THE CHI BETA PHI RECORD

2014

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2014

The Chi Beta Phi Record is published annually by the Grand Chapter of the Chi Beta Phi National Science Honorary and is the official publication of Chi Beta Phi.

Editor Michelle Mabry

Contents

Statement of Purpose 4
Chi Beta Phi Chapters 5
Grand Chapter Officers 2014-2016 7
67th Chi Beta Phi National Conference Host 8
Agenda of the 67th National Conference 9
Roll Call of Chapters/Proxies 10
Minutes of the 67th National Conference 11
Chapter Reports
- Alpha 15
- Gamma 19
- Zeta 21
- Rho 24
- Kappa Sigma 26
- Phi 28
- Alpha Beta 30
- Alpha Delta 34
- Alpha Epsilon 37
- Alpha Iota 39
- Alpha Rho 47
- Alpha Phi 50

Grand Chapter Reports (for 2013-2014)
- Report of the President 52
- Report of the Vice President 54
- Report of the Secretary 54
- Report of the Treasurer 55

Financial Statement 56
Committee Reports
- Awards, Presentations & Elections Committees 57

Presentation Abstracts
- Castillo, H. “Chiral Recognition of Guests by Cubic Porphyrin Metallocomplexes” 58
- Hendershot, A. “AS-PCR as a Diagnostic for Differentiating Between *Anopheles funestus* Chromosomal Forms: Folonzo and Kiribina” 59
- Hildebrand, K. “Using Independent Bernoulli Random Variables to Model Gender Hiring Practices” 60

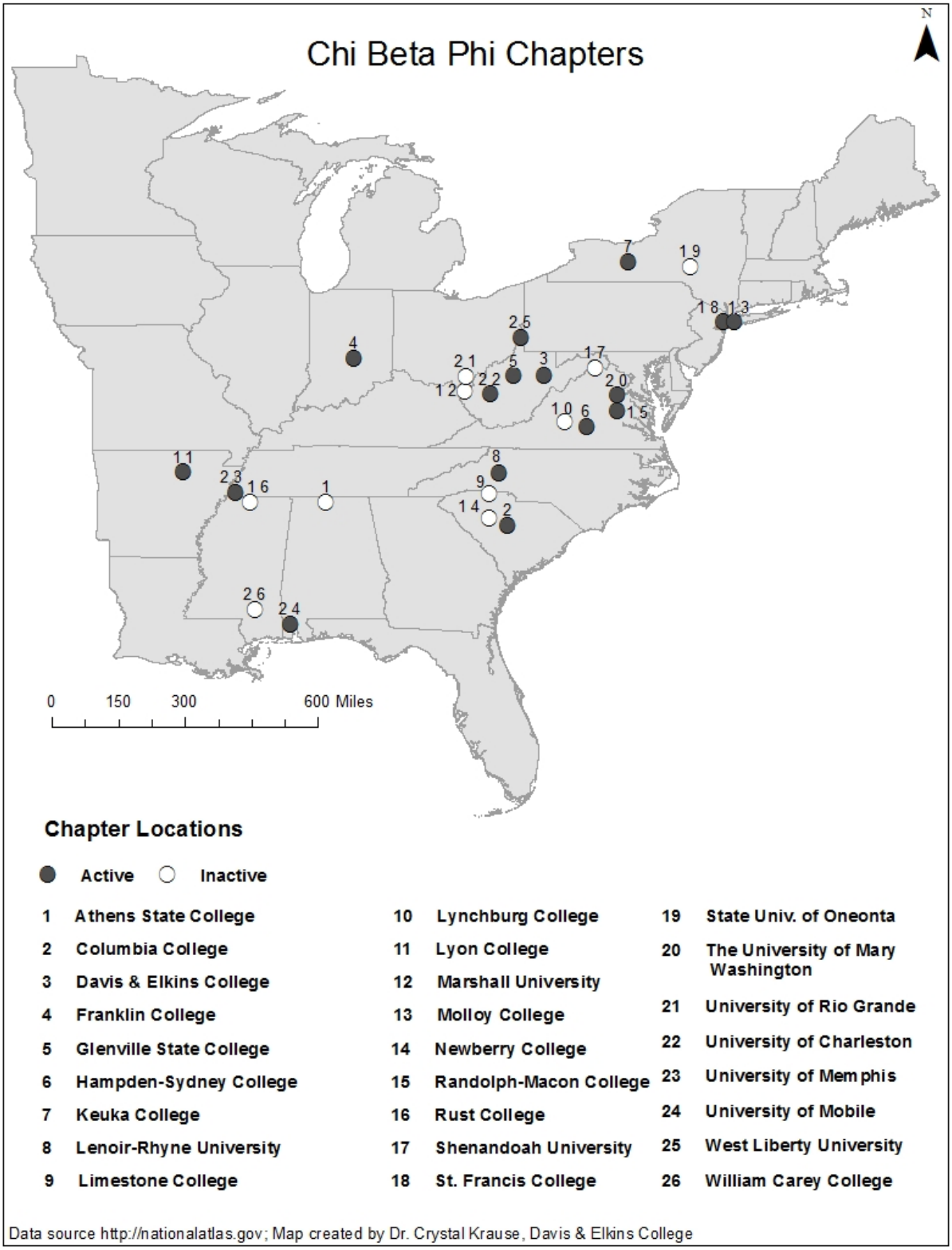
Kania, A. “Silencing of essential genes in nematode species resembling parasites” 61
Maki, C. “Faraday waves on a 2D periodic substrate” 62
Malouf, I. “Long Term and Acute Effect of Atrazine on Sexual Development of Zebrafish” 63
Matuszewski, L. “Si-H and Ge-H Bond Activation by a Zerovalent Platinum Dimer” 64
Morgan, T. “MuXcode: A Mobile App for Program Development” 65
Sheetz, K. “A novel method for the extraction of lead ions from bulk water supplies using chelation chemistry” 66
Urbanic, J. “Effects of the Antidepressant Imipramine on Long Term Potentiation (LTP) and Brain Derived Neurotrophic Factor (BDNF) in the Rat Hippocampus” 67
Weston, T. “The Effect of Mild, Short-Term Malnourishment on the Cellular Immune Response: Developing a Model to Test Future Treatment Strategies” 68
Wilson, A. “The Effect of Mild, Short-Term Malnourishment on the Cellular Immune Response: Developing a Model to Test Future Treatment Strategies” 69
Chapters and Advisors 70

CHI BETA PHI

Is a national science honorary whose purpose is to promote interest in science and give recognition to scholarly attainment in and outstanding contributions to the fields of science.

Scientia Omnia Vincit

SCIENCE CONQUERS ALL


Chi Beta Phi Chapters
N
0 150 300 600 Miles
Chapter Locations
Active
Inactive
1 Athens State College
2 Columbia College
3 Davis & Elkins College
4 Franklin College
5 Glenville State College
6 Hampden-Sydney College
7 Keuka College
8 Lenoir-Rhyne University
9 Limestone College
10 Lynchburg College
11 Lyon College
12 Marshall University
13 Molloy College
14 Newberry College
15 Randolph-Macon College
16 Rust College
17 Shenandoah University
18 St. Francis College
19 State Univ. of Oneonta
20 The University of Mary Washington
21 University of Rio Grande
22 University of Charleston
23 University of Memphis
24 University of Mobile
25 West Liberty University
26 William Carey College
Data source http://nationalatlas.gov; Map created by Dr. Crystal Krause, Davis & Elkins College

Chi Beta Phi Chapters

Alpha	1916	Randolph-Macon College, Ashland, Virginia
Gamma	1921	Hampden-Sydney College, Hampden-Sydney, Virginia
Epsilon	1923	University of Charleston, Charleston, West Virginia
Zeta	1925	Davis & Elkins College, Elkins, West Virginia
Kappa	1925	Marshall University, Huntington, West Virginia
Rho	1935	West Liberty University, West Liberty, West Virginia
Theta Sigma	1941	Limestone College, Gaffney, South Carolina
Kappa Sigma	1945	The University of Mary Washington, Fredericksburg, Virginia
Phi	1947	University of Memphis, Memphis, Tennessee
Chi	1948	Columbia College, Columbia, South Carolina
Omega	1948	Lynchburg College, Lynchburg, Virginia
Alpha Beta	1952	Lenoir-Rhyne University, Hickory, North Carolina
Alpha Delta	1953	Franklin College, Franklin, Indiana
Alpha Epsilon	1954	Keuka College, Keuka Park, New York
Alpha Zeta	1955	William Carey College, Hattiesburg, Mississippi
Alpha Eta	1956	Newberry College, Newberry, South Carolina
Alpha Iota	1964	Glenville State College, Glenville, West Virginia
Alpha Kappa	1964	Athens State College, Athens, Alabama
Epsilon Sigma	1965	SUNY- Oneonta, Oneonta, New York
Alpha Xi	1969	St. Francis College, Brooklyn, New York
Alpha Pi	1970	University of Rio Grande, Rio Grande, Ohio
Alpha Rho	1973	Arkansas College, Batesville, Arkansas
Alpha Sigma	1974	Molloy College, Rockville Centre, New York
Alpha Tau	1984	Rust College, Holly Springs, Mississippi
Alpha Upsilon	1984	Shenandoah University, Winchester, Virginia
Alpha Phi	2012	University of Mobile, Mobile, Alabama

Grand Chapter Officers
2014-2016

PRESIDENT
Dr. William J. Pohley
Franklin College
101 Branigin Blvd.
(317)736-7699
FAX (317) 738-8310
wpohley@franklincollege.edu

VICE-PRESIDENT
Dr. Deborah Zeiss
University of Mary Washington
Jepson Science Center
1301 College Avenue
Fredericksburg, VA 22401
dzies@umw.edu
(540) 654-1435

SECRETARY
Dr. Michelle Mabry
Davis & Elkins College
100 Campus Dr.
Elkins, WV 26241
(304) 637-1248
mabrym@dewv.edu

TREASURER
Prof. Carl T. Meadors†
Post Office Box 253
St. Albans, WV 25177
(304) 727-0649
cbpbioprof@gmail.com

HISTORIAN/MARSHALL
Thomas Morgan, Talbot Weston
Alpha Chapter
Randolph-Macon College
Ashland, VA 23005

WEBPAGE
www.chibetaphi.org

The 67th Chi Beta Phi National Conference Host
The University of Mary Washington
October 18, 2014

The University of Mary Washington is a coeducational, public institution that offers graduate and undergraduate degrees. Is primary location is in the heart of historic Fredericksburg, with two satellite campuses in Stafford and Dahlgren Virginia. The university was founded in 1908 as Fredericksburg's State Normal and Industrial School for Women. From 1944 to 1972, Mary Washington functioned as the women's college of the University of Virginia. Shortly after it became coed in the early 1970's, Mary Washington College was reorganized as an independent college. In 2006, after adding graduate and professional programs beyond the central undergraduate curriculum, and after establishing more than one campus, the General Assembly of Virginia renamed the institution the University of Mary Washington. UMW has evolved from its beginnings into a premier public liberal arts and sciences university with a rich history of traditions and academic excellence. The university is now a three college system with the College of Business and the College of Education joining the College of Arts and Sciences in fulfilling the University's mission of providing rigorous undergraduate and graduate education. The mission of the University of Mary Washington is to provide a superior education that inspires and enables our students to make positive changes in the world.

The conference's program took place in the recently renovated Monroe Hall. This is one of several construction projects that have enhanced the learning environment at UMW. The new Information and Technology Convergence Center (ITCC) opened this fall and provides our students with a technology rich resource center that will enable student, faculty, and staff interactions on curricular and extracurricular activities. Additional construction sites on campus include a new university center (opening Fall 2015), renovations for Woodard Hall for the College of Business (Fall 2015), renovations to Mercer Hall for the Psychology Department (Fall 2015), and most exciting, an expansion of the Jepson Science Center (Fall 2016).

Chi Beta Phi 67th National Conference
October 18, 2014
Kappa Sigma Host
Monroe Hall
University of Mary Washington
Fredericksburg VA

8:30 – 9:00	Sign in and refreshments	Monroe Hall, 3rd Floor Lobby
9:00	**Session I**	**Monroe Hall, Room 346**
	Call to Order Opening Prayer Greeting from Host Chapter Roll Call of Chapters, Proxy Assignments, Chapter Reports Report from the National Officers Committee Assignments	
10:00 – 10:45	Committee Meetings, Campus Tours	
10:45 – 11:00	Break	Monroe Hall, Room 111
11:00	**Session II**	**Monroe Hall, Room 116**
	Speaker	Dr. Suzanne Sumner Professor of Mathematics
12:00 – 12:45	Lunch	Seacobeck Dining Hall
1:00	**Session II**	**Monroe Hall, Room 346**
	Conclusion of old business New business Awards Committee Report to the President National Officer Elections	
1:30	**Session III**	**Monroe Hall, Room 346**
1:30	Research Presentations 1 - 4 Short Break	
2:30	Research Presentations 5 – 9 Short Break	
3:30	Research Presentations 10 – 13 Refreshments and Presentation Committee Deliberations	
4:45	Awards and Announcements	

Roll Call of Chapters/Proxies

Chi Beta Phi 67th National Conference
October 18, 2014

Chapter	Chapter Report	Delegate or Proxy
Alpha	Yes	Henry Castillo
Gamma	Yes	Jamshaid Chauchry
Epsilon	No	
Zeta	Yes	Michelle Mabry
Kappa	No	
Rho	Yes	Received after conference
Kappa Sigma	Yes	Emily Pinerio
Phi	Yes	Larry Baker
Chi	No	
Alpha Beta	Yes	Deborah Zies
Alpha Delta	Yes	Allison Hendershot
Alpha Epsilon	Yes	Judith Urbanik
Alpha Zeta	No	
Alpha Eta	No	
Alpha Iota	Yes	Samantha Fulks
Alpha Rho	Yes	Edward Chikwana
Alpha Sigma	No	
Alpha Phi	Yes	Received after conference

Minutes of the 67th National Conference

Following refreshments provided by the host chapter, President Pohley called the 67th National Conference to order at 9:00. Dr. Deborah Zies from Kappa Sigma welcomed participants with the traditional Chi Beta Phi prayer. The roll call of chapters followed. If a chapter was called and there was no representative present but a proxy had been submitted with the Chapter Report, the chapter was assigned a proxy and considered present. The list of chapters and their delegate/proxies is on the preceding page. A quorum was present.

The chapter reports were then presented. The reports were presented by the chapter delegate or their assigned proxy. The reports of the National Board Officers then followed. President Pohley acknowledged website issues and stated that he is working with a web page designer to improve the site. He stated that there have been many inquiries about establisihing new chapters. He also stressed the importance of submitting the annual chapter report to maintain a chapter as active. Pohley then mentioned the possibility of using Skype at the national conference for student presentations. He also said that Alpha chapter will be hosting next year on Oct. 24 2015, as that will be the centennial of Chi Beta Phi. Lastly, he encouraged chapters to have co-advisors in different disciplines to prevent a chapter becoming inactive due to loss of an advisor. Vice President Buchanan was not in attendance and had no report at this time. Secretary Mabry again welcomed any suggestions/offers on how best to make the boxes of records donated from Alpha available to the group as a whole. Treasurer Meadors was unable to attend but sent his usual complete and detailed report that can be found later in this publication. Complete Officer reports follow the chapter reports.

After the Officer reports, committees were then assigned. The committees were the Awards Committee, Presentations Committee, and Elections Committee. President Pohley pointed out the duties of the committees. The committees were comprised as follows:

Awards: Chair- Dr. Zies; Henry Castillo, Emily Pinerio, Allison Hendershot, Kim Hildebrand

Presentations: Chair- Dr. Chikwana; Caleb Bowyer, Dr. Gubbels-Bupp, Jamshaid Chaudhry

Elections: Chair- Prof. Paul Peck; Larry Baker, Thomas Morgan, Talbot Weston, Samantha Fulks

President Pohley adjourned the morning session. Some committees met prior to

lunch at the Seacobeck Dining Hall and our guest speaker, Dr. Suzanne Sumner. A speaker profile follows these minutes.

After lunch and our lecture presentation President Pohley reconvened the Conference. There was no old business to discuss. The only item of new business was to rename the Chi Beta Phi grant in honor of the long-standing treasurer C. T. Meadors and his late wife Merewyn the Meadors Research Grant. The proposal was passed unamiously. The presentation of papers followed, and afterwards President Pohley thanked the participants for their excellent work. After a dinner reception, the awards ceremony followed.

President Pohley announced the awards recipients:

Outstanding Chapter: Zeta, Davis & Elkins College
Outstanding Advisor: Dr. Gubbels-Bupp, Alpha, Randolph-Macon College
Most Improved Chapter: Alpha Beta, Lenoir-Rhyne University
Blackwell Distance Award: Alpha Iota, Glenville State College
Host Chapter Award: Kappa Sigma, University of Mary Washington
National Key Award: Henry Castillo, Alpha, Randolph-Macon College

In an unusual turn of events, there was a three-way tie for first place for the student presentations. No second or third place awards were granted. President Pohley presented the students with their monetary gifts.

Talbot Weston Alpha, Randolph-Macon College
Judith Urbanik Alpha Iota, Glenville State College
Allison Hendersot Alpha Delta, Franklin College

President Pohley thanked everyone for their attendance and participation and complimented the host chapter on their excellent work as host. He then announced that the 67th National Conference was now adjourned and wished everyone a safe trip home.

Biography for Suzanne Sumner, PhD

Suzanne Sumner, Professor of Mathematics at the University of Mary Washington, earned her Ph.D. and M.S. from North Carolina State University. Dr. Sumner earned her B.S. at the University of North Carolina, where she was inducted into Phi Beta Kappa.

From 2003 to 2008, Dr. Sumner served as Director of the Teaching Innovation Program at UMW. In 2007 she was named a Project Kaleidoscope Village Elder, and she was on the advisory board for the Teaching Professor Conference during 2010 and 2011.

From 2010 to 2012 Dr. Sumner served as the Faculty Senate President for the College of Arts and Sciences, and was a member of the University Faculty Council at UMW. Since 2012 Dr. Sumner has served as President of the Beta Eta Chapter of Delta Kappa Gamma, an international honorary society for women educators. Dr. Sumner is a recipient of six teaching awards during her years at NCSU and UMW. Most recently, Dr. Sumner was the recipient of the Chi Beta Phi Student Nominated Faculty Award.

Dr. Sumner's interdisciplinary research and pedagogical collaborations connect applied mathematics with biology, environmental science, geology, and classics. Dr. Sumner's current research involves mathematical modeling of honey bee behavior and demographics, such as modeling data describing worker bee aggression towards a foreign queen bee and modeling phenomena such as colony collapse disorder.

Recent Publications:

Mangum, W., Sumner, S., and Yakubu, A-A. (in progress). "Mathematical Modeling of Data describing Worker Bee Aggression towards a Foreign Queen" to submit to the journal *Bulletin of Mathematical Biology*.

Mangum, W. and Sumner, S. (in progress). "Attendant effects during queen introduction" to submit to the journal *Apidologie*.

Mangum, W. and Sumner, S. (2003). "A survey of the North American range of *Megachile (Callomegachile) sculpturalis,* an adventive species in North America" in the Journal of the Kansas Entomological Society, #76(4); 658-662.

Sumner, S. and Mangum, W. (2002). “Modeling tracheal mite infestations of autogrooming European honey bees and implications for Asian honey bees” in the Proceedings for the Sixth Asian Apicultural Association International Conference in Bangalore, India, Feb. 24 – Mar. 1, 2002.

Sumner, S. (2001). "Hopf bifurcation surfaces in pioneer-climax competing species models." Proceedings of Dynamic Systems and Applications 3: 577-584.

CHAPTER REPORT- ALPHA

Chapter report for October 2013 through October 2014

Chapter: Alpha

Address: Dr. Melanie Gubbels-Bupp
Department of Biology
Randolph-Macon College
Ashland, VA 23005

Advisor: Dr. Melanie Gubbels-Bupp melaniegubbelsbupp@rmc.edu

Current Officers:	Name	Email address
President:	Henry Castillo	HenryCastillo@go.rmc.edu
Vice-President:	Fernanda Algarin	FernandaAlgarin@go.rmc.edu
Secretary:	Nicole D'Ambra	NicoleDAmbra@go.rmc.edu
Treasurer:	Brittni DiPatrizio	BrittniDiPatrizio@go.rmc.edu
Other (Historian):	Talbot Weston	TalbonWeston@go.rmc.edu

Officers for next year if determined:
President : TBD
Vice-President: TBD
Secretary: TBD
Treasurer: TBD
Other: TBD

Current number of members
student 32 faculty1 pledges 0 active alumni 0

Frequency of meetings: Monthly

Function or purpose of Meetings:
chapter business x fund raising x social x
presentations x conference planning x other x

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

- Hosted seminar by Dr. Deborah Zies of Kappa Sigma Chapter (Mary Washington University) entitled "Smith-Magenis Syndrome: An Investigation of a Human Genomic Disorder" (4/11/2014)
- Attended senior thesis defense Fred Parks of Alpha Chapter (5/14/2014)

- Will host seminar by Henry Castillo of Alpha Chapter entitled “X-rays and X-ray Crystallography” (11/06/2014)
- Hosted several presentations by Alpha Chapter members (Kristin Sheetz, Lucas Matuszewski, Talbot Weston, Thom Morgan, and Henry Castillo) pertaining to their research (10/2014)

Social Activities of Chapter:

- Conducted physics and chemistry demonstrations at Randolph-Macon College CampTown (school and community event aimed in raising funds to multiple charities) (4/12/2014)
- Participated in Randolph-Macon College Activities Carnival (to increase awareness of our chapter on campus and increase interest among potential members (9/15/2014)

Honors Awarded to Chapter Members:

- Fred Parks:
    - Miller-Rayner Scholarship
    - Schapiro Undergraduate Research Fellowship
    - Jackson Fellowship Scholarship
    - Member of Phi Beta Kappa
    - VFIC Summer Undergraduate Science Research Fellowship Award
- Phuong Bui
    - Miller-Rayner Scholarship
    - Jackson Fellowship Scholarship
- Victoria Zimbro:
    - Moore Peace Prize
    - Schapiro Undergraduate Research Fellowship
    - Member of Pi Mu Epsilon
- Trang Tran:
    - Shepard Award in Organic Chemistry
    - Douglas W. Foard Phi Beta Kappa Sophomore Award
    - Jackson Fellowship Scholarship
- Henry Castillo
    - Schapiro Undergraduate Research Fellowship
    - VFIC Summer Undergraduate Science Research Fellowship Award
    - Member of Sigma Pi Sigma
    - Member of Pi Mu Epsilon
    - Member of Omicron Delta Kappa
    - Miller-Rayner Scholarship
    - Watts Physics Scholarship
    - Jackson Fellowship Scholarship
- Kethelyne Beauvais:
    - Schapiro Undergraduate Research Fellowship
- Tim Landis
    - Schapiro Undergraduate Research Fellowship

    - Jackson Fellowship Scholarship
    - Member of Omicron Delta Kappa
    - Who's Who in American Colleges and Universities
    - Douglas W. Foard Phi Beta Kappa Sophomore Award
- Talbot Weston
    - Schapiro Undergraduate Research Fellowship
    - Member Omicron Delta Kappa
    - Member Beta Beta Beta
- Brittni DiPatrizio:
    - Member Beta Beta Beta
    - Member Gamma Sigma Alpha
- Corin Sandford
    - Member Sigma Pi Sigma
    - Who's Who in American Colleges and Universities
    - Watts Physics Scholarship
    - NASA Langley LARS Participant
- Devin Coates
    - NSF Physics REU at Rochester Institute of Technology
    - Member Sigma Pi Sigma
- Lucas Matuszewski
    - Schapiro Undergraduate Research Fellowship
    - Jackson Fellowship Scholarship
    - Buick Achievers Scholarship
- Kristin Sheetz:
    - Schapiro Undergraduate Research Fellowship
    - Jackson Fellowship Scholarship
    - James and Elizabeth York Scholarship
    - Randolph Macon College Student Leadership Award
    - Member of Omicron Delta Kappa
- Fernanda Algarin:
    - Member of Beta Beta Beta

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:N/A

Fundraising: Conducted physics and chemistry demonstrations at Randolph-Macon College Camp Town (school and community event aimed in raising funds to multiple charities) (4/12/2014)

Service to school (include any awards by chapter): N/A

Service to community: Planning to volunteer at Gandy Elementary in Ashland, VA 23005 for "Science Night" which is geared towards stimulating scientific

curiosity in children

Trips or other activities: Attended 2013 Chi Beta Phi National Conference and will attend 2014 Chi Beta Phi National Conference

Please add any additional information or comments below.

Our chapter is open to students with a minimum GPA of 3.25 in the sciences and an overall GPA of 3.0. We are currently working to increase interest/awareness/activity on campus.

CHAPTER REPORT- GAMMA

Chapter report for Fall 2013 through Fall 2014.

Chapter Gamma Mailing Address Herb Sipe
Department of Chemistry, H-SC
Hampden-Sydney, VA 23943

Advisor Dr. Herb Sipe hsipe@hsc.edu

Current Officers:	Name	Email address
President	Jamshaid Chaudhry	chaudhryj16@hsc.edu
Vice-President	Robinson Sagar	sagarr15@hsc.edu
Secretary	Melchior Savarese, IV	savaresem16@hsc.edu
Treasurer	Melchior Savarese, IV	
Other		

Officers for next year if determined:

President
Vice-President
Secretary
Treasurer
Other

Current number of members
student 39 faculty 2 pledges _____ active alumni _____

Frequency of meetings: at least once a month

Function or purpose of Meetings:
chapter business X fund raising _____ social X
presentations X conference planning X other X

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

Poster sessions for member research at H-SC

Social Activities of Chapter:

Co-host several Talks, with the Society of Physics Student, that feature a different topics every semester. For example, the talk in the Fall of 2014 was the effect of comic books on society.

Honors Awarded to Chapter Members:

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

Fund raising

Service to school (include any awards by chapter)
Feature Talks

Service to community
Cleaning and repairing Joyner Trail

Trips or other activities
Trip to Hi-Test Lab

Please add any additional information or comments below.

CHAPTER REPORT- ZETA

Chapter report for Fall 2013 through Fall 2014.

Chapter – Zeta

Mailing Address: Davis & Elkins College
100 Campus Drive
Elkins, WV 26241

Advisor – Dr. Shawn Stover

Email Address: stovers@dewv.edu

Current Officers:	Name	Email address
President	Rebecca Martin	martinr1@mail.dewv.edu
Vice-President	Jay Adams	adamsj1@mail.dewv.edu
Secretary/Treasurer	Conner Berkey	berkeyc@mail.dewv.edu

Officers for next year if determined:

President	Sarah Marshall	marshalls2@dewv.edu
Vice-President	Jessica Nelson	nelsonj2@dewv.edu
Secretary/Treasurer		

Current number of members:
student 10 faculty 2 pledges 6 active alumni 1

Frequency of meetings: Monthly

Function or purpose of Meetings:
chapter business X fund raising X social X
presentations___ conference planning X other X

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:
Spring 2014: Zeta Chapter sponsored a seminar by Jenny Sisler. Jenny is currently a post-doctoral researcher at the CDC's National Institute for Occupational Safety & Health.

Activities relative to the Annual Theme:
NA

Social Activities of Chapter:
Fall Meet & Greet Pizza Party

Honors Awarded to Chapter Members:

Name Honor

- Conner Berkey- Faculty Senior Award; Student Life Outstanding Senior Award
- Kaitlin McDade- Biology & Environmental Science Departmental Award
- Phylicia Hudok - Chemistry Departmental Award; Biology & Environmental Science Departmental Award
- Ethan Roy- Chemistry Departmental Award; Chemistry Department Hypercube Award
- Jay Adams- Chi Beta Phi research grant (Spring 2014)
- Sarah Marshall- 2014 WV Division of Natural Resources Cooperative Project grant "Enhancing the WV Macrofungi Collection at DEWV" (with Dr. Michelle Mabry)
- Becca Martin- Won third place for her research presentation at the 2013 Chi Beta Phi National Conference

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:
NA

Fund raising:
During fall finals, a basket of finals week necessities was raffled.

Service to school:
Science Center Recycling Project
Campus e-cycling

Service to community:
Spring 2014: Eastern Regional Science Fair (gave two Chi Beta Phi awards for best use of the scientific method)
Spring 2014: Took part in Spruce Restoration project

Trips or other activities:

- Fall 2013: Jay Adams, Ryan Finnegan, and Becca Martin presented research data for the Chi Beta Phi National Conference at Glenville State College.

- Spring 2014: Jay Adams, Ryan Finnegan, and Becca Martin presented research data for the Biology and Environmental Science Forum at Davis & Elkins College.
- Fall 2013 and Spring 2014: Jay Adams and Kaitlin McDade participated in an exercise physiology research project with Dr. Stover.
- Fall 2013 and Spring 2014: Jay Adams and Kaitlin McDade shadowed Elkins area veterinarians and physicians.
- Fall 2013 and Spring 2014: Rebecca Casto interned with Dr. Mary Beth Adams at the USDA Forest Service.

Please add any additional information or comments below.

- Jay Adams is now a student at the Mississippi State University College of Veterinary Medicine.
- Ryan Finnegan is now a graduate student at the Medical University of South Carolina.
- Becca Martin is now a graduate student at Marshall University.
- Ethan Roy is now a student at the West Virginia University School of Pharmacy.

CHAPTER REPORT- RHO

Chapter report for: 8/26/14 through 12/12/14

Chapter: West Liberty University Chi Beta Phi
Mailing Address: 101 Faculty Dr. Wheeling, WV 26003, United States
Advisor: Dr. Theunis Van Aardt & Dr. Matthew Zdilla

Email Address: theunis.vanaardt@westliberty.edu mzdilla@westliberty.edu

Current Officers:	Name	Email address
President	Jesse Hall	jmhall@westliberty.edu
Vice-President	Samantha Knowlton	sdknowton@westliberty.edu
Secretary	Tiffany Hyde	tnhyde@westliberty.edu
Treasurer	Leanne Mazzella	lkmazzella@westliberty.edu
Other		

Officers for next year if determined:
President
Vice-President
Secretary
Treasurer
Other

Current number of members
students: 50 faculty: 15 pledges: 0 active alumni: 1

Frequency of meetings:
They are held every second and fourth Wednesday of every month.
Function or purpose of Meetings:

chapter business X fund raising X social X
presentations X conference planning X other

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

- West Liberty University is holding the annual West Virginia Academy of Science meeting in April. Majority of the members in Chi Beta Phi are presenting at this conference as well as attending presentations of various scientific talks.
- There are also various faculty research presentations that multiple members of the club attended.

Social Activities of Chapter:

- Are meetings are held every second and fourth Wednesday of every month. There is an induction ceremony that was just held in November, and another one that will be conducted in the spring. The club plans on participating in a bowling night and a movie night later in the semester.

Honors Awarded to Chapter Members:

- Multiple members of the club have received research grants such as WV-NASA grants, as well as WV INBRE grants to perform research.
- Some of the members of Chi Beta Phi are also members of Alpha Chi, which is an honorary that only selects members of the top ten percent of the student population academically. Also students have to be nominated by faculty.

Other Chapter Activities:

Fund raising:

- On the fifth of November, the club held its second annual chili cook off. This was as a fundraiser for the club.

Service to school (include any awards by chapter)

- In the spring semester, the club would like to join with the Biology Club and Chemistry Club and put on scientific demonstrations for the local elementary.

Service to community

- Also during the chili cook off, can goods were collected and donated to the local soup kitchen.

Trips or other activities

- The club will be holding its annual carnation sell for Valentine's Day in February. The proceeds will go to paying for cords and certificates for graduating members.

Please add any additional information or comments below.

CHAPTER REPORT- KAPPA SIGMA

Chapter report for Fall 2013 through Fall 2014

Chapter - Kappa Sigma

Mailing Address

Deborah Zies
Jepson Science Center
Univ. of Mary Washington
1301 College Avenue
Fredericksburg, VA 22401

Advisors Deborah Zies dzies@umw.edu; Stephen Fuller sfuller@umw.edu; Marie Sheckels msheckel@umw.edu; Stephen Davies sdavies@umw.edu

Current Officers:

Co-President	Kimberly Hildebrand
Co-President	Emily Pineiro
Secretary	Nicole Guinn & George Marche
Historian	Dana Bargh & Hannah Hagy
Treasurer	Kristina Krumpos

Current number of members:
student __57____ faculty ___4___ pledges _____ active alumni _____

Frequency of meetings: Once a month

Function or purpose of meetings:
chapter business x fund raising x social x conference planning x

Social Activities of Chapter:
Post Induction Ceremony October 10, 2013
Award Ceremony for seniors April 23, 2013
Post Induction Ceremony October 9, 2014

Honors Awarded to Chapter Members:

Name	Chi Beta Phi Scholarship
Anna Kania	1st place award.
Luci Coleman	2nd place award

Other Chapter Activities:

Fund raising:
Chi Beta Phi t-shirt sales and wristband sales

Service to school (include any awards by chapter):
Chi Beta Phi Second Annual Student-selected Faculty Award to Dr. Suzanne Sumner

Service to community:

- Pumpkin Palooza (community event where kids are invited to Halloween themed activities, Chi Beta Phi had a "mad-scientist" theme table and performed experiments using momentum and conservation of energy) Fall 2013

- Community Outreach and Resources (COAR) Holiday Shoe Boxes (multiple boxes filled with hats, gloves, and scarves for children along with small toys and coloring books which are donated to local community members) Fall 2013

- UMW's Annual Calculus Tournament (Event where high schools bring teams of calculus students to compete against each other in a double elimination tournament, Chi Beta Phi helped staff the event) Spring 2014

- Relay for Life (STEM team (not just members) that participated Relay for Life event) Spring 2014

- Spring Forward (spring equivalence to Pumpkin Palooza where we had a conservation of energy magic trick and simple chromatography flowers) Spring 2014

- Judging at science fairs in local community (one middle school and one elementary school) Spring 2014

CHAPTER REPORT- PHI

Chapter report for through Oct 2013.

Chapter – Memphis Mailing Address Univ. Memphis
Dept. Biological Sciences
3774 Walker Ave.
Memphis, TN 38152

Advisor – David Freeman Email Address dfreemn1@memphis.edu

Current Officers:	name	Email address
President	Holly Renee Staggs	
Vice-President	Larissa K. Boyd	
Secretary	Kendra Johnson	
Treasurer	Racheal Cauley	
Other		

Officers for next year if determined:

President	Jazmin Snowden
Vice-President	April Gearlds
Secretary	Zoe M. Smalley
Treasurer	Rohan Pareek
Other	

Current number of members
student 17 faculty 1 pledges 17 active alumni ____

Frequency of meetings: Bi-monthly

Function or purpose of Meetings:
chapter business x fund raising ____ social x
presentations ____ conference planning ___ other ____

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

_____

Activities relative to the Annual Theme:

_____

Social Activities of Chapter:

_____

Honors Awarded to Chapter Members:

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

_____

Fund raising

_____

Service to school (include any awards by chapter)

_____

Service to community

_____

Trips or other activities

_____

Please add any additional information or comments below.

CHAPTER REPORT-ALPHA BETA

Chapter report for October 2013 through October 2014

Chapter – Alpha Beta

Mailing Address – Dr. Timothy Goldberg
Lenoir-Rhyne University
Campus Box 7141
Hickory, NC 28603

Advisor – Dr. Timothy Goldberg

Email Address – timothy.goldberg@lr.edu

Current Officers:	Name	Email address
President	Sam Anderson	sam.anderson@my.lr.edu
Vice-President	Alan-Michael Bresch	alanmichael.bresch@my.lr.edu
Secretary	Michaela Moore	michaela.moore@my.lr.edu
Treasurer	Marie Mauhar	marie.mauhar@my.lr.edu
Historians	Leigha Myers	leigha.myers@my.lr.edu

Officers for next year if determined: N/A

Current number of members:

- student 19
- faculty 14
- pledges 22 eligible and interested students, October 2013
- active alumni 0

Frequency of meetings: monthly

Function or purpose of Meetings:

- chapter business X
- fund raising
- social X
- presentations __
- conference planning
- other

Presentations, lectures, seminars, etc. attended or as part of chapter meeting: N/A

Activities relative to the Annual Theme:

Social Activities of Chapter:

- Cookout/Membership drive in October 10, 2014 on LRU campus
- Cookout/Initiation ceremony in April 27, 2014 at local county park, as part of the Campus Celebration of Excellence at LRU

Honors Awarded to Chapter Members:

- Honor cords were earned by 11 seniors in 2013-2014.
- Amber Longhi served as Editor-in-Chief of the yearbook, *Hacawa*, for 2012-2013.
- At our University's Academic Awards Ceremony in April:
    - Member Caitlin Rubow received the Lutz Award in Biology.
    - Member Sam Anderson received the Steelman Scholarship.
    - Pledge Miguel Sanchez received the Biology Achievement Award.
    - Member Marie Mauhar and pledge Briana Belsky were awarded GlaxoSmithKline Women in Science Scholarships.
    - Member Logan Bearfield received the American Institute of Chemists Outstanding Senior award and the Cecilia Willard Natural Science Medal.
    - Pledge Abigail McRea received the Chemistry Achievement Award.
    - Pledge Thinh Truong received the Physics Achievement Award, and the Freshman Achievement Award in Mathematics (one of two awardees).
    - Member Wynn Pobletts received the Computer Programming Award.
    - Member Amber Longhi received the Mathematics Outreach Award.
    - Pledge Chelsea Noel received the Freshman Achievement Award in Mathematics (one of two awardees).
- In the Spring Semester, member Jeffrey Fisher was elected President of the Student Government Association.
- During the summer, member Marie Mauhar was admitted to and participated in a Research Experience for Undergraduates in mathematical biology at Winthrop University. In August, she presented her work from the summer at the Mathematical Association of America's MathFest conference in Portland, OR.

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

_____

Fund raising

- None this year.

Service to school (include any awards by chapter)

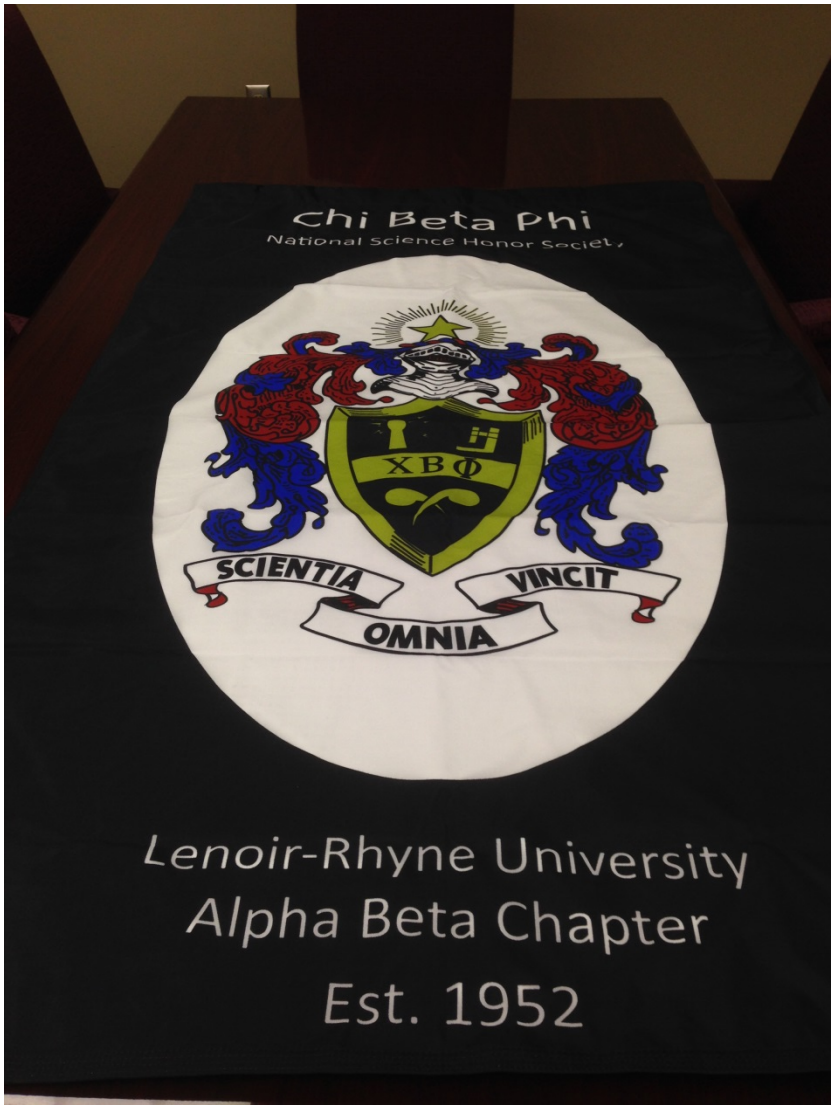
- In February, members brought in, created, and distributed small teacher appreciation gifts and cards to University mathematics and science faculty members.

Service to community

- In November, 14 members volunteered to help judge local elementary school science fairs.
- In December, members provided service to St. Andrews Lutheran Church, (a University affiliate), by decorating for the holidays.
- In March, a large number of members helped with the Science Olympiad for local high school students hosted at our University.

Trips or other activities

- In April, members Holly Baldwin and Logan Bearfield presented their research in the Derieux Paper Competition at the North Carolina Academy of Sciences meeting in Raleigh, NC. Members Alan-Michael Bresch, Sam Anderson, Marie Mauhar, and Caitlin Rubow attended but did not present.
- In late Spring, we designed and purchased a Chi Beta Phi banner, which is now hanging in our University campus center.



Please add any additional information or comments below.

Planned activities for the 2014-15 academic year include:

- Science Olympiad March 2015
- Create and distribute periodic “Surprising Math/Science Facts” around campus.

CHAPTER REPORT-ALPHA DELTA

Chapter report for Oct. 2013 through Oct. 2014.

Chapter: Alpha Delta

Mailing Address: Dr. Edward Chikwana
Franklin College
101 Branigin Blvd.
Franklin, IN 46131

Advisor: Dr. Edward Chikwana Email Address: echikwana@franklincollege.edu

Current Officers:	Name	Email address
President:	Rosette Nkulu	rosette.nkulu@franklincollege.edu
Vice-President:	Allison Hendershot	allison.hendershot@franklincollege.edu
Secretary	Nichole Thompson	nichole.thompson-van@franklincollege.edu
Treasurer	Kayla Hammelman	kayla.hammelman@franklincollege.edu
Other		

Officers for next year if determined:
President
Vice-President
Secretary
Treasurer
Other

Current number of members
Student 23 faculty 5 pledges active alumni 2

Frequency of meetings: Monthly

Function or purpose of Meetings:

chapter business	X	fund raising	X	social	X
presentations		conference planning		other	X

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

We have also planned to invite a series of speakers to present on career options for science majors and our first presentation is on October 21 on the “Applications of Chemistry and Physics in Military Special Operations Work” presented by US Naval

Officer Brian Kirk who is the Officer in Charge of the Explosive Disposal Mobile Unit (Bomb Squad) of the US Naval base at the Crane US Navy Base in Perry, Indiana.

Social Activities of Chapter:

In May of every year, we organize a field trip to sendoff graduating seniors. We took students horseback riding in May 2014 in a nearby location. This was our social and end-of-the-year event.

At the beginning of this academic year, we hosted a Welcome mixer, where we invited all the science students from mathematics, computer science, biology, chemistry, biology and psychology. We provided pizza and other refreshments. Students were given the opportunity to interact with each other as well as with professors.

Honors Awarded to Chapter Members:
Most of our members have the highest GPA at school and in their respective majors. They receive a wide range of scholarships and academic awards, which reflect their hard work, dedication and commitment to excellence.

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

Fund raising
During the last academic year, we did not hold any fundraising activities since we were allocated a large fund from Student Congress. We managed to use some of our funds to help other science clubs in their fundraising events.

Service to school (include any awards by chapter)
In the previous year, we did not hold any service activities to school. However, we plan to become active in this area by organizing events with schools in our community.

Service to community

Trips or other activities

Please add any additional information or comments below.

This year, our club is dedicated to providing science students with an array of various events where they can broaden their knowledge while networking with their peers and professionals. Our goal is to foster greater appreciation of science not only on our campus, but also in the community. Members will be engaged in various activities where they will learn about the many opportunities available in their scientific area of study as well as other possibilities outside their majors. We plan to organize guest lectures, social events, fundraising events, shadow days, field trips and graduate student panels.

CHAPTER REPORT- ALPHA EPSILON

Chapter report for September 19, 2013 through September 23, 2014.

Chapter Alpha Epsilon

Mailing Address Dr. Thomas Carroll
Division of Natural Sciences
Keuka College
141 Central Avenue
Keuka Park, New York 14478

Advisor: Dr. Thomas Carroll Email Address: tcarroll@keuka.edu

Current Officers:	Name	Email address
President	Kelsey Morgan	kmorgan1@keuka.edu
Vice-President	Alex Morgan	amorgan@keuka.edu
Secretary	Becky Chase	rchase@keuka.edu
Treasurer	Brittany Gleason	bgleason@keuka.edu
Historian	Amber De Jong	adejong@keuka.edu

Officers for next year if determined: not yet determined

Current number of members
student 12 faculty 5 pledges 0 active alumni 0

Frequency of meetings: biweekly

Function or purpose of Meetings:
chapter business X fund raising X social X
presentations X conference planning X other _____

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

- Induction presentations are given by new inductees
- Two planned lectures by senior chemistry faculty and Cornell University plant geneticist

Social Activities of Chapter:

- Induction presentations and induction dinner
- Beginning-of-the-year picnic for math and science students
- Participation in Open House and Campus Involvement Fair

Honors Awarded to Chapter Members:

- Kelsey Morgan: James E. White Freshman Biology Award, Strasenberg Prize in Chemistry, Hazel Ellis Loomis Award in Biology
- Brittany Gleason: Shortt Prize in Mathematics
- Amber De Jong: James E. White Freshman Biology Award, CRC Freshman Chemistry Award
- Becky Chase: CRC Freshman Chemistry Award

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:
Chapter was newly reactivated this past year

Fund raising
Pizza sales

Service to school (include any awards by chapter)
Ushers at Academic Convocation, various campus-wide events
Hosting guest lecturers

Service to community
Ushers at Academic Convocation

Trips or other activities
Attended Chi Beta Phi national conference

CHAPTER REPORT- ALPHA IOTA

Chapter report for October 27, 2013 through October 18 , 2014.

Chapter – Alpha Iota Mailing Address Alpha Iota Chapter
C/o Paul Peck Advisor
Glenville State College
200 High St.
Glenville, WV 26351

Advisor - Paul S. Peck Email Address Paul.Peck@glenville.edu

Associate Advisor - Larry Baker Email Address Larry.Baker@glenville.edu

Current Officers:	Name	Email address
President	Samantha Fulks	fulks.samanthab@gsc.glenville.edu
Vice-President	Judith Urbanic	urbanic.judithj@gsc.glenville.edu
Secretary	Tia LeMaster	lemaster.tiam@gsc.glenville.edu
Treasurer	Randy Smith	7th.Draigon@gmail.com
Historian	Katy Younts	katyyounts427@gmail.com

Officers for academic year 2013-2014:		
President	Michelle Hall	hall.michellel@gsc.glenville.edu
Vice-President	Samantha Wolford	wolford.samanthad@gsc.glenville.edu
Secretary	Morgan Scarpellini	scarpellini.morgana@gsc.glenville.edu
Treasurer	Randy Smith	7th.Draigon@gmail.com
Historian	Debra Starcher-Johnson	Deb.Starcher-Johnson@glenville.edu

Current number of members:

student 18 faculty 17 pledges 0 active alumni 1

Frequency of meetings: At least monthly and as needed.

Function or purpose of Meetings:

chapter business x fund raising x social x
presentations x conference planning x

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

Presentations by faculty members sponsored by Chi Beta Phi:

Presenter	Status	Title	Date	Presenter
Alison Witte	Faculty	Science and Mysticism	March 18, 2014	Alison Witte
Carmine Grieco	Faculty	Be Healthy Now! A CDC Community Transformation Grant Program	April 8, 2014	Carmine Grieco
Joseph Wood	Faculty	Common Core: Programmatic Changes for Pre-service Teacher?	April 24, 2014	Joseph Wood
Larry Baker	Faculty	A Technology Sabbatical	April 29, 2014	Larry Baker

Presentations by Chi Beta Phi student members sponsored by Chi Beta Phi:

Date	Day	Time	Location	Presenters
April 10	Thursday	12:30 P. M.	107 Science Hall	Morgan Scarpellini Steven Edward Pifer II Adam Wilson
April 17	Thursday	12:30 P. M.	107 Science Hall	Dennis Harvey Nathan Lilly Adrian Patterson
April 24	Thursday	12:30 P. M.	107 Science Hall	Emily Ramezan Randy Smith Judith J. Urbanic

Other Presentation activity by Chapter members

Fall 2013 Chi Beta Phi National Conference

- Catherine Butcher “Soil Adsorption of Glutaraldehyde”
- Robert DeWees, “Electrophilic Aromatic Substitution Lab”
- Adrian Patterson “Effects of Free-ranging domestic Cats on Avian Parental Nest Visitation”
- Morgan Scarpellini “The Effect of Water Temperature on Early Response Gene, c-Jun, in Aiptasia pallida”
- Randy Smith “Determining if Aryl Hydrocarbon Receptor Regulates Histone 3 Methylation in Breast Cancer Cells Using Immunoblot Analysis”
- Judith Urbanic “Isopentyl acetate modulates psychological pain in honeybees via an opioid mechanism”
- Adam Wilson “Modeling the Transport of Glutaraldehyde in Soil”

Presentations to the Glenville State College Board of Governors

- October 16, 2013: Judith Urbanic, "How to Tell if Your Honey Bee is Depressed"
- October 16, 2013: Randy Smith, "Determining if AHR regulates Histone 3 methylation in breast cancer cells using immunoblot analysis"
- December 4, 2013: Robert DeWees, "Electrophilic Aromatic Substitution Lab"
- December 4, 2013: Carly Caldon, "The Relationship between Postural Control, Gender and Injury in High School and Collegiate Athletes"
- February 11, 2014: Morgan Scarpellini, "The effect of water temperature on the early response gene, c-Jun, in the sea anemone, Aiptasia pallida"

Annual Undergraduate Research Day at the West Virginia State Capitol Rotunda January 30, 2014

- Adrian Patterson: "Effects of Free-ranging domestic Cats on Avian Parental Nest Visitation"
- Morgan Scarpellini,: "The effect of water temperature on the early response gene, c-Jun, in the sea anemone, Aiptasia pallida"
- Judith Urbanic: "How to Tell if Your Honey Bee is Depressed"

2014 Pioneer Showcase Tuesday, April 22, 2014

- Dennis Harvey "Quantitative Extraction and Analysis of Glutaraldehyde in Soil"
- Adrian Patterson "Effects of Free-Ranging Domestic Cats on Avian Parental Nest Visitation"
- Emily Ramezan, Morgan Scarpellini, and Dr. Sara Sawyer "The Effects of Water Temperature on Early Response Gene, c-Jun, in the sea anemone, Aiptasia pallida"
- Randy Smith "Determining if AHR Regulates Histone 3 Methylation in Breast Cancer Cells Using Immunoblot Analysis"
- Judith Urbanic "How to Tell if Your Honey Bee is Depressed"
- Adam Wilson "Transport of Glutaraldehyde in Packed and Undisturbed Soil Columns"

West Virginia Academy of Science 89th Annual Meeting April 12, 2014

Posters at WVAS:

1. Steven Pifer* Novel synthesis of alkyl bromides
   Nathan Lilly*
   Dylan Tomblin*
   Kevin L. Evans
2. Dennis Harvey* Quantitative extraction and analysis of glutaraldehyde in soil
   David O'Dell

3.	Emily Ramezan* Morgan Scarpellini* Sara Sawyer	The Effects of Water Temperature on Early Response Gene, c-Jun, in the sea anemone Aiptasia pallida
4.	Randy Smith* Gary Morris	Determining if AHR Regulates Histone 3 Methylation in Breast Cancer Cells Using Immunoblot Analysis

Presentations at WVAS:

1.	Judith Urbanic*	To Bee Or Not To Bee? That Is The Depression
2.	Adam Wilson*	Transport of glutaraldehyde in packed and undisturbed soil columns

Awards at WVAS:

- Judith Urbanic's presentation was recognized as the best undergraduate presentation.

STEM Research Presentations (Wednesday, August 27th)at Glenville State College

- Steven Pifer and Kevin L. Evans, GSC Department of Science & Mathematics, "Anti-Markovnikov hydrobromination of alkenes"

- Emily Ramezan and Sara Sawyer, GSC Department of Science & Mathematics, "The effects of water temperature on the matrix metalloproteinase genes in the sea anemone, Aiptasia pallida"

- Randy Smith and Gary Morris, GSC Department of Science & Mathematics, "Differences in histone content and methylation relate to metastasis in breast cancer cells"

- Judith Urbanic and Lawrence M. Grover, WV INBRE, "Effects of the antidepressant Imipramine on long term potentiation (LTP) and brain derived neurotrophic factor (BDNF) in the rat hippocampus"

Activities relative to the Annual Theme:

None

Social Activities of Chapter:

The Chapter had refreshments and social time before sponsored presentations which were open to all who attended. The Chapter had a party as part of an induction ceremony in December. The Chapter sponsored an End of the Spring Semester Picnic in April.

Honors Awarded to Chapter Members:

Name	Honor
Mary Catherine Butcher	GSC Honor Graduate Chi Beta Phi Pin
Carly Caldon	GSC Honor Graduate All MEC Softball team, Second Team Carly Caldon
Robert Bruce DeWees	GSC Honor Graduate Chi Beta Phi Pin & Graduation Honor Cord
Elizabeth Hardman	Chi Beta Phi Pin & Graduation Honor Cord
Dennis M. Harvey	2014 Honors Convocation recognized by Science and Math Department Chi Beta Phi Pin & Graduation Honor Cord
Kayleigh Huck	2013 Homecoming Queen
Tia LeMaster	Junior Princess, 2014 Homecoming Court
Nathan Lilly	Chi Beta Phi Pin & Graduation Honor Cord
Joseph Overbaugh	Senior Prince, 2014 Homecoming Court
Adrian Patterson	Chi Beta Phi Pin & Graduation Honor Cord
Steven Edward Pifer II	Hunt-Stalnaker Scholarship Recognized as the Outstanding Junior Chemistry major at Glenville State College by the Northern West Virginia Section of the American Chemical Society
Emily Ramezan	Third Place, First Session, 2014 Pioneer Showcase, dual award
Morgan Scarpellini	Third Place, First Session, 2014 Pioneer Showcase, dual award 2014 Honors Convocation recognized by Science and Math Department GSC Honor Graduate Chi Beta Phi Pin & Graduation Honor Cord All MEC Softball team, First Team
Randy Smith	Second Place, First Session, 2014 Pioneer Showcase

Judith J. Urbanic	Best Undergraduate Presentation, WV Academy of Sciences Third Place, Second Session, 2014 Pioneer Showcase
Adam D. Wilson	First Place, First Session, 2014 Pioneer Showcase
Asa Witte	Chi Beta Phi Pin & Graduation Honor Cord
Laura Young	GSC Honor Graduate Chi Beta Phi Pin & Graduation Honor Cord *

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

None

Fund raising:

The Chapter had two major fund raising projects.

In the fall semester, we had a basket bonanza raffle in which we raffled seven baskets filled with special themed prizes and/or GSC novelty items. It was very successful and many members of the Chapter were involved in it.
In the spring semester, we again held a Valentine's Day Rose Sale. It was very successful and many members of the Chapter were involved in it.

Service to school (include any awards by chapter)

- The Chapter's presentations were advertised and open to the campus community.
- The Chapter continued to assist the GEO Club in a campus wide recycling program.

Service to community:

- Our presentations were advertised in local media and open to the public.
- The Chapter collected items for the Ronald McDonald House in Morgantown, West Virginia.

Trips or other activities

Alpha Iota Chapter hosted the 66th National Chi Beta Phi Conference on October 26, 2013.

Please add any additional information or comments below.

See below for additional information concerning membership:

2013-2014 Alpha Iota Chapter Pledge Class at December Installation Meeting

Left to right: Front row: Laura Young, Catherine Butcher, Sarah Lane, Betul Kudurogian, and Emily Ramezan. Back row: Joseph Overbaugh, Dennis Harvey, Judith Urbanic, Asa Witte, and Adam Wilson

List of new members inducted during the period since the last Chapter Report:

Joseph Overbaugh	October 2013
Laura Young	November 2013
Adrian Patterson	March 2014
Kayleigh Ann Huck	May 2014
Tia LeMaster	June 2014
Stewart Landon Fitzwater	July 2014
Kathryn A. Younts	August 2014
Autumn Harkins	September 2014
Wenwen Du (GSC Faculty)	September 2014
William Alderman	September 2014
Brantz Hampton O'Briant	October 2014

CHAPTER REPORT-ALPHA RHO

Chapter report for October 2013 through October 2014.

Chapter – Alpha Rho Mailing Address 2300 Highland Road, Batesville, AR 72501

Advisor – Dr. Jeremy Chapman Email Address jeremy.chapman@lyon.edu

Current Officers:	Name	Email address
President	Zebulon Schichtl	Zebulon.schichtl@lyon.edu
Vice-President	Jason DeMoulpied	Jason.demoulpied@lyon.edu
Secretary	Jessica Enderlin	Jessica.enderlin@lyon.edu
Treasurer		
Other		

Officers for next year if determined:
President
Vice-President
Secretary
Treasurer
Other

Current number of members

students 19 faculty 1 pledges 16 active alumni 0

Frequency of meetings: Monthly

Function or purpose of Meetings:

chapter business ✓ fund raising social ✓

presentations ✓ conference planning other

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

- Jacob Haddock and Wesley Perkins presented their mathematics research at the MAKO Undergraduate Research Conference held at Missouri State University in November of 2013.
- Jacob Haddock, Wesley Perkins, and Zachary Starr presented their mathematics and science research at the Lyon College Creative Arts and Research Forum (SCARF).
- Jessica Enderlin - microbiological extraterrestrial research with cyanobacteria with Dr. Thomas (Fall 2014), presenting at INBRE conference in Fayetteville in

November. Working on social and demographics research in Mexican slum communities with Drs. Roulier and Mulick, occurs every other year.
- Bobie Jo Cooper - Research with Drs. Oliveira and Thomas dealing with microbes in local caves. Ongoing since summer 2014, presenting at INBRE conference in Fayetteville in November.
- Jacob Haddock - Worked over the summer at UAMS' biochemistry/molecular biology departments to investigate the kinetics of enzymatic reduction of hydroxywarfarin metabolits to hydroxywarfarien alcohols as a potential step in the metabolism of the anticoagulant drug warfarin. Presented to 2014 Central Arkansas Summer Research symposium.

Activities relative to the Annual Theme:

Social Activities of Chapter:

- Participation in science and mathematics presentations, induction ceremony, and regular meetings.

Honors Awarded to Chapter Members:

- Jacob Haddock and Wesley Perkins won 1st place in the Lyon College Arts and Research Forum (SCARF) for their mathematics research presentation.

- Zachary Starr won 2nd place in the Lyon College Arts and Research Forum (SCARF) for this chemistry research presentation.

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

- Actively recruiting new members, planning induction ceremony for new members, and started a monthly research lecture series as part of our regular meetings.

Fund raising:

Service to school (include any awards by chapter)

Service to community: All members participate in Lyon College's Service Day, a day devoted to community service.

Members volunteered at the ACTM Mathematics Contest held annually at Lyon College. They performed numerous tasks including proctoring and grading.
Trips or other activities:

Please add any additional information or comments below.

CHAPTER REPORT- ALPHA PHI

Chapter report for 2013 through 2014

Chapter	Mailing Address
Alpha Phi Chapter	5735 College Parkway Mobile, AL 36613

Advisors	Email Address
Dr. Gail Shelly	gshelly@umobile.edu
Dr. Lesley Baggett	lbaggett@umobile.edu
Mrs. Rebekah Morrow	rmorrow@umobile.edu

Current Officers:	Name	Email address
President	Logan Harvey	lharvey47@rams.umobile.edu
Vice-President	Mackenzie Wren	mackenziewren21@gmail.com
Secretary	N/A	
Treasurer	Sophia Houston	sdhouston11@gmail.com
Other	N/A	

Officers for next year if determined: N/A
President
Vice-President
Secretary
Treasurer
Other

Current number of members
student 5 faculty 3 pledges 20 active alumni 0

Frequency of meetings: monthly

Function or purpose of Meetings:

chapter business X	fund raising _____	social _____
presentations X	conference planning _____	other X

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:

- Presentation from Dr. Charles Woosley, representative from Auburn University's Pharm D program

- Presentation from Miss Megan McClosky, senior student of veterinary medicine at Auburn University

Social Activities of Chapter:

Volunteer work in local community

- Project Serve (coordinated through University of Mobile)
- Coastal Cleanup

Provision of food during monthly meetings

Honors Awarded to Chapter Members:
N/A

Other Chapter Activities:

- Travel to Fruitdale, Alabama multiple times per semester to participate in upkeep and maintenance of local sheep on the Williams' family farm. Trips include hands on large animal/food animal handling experience – oral deworming of sheep, ear tagging/documentation of each sheep, trimming hooves (when necessary), extracting wool tufts for possible DNA testing to track lineage/DNA crossings, banding testicles of young rams to prevent procreation, shearing of wool (in spring), examine teeth to determine estimated age.

Efforts to reactivate a chapter or establish a new one:

N/A

Fund raising

N/A

Service to school (include any awards by chapter)

N/A

Service to community

- Project Serve – planting of new garden/organization of closets at Gulf Coast Exploreum Science Center (9/2014)
- Coastal Cleanup – Chickasabogue Park (9/2014)

Trips or other activities

- Attended Auburn University's Vet School Open House (3/2014)
- Sheep maintenance on Williams' family farm (approx. 3 trips/year)

Report of the President 2014

I spent much of the year working on website issues and answering inquiries about the Honorary. The website was again flagged for containing malware. After some attempts to correct this problem myself, I enlisted the help of our current web hosting service and they were able to correct this issue. I continued to investigate finding help to improve our web presence and make the updating of the site easier. The current content management system is cumbersome for those not familiar with it. I have come to the realization that I don't have enough knowledge of language related to web hosting, etc. to effectively communicate with professionals by email and as a result, I have been in communication with a local individual who is a web designer and also hosts websites. His business is just miles from my home and I will sit down with him, and discuss what we need. The redesigned website will be done using WordPress, a program that is easy to learn and to use. There are many easy online tutorials and resources for help if needed. I of course will also have a local professional to guide me through the learning curve. The ultimate goal is to have a website that can be easily managed and is also portable so that it can be moved to another web hosting company if that is necessary in the future. It should also allow any member of the National Board to assume the Webmaster position in the future.

I continued to get inquiries about the Honorary and continued to work with inquiries received last year. I believe one of the reasons we have not seen more new chapters is because of the website. The website is really the only exposure people have to the Honorary and so it needs to be up to date and show the Honorary is active. Even using the old design and content management system, I just recently added the most recent RECORD to the site, I have added photos and prices for jewelry and cords, and have listed the names of the most recent research grant recipients. Hopefully these changes will help, until the new site is up and running.

I was excited to hear from Dr. Gubbels-Bupp at Alpha Chapter concerning their willingness to host the National Conference marking the Honorary's centennial. I want to thank Alpha Chapter at Randolph Macon College and announce that the 2015 National Conference will be held on October 24, 2015. I think we need to go the extra mile for the 2015 National Conference and celebration of 100 years of Chi Beta Phi.

In recent years, two National Board members have left their positions both as Board members but also as advisors to their chapter. In light of this I am going to encourage all chapters to have active coadvisors to ease the transition if this occurs. To help when we lose or elect new officers I am working with the National Board to clearly define the duties of each board member, in writing, so that transitions occur smoothly. I have been particularly active with the Treasurer, Mr. C.T. Meadors since that position is so vital to the ongoing success of the Honorary. Mr. Meadors has been very helpful, helping me to understand what he does and how he does it.

Respectfully submitted,

William J. Pohley, Ph.D.

Report of the Vice-President 2014

No report submitted.

Report of the Secretary 2014

Most of the past year's work has come from preparing for the National Conference. This includes gathering information from the host chapter, sending announcements to advisors and preparing the Record. I am still in possession of four large boxes of Chi Beta Phi memorabilia and records donated from Alpha chapter. Much of it consists of membership cards, but there are a few older copies of the Record as well as some scrap books. I have considered scanning the items so they can be made available electronically, but have not made progress on that. Any recommendations would be greatly appreciated.

Respectfully submitted,

Michelle Mabry, Ph.D.

Treasurers Report 2014

This report covers the period from October 2013 thru September 2014.. Itemized figures will be found in the accompanying financial statement.

The treasury remains stable and, again, shows some positive growth. All debts and bills are paid in a timely manner. There are at present no outstanding debts. The annual IRS report has been filed and a letter of acceptance and approval was received. We continue to maintain our tax-free status.

The financial statement will show we made only a small net gain as compared to the previous year. Our disbursements were increased. A major part of this was due, again, to travel reimbursements and awards. I continue to support this service. But the major reason for the disbursements increase was due to reordering cords again and, especially, having new pins manufactured. The previous company providing pins was bought out by another company. I contacted the new company (Herff Jones) and sent them one of our pins and found they could retool the pin. They did so, which was costly. I then ordered the new pins and have them now available. The new pins are less expensive than before and are $25.00 each. Cords remain the same at $6.00 per set.

I apologize for not being at this conference. It seems the years are catching up with me. I still feel well but am told not to drive any more than absolutely necessary and only for short distances. As this is an election year for the Board, if the conference chooses to elect a new Treasurer, I will accept that and do all I can to help the new Treasurer. But I assure you I can still complete the duties of the Treasurer here at home. Ifl am nominated to serve again as Treasurer, I will accept that nomination and, if so elected, will continue to serve the Honorary with pride and honor. I am sending all reports and forms to President Pohley for presentation at the conference. I support the re-election of the present Board.

My hope and prayer is that the conference goes well and is successful. I will be near my phone during the conference in case anyone needs to contact me. I assume I will receive the results asap so I can prepare award certificates, etc.

Respectfully submitted by your Treasurer,

Carl T. Meadors.

Financial Statement
Chi Beta Phi

October 2013 thru September 2014

Citizens Bank, Morgantown, WV (Savings)

October 2013	$7,136.31
Interest	5.34
September 2014	$7,148.65

Huntington Banks, Charleston, WV (Checking)

Beginning Balance October 2013	$36,645.68
New Deposits:	
Memberships (127)	4,445.00
Jewelry, Cords	735.20
Income Total	5,178.20
Subtotal	$41,823.88

Disbursements: Checks	$ 4,911.09
Closing Balance September 2014	$36,912.79
Total Assets as of September 2014	$44,049.10
Net Gain for 2014	$267.10

Respectfully Submitted by the Treasurer, C.T. Meadors
October 18, 2014

Committee Reports

AWARDS COMMITTEE

Host Chapter Award
Kappa Sigma
University of Mary Washington
Fredricksburg, VA

Outstanding Chapter Award
Zeta
Davis & Elkins College
Elkins, WV

Most Improved Chapter Award
Alpha Beta
Lenoir-Rhyne University
Hickory, NC

Blackwell Distance Award
Alpha Iota
Glenville State College
Glenville, WV

National Key Award
Henry Castillo, Alpha
Randolph-Macon College
Ashland, VA

Outstanding Advisor
Dr. Melanie Gubbels-Bupp, Alpha
Randolph-Macon College
Ashland, VA

PRESENTATIONS COMMITTEE

A three-way tie for first place:
Talbot Weston, Alpha Randolph-Macon College
Judith Urbanic, Alpha Iota, Glenville State College
Allison Hendershot, Alpha Delta, Franklin College

ELECTIONS COMMITTEE

President Bill Pholey

Vice-President Deborah Zies

Treasurer C.T. Meadors

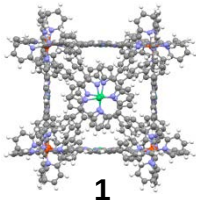
Secretary Michelle Mabry

Presentation Abstracts

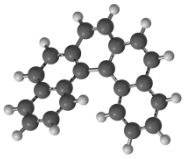
Chiral Recognition of Guests by Cubic Porphyrin Metallocomplexes.

Henry Castillo and Dr. John D Thoburn, Department of Chemistry.

Metallo-supramolecular structures that can form host-guest complexes could potentially catalyze reactions, serve as vessels for reactions, store information, render highly reactive chemical species inactive, or even form single-molecular magnets. In order to gain a better understanding of the interaction of *chiral* guests with *chiral* hosts, we will study how Fe^{II}_8(Ni-tetrakis(4-aminophenyl)porphyrin)$_6$ (**1**) hosts encapsulates pentahelicene (**2**).

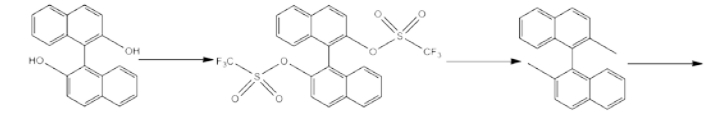


1

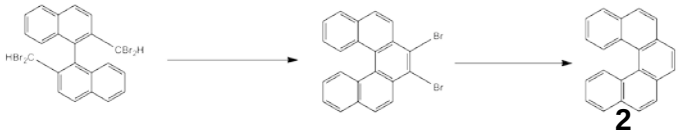


2

Thus far we have focused on the synthesis of **2**. Pentahelicene can be synthesized from commercially available binaphthol in 5 steps.



Binaphthol



2

When binaphthol is treated with triflic anhydride, the corresponding bis-triflate is formed in 95% yield. Methyl Grignard displaces triflate in the presence of nickel catalyst to give dimethylbinaphthalene (97%yield). Substitution of the methyl hydrogens is achieved with N-bromosuccinimide in the presence of free-radical initiator to give bis-dibromomethy-lbinaphthalene (99% yield). Double elimination of H–Br with strong base (potassium t-butoxide) gives dibromopentahelicene (40% yield). Finally, substitution of bromine with hydrogen gives the desired product. We are working on optimizing production of pentahelicene. In the future we will look to see (a) if host **1** will enantioselectively bind the *M* or *P* form of pentahelicene, (b) if pentahelicene can enantioselectively template self-assembly of **1**, and (c) if pentahelicene can compete with other hydrocarbon guests such as coronene or fullerene for a place in the metallocube.

AS-PCR as a Diagnostic for Differentiating Between *Anopheles funestus* Chromosomal Forms: Folonzo and Kiribina

A. Hendershot [1], C. Witzig [2], M. Fontaine [2], HA. Smith [2], A. Steele [3], S. Emrich [3], M. Guelbeogo [4], N'F. Sagnon [4], N. Besansky [2]
1 Department of Natural Sciences, Franklin College, IN 46131 2 ECK Institute for Global Health, Department of Biological Science, University of Notre Dame, Notre Dame, IN 46556 3 Department of Computer Sciences and Engineering, University of Notre Dame, Notre Dame, IN 46556 4 Centre National de Recherche et Formation sur le Paludisme, Ouagadougou, Burkina Faso

Anopheles funestus is regarded as one of the most important African vectors of malaria. In Burkina Faso, researchers have identified two different chromosomal forms of this species—Folonzo and Kiribina, that inhabit the same geographic area. Despite their closeness, they do not seem to interbreed, as indicated by the lack of heterokaryotypes. These forms exhibit a difference in behavioral patterns that can affect the control and prevention of malaria transmission. Because current methods of distinguishing between these forms are difficult and costly, this study looks to investigate Allele Specific-PCR as a method for differentiation between Folonzo and Kiribina. Next generation sequencing of DNA samples from Kuiti was used to identify fixed single nucleotide polymorphisms (SNPs) between the two forms —which served as the targets for the design of nine site-specific primer cocktails. Each cocktail, containing forward and reverse primers for Folonzo and Kiribina, was tested on remaining Kuiti DNA. Of the nine cocktails, two were successful in accurately differentiating between the two chromosomal forms with 90% accuracy or better—including failed, abnormal, and incorrect results. When successful primers were tested on karyotyped specimens from neighboring villages, Bagre and Dirze, PCR products did not exhibit the expected banding patterns. These results indicate the presence of a fixed SNP in the Kuiti population that may not be present in the Bagre and Dirze populations, possibly due to geographical distance. Future research includes testing of additional samples from villages surrounding Kuiti, to assess the distribution of the targeted SNP and identifying other areas for fixed SNPs that might be distributed among all Folonzo and Kiribina populations.

Using Independent Bernoulli Random Variables to Model Gender Hiring Practices

Kimberly Hildebrand Faculty Advisor: Dr. Debra Hydorn

Gender bias is a problem in the workforce at large. In order for society to progress it is important that hiring practices do not use gender as a competitive factor. Hiring practices based on gender can be represented statistically using Bernoulli Random Variables and the Beta and Binomial Distributions. Using the moment generating function (MGF) of the Bernoulli and Binomial Distributions, it is possible to calculate the expected value (mean) and variance for the number of women hires for n positions. The probability generating function (PGF) of a sample size n can be used to find the probability of hiring a specific number of women (X). The PGF when solved for P(X=0) reveals the probability of no women hired for n positions, while P(X≤1) gives the probability that one or no women were hired. A computer program was used to run trials to simulate different male/female distributions using recent data on the proportion of women earning a PhD in a variety of disciplines. The simulations were used to represent hiring results for seven faculty positions. Situations where the female proportion is centered at 0.3, 0.5, and 0.7 were studied. Trials that included random proportions of women for each position were run as well. Results revealed that it is actually unusual for employers to hire one or fewer women for seven positions, which could provide evidence of gender bias.

SILENCING OF ESSENSTIAL GENES IN NEMATODE SPECIES RESEMBLING PARASITES

Anna Kania[1], Dr. Theresa Grana[1] Department of Biology, University of Mary Washington, 1301 College Avenue, Fredericksburg, VA 22401

The technique of RNA interference (RNAi) has been widely used to identify gene functions in *Caenorhabditis elegans* as well as in a number of other species. However, this valuable reverse genetic tool has been either unsuccessful or unreliable in the study of human- and animal-parasitic nematodes. *Rhabditis* nematode species, whose reproductive strategies parallel those in many parasitic nematodes, have the potential to serve as excellent models for the study of the parasitic species. Because susceptibility to experimental RNAi varies among nematodes, the primary task of this project is to evaluate the sensitivity to RNAi silencing of five *Rhabditis* species resembling parasites. This task will involve 1) construction of plasmid containing a fragment complementary to the gene of interest, 2) transformation of the plasmid construct into feeding bacteria and induction of double stranded RNA (dsRNA) synthesis, and 3) feeding the *Rhabditis* species as well as the *C. elegans* (a positive control for RNAi efficiency) with the engineered bacteria in an attempt to induce RNAi mechanism, which would result in altered phenotypes of the worms. Knock-down of genes associated with the life cycle in the RNAi susceptible *Rhabditis* species would provide other researchers with a way to identify genes that could serve as potential drug targets and thus contribute to the eradication of many diseases caused by vertebrate-parasitic nematodes. Furthermore, the optimized methods utilized throughout this project would allow future students in Dr. Grana's research lab to evaluate the RNAi susceptibility of the 150 free-living nematode strains in our unique collection; such information would add to the literature and help trace the evolution of the RNAi mechanism.

Faraday waves on a 2D periodic substrate

C. T. Maki, Peter Rodriguez, Purity Dele-Oni, Pei-Chuan Fu, R. Glynn Holt

A vertically oscillating body of liquid will exhibit Faraday waves when forced above a threshold interface acceleration amplitude. The patterns and their wavelengths at driving frequencies of order 100 Hz are well known in the literature. However, wave interactions influenced by periodic structures on a driving substrate are less well---studied. We report results of a Faraday experiment with a specific periodically structured substrate in the strong coupling regime where the liquid depth is of the order of the structure height. We observe patterns and pattern wavelengths versus driving frequency over the range of 50 – 350 Hz. These observations may be of interest in situations where Faraday waves appear or are applied.

Long Term and Acute Effect of Atrazine on Sexual Development of Zebrafish

Isabelle Malouf Faculty Advisor: Dr. Baker

Increasing evidence indicates that atrazine, a commonly used agricultural herbicide, acts as an endocrine disrupter. In several vertebrate studies, acute short-term exposure to atrazine has caused feminization. However, it remains unclear how atrazine mediates these effects. This study focuses on the effects of atrazine on gene expression of enzymes that are key to the synthesis of sex steroids: cytochrome p450 aromatase (cyp19), 17β- hydroxysteroid dehydrogenase (17ß-HSD), vitellogenin (vtg), and steroidogenic acute regulatory protein (StAR). Cyp19 plays a key role in feminization as it converts testosterone, a masculinizing hormone, to estradiol, a feminizing hormone. 17β- HSD also produces estradiol, by converting estrone, into estradiol. Vtg, an egg-yolk protein precursor, is commonly used in toxicology studies as an indicator of feminization. StAR transcript levels indicate the amount of cholesterol being shuttled into the steroidogenic pathway. To test for effects of atrazine on expression of these genes, triplicate tanks of juvenile zebrafish (*Danio rerio*) were exposed from days 20-35 post-fertilization to either 400µg/L of atrazine, 0.05µg/L estradiol, or control water. After the 15-day treatment, six fish were collected from each replicate tank and anesthetized, and viscera were collected. Total RNA was extracted from each sample and converted into cDNA by reverse transcription and quantitative PCR (qPCR) assays were developed to measure transcript levels of each gene. Differences in transcript levels among treatments are now being assessed. Following the analysis of juveniles, remaining zebrafish from each treatment will be dissected at maturity, gonads and liver will be removed, and RNA will be extracted. Transcripts of vtg will be measured in the liver and transcripts of cyp19, 17β-HSD, and StAR will be measured in the gonads. The results of this study will contribute to the discussion of the safety and continued use of atrazine.

Si-H and Ge-H Bond Activation by a Zerovalent Platinum Dimer.

Lucas Matuszewski and Dr. Serge Schreiner, Department of Chemistry.

Polymers with heavier group 14 backbones are particularly useful semiconductors, photoconductors, photoresist materials, and nonlinear optical materials due to sigma conjugation. While polysilanes have been studied extensively, polygermanes are far less explored. The established method of polysilanes and polygermane production is Wurtz-type coupling using halosilanes and alkali metals. While this process produces high molecular weight chains, it has fairly low yields. Recently, transition metal catalysts have been used for the coupling of silanes and secondary stannanes with reasonable success, but transition metal catalysts for germane coupling are not as numerous. Reichl has reported an efficient catalytic process for the polymerization of a tertiary alkylgermane while Katz has reported the same with alkylarylgermanes. In this study, the interaction of a platinum dimer $[Pt_2(CO)_2(\mu\text{-}CO)(\mu\text{-}dppm)_2]$ with phenylsilane and diphenylgermane was investigated. Time and stoichiometric variations yielded several products, as characterized by IR and multinuclear NMR spectroscopy. Initial oxidative addition yields $[Pt_2(CO)_2(\mu\text{-}SiPhH)(\mu\text{-}dppm)_2]$ or $[Pt_2(CO)_2(\mu\text{-}GePh_2)(\mu\text{-}dppm)_2]$ depending on reagent. Addition of excess phenylsilane gives an isolated intermediate before giving a final product, proposed to be $[Pt_2(H)_2(\mu\text{-}Si_2Ph_2H_2)(SiPhH_2)_4(\mu\text{-}dppm)]$. Addition of excess $GePh_2H_2$ yielded two different complexes depending on reaction conditions. Methodologies, spectra, and proposed structures are herein presented.

MuXcode: A Mobile App for Program Development

Thom Morgan and Dr. Rance Necaise

The emergence of smart phones and mobile apps over the last decade has made it possible to extend productivity while away from the workplace. Many applications have been developed for mobile devices during this time, but the options are rather narrow in the area of software development. In this paper, we describe the design and implementation of a new mobile application for iOS devices that aims to maximize the user's productivity output during software development, while minimizing the time they must spend writing software. The software development applications available for the desktop consist of a minimum set of options and tools on which programmers have come to rely. Our goal was to build an application that not only provides these common tools, but also aids the programmer by identifying and assisting the user with time-consuming tasks. This was a challenge given the differences in how applications are used on desktop computers versus mobile devices. We were, however, able to identify and accommodate the limiting factors of mobile devices while still providing the desired features.

A novel method for the extraction of lead ions from bulk water supplies using chelation chemistry.

Kristin Sheetz and Dr. Kassy Mies, Department of Chemistry.

Since the introduction of industry, the percentage of naturally occurring safe drinking water has drastically decreased because of an increase in elements such as lead, arsenic, and cadmium due to industrial waste. Currently, there are approximately 500,000 children ages 1-5 years in America diagnosed with blood lead levels above Centers for Disease Control and prevention (CDC) recommended levels (Center for Disease Control and Prevention). Lead poisoning in humans can lead to malfunctioning organs, damaged tissues, encephalopathy, anemia, nervous disorders, and even death. The objective of this project is to develop a lead removal technique that is environmentally friendly, effective, and cost-efficient. Here, we describe the construction of a novel apparatus that utilizes coordination chemistry to extract lead from a bulk water supply and present preliminary results on its efficacy. The apparatus consists of a simple PVC pipe with a semi-permeable, organic membrane separating the source phase, containing lead ions, from the lead-trapping reservoir inside the PVC pipe, which contains the metal chelator, ethylenediaminetetraacetic acid (EDTA). Lead is drawn into the device through the membrane via an ionophore (dicyclohexano-18-crown-6) that allows the lead ions to be passed though the hydrophobic membrane into the trapping reservoir, where it forms a stable complex with EDTA. Data presented here demonstrates that the apparatus can be used to remove lead from a contaminated water source to concentrations below the “action level” set by the Environmental Protection Agency (EPA) (Environmental Protection Agency). Additionally, the device can be reused numerous times without changing the membrane or lead trapping solutions within the reservoir.

Effects of the Antidepressant Imipramine on Long Term Potentiation (LTP) and Brain Derived Neurotrophic Factor (BDNF) in the Rat Hippocampus.

Judith Urbanic, Larry Grover, Department of Pharmacology, Physiology, and Toxicology, Marshall University School of Medicine, Huntington, WV.

Depression may involve loss of synaptic plasticity. Antidepressants increase expression of plasticity related molecules including BDNF. Previous studies from our lab showed that chronic (1-3 week) treatment with some antidepressants impaired a form of synaptic plasticity, LTP, without altering BDNF. Here we examined shorter treatment periods to determine when changes in LTP begin, and if BDNF expression is changed earlier in treatment. We treated Sprague-Dawley rats (n=5 per group) with imipramine or vehicle, for one or two days. *In vitro* Hippocampal brain slices were prepared; half were used for extracellular field potential recordings (area CA1), and the half were micro-dissected to isolate dentate gyrus, CA1 and CA3 and stored for later protein analysis. Imipramine-treated animals showed greater LTP than controls: for one day 148 ± 9% (imipramine) vs 122 ± 10% (control) and for two day 176 ± 34% (imipramine) vs 137 ± 9% (control); however, these apparent differences were not significant (p=0.066, 0.41). We are conducting ELISAs to assess BDNF expression and will report results at the INBRE Symposium. Additional replications are needed to determine if effects on LTP are statistically reliable, but initial results suggest LTP may be enhanced early during antidepressant treatment, whereas chronic treatment impairs LTP.

(Supported by NIH Grant P20GM103434 to the West Virginia IDeA Network for Biomedical Research Excellence)

The Effect of Mild, Short-Term Malnourishment on the Cellular Immune Response: Developing a Model to Test Future Treatment Strategies.

Talbot Weston and Dr. Melanie Gubbels-Bupp. Biology Department, Randolph-Macon College, Ashland, VA

Malnutrition is the leading cause of immunodeficiency. Moreover, some vaccines are less effective in the malnourished, further exacerbating the issue. The Gubbels Bupp lab has established a mouse model of short-term malnutrition, which results in reduced numbers of cytotoxic CD8+ T cells. This study aims to assess the functional capabilities of CD8+ T cells from malnourished vs. *ad libitum* mice in an *in vivo* killing assay, in order to develop a system for testing improved vaccine strategies for the malnourished. Malnourished and *ad libitum*-fed mice were vaccinated with an irradiated cancer cell line, B16-GMCSF. A mixture of target and control cells was subsequently injected. Targets consisted of splenocytes pulsed with a cancer cell-associated peptide and labeled with a low concentration of CFSE, while control cells were labeled with a high concentration of CFSE. After five hours, the frequencies of target and control cells remaining in the spleens were determined. Unfortunately, there were technical difficulties associated with either the vaccine or the preparation of target cells. However, the conditions for labeling, injecting, and recovering target cells are now well established for this model.

Modeling the transport of Glutaraldehyde in soil

Adam Wilson, David Odell

Glutaraldehyde (GA) is an organic compound used in applications such as cooling of nuclear reactors, hydraulic fracturing, and disinfecting medical equipment. The unsaturated transport of glutaraldehyde in packed soil columns (30 X 5 cm) of Sensabaugh loam will be measured using time-dependent mass transfer. Soil was taken from the A and portions of the B horizon and screened to particles sizes of less than 2mm. To measure flow under unsaturated conditions, columns were maintained at a tension of 20 cm H_20. The inlet tension was maintained using a Mariotte device and the outlet tension maintained using a hanging water column. After establishing steady-state flow with a 0.01 M $CaCl_2$ solution, the columns will be subjected to 1mM GA and 0.01 $MgBr_2$. Columns will be equilibrated using 0.01M $CaCl_2$. The glutaraldehyde will be injected into 0.01M $MgBr_2$ with the Br^- acting as an unreactive tracer. The Br^- will be analyzed using an ion selective electrode and the glutaraldehyde will be analyzed colormetrically. Using the distribution coefficient from a separate study, the goodness of fit to the convective-dispersive model will be assessed.

XBΦ Chapters and Advisors 2014

Active	Chapter	Year	Address	Advisor	Email
Yes	Alpha	1916	Randolph-Macon Coll. Ashland, VA 23005	Dr. Melanie Gubbels-Bupp	melaniegubbelsbupp@rmc.edu
Yes	Gamma	1921	Hampden-Sydney Coll. Hampden-Sydney, VA 23943	Mr. Herb Sipe	hsipe@hsc.edu
Yes	Epsilon	1923	Univ. of Charleston 2300 MacCorkle Ave. SE Charleston, WV 25304	Dr. Ilona Sviderskaya	ilonasviderskaya@ucwv.edu
Yes	Zeta	1925	Davis & Elkins Coll. 100 Campus Dr. Elkins, WV 26241	Dr. Shawn Stover, Dr. Michelle Mabry	stovers@dewv.edu mabrym@dewv.edu
No	Kappa	1925	Marshall Univ. 1 John Marshall Drive Huntington, WV 25755		
Yes	Rho	1935	West Liberty Univ. West Liberty, WV 26074	Dr. Theunis van Aardt Dr. Matthew Zdilla	theunis.vanaardt@westliberty.edu mzdilla@westliberty.edu
No	Theta Sigma	1941	Limestone College Gaffney, SC 29304		
Yes	Kappa Sigma	1945	The Univ. of Mary Washington 1301 College Ave. Fredericksburg, VA 22401	Dr. Deborah Zies Dr. Stephen Fuller Dr. Marie Sheckles Dr. Stephen Davies	dzies@umw.edu sfuller@umw.edu msheckel@umw.edu sdavies@umw.edu
Yes	Phi	1947	Univ. of Memphis Dept. of Physics Memphis, TN 38152	Dr. David Freeman	Dfreemn1@memphis.edu
Yes	Chi	1948	Columbia College Columbia, SC 29203	Dr. Oxley	ayoxley@columbiasc.edu
No	Omega	1948	Lynchburg College 1501 Lakeside Dr, Lynchburg, VA 24501		
Yes	Alpha Beta	1952	Lenoir-Rhyne Univ. Campus Box 7141 Hickory, NC 28603	Dr. Timothy Goldberg	Timothy.goldberg@lr.edu
Yes	Alpha Delta	1953	Franklin College 101 Branigin Blvd. Franklin, IN 46131	Dr. Edward Chikwana	echikwana@franklincollege.edu
Yes	Alpha Epsilon	1954	Keuka College Keuka Park, NY 14478	Dr. Thomas X. Carroll	tcarroll@keuka.edu

Yes	Alpha Zeta	1955	William Carey Univ. 498 Tuscan Ave. Hattiesburg, MS 39401	Dr. Randall Harris	rharris@wmcarey.edu
No	Alpha Eta	1956	Newberry College Newberry, SC 29108		
Yes	Alpha Iota	1964	Glenville State Coll. 200 High St. Glenville, WV 26351	Paul Peck Larry Baker	Paul.Peck@glenville.edu Larry.Baker@glenville.edu
No	Alpha Kappa	1964	Athens State Univ. Athens, AL 35611		
No	Epsilon Sigma	1965	SUNY-Oneonta Oneonta, NY 13820		
Yes	Alpha Xi	1969	St. Francis College Dept. of Biology 180 Remsen St. Brooklyn, NY 11201	Dr. James Corrigan	jcorrigan@sfc.edu
Yes	Alpha Pi	1970	Univ. of Rio Grande Rio Grande, OH 45674		
Yes	Alpha Rho	1973	Lyon College 2300 Highland Rd. Batesville, AR 72501	Dr. Jeremy Chapman	jeremy.chapman@lyon.edu
Yes	Alpha Sigma	1974	Molloy College 1000 Hempstead Ave. Rockville Centre, NY 11570	Dr. Chris Massone	cmassone@molloy.edu
No	Alpha Tau	1984	Rust College Holly Springs, MS 38635	Mr. Sana Sise	ssise@rustcollege.edu
No	Alpha Upsilon	1984	Shenandoah Univ. Winchester, VA 22601		
Yes	Alpha Phi	2012	Univ. of Mobile 5735 College Parkway Mobile, AL	Dr. Gail Shelly Dr. Lesley Baggett Dr. Rebekah Morrow	gshelly@umobile.edu lbaggett@umobile.edu rmorrow@umobile.edu
Yes		2015	UC-Boulder Boulder, CO	Dr. Heidi Sonder	Heidi.sonder@colorado.edu