fundraising but no specific action plan. Action plans are being developed this summer.

## CNAS Fundraising Goals

3/22/2013 Update

### CNAS Big Projects (prioritized)

- #1 - HRA facility - \$4 million
- #2 - Science/Public Health Facility on lot 19 - \$4 million
- #3 - Renovations and namings to include the engineering (\$5 million)
- #4/5 - Baker Observatory - \$2 million (have renderings)
  - Bull Shoals field station - \$3 million (have renderings)
- #6 - Missouri Innovation Academy - \$2 million (program)
- #7 - Faculty Awards - \$2 million (program)
- #8 - Equipment Fund - \$5 million (program)
  - Already started with over \$20,000!!!
- Endowed Professorships (10 @ \$1 million each)
- Scholarships, scholarships, scholarships!!!!

### Department or Advisory Board Projects

- Chemistry – Speaker Series (Alan Schick and Wyman Grindstaff) - \$5000
- GGP – Endow the Fagerlin-Johnson-Moeglin Field Studies Scholarship - \$25,000
  - Establish the Robin Melton Memorial Scholarship - \$25,000
- Engineering – Name all spaces in the new building (plan in place – two named to date)
- PAMS – PHYZBIZ and Baker Observatory (also on big list)
- Bull Shoals Field Station – housing (also on big list)
- BIO – Advisory Board is committed to raising \$20K for student scholarships and they have started.
  - BIO – Greenhouse addition (\$75,000-150,000)
- CNAS Annual Faculty Awards - \$5000/year (2013 – May 1)
- CNAS Undergraduate Research Day - \$2000/year (2013 – April 26)
- CNAS Equipment Fund (\$5 million dollar goal, dean contributed \$5K for \$25K raised – total is \$30 K) – Want to find another person to match \$1 for every \$5 dollar donated up to some amount (preferably at least \$5K). Will use \$20 of first \$30 K for equipment now and the rest is going into an endowment – need \$5 million in the endowment!!) – Jahnke Project!

### Foundation Projects

- Honda Foundation – Dave Cornelison (PAMS) plans to submit a proposal to help fund PHYZBIZ
- Herschend Foundation – Janice Greene (Bull Shoals Field Station) would like to approach them regarding the field station housing – needs permission and contacts.

### CNAS Big Projects (other)

- Science building - \$100 million (on master plan but no drawings)
- New building on lot 4 – 200,000 sq ft of usable space