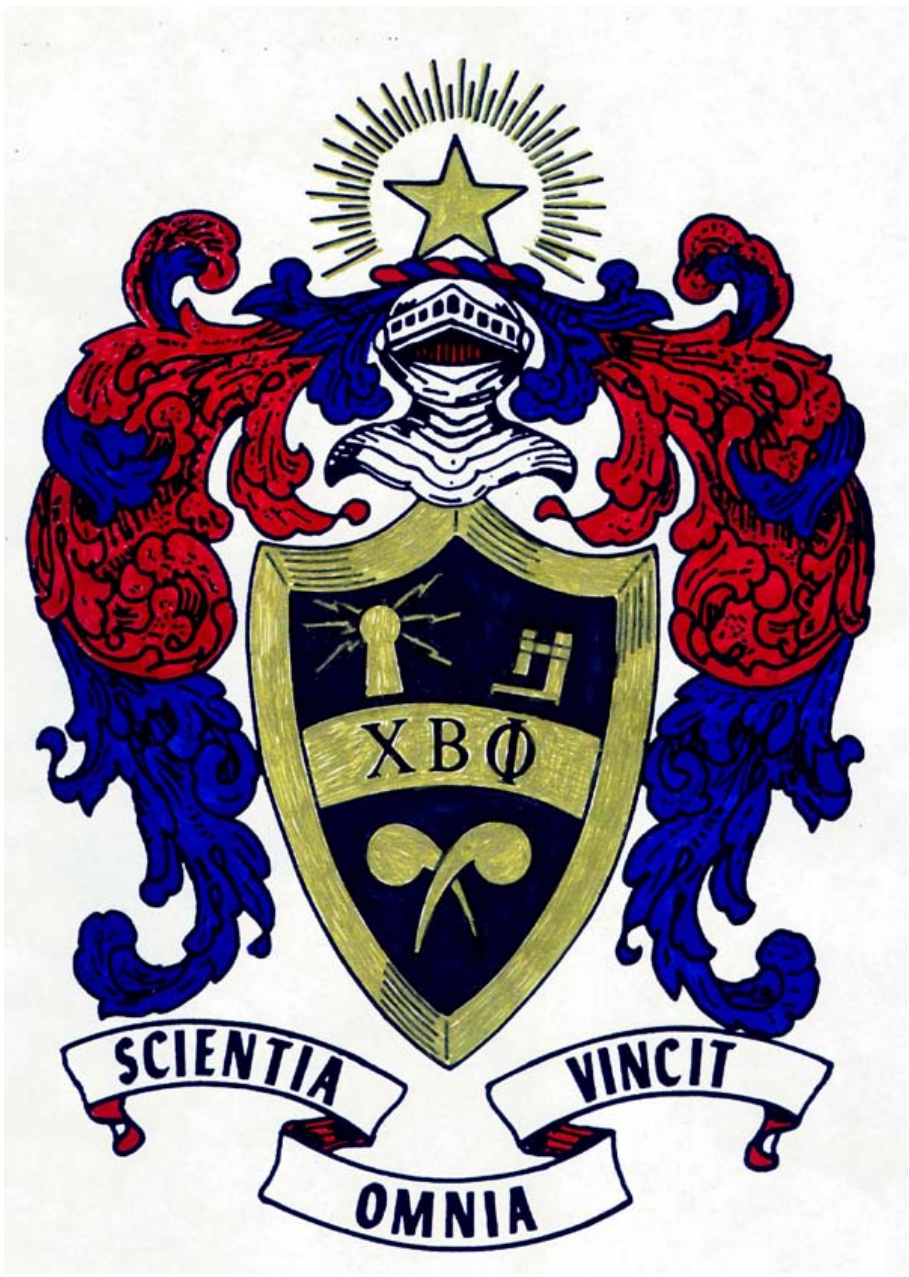
THE

CHI BETA PHI

RECORD



2005

THE
CHI BETA PHI
RECORD
2005

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 …… William J. Pohley

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CHI BETA PHI

IS A NATIONAL SCIENCE HONORARY

WHOSE PURPOSE IS

TO PROMOTE INTEREST IN SCIENCE

AND

TO GIVE RECOGNITION TO SCHOLARLY ATTAINMENT

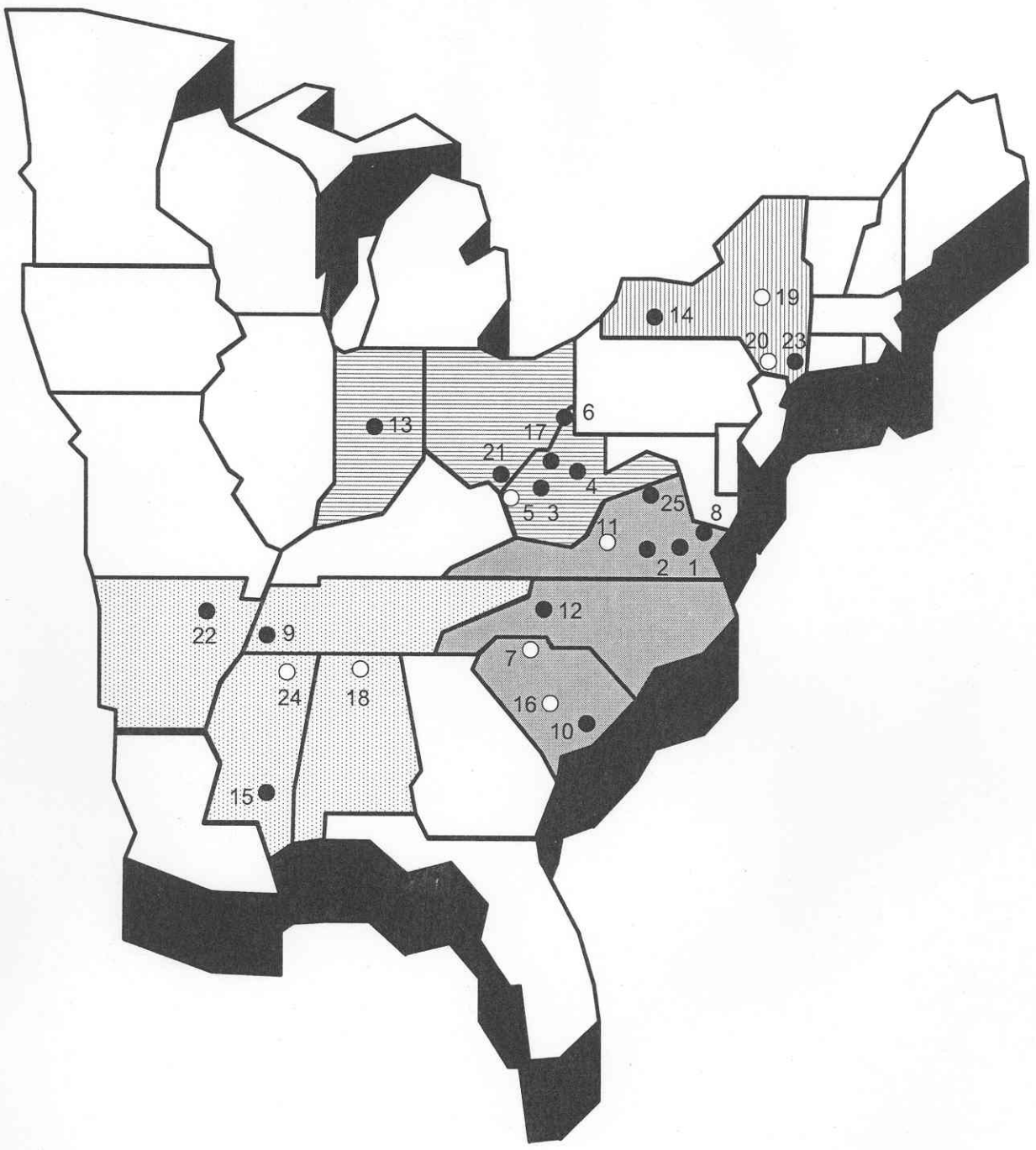
IN AND OUTSTANDING CONTRIBUTIONS TO THE

FIELDS OF SCIENCE

Scientia Omnia Vincit

SCIENCE CONQUERS ALL

Chi Beta Phi Chapters



● = Active

◯ = Inactive

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 State College, West Liberty, West Virginia
Theta Sigma	1941	Limestone College, Gaffney, South Carolina
Kappa Sigma	1945	Mary Washington College, 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 College, 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	State University of 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

GRAND CHAPTER OFFICERS

2004 – 2006

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58th Chi Beta Phi National Conference Host
2005

The fifty-eighth conference was graciously welcomed by the host chapter, Epsilon of the University of Charleston in Charleston, WV on October 8, 2005. The advisor of Epsilon chapter is Dr. John Robinson. Meetings were held in the Clay Tower Science Building. Everything necessary, including refreshments, were made available by the hosts. The group enjoyed lunch together in the University cafeteria. The dinner meeting capped the conference and was held in the Maroon and Gold Room of the Student Union. Awards were announced and presented at the dinner. Dr. Evan Robinson, Assistant Dean of the School of Pharmacy, presented an excellent and audience-involved discussion of "Pharmacy Today".

The University of Charleston is located in Charleston, WV on the banks of the Kanawha River amidst the magnificent mountains. It is readily accessible by air via Yeager Airport, by regional train and bus services, and by car via interstate 64, 77, and 79

The University of Charleston is a private, co-educational, residential university. It has an enrollment of approximately 1,000 students from 30 states and 27 countries. The University offers Baccalaureate programs in 29 fields, Associate degrees in 5 fields, and Masters degrees in 2 fields.

The institution was founded by the Southern Methodist denomination in 1888 as Barboursville Seminary in Barboursville, WV. It became a college in 1889. In 1901 it was renamed Morris Harvey College in honor of a prominent donor.

During the Great Depression the college moved to Charleston to take advantage of the greater metropolitan area. As a result of the merger between the Methodist Church North and South the college disaffiliated from the denomination and Morris Harvey College became independent in 1942. Realizing the need for a unified campus, in 1947 Construction of the present facilities began on the South Ruffner bank of the Kanawha River. It now consists of nine buildings, one of which is the state-of-the-art Clay Tower Science Building. Under construction and to open for occupancy in 2006, is a new building to house the School of Pharmacy, a recent academic addition.

In 1978 the institution began an intensive expansion program and an effort to strengthen ties with the Charleston community. As part of this effort, the board of trustees changed the name from Morris Harvey College to the University of Charleston in 1978.

The university, in addition to its successful and excellent academic programs, serves the community as a focal point for numerous intellectual, scientific, political, athletic, and civic events.

Chi Beta Phi 58th National Conference

October 8, 2005
Epsilon Chapter Host
University of Charleston
Charleston, WV

8:30 – 9:00	Refreshments
9:00 – 10:45	Session I Call to Order, Opening Prayer Roll Call of Chapters – Proxy Assignments Chapter Reports Report of the National Officers Committee Assignments 1) Awards 2) Presentations
10:45 – 11:00	Break
11:00 – 12:00	Committee Meetings
12:00 – 1:00	Lunch
1:00 – 2:00	Session II Conclusion of Business – Old, New Awards Committee Report to the President
2:00 – 5:00	Presentation of Papers
5:00 – 6:00	Break
6:00	Dinner ***** Awards and Announcements Speaker

* $10 per person payable to host chapter

Chi Beta Phi
58th National Conference
October 8, 2005

Roll Call of Chapters/proxies

Chapter	Chap. Rept.	Delegate or proxy
Alpha	-	-
Gamma	+	Nathanael Mason (Nat'l)
Epsilon	+	Jessica Burns
Zeta	+	Michelle Mabry
Kappa	-	-
Rho	-	Shawn Stover (Zeta)
Kappa Sigma	+	Paul Walsh
Phi	-	Judy Crissman (Kappa Sigma)
Chi	-	-
Alpha Delta	+	Bill Pohley
Alpha Zeta	-	John Robinson (Epsilon)
Alpha Eta	-	-
Alpha Iota	+	Jessica Nelson
Alpha Xi	-	Sarah Lilly (Epsilon)
Alpha Rho	-	-
Alpha Sigma	+	Paul Peck (Alpha Iota)

2005 Conference Minutes

Following excellent refreshments provided by the hosting Epsilon Chapter, President Pohley called the 58th National Conference to order at 9:10 a.m. Jessica Burns of Epsilon read 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 permitted with the Chapter Report, the chapter was assigned a proxy and considered present. A quorum was present. The Chapters present and their delegate or proxy were as follows:

Chapter	Delegate or Proxy
Gamma	Nathanael Mason (National)
Epsilon	Jessica Burns
Zeta	Michelle Mabry
Rho	Shawn Stover (Zeta)
Kappa Sigma	Paul Walsh
Phi	Judy Crissman (Kappa Sigma)
Alpha Delta	Bill Pohley
Alpha Zeta	John Robinson (Epsilon)
Alpha Iota	Jessica Nelson
Alpha Xi	Sarah Lilly (Epsilon)
Alpha Sigma	Paul Peck (Alpha Iota)

Guests attending the conference were Dr. Bruce Evans and one of his students from Huntington University in Indiana. It was a pleasure to have them.

The Chapter Reports were then presented. President Pohley commented on the value of sharing the reports from chapters . The chapters and the presenters were: Epsilon (Jessica Burns), Zeta (Dr. Michelle Mabry), Kappa Sigma (Paul Walsh), Alpha Delta (Dr. William Pohley), Alpha Iota (Jessica Nelson), Gamma (C.T. Meadors, and Alpha Sigma (C.T. Meadors).

The reports of the National Board Officers then followed. All officers were present except for Secretary Amanda Short. Treasurer Meadors pointed out that the Secretary was in medical school and had exams very soon. He reported that Secretary Short had sent e-e-mails to all chapters announcing the present conference and had complied with all requests for here action.

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

Awards Committee: Dr. Judy Crissman (Chair), Dr. Stover (Zeta), Nathanael Mason (Gamma), Paul Walsh (Kappa Sigma), Jessica Burns (Epsilon), and Sarah Lilly (Alpha Xi).

Presentations Committee: Dr. John Robinson (Chair), Dr. Michelle Mabry (Zeta), Prof. Paul Peck (Alpha Sigma), and Jessica Nelson (Alpha Iota).

The conference then broke up into committees which were to complete their business by 12:00, at which time all members would convene to go to the UC Cafeteria for lunch.

The afternoon session convened and was called to order by President Pohley at 1:00. He asked if there was any old or new business for consideration. None was raised.

President Pohley raised a question about a poster for all chapters to aid in the recruitment of new members. He presented a poster as a suggestion, displaying the Chi Beta Phi Coat-of-Arms. Discussion followed as to what should be placed on the poster to attract new students and clarify the questions of "What is Chi Beta Phi?" and "How do I apply?". Everyone approved the idea and believed it would be of value to all chapters. President Pohley said he and the Board would continue to work on the idea.

President Pohley then asked all attendees to give some thought as to how to make the conference more attractive. All were invited to submit any ideas or suggestions to any Board member.

Dr. Robinson, Epsilon Advisor, suggested we all meet here at 6:00 p.m. and then move as a group to the Appalachian Room for the evening dinner. President Pohley informed the group that awards would be announced at dinner.

The presentation of Science papers then followed:

"The Effects of Sprint Training and Lipoic Acid Supplementation on Lipid Peroxidation" by Angela Pendleton (Zeta). Note: This research was supported by a Chi Beta Phi grant. The paper was presented by Dr. Shawn Stover, advisor of the research.

"Photochemistry of Humic Substances: Singlet Oxygen Quantum Yield." by Paul Walsh (Kappa Sigma).

"The Effect of Alpha-DOPA on Wing Formation in *Drosophila melanogaster*" by Jessica Burns (Epsilon).

"Aquatic Light Traps" by C.T. Meadors (National).

"Manitoulin Island: A Biological Field Site" by C.T. Meadors (Natioinal).

"The Values of Travel Courses" by Dr. William Pohley (National).

The presentations concluded at 5:10 p.m. at which time Dr. Pohley thanked the presenters for excellent papers. He concluded the conference and reminded everyone to meet at 6:00 for dinner.

At 6:00 p.m. all attendees met and moved to the Appalachian Room for dinner. It was an excellent dinner and enjoyed by all.

Following dinner, President Pohley announced the Awards recipients:

Most Outstanding Chapter – Alpha Sigma
Most Improved Chapter - Zeta
Blackwell Distance Award – Kappa Sigma
Bardwell Outstanding Advisor Award – Dr. John Robinson (Epsilon)
National Key Award – Jessica Burns (Epsilon)

Treasurer Meadors then announced the prizes for paper presentations as determined by the Presentations Committee. He also presented checks to the winners.

First Place: $100 Paul Walsh (Kappa Sigma)
Second Place: $75 Sarah Lilly (Epsilon)
Third Place: $50 Jessica Burns (Epsilon)

Following the announcements and presentations, Dr. Evan Robinson, Assistant Dean of the UC Pharmacy School presented a talk on “Pharmacy Today”. It was an excellent presentation and involved some audience participation. It was interesting and informative and enjoyed by all.

President Pohley then thanked everyone for their attendance and participation. He then announced that the 58th National Conference was now adjourned and wished everyone to have a safe trip home.

Chapter Report
Chi Beta Phi

Chapter report for 2004 through 2005.

Chapter Epsilon

Mailing address is:
University of Charleston
2300 MacCorkle Avenue, S.E.
Charleston, WV 25304

Advisor: Dr. John Robinson
E-mail Address: johnrobinson@ucwv.edu

Current Officers:	Name	addresses (e-mail preferred)
President	Jessica Burns	jessicaburns@cc.ucwv.edu
Vice President	Samantha Meyers	samanthameyer@cc.ucwv.edu
Secretary	Amanda Spriggs	amandaspriggs@cc.ucwv.edu
Treasurer	Kristopher Daia	kristopherdaia@cc.ucwv.edu
Other		

Officers for next year if determined:

President	Jessica Burns	jessicaburns@cc.ucwv.edu
Vice President	Samantha Meyers	samanthameyer@cc.ucwv.edu
Secretary	Amanda Spriggs	amandaspriggs@cc.ucwv.edu
Treasurer	Kristopher Daia	kristopherdaia@cc.ucwv.edu
Other		

Current number of members:
students - 11 faculty - 4 pledges - 16 active alumni – 0

Frequency of meetings:
Twice monthly.

Function or purpose of meetings:
chapter business 30% fund raising 50% social _____
presentations _____ conference planning 20%
other _____

Presentations, lectures, seminars, etc. attended or as part of chapter meeting:
None.

Social Activities of Chapter:

We held induction last spring and inducted one faculty member and six new student members

Honors Awarded to Chapter Members:

Name	Honor

Other Chapter Activities: (briefly describe)

Efforts to reactivate a chapter or establish a new one.

Fund raising:

Hurricane disaster relief fundraiser—This is a fund raiser raffle where dinner, hotel rooms, and gift certificates will be raffled off in hopes of raising money for the hurricane disaster relief.

Candy Bar/Scratch card fundraiser—This is a fund raiser just for the chapter so in the future we can do outings or community service without worrying about the financial costs for our members.

Service to school (include any awards by chapter):

Recycling: Chi Beta Phi started a successful recycling program that has cut back on the number of cans, plastics, and glass bottles that have been thrown away at this school . Once a week last year usually four bags were taken from the school to the recycling center from our main eating area alone.

MCAT/DAT/PCAT review: This year we are starting a basic review program to for those wanting to take tests for graduate schools. We plan to cover the basics of organic chemistry, inorganic chemistry, biology, and physics to prepare the students for their tests.

Sponsoring Graduate Schools: We have sponsored several graduate schools to come here and talk to perspective students, such as Marshall's Medical School, Lewisburg Osteopathic School, and Straight Chiropractic School in South Carolina, so that students could ask questions about admissions, financing, and various other topics the students might have questions concerning. This year we have the Straight Chiropractic School from South Carolina and Lewisburg School coming to talk to students again.

Service to community:

Science fairs: Last year and this year we have and are planning on judging the local science fairs. It gives us a chance to go out and interact with children and help them to see that science can be fun and rewarding.

Girl outreach program: Inspired to get active in our community we felt that since most of our members were women that the women of Chi Beta Phi should go out and inspire young junior high girls to stay active in science and that it is not a bad thing to be active in science. So we are in the works for creating a presentation to give to the young girls at our local junior high school to show that science is not an all boys club.

Trips or other activities:

None.

Please add any additional information or comments below:

Because of our overwhelming response, this year we are holding a fall induction to the honor society too. On October 5, 2005 our pledges will become full members of Chi Beta Phi. At the induction we will have a speaker for the group and will hold it will be a mini social event.

CHAPTER REPORT
Chi Beta Phi

Chapter report for Academic Year 2004-2005

Chapter: Gamma

Mailing address: Chi Beta Phi, Gamma Chapter
c/o Prof. H. J. Sipe, Jr.
P.O. Box 727
Hampden-Syndey College
Hampden-Sydney, VA 23943

Advisor: Dr. Herbert J. Sipe, Jr.

Current Officers:

President:	David M. Good ‘05
Vice-President:	Clayton J. Miller ‘05
Secretary-Treasurer:	James R. Champion ‘05

Officers for 2005-2006:

President:	Justin R. Norbo ‘06
Vice-President:	William E. Slack ‘06
Secretary-Treasurer:	J. William Bolton ‘07

Current number of members:

Student:	17
Faculty:	1
Pledges:	0
Active Alumni:	0

Frequency of meeting: Two or three per academic year.

Prupose of Meetings: Chapter business – elect new members; initiate new members
Social – spring 2005 picnic for graduating members and new initiates

Note: The chapter graduated a very large number (32) of members in 2005. We function largely as a science honorary with occasional presentations by faculty speakers (none in 2004-2004, one in 2003-2004). We recently added a modest $5 per member per year dues to accumulate funds for additional activities.

CHAPTER REPORT

Chapter Report for Fall 2004 through Fall 2005

Chapter: Kappa Sigma Chapter

Advisors: Judith Crissman, Stephen Fuller, and Marie Sheckels

Mailing Address:
Judith Crissman
Department of Chemistry
University of Mary Washington
1301 College Ave
Fredericksburg, VA 22401

Current Officers:
President: Paul Walsh
Vice President: Cara Campbell
Secretary: Sushmita Bardwaj
Treasurer: Absar Fakhri
Historian: Krista Edelman

Officers for next year if determined: (will be elected in April)
President
Vice President
Secretary
Treasurer
Other

Current number of members:
Students 59 Faculty 3 Pledges Active alumni

Frequency of meetings: 3/semester

Function or purpose of meetings:
chapter business__X__ fund raising____ social____
presentations____ conference planning____ other____

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

Activities Relative to Annual Theme:

Honors Awarded to Chapter Members:

Name	Honor
Joanna Adams	Earl G Insley Chi Beta Phi Scholarship (04-05)
Lauren McAfee	Earl G Insley Chi Beta Phi Scholarship (04-05)
Callie White	Earl G Insley Chi Beta Phi Scholarship 04-05)

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.

scholarships. At graduation and honors convocations we garner a large percentage of awards.

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

Last spring we sent out over 20 packets to small schools with information about Chi Beta Phi and inviting them to apply for chapter status.We hope to try this again early in the spring semester. Our school year ends later than most colleges and we believe many of our information packets arrived at an inconvenient time.

Fund raising

Most of our money comes from our Student Congress. We are only required to allow our activities to be open to all members of the student body. Fund raising is discouraged on our campus.

Service to school (include any awards by chapter)

We provide tutors for our Teaching and Learning Center to help other students in the sciences. Our Vice President serves as a mentor for students in our General Chemistry classes. Many of our members, because of their outstanding academic performance are selected to serve as ambassadors for our admissions, alumni, and development offices.

Service to community
Trips or other activities

We are hoping to do a fall trip to help avoid the inevitable conflicts which arise in the spring semester.

Please add any additional information or comments below.

We are continuing to reexamine chapter GPA requirements as a result of the college instituting a plus, minus grading system several years ago. We currently require a 3.5 GPA in the sciences and a 3.0 overall. A relatively large number of potential invitees in recent years have fallen short of the 3.5 minimum GPA by 0.1-0.2 points.

CHAPTER REPORT
Chi Beta Phi

Chapter Report for --October 2004 -- through - October 4, 2005.

Chapter: Zeta

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

Advisor: Dr. Michelle Mabry

Email Address: mabrym@davisandelkins.edu

Current Officers:	name	Email address
President	Tara Braithwaite	therainemaiden@care2.com
Vice-President	Jenny Sisler	sislerj@davisandelkins.edu
Secretary	Angela Pendleton	graciousister@yahoo.com
Treasurer	Nick Paden	nick3372@yahoo.com
Other		

Officers for next year if determined:

President _____
Vice President _____
Secretary _____
Treasurer _____
Other _____

Current number of members

student 7 faculty 3 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 _____
_____

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

Landing a Science Job: A Panel of Women Scientists, West Virginia University
Chi Beta Phi Mini-conference hosted by Glenville State College

Activities relative to the Annual Theme:

_____
_____
_____

Social Activities of Chapter:

Initiation dinner at Graceland Inn
Farewell cookout, Spring 2005

Honors Awarded to Chapter Members:

name	honor
Jenny Sisler	American Chemical Society Jr. Award
Angela Pendleton	Biology & Env. Sci. Dept. Academic Achievement Award Chi Beta Phi Research Grant
Ricky Ristau II	Biology & Env. Sci. Dept Academic Achievement Award

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

-officially reactivated Zeta Chapter
- revised Zeta Constitution to included associate membership level
-gained Student Assembly funding and recognition as an official organization

Fund raising

-Fall houseplant sale at Davis & Elkins College

Service to school (include any awards by chapter)

-members of Student Assembly
-participants in Activities Fair

Service to community

-2 Adopt-A-Highway roadside clean-ups
-Eastern Regional Science Fair judges and presenters of Chi Beta Phi Award for "Best Use of the Scientific Method

Please add any additional information or comments below.

- David Albaugh
- Tara Braithwaite performed research at West Virginia University in the Microbiology, Immunology, & Cell Biology Department through the WV-INBRE summer program investigating antibiotic resistance.
- Melissa Burky performed research in the Physics Department at West Virginia University through the Summer Undergraduate Research Experience on Silicon-Silicon-Nitride interfaces.
- Nick Paden, treasurer, interned in the chemistry laboratory at the General Electric Silicons Plant in Friendly, WV this summer.
- Angela Pendleton, secretary, performed research at Davis & Elkins College investigating high-intensity exercise and oxidative stress throughout the academic year.
- Jenny Sisler, Vice-President, performed summer research at Marshall University through Research Experience for Undergraduates Program investigating the relationship between insulin and leptin receptors.

Zeta Chapter was recognized in the student newspaper *The Senator* and D & E's *Forward* alumni magazine for their chapter reactivation.

CHAPTER REPORT

Chapter report for April 2004 through September 2005.

Chapter – Alpha Delta

Mailing Address Chi Beta Phi
c/o Dr. William J. Pohley
Franklin College
Franklin, IN 46131
wpohley@franklincollege.edu

Advisor – Dr. Bill Pohley

Current Officers:	name	address (if above unsatisfactory)
President	Elizabeth Bennett	ebennett@franklincollege.edu
Vice-President	Steve McCoy	smccoy@franklincollege.edu
Treasurer	Tim Bush	tbush@franklincollege.edu
Secretary	Beth Fruchtnicht	bfruchtnicht@franklincollege.edu

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

Current number of members
student - 16 faculty - 5 pledges - 0 active alumni - 0

Frequency of meetings: Monthly

Function or purpose of Meetings:
chapter business X fund raising _____ social _____
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:

In the Spring 2004 we had our annual initiation welcoming 7 new members. Shortly after this we had our annual banquet. Our annual field trip was to the Indianapolis Zoo. We graduated 6 members for a net gain of one member. In the Spring 2005 we graduated 7 members but initiated 7 new members to hold our numbers constant. We had our annual dinner but our field trip was cancelled.

Honors Awarded to Chapter Members:

CHAPTER REPORT

Chapter report for August 1, 2004 **through** October 7, 2005.

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

Advisor – Paul Peck **Email Address** Paul.Peck@glenville.edu

Current Officers:	**name**	**Email address**
President	Jessica Nelson	nelson.jessica@glenville.edu
Vice-President	Sarah Ramezan	ramezan.sarah@glenville.edu
Secretary	Emily Browning	Emily.Browning@glenville.edu
Treasurer	Brenton Drake	drake.brenton@glenville.edu
Historian	Deb Starcher-Johnson	Deb.Starcher-Johnson@glenville.edu

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

Current number of members

student 19 faculty 6 pledges 0 active alumni 1

Frequency of meetings: Monthly

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:

Professor Amanda Stewart (GSC): Gender Determination in Fish (November 11, 2004)

Professor James Bartholomew (GSC): Plate Tectonic Activity and Long Term Climate Variability (February 22, 2005)

Professor Bruce Edinger (GSC): "Reversing West Virginia Acid Mine Drainage" (April 13, 2005)

Mr. Curtis Cohenour (Ohio University): GPS and GPS Research at Ohio University (April 21, 20005)

Activities relative to the Annual Theme:

Social Activities of Chapter:

Had luncheons with three presentations and refreshments with induction of new members meeting. Students from all science and math fields were invited to the luncheons which went with the presentations.

Honors Awarded to Chapter Members:

name	**honor**
Jennifer Butler	Graduation cord & Chi Beta Phi listing in Commencement program
Kelly Johnston	Graduation cord & Chi Beta Phi listing in Commencement program
Melissa Jones	Graduation cord & Chi Beta Phi listing in Commencement program
Darlene Lamont	Graduation cord & Chi Beta Phi listing in Commencement program
Anthony Ramezan	Graduation cord & Chi Beta Phi listing in Commencement program
Bryan Richardson	Graduation cord & Chi Beta Phi listing in Commencement program
Andrew Bleigh	Graduation cord & Chi Beta Phi listing in Commencement program
Christopher Conrad	Graduation cord & Chi Beta Phi listing in Commencement program
Nicole Maxwell-Kirby	Graduation cord & Chi Beta Phi listing in Commencement program
Kimberly S. McPherson	Graduation cord & Chi Beta Phi listing in Commencement program
Gregory N. Cross	Graduation cord & Chi Beta Phi listing in Commencement program
Robert A. Darling	Graduation cord & Chi Beta Phi listing in Commencement program
Jennifer Butler	GSC Student of the Year 2004-2005
Jennifer Butler	Alumni Convocation Speaker Fall 2005
Nicole Maxwell-Kirby	GSC Student of the Year Finalist 2004-2005
Jessica Nelson	Chapter Key Award
Christopher Conrad	Admitted to WVSOM Lewisburg WV
Andrew Bleigh	Admitted to pharmacy school

Other Chapter Activities:

Efforts to reactivate a chapter or establish a new one:

We provided some information to Zeta Chapter as part of their reactivation.

Fund raising

Two 50/50 drawings.

Service to school (include any awards by chapter)

Participated in Fall Fest where kids were allowed to make their own slime.
Organized colloquia where new science faculty had opportunities to make presentations to Science & Math Dept. and Land Resources Dept. students.

Service to community

We raised $376.50 for the Bryan Richardson Scholarship Fund. Cpl. Bryan Richardson was a member of our chapter and graduated December 2004. He was killed in action in Iraq on Friday, March 25, 2005.

Trips or other activities

Sponsored one day mini-conference on April 2, 2005. See below for additional information.

Please add any additional information or comments below.

On Saturday, April 2, 2005, Alpha Iota the Glenville State College chapter of Chi Beta Phi, a national science and mathematics honorary hosted a mini-conference at the Glenville State College Science Hall. The mini-conference was organized to celebrate the reactivation of the Zeta Chapter at Davis & Elkins College and to provide an opportunity for students and faculty from Davis & Elkins College, Glenville State College, and the University of Charleston to meet and interact.

Those in attendance at the conference were Professor Bill Pohley (Franklin College, Indiana—the National President of Chi Beta Phi), Professor C. T. Meadors (University of Charleston <retired>--the National Treasurer of Chi Beta Phi), Nathanael Mason (National Historian-Marshal of Chi Beta Phi and an Alpha Iota alumni), Larry Baker (Associate Vice President for Technology at GSC and an Alpha Iota alumni), Professor John Robinson (University of Charleston Epsilon Chapter Advisor), Amanda Short (University of Charleston student, Epsilon Chapter and the National Secretary of Chi Beta Phi), Kristopher Daia (University of Charleston Epsilon Chapter student), Professor Michelle Mabry (Davis & Elkins College, Zeta Chapter Advisor), Angela Pendleton, Tara Braithwaite, Nick Paden, Jenny Sisler, Rick Ristau, David Arbaugh, and Melissa Burky (Davis & Elkins College students from Zeta Chapter), Professor Shawn Stover (Davis & Elkins College), Professor Paul Peck (GSC, Alpha Iota Chapter advisor, and National Vice President of Chi Beta Phi), Professor Emily Browning (GSC), Professor Kevin Evans (GSC), Professor James Bartholomew (GSC), Ms. Debbie Johnson (GSC staff, Sci/Math & Land Resources Departments and an Alpha Iota Chapter alumni), Dustin Wagoner (GSC student), Jessica Nelson (GSC student, Alpha Iota Chapter President, and Conference Moderator), Wesley Spinks (GSC student, Alpha Iota Chapter), Andrew Bleigh (GSC student, Alpha Iota Chapter), and Brenton L. Drake (GSC student, Alpha Iota Chapter).

The Conference doors opened at 8:30 a. m. with registration and light refreshments provided by the host chapter. At 9:00, the activities began with a welcome from Jessica Nelson which was followed by the Chi Beta Phi Prayer delivered by Wes Spinks. National President Bill Pohley then made some welcoming remarks. Greetings were also received from National Historian-Marshal Nathanael Mason. Professor C. T. Meadors then provided an overview of the long history of Chi Beta Phi in his talk “Chi Beta Phi-Past, Present, and Future”. The conference attendees introduced themselves and the chapters gave brief reports on their activities for this year. Larry Baker followed with a dynamic account of his “Student Days in Chi Beta Phi” at GSC. Professor James Bartholomew concluded the morning’s activities with a discussion of “Relations Between Plate Tectonics/Climate Variability and Comparison of the History of the Atmospheres of Venus and Earth”.

After lunch, the conference resumed with Angela Pendleton’s presentation “High Intensity Exercise Training Reduces Oxidative Stress”. She was followed by Amanda Short who discussed “An UV-Visible Spectroscopic Study of the Denaturation and Redox Chemistry of Cytochrome c at Various pH Levels”. GSC’s Dustin Wagoner then presented results from his student research project, “Music and Spatial Tasks”. Andrew Bleigh and Brenton Drake, also of GSC, discussed and demonstrated their “Hovercraft Physics Project”. D & E’s Professor Michelle Mabry and a D & E student were given rides on the “hovercraft.” Some of the conference attendees then went to the Fine Arts Building where they were

privileged to watch about 30 minutes of rehearsal by the GSC Percussion Ensemble. Upon returning to Science Hall, Wes Spinks of GSC presented his paper a “History of Modern Algebra”. Professor Michelle Mabry then presented some of her research on species separation in salamanders-- “Sex, Salamanders, and Videotape”. Professor Paul Peck of GSC presented the final lecture of the conference--“Finite Rings with Exactly Three Idempotents”.

The conference concluded with a pizza party.

REPORT OF THE PRESIDENT

As a result of our decision to move conference back to the fall it has been about 18 months since our last National Conference. I don't believe we have lost any of the momentum we have been gaining. In the spring we had tremendously enjoyable "mini conference" hosted by Alpha Iota at Glenville State College. This is the type of event that can become more commonplace as we increase the number of chapters within the various regions. We have begun to make contact with small colleges and universities for whom Chi Beta Phi might be a good fit. We have representatives from a potential new chapter in attendance at this conference. We need to persist with attempts to make contact with colleges and universities. Everyone can help in this effort by forwarding contact information for possible new chapters. From my discussion with other organizations, attendance at national meetings in recent years has been low in terms of percent of the membership. We have seen a similar decline but still do pretty well considering our total numbers. Clearly a larger and more regionally diverse membership can only make us stronger.

The website, while very basic in design, allows access to information in a timely fashion. I would urge chapters to develop their own sites and I would be happy to have links to those sites and hope they have links to the National webpage. Comments, suggestions, and offers to help with the site are always welcome.

Chi Beta Phi continues to be a recognized affiliate organization with AAAS, the American Association for the Advancement of Science. The relationship provides additional recognition of Chi Beta Phi as a national organization.

I am encouraged by the increase in presentations and hopefully increased membership will lead to an increase in research grant funds available and as a result more presentations in the future. We need to continue to be open to change so that we can continue to grow the organization in our rapidly changing times. We need to recognize that there are increasing demands on student and faculty time and we must strive to be an organization that provides advantages for its members and then clearly articulate those advantages.

All members, at all levels, should feel free to express their opinion. We will listen carefully to all input. It is only through your feedback that we can continue to grow in ways to strengthen the organization.

Respectfully submitted,
W.J. Pohley
8 October 2005

Treasurers Report
2005

This report covers the period from March 2004 to September 2005. Itemized figures and details of the treasury will be found on the accompanying financial statement.

The treasury remains stable, in good order, and growing. There are presently no outstanding debts. The annual report to the IRS has been completed and submitted and we continue our tax-free status with the IRS. Our affiliation with the AAAS continues in good order per our annual update report to that organization. Tax-free and at-cost jewelry and honor cords remain available from the Treasurer. Graduation honor cords remain at $6.25 per set and the available jewelry remains at last years price of $20.80 for pins and $15.65 for keys. Jostens informed me last year that jewelry will increase in cost but at this time I have not been informed of such. That will be determined when we reorder jewelry. I recommend continuing the practice of providing jewelry and cords at cost and not for profit.

Printing and mailing costs remain a major debit item. We are still getting good prices from the printer but mailing costs have risen. The Treasurer continues printing as much as possible on his own personal printer to hold costs down.

A change in the savings account at Citizens Bank in Morgantown is being planned. We have considered that account as savings but in actuality it is a “Now Checking” account which draws a small interest. In order to generate more interest income, $5,000 was transferred from the checking account and the account at Citizens will soon be changed to a true savings account providing a higher interest. Arrangements have been made with Citizens Bank to complete this in the near future.

A positive note is the increase in new deposits. The number of memberships has grown from 169 in 2004 to 206 presently. Also, the purchase of jewelry and cords has increased. This is good. However, disbursements have also increased by nearly $3,000. This is a reflection in great part, I believe, of awarding grants and prizes for science papers. This is also good as it supports our purpose of being a scientific organization. Overall the Honorary is faring well financially. Even with the increase in disbursements we still show a satisfactory net gain. One disappointment has been the expansion program put into place at the 2004 conference. Invitational information packets were sent to approximately forty schools and letters were also sent to all inactive chapters. We have received only one promising response to establish a new chapter. We will continue to pursue both of these paths for expansion.

It is an honor and pleasure to serve as your Treasurer. I hope to continue serving the Honorary in this capacity. If anyone has any suggestions or ideas or if I can help in any way, please contact me.

Respectfully submitted by C.T. Meadors, October 8, 2005

Financial Statement
Chi Beta Phi

March 2004 to September 2005

Citizens Bank, Morgantown, WV (Savings)

March 2004	$1,857.89
Interest	11.70
Deposit	5,000.00
September 2005	$6,869.59

Huntington Banks, Charleston, WV (checking)

Beginning Balance March 2004	$29,205.01
New Deposits:	
Memberships (206)	5,150.00
Jewelry/Cords	3,924.00
Total	$9,074.00
Subtotal	$38,279.01
Disbursements:	
Checks #1009 – 1033	4,559.36
Transfer to Savings	5,000.00
Total	$9,559.36
Closing Balance September 2005	$28,719.65
Total Assets as of September 2005:	**$35,589.24**
Total Assets as of March 2004:	$31,062.90
Net Gain:	$4,526.34

Respectfully submitted by C. T. Meadors
October 8, 2005

COMMITTEE REPORTS

Awards Committee:

Chair: Dr. Judith Crissman (Kappa Sigma)
Members: Dr. John Stover (Zeta), Nathaneal Mason (Epsilon), Paul Walsh (Kappa Sigma), Jessica Burns (Epsilon), Sara Lilly (Epsilon).

Host Chapter Award

The awards committee recommends that the Host Chapter Award for the conference of 2005 be awarded to our host chapter Epsilon.

Outstanding Chapter Award

The committee reviewed all chapter reports submitted to the conference. The following reports were available: Epsilon, Alpha Delta, Zeta, Alpha Iota, and Gamma.

After much deliberation the committee recommended Alpha Sigma be awarded the Outstanding Chapter Award for 2005.

Most Improved Chapter Award

Blackwell Distance Award

The committee calculated the mileage driven by each chapter in attendance and multiplied this by the number of members attending. The committee recommends the Blackwell Distance Award be awarded to Kappa Sigma.

National Key Award

The committee reviewed the Chapter Key Award recipients which were provided to the conference. From the Chapter Key recipients, one was chosen to receive the National Key. All nominees are to be commended for their outstanding activities.

The committee judged Jessica Burns, Epsilon Chapter, as the most outstanding member of the nominees and hereby recommend that she receive the Chi Beta Phi National Key Award.

Bardwell Outstanding Advisor Award

The committee reviewed the nominations submitted by the several chapters. All nominees were impressive in the support of their respective chapters. The committee recommends that Dr. John Robinson, Advisor of Epsilon, receive this award.

2005 Awards Summary

Host Chapter Award

Epsilon Chapter
University of Charleston
Charleston, West Virginia

Outstanding Chapter Award

Alpha Sigma
University of Mary Washington
Fredericksburg, Virginia

Blackwell Distance Award

Kappa Sigma Chapter
University of Mary Washington
Fredericksburg, Virginia

National Key Award

Jessica Burns
Epsilon Chapter
University of Charleston
Charleston, West Virginia

Bardwell Outstanding Advisor Award

Dr. John Robinson

Presentation Committee

Chair: Dr. John Robinson (Epsilon)
Members: Dr. Michelle Mabry (Zeta), Prof. Paul Peek (Alpha Iota), Jessica Nelson (Alpha Sigma).

The committee listened to and reviewed the presentations during the "papers session" of the conference. Detailed discussion followed. Seven papers were presented. Four of these were by faculty members . All the papers were very informative and interesting. However, the committee believes the judging should be limited to student papers. The committee recommends the conference Chair express to the faculty members the appreciation of the conference for their informative and interesting presentations.

The following papers were presented:

1. "Effects of Sprint Training and Lipoic Acid Supplementation on Oxidative Stress in Skeletal Muscle" by Angela Pendleton (Zeta) presented by Dr. Shawn Stover (Zeta)
2. "Photochemistry of Humic Substances: Singlet Oxygen Quantum Yield" by Paul Walsh (Kappa Sigma)
3. "The Effect of Alpha-Dopa on Wing Formation in Drosophila melanogaster" by Jessica Burns (Epsilon)
4. "Cell-Cell Attachment Protein (cadherin) in non-malignant and malignant mouse melanocytes" by Sara Lilly (Epsilon)
5. "Aquatic Light Traps" by Carl T. Meadors (Epsilon)
6. "Manitoulin Island: A biological treasure" by Carl T. Meadors (Epsilon)
7. "The Value of Short Undergraduate Travel Courses" by William J. Pohley

The committee found all the papers were excellent and reflected good scientific research. The top three presentations were judged to be:

1. Paul Walsh
2. Sara Lilly
3. Jessica Burns

The committee recommends the top three recipients be presented cash awards in the amount of $100, $75, and $50, respectively.

Papers Presented

Aquatic Light Traps

Carl T. Meadors

Abstract:

Several types of submersible aquatic light traps were constructed and evaluated for sampling aquatic invertebrates. Most studies were conducted in South Bay, located on Manitoulin Island, Ontario, Canada. The traps were employed to determine (1) if they were a practical and efficient means of collecting aquatic invertebrates, (2) if some invertebrate groups were more strongly attracted to light than others, and (3) if colored lights were more effective for some groups than others. The results support the hypothesis of an affirmative answer to the three objectives.

Introduction:

It was stated by Cummins (1962) that “the number of different samplers used for aquatic invertebrates is nearly proportional to the number of aquatic investigations”. However, when one peruses the source of collecting aquatic invertebrates, there is a paucity of aquatic light traps. Standard references still employed for different collecting and sampling methods are those of Welch (1948), Macan (1958), Cummins (1962), Hrbacek (1962), Southwood (1966), APHA (1971), and Edmondson and Winberg (1971). The excellent work of Merritt and Cummins (1978) provides a summary and compilation of methods for aquatic invertebrate studies. They describe several light traps but they are not truly aquatic, serving primarily to collect emerging adults. These are considered as semi-aquatic. By aquatic, this worker considers that to mean a completely submersible trap for sampling the bottom or the water column.

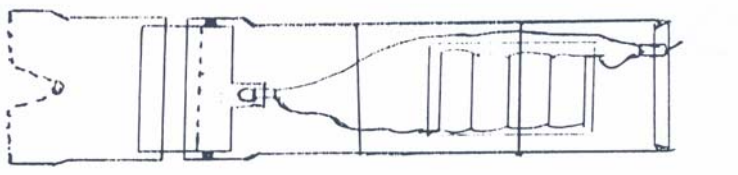
The interest in light traps stems from an observation made while examining the rocky bottom near shoreline of a large bay in Canada at night. A flashlight was employed and it was noticed that if held stationary for a few minutes the light beam in the water column soon teemed with various invertebrates. A subsequent search of the literature revealed few studies employing a submerged light trap.

Several types of submersible light traps have been designed and constructed. They have been successfully employed in studying South Bay in Canada. This large bay is nearly a lake but has a narrow opening into Lake Huron. It is located on Manitoulin Island, Ontario, Canada near the town of South Baymouth. Its clear waters are ideal for light studies. Chemical and biological studies of the bay have been ongoing since 1983. There have also been studies of lakes on the island and also terrestrial studies relative to the plants and insects. An excellent reference for the geology and botany of the island is the work of Morton and Venn (2000).

The light traps were employed to determine (1) if they were a practical and efficient means of collecting aquatic invertebrates, (2) if some invertebrate groups were more strongly attracted to light than others, and (3) if colored lights were more effective for some groups than others. Efficiency was judged by comparing to standard methods of collecting such as hand-picking, suctioning, and netting, being performed at the same time. It was hypothesized that the answers would be affirmative for the three questions.

Materials and Methods:

One type of trap was constructed from PVC pipe such as available in most hardware and plumbing stores. It consists of a water-tight area for the battery supply, another for the light, and a third water-filled collection chamber. The following diagram provides a description:

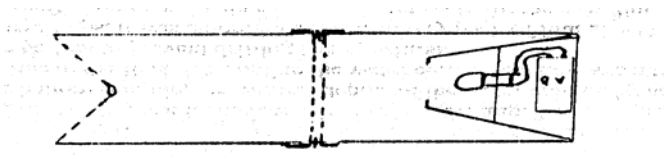


As the battery and light compartments were air-filled, the trap tended to float. Weights (e.g. 5 lb lead dive weights) were taped to the trap. A line was attached to a Styrofoam float which made it convenient to retrieve the trap. The traps could thus be employed for bottom sampling or various depths of the water column by adjusting the length of the line to the float. If sampling the water column the trap was attached to a weight on the bottom to prevent drifting from position.

For these traps, it was determined that a battery pack of four size D flashlight batteries were sufficient to maintain a good light intensity for the sampling period. The light was provided by a standard flashlight bulb. A waterproof on/off switch was wired in to allow the light to be conveniently turned on or off externally.

Collection of specimens was accomplished by retrieving the trap and opening the collection chamber to empty into a white enamel pan. This made the examination of the sample rather easy. The majority of the specimens were still living and thus individuals could be removed by suctioning for identification or observation.

Another smaller type of trap was constructed from plastic-ware commonly found in most laboratories. Plastic specimen jars, modified plastic lids, and plastic Petri dishes were the main components. The battery supply was a single 9v battery. There was no on/off switch on these traps. Just prior to placement, the trap was opened, the battery connected, and the trap closed and sealed. To insure water tightness, electrical tape was wrapped around the lid seams. The smaller traps also tended to float and required the attachment of weights for use. (See diagram #2)



The traps were put into place well after dark and usually left until daybreak. This allowed at least six hours of darkness for the sampling period. Controls consisted of duplicate traps with the light left off and placed near the lighted traps.

Later in the studies, after determining the efficiency of the white light traps, colored filters were placed in front of the light source to provide light of specific colors. The filters were obtained from Kodak and were of specific wavelengths and made of plastic so as to be waterproof. The colors employed were red, orange, yellow, green, blue, and violet. Also employed was a UV-transmitting filter and a polarizing filter.

Results:

In comparison to traditional methods of collection, the light traps were found to be significantly more efficient for collecting a number of different invertebrate groups. Some specimens were found in the light traps while not being collected at all by other sampling methods. These included the Cladoceran Leptodora, an unidentified Rotifer, an Anastracod similar to the fairy shrimp, the Copepod Diaptomus, and mites. Others were well represented in the light traps while only occasionally found by other methods such as plankton net towing. These included Cladocera of the Daphnia type, Ostracods, fairy shrimp, and insects such as Corixids, a diving beetle of the Dytiscidae and Chaoborus of the Diptera. Observations suggested that many of these specimens remained primarily in the bottom sediment during daylight hours and emerged into the water column

at night and were attracted to the light traps. This was supported by making plankton net tows during mid-day and after midnight at about one meter depth for twenty meters along the same transect. The night tow revealed a greater number of specimens but still significantly fewer than collected in a light trap at one meter depth along the transect. See table #1. This table will also indicate the efficiency of light traps for collecting some kinds of invertebrates.

specimen	diurnal tow	nocturnal tow	light trap
Cladocera	3	17	100+
Ostracoda	2	12	100+
Anastracods	0	7	80+
Corixids	4	8	50+
Dytiscids	3	9	30+
Chaoborus	0	15	40+
Mites	0	2	30+

Table #1. Comparison of day/night plankton net tows and Aquatic light traps. (Average of 3 samplings)

Some specimens, collected by other means, were not found to be particularly attracted to the light traps. These included Odonata of the suborder Anisoptera, some Coleoptera larvae, and Plecoptera. Occasionally the suborder Zygoptera of the Odonata were found in the light traps and also small fish.

After confirming that light traps were effective in collecting various invertebrates, the question of color preference was investigated. Colored filters were placed in the smaller light traps over the light source. The colors ranged from red to violet. Some studies also employed a UV-transmitting filter and a polarizing filter.

The results of the colored light traps revealed some invertebrate groups were more strongly attracted to particular colors of light. (Table #2) Mites, Ostracods, and Amphipods were more attracted to red. Cladocerans (Daphnia and related species) preferred yellow. The Corixids and Chaoborus preferred orange. Green, blue, and violet were not very attractive for any specimens. Interestingly, the polarized light was rather attractive to the Corixids, Dytiscids, Ephemerida., and Chaoborus. As insects, these latter four groups exhibit the most highly evolved eyes. The UV was very weakly attractive. However, the UV results are considered inaccurate and invalid because standard flashlight bulbs emit very little UV light.

	Filter colors								
Specimen	R	O	Y	G	B	V	UV	Pol	W
Cladocera	4	3	24	0	1	1	0	0	22
Ostracods	16	2	1	0	0	1	1	0	18
Amphipods	12	2	1	0	0	0	0	0	14
Corixids	0	19	6	0	0	0	1	20	23
Ephemerida	1	0	1	0	0	0	0	9	7
Dytiscus	1	3	0	0	0	0	1	12	17
Chaoborus	2	21	5	0	2	1	2	19	24
Mites	20	2	5	0	2	0	1	2	25

Table 2. Comparison of numbers of specimens collected in colored light traps. Traps were 6 cm from bottom at 1 meter depth. (Averages of 5 samplings.)

The overall conclusion of the results briefly summarized here is that aquatic light traps can significantly contribute to studies of aquatic invertebrates. Hopefully, others will pursue this fascinating and valuable method for aquatic studies.

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Cell-Cell Attachment Protein (Cadherins) Expression in Non-Malignant and Malignant Mouse Melanocytes

Sara E. Lilly[1], Richard M. Niles[2], [1]University of Charleston; [2] Department of Biochemistry, Joan C. Edwards School of Medicine; [1,2] The West Virginia IDeA Network for Biomedical Research Excellence

Melanocytes are cells of the neural crest origin that migrate during fetal development to specific sites of the body, principally the skin. Melanocytes adhere to adjacent keratinocytes via E-cadherins. E-cadherins are transmembrane glycoproteins that mediate cell-cell adhesion by means of homophilic reactions. Melanocytes are positioned along the basement membrane at the dermo-epidermal junction; and exposure of UV sunlight from the external environment is a carcinogenic stimulus which can result in malignant melanoma. During melanomagenesis, the amount of E-cadherins decreases, along with a new appearance of N-cadherins adhering melanoma cells to one another. Studies have shown that the treatment withretinoic acid (RA- vitamin A acid) could restore normal cell differentiation to certain tumor cells such as melanoma. Therefore, we conducted the current study to see whether RA alters the expression of E- and N- cadherins in B16 mouse melanoma cells. Replicate cell cultures were established and treated with twenty-four and forty eighty hour treatments with 10 µm RA or vehicle (dimethylsulfoxide (DMSO)). Following the treatments, protein extracts were prepared and aliquots of protein were resolved on SDS page. Proteins were then detected with polyclonal anti-E and anti-N antibodies. GAPDH, whose expression does not change with RA treatment, was used for correct sample variability in the subsequent densitometry analysis of the blots. Positive controllysates were also used on each blot, validating the specific reactivity of the antibodies. Melan-A cells, immortalized but non- malignant mouse melanocytes were compared to B16 mouse melanoma cells. Protein extracts of the cells were obtained and two western blots were run using the anti-E and anti-N cadherin antibodies. GAPDH was also used as the normalization control for these cells. B16 cells were found to contain only N-cadherin, with a 15% decrease in n- cadherin expression for the 24 hour cells, 50% with 48 hour cells, and a 20% decrease in the 72 hour cells. The Melan-A cells were also found to have only N-cadherins. This finding was not expected, since normal human melanocytes do not express the N- cadherin protein. The data from the Melan-A extracts could be affected by immortalization of the cells with the viral SV40 large T antigen. Further study is needed to fully ascertain why these cells did not have the cadherins that were expected. *This research was supported in part by grant P20RR16477 from the National Center for Research Resources awarded to the West Virginia IDeA Network for Biomedical Research Excellence.*

Manitoulin Island
A biological Treasure

The largest freshwater island in the world is Manitoulin Island. It is located in the northern portion of Lake Huron within the province of Ontario, Canada. It is irregular in shape with many lakes. In fact, the largest freshwater lake on an island in the world is found on Manitoulin, being Lake Manitou.

The island is roughly 80 miles long by 30 miles wide. It is mostly flat and reaches, at its highest elevation, about 1,00 feet above sea level. Glaciers covered this area until about 12,000 years ago. Signs of glaciation are everywhere apparent. There are gravel deposits from the glaciers and glacial scratches are widespread. As the glaciers receded, the island emerged only about 4,000 years ago. It is still rising, as it springs back from the enormous pressure of the ice, at the rate of about one inch per century. Sand-dunes may be found scattered over the island, marking the position of ancient shorelines. It is a rocky island comprised mostly of limestone. Although heavy with vegetation, the soil layer is quite thin. There are two types of limestone, a lower zone of older Ordovician limestone and an upper layer of more recent Silurian limestone. The latter is composed of dolomite, which differs from other limestones in having a high content of magnesium carbonate (45%), as opposed to the calcium carbonate of ordinary limestone. Along the northern edge of the island, which has the highest elevation, the limestones have been eroded to expose the ancient rocks of the Precambrian or Canadian Shield. These different zones of rock have had a great influence on the vegetation of the island. An excellent account of the geological history of the island can be found in the publication of Morton and Venn's "Flora of Manitoulin Island" (2000).

Manitoulin has a rich and diverse flora because of the many types of habitats. The island has been referred to as the "botanical crossroad of North America". Many species moving from north to south and vice-versa, crossed the area of the island and many remain there. For the botanist then, the island provides a great range of species from common to unique. The forests are of a very mixed nature. There are pines, firs, spruces, cedars and also maples, oaks, birches, basswood, elms, and others Some species are different from individuals of the same species found farther to the south. For example, Arbovitae is commonly a small, nearly shrubby tree here in the U.S. On the island it towers to 80-90 feet and is a source of lumber. The common dogwood of the U.S. (Cornus florida) is only occasionally found on the island wheras an arctic species (Cornus canadensis) is rather common. This species is referred to as the dwarf dogwood for good reason as it only reaches 3-4 inches in height. There are many wildflowers common to the island but uncommon here in the eastern U.S. Over a dozen species of orchids are found on the island. Thus, for the botanist, the island provides a fascinating opportunity for studies. Due to the varied types of flora and habitats, we have found the island to provide the opportunity for various biological studies. We (Mrs. Meadors, students, and myself) have been visiting the island since 1983. With the loss of Mrs. Meadors I did not return in 1999 and 2000 but have gone back, without students, each year since then. Most of our studies were conducted near a cabin owned by the University of Charleston.

The cabin is on about an acre of land on the shore of a large bay. It was built and owned by Dr. Leonard Riggleman, former President of Morris Harvey College (later the University of Charleston). Dr. Riggleman loved to fish and the cabin was built for that purpose. When Dr. Riggleman retired, he deeded the property to the college for others to use and enjoy.

The cabin is located on the shore of South Bay, a few miles from the ferry town of South Baymouth. This is a large bay, nearly cutting off the eastern end of the island, and is nearly a lake except for a narrow opening into Lake Huron. The bay water is clear, clean, and supports a rich variety of fish, insects, plants, birds, and other life. Within walking distance from the cabin is a variety of habitats: a large marsh, streams, fields, forests, and lakes. Other areas are readily accessible by short drives.

From 1983 until 1999 we used the cabin and surrounding areas to provide the setting for a summer Biology Field Studies class. Due to limited sleeping quarters we limited the class size to about six students. Most of these were UC students, although we also had some from the University of Rochester, VPI, NC State, and the University of Tennessee. The class spent two weeks at the cabin. A week was spent on campus prior to leaving. This allowed us to get acquainted, detail what we would be doing, mapping, planning menus, preparing

equipment, etc. Thus, upon arrival, we could “hit the ground running”. The class then spent one week on campus upon returning to complete data tabulation and an evaluation, which included a final exam. The studies were of an ecological nature covering a wide range of areas:: chemical analyses of water and soil, botanical, insect, algal, and microbiological studies. The students gained wide experience in many methods of sampling, examining, and analyzing a variety of habitats.

The cabin is comfortable. It is located about 20 feet from the shoreline and surrounded by large Arbovitae trees. There is a kitchen with a refrigerator/freezer, electric range with oven, a microwave, and, of course, a coffee maker. Utensils and dishes are there. There is a bathroom providing a shower, toilet, and sink. The kitchen area also has a sink and counter space for food preparation. A dining area is present with the long table alongside a series of windows looking out on the bay. The cabin has two large bedrooms and a small one. There is a large bed and a double bunk in one bedroom, a large bed and a single bunk in another, and two single bunks in the small one. There is a large living room area with several couches and easy chairs. The cabin is powered only by electricity. There is no heat. There is, however, an old large iron cook stove in one corner. If chilly, a fire can be made in it and much warmth is generated. The caretaker, Mr. Andy Bowerman, keeps a good supply of firewood available at the cabin and will bring more if asked.

Due to there being no heating for the cabin and considering the northern climate, the cabins’ use is limited to the warm months of the year. The ice on the bay generally does not break up until mid-May. The ferry does not commence runs until June. Mr. Bowerman typically turns the water and power on in June. In the Fall he winterizes it by draining all water lines and turning off the power.

Necessities such as groceries and gasoline are within easy driving distance. South Baymouth is about 5 miles from the cabin. About 25-30 minutes away is the town of Mindemoya which has a large supermarket, bank, hardware store, several restaurants, etc. Mindemoya also has an excellent medical clinic if a health problem should arise.

The cabin can be reached either by ferry from Tobermory, a town at the northern tip of the Bruce Peninsula or by a land route from the north. For the latter, one would have to access Rt. 17 (Trans-Canada Highway) to Espinola where they would turn south on Rt. 6. There are bridges connecting the island, and some smaller ones, to the mainland. Route 6 ends at South Baymouth to commence again in Tobermory by the ferry. The ferry runs four times daily and reservations are accepted. The ferry is large, holding about 120 cars, and has a cafeteria and lounges. The trip takes about one and one-half hours. Once off the ferry the cabin can be reached in about 10-15 minutes.

One must provide their own food, clothing, bedding, towels, etc. Take clothing for chilly weather, especially at night. In July and August the daytime highs are in the 70’s and 80’s but the nights can drop into the 30’s.

For the photographer or artist, the island provides wonderful opportunities for such activities. Swimming, of course, is always available at the cabin. If swimming, look for one of the several underwater springs found in the bay near the cabin. Being glacier formed , the water deepens very gradually from shoreline. One can walk out thirty feet and still touch bottom. This makes it very convenient for some of the aquatic studies. The bay, however, does get quite deep farther out. In the main bay, depths may reach 50-60 meters. If one could bring a boat with them it would allow better access to work on the bay. We commonly used inflatable boats.

The island also has a number of art shops, souvenir shops, Native American outlets, museums, etc. The island has several Native American reservations on it, the largest being one which occupies a large portion of the eastern end of the island. This is the only unceded reservation in North America. They welcome visitors.

The cabin is available to rent at the rate of $125 per week from the University of Charleston. If interested, contact me or Ms. Cathleen Cunningham at (304) 357-4736.

In conclusion, Manitoulin Island provides a wonderful opportunity for field studies for small groups. I hope you will consider it for a future biological adventure. I do not think you will be disappointed.

Angela M. Pendleton, Zeta Chapter, Davis and Elkins College

Effects of Sprint Training and Lipoic Acid Supplementation on Oxidative Stress in Skeletal Muscle

While the utility of endurance training as a mechanism to reduce oxidative tissue damage has been well documented, the effects of training methods that emphasize fast-twitch, anaerobic muscles have not received much attention. Furthermore, while dietary supplementation with vitamins C and E has become common practice, the benefits of orally administered lipoic acid, an antioxidant that stimulates glutathione synthesis, are still unclear. The present study has three specific aims: 1) confirm that oxidative stress can be induced by acute, high intensity sprinting, 2) determine the effects of long-term, high intensity sprint training on oxidative stress, and 3) determine the effects of lipoic acid supplementation on oxidative stress. For specific aim 1, untrained mice will engage in short, intense bouts of sprinting. Indicators of oxidative stress in fast-twitch sprint muscles and slow-twitch endurance muscles from experimental mice and unexercised controls will be assessed spectrophotometrically. To address the second specific aim, mice will undergo 12 weeks of sprint training. Oxidative stress indicators will be assessed and compared to untrained controls. Finally, to address specific aim 3, untrained mice will receive lipoic acid intragastrically for 12 weeks. Following short, intense bouts of sprinting, indicators of oxidative stress will be assessed and compared to vehicle-supplemented controls.

The Value of Short Undergraduate Travel Courses

William J. Pohley, Ph.D.

Many colleges and universities have short sessions in winter, spring or summer. These sessions provide an ideal opportunity to offer intensive experiences involving travel. At Franklin College we have had a 4 week January Term for more than 25 years. I have offered a variety of travel courses, first in the U.S. and more recently in Belize and other international locations. My interest in student travel began when several better students urged me to lead a trip to Florida focusing on Marine Biology. I did this several times until the college began to encourage international travel. I visited a marine lab in Jamaica and Belize to determine the suitability for a January term course. I found Belize to have warm, friendly people, a magnificent barrier reef and a variety of mainland activities.

I have taught a variety of courses in various formats for over 25 years but I continue to be amazed by the amount of content and student retention achieved in a four week experience. I believe the success of these courses is the result of true commitment on the part of the students because of their interest in the content as well as the cost involved with participating. Since students take no other courses during the session they can immerse themselves in the content with the "prize" being the actual travel portion of the experience. I typically work with students in class for two weeks prior to a 10 day travel experience. The trip reinforces everything they have learned in class and several days after we return gives students an opportunity to process the experience. Trips longer than two weeks give little time for intense classroom study. I have lectured while traveling but do not find it as effective as doing it on campus with access to a variety of ancillary materials. While longer trips have immense value in many ways, my experience has been that in terms of quantity of information and retention of information the combination of on campus work and a short intense travel experience is more effective.

Value from a faculty perspective

Students have an opportunity to experience international travel and a different culture. Belize requires a passport and has a very diverse culture while only being a short distance from many U.S. cities. Students learn and retain a large amount of information because of the immersion-type situation and because they select this experience from several and the cost ensures real commitment on the part of the students. Teaching and learning occurs almost 24/7 while traveling. Virtually every situation and experience is an opportunity for faculty to teach and students to learn. Many opportunities for group activities so students learn interpersonal skills. Great value to the institution. Alumni frequently list a short travel experience as their fondest memory from college. Many of the students who remain in contact are those who participated in these experiences.

Student Perspective–

Short courses easy to fit into a student's busy schedule. Short trips are less expensive for the students. If most of the teaching is done prior to the trip more time can be spent on activities while on the trip. Travel during college ensures students are traveling with friends/peers. Students also find it difficult to get sufficient vacation time when they begin working after college. Although finances are a major concern for most students during their college years, the cost can be applied to their financial aid package. Students have reported to me that travel experiences on their resume are great a "ice breaker" in job/grad school interviews.

XBP Chapters and Advisors 2005

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