

The Sigma Zetan

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Jordan Science Center

The Sigma Zetan

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Volume LXVIII

Robert J. Moffitt, National Editor
Malone College, Canton, Ohio

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Abstracts of Student Papers

Chronic Intracerebroventricular Blockade of Angiotensin II Receptors Effectively Reverses Stress-Induced Anorexia in Rats

*Nicole Amundson
Beta Iota, Bethel College*

Previous studies have indicated angiotensin II (ANG II) may play a role in basal food consumption of rats. When given a constant dose of intracerebroventricular (icv) ANG II, rats weighed less than controls due to lack of food consumption.



However, in these studies ANG II was administered in higher quantities than the rat's body would secrete under normal conditions. In order to account for this, Losartan, one of the first approved AT₁ receptor antagonists of angiotensin II, was used to test this theory under physiologic conditions. It has also been shown that when stressed, rats acquire a tendency to eat less due to the newly created anorexic condition. In the present study, the possible reversal of stress-induced anorexia was examined in rats by administering Losartan. One group of rats was left unstressed and treated with either saline or Losartan; a second group of rats, also treated with saline or Losartan, was stressed daily. Food consumption and weight gain were measured to test for the reversal of anorexia. At the end of the trial, unstressed rats receiving saline were found to have eaten more and gained more weight than Losartan rats. When accompanied with stress, Losartan rats gained 11 % more weight and ate 9% more than saline rats, with days one and two being significantly higher. The data suggests that Losartan does emerge as an effective means to reverse stress-induced decreases in daily food consumption and body weight in rats. The study also provides further evidence that angiotensin II may play a role in regulation of food intake and rate of weight gain in stressed rats.

PCR Detection and Strain Characterization of *Plasmodium falciparum* in Symptomatic Children in Zambia

*Andrew C. Babcock
Beta Lambda, Messiah College*

Severe malaria, in the form of severe malarial anemia or cerebral malaria, accounts for a disproportionately high amount of malaria mortality, but the complete framework of severe malaria causation is not known. The suggestion of *P. falciparum* strain variation enhancing virulence and precipitating severe disease

has not been adequately documented. We investigated the possible correlation between *P. falciparum* strains and severity of disease in 13 Zambian children in three diagnostic groups: severe malarial anemia, cerebral malaria, and uncomplicated malaria. Parasite genes for merozoite surface proteins 1 and 2 (MSP-1 and MSP-2) were successfully amplified by nested polymerase chain reaction (PCR). MSP-1 and MSP-2 showed extensive size polymorphism, reflecting previous studies. Gene distribution patterns among the diagnostic groups were inconclusive due to limited sample size. This is the pilot year of a 5-year malarial anemia study. Suggestions are given for continuance of parasite strain and disease severity studies at this site.



Investigation of Iodine, Iodine monobromide, and Iodine monochloride as Quenchers Within a Self-Built Geiger Tube

Paul Boswell
Beta Iota, Bethel College

Halogen quenched Geiger tubes are the industry standard. Typically, chlorine or bromine gases are used in combination with argon or neon. This produces a relatively sensitive counter with a broad plateau of working electrical potentials and pressures within the Geiger region. In my research, I used iodine, iodine monobromide, and iodine monochloride as quenchers within a Geiger tube and studied their effects on the width of the Geiger region and their quenching properties.



Widths of the Geiger regions changed significantly with different halogens in the tube. Trends between the halogens showed that the broadest plateaus were found when the diatomic halogen inserted had higher bond dissociation energy. With higher bond dissociation energies, however, more voltage and lower pressures were required. Many other observations follow.

Improving the Technique for the Intracellular Uptake of Bacteria Using Murine Peritoneal Phagocytes and Fluorescence Phase Contrast Microscopy

*Kim Brothers
Beta Lambda, Messiah College*

Bacteria have been the culprit of several accounts of gastroenteritis and other illnesses. Many bacteria are introduced to the human body during the ingestion of contaminated foods. The foreign antigens are taken into the body's cells by macrophage and neutrophil phagocytic cells. This is a complicated yet fascinating response of our body's immune system. In order to develop a better understanding of how our body responds to these foreign antigens, a model is necessary to study these interactions. By using phagocytes from the peritoneum of mice it is possible to observe this wonder microscopically. Bacteria with a live/dead fluorescence dye was added to murine peritoneal cells and incubated. The cells eventually phagocytize the bacteria. The fluorescence dye contains SYTO 9, which will stain all bacteria with intact membranes green, and propidium iodide, which will stain all bacteria with disrupted membranes red. Our results indicate that a greater number of bacteria from uptake of phagocytes stained green than red thereby producing a greater ratio of live bacteria over dead bacteria. The model of cellular uptake can help us begin to further understand our body's defense mechanisms against different species of bacteria and also possibly ways to enhance those systems medically.



The Effects of Exposure to Multiple Males During Mating in *Drosophila melanogaster*

*Jennifer Gumm
Pi, Millikin University*

We examined the effects of multiple males being present during copulation on a female's clutch size. We defined clutch size as the number of adult offspring produced. The control group consisted



of a mating pair copulating in the presence of one non-mating male, and the experimental group consisted of an isolated mating pair. The isolated mating pair had a significantly larger clutch size than the mating pair with a non-mating male present. We hypothesize that a physical or chemical interaction between the second male and the first male and/or the female causes the clutch size to decrease.

The Effect of Acetylcholine and Epinephrine on Oxygen Consumption in Endotherms and Ectotherms

*Lori Jennings
Pi, Millikin University*

Mammalian oxygen consumption is higher than that of reptilian oxygen consumption, but reptiles maintain a lower body temperature. This study compared oxygen consumption of these groups at a constant temperature and in response to epinephrine (Epi) and acetylcholine (ACh). Using a Clark-type Rank Oxygen Electrode, the oxygen consumption of lung and liver tissue slices from mice and frogs were compared before and after addition of Epi or ACh. In lung, oxygen consumption of the frog did not significantly differ from the mouse. Epi and ACh caused an increase in both species but were not different from each other. In mouse liver, oxygen consumption was significantly higher than that of a frog. Both Epi and ACh significantly decreased oxygen consumption in mouse liver but increased it in frog liver. The variation between species can be explained by differences in cell composition, mitochondria, or hydrogen ion concentrations. The effects of Epi and ACh have possible explanations involving steps in the metabolic pathway.

Activity Pattern in the Field Mouse *Microtus ochrogaster*, and its Relationship with Lunar Cycles

*Vanessa Kanaan
Alpha Beta, Campbellsville University*



This study investigated the activity pattern of the field mouse, *Microtus ochrogaster*, and its relationship with lunar cycles. A 25m X 35m grid was set at Clay Hill Memorial Forest, with traps placed every 1-meter. The vegetation of each site was described and classified according to its density. A total of 51 mice of two species were live trapped during a 15 weeks period. Traps were set one night a week to assure collections at different lunar cycles. Three collections were not possible due to weather conditions. Sex and age

class of mice were recorded, as well as weather conditions and location on the grid. Previous research has shown that activity level in Namib Desert gerbils and Prairie Deer mice decreased significantly during full moon if compared to the new moon period. This behavior may be related to predation risk associated with increased light intensity. The hypothesis that activity level in *M. ochrogaster* would decrease significantly during full moon nights was not supported. No significant differences were found between groups classified by sex, age class and sex and age class combined. The level of activity showed to be influenced by different vegetation densities ($F=5.29$; $P<0.001$). Preference of *M. ochrogaster* for moderate and sparse areas may be related to the risk of accidentally becoming trapped in a tangle of weeds or briars found in dense areas.

Glycogen and Lipid Levels in a Cold-Water Corixid, *Sigara mathesoni*, Exposed to Variable Temperature

Elizabeth A. Kreakie

Alpha Gamma, Malone College

S.W. Chordas III (The Ohio State University, Columbus, OH)

R.L. Stewart Jr. (Malone College, Canton, OH)

Sigara mathesonim, a New World corixid (Order Hemiptera), was recently discovered in four springs/fens in Ohio. These herbivores/scavengers are restricted to these habitats as none were observed in surrounding aquatic environments in any of the study sites. *Sigara mathesoni* is active year round within these sites. Reproduction only occurs in summer because immatures were observed in July and August. One obvious difference between the sites where these corixids are found and the surrounding aquatic environments is temperature. The springs are consistently around 10°C while the surrounding environmental temperatures fluctuate grossly. We hypothesized that *S. mathesoni* is restricted to these sites because metabolic reserve use is increased beyond replacement levels at higher temperatures. Survivorship was evaluated and mortality was significantly lower in groups exposed to 10°C than those exposed to 16°C and 24°C over 8 days. Utilizing a spectrophotometer, we constructed standard curves for known quantities of lipid and glucose by measuring percent absorbance. We then could determine lipid and glycogen levels within each specimen by measuring percent absorbance in assayed individuals. Lipid and glycogen reserves were utilized at a much faster rate in corixids exposed to 16°C, but the amount of lipid increased in corixids exposed to 24°C. While temperature does appear to restrict this cold-water species from warmer waters, it is apparent that these corixids are not restricted to cooler habitats solely because of their metabolic reserve utilization. Reserve accumulation is greater at high



temperatures. It is likely that these corixids experience a toxic response to high temperatures resulting in significantly increased mortality. This toxic response is potentially related to cessation of enzymatic function when they are exposed to a temperature equal to or greater than 24°C.

Selection and Molecular Analysis of B6/K-0 Murine Fibroblasts that Escape from Simian Virus 40 T Antigen Epitope-I Specific K-11.10 Cytotoxic T Lymphocytes

*Caroline M. Kusuma
Beta Lambda, Messiah College*

The immune system plays an important role in the control of cancer. If there were no immunosurveillance against tumor by the immune system, the organism would suffer a high frequency tumor. Cytotoxic T lymphocytes (CTL) play a surveillance function in recognizing and killing the host cells that are infected by pathogens or immortalized by cancer. The T lymphocyte antigen receptor recognizes tumor antigens that are presented by MHC class I molecules. Mutation in the CTL epitopes results with the loss of immunosurveillance; the tumor cells will escape and continue to divide.

In previous studies by Dr. Mylin, Simian Virus 40 (SV40) Tumor antigen (Tag) contains three H-2D^b-restricted (I, II/III and V) and one H-2K^b-restricted (IV) CTL epitopes. After CTL selection by Y-1 CTL clone, epitope I has been shown to have only 2 mutations, which are less compared to mutations found in other epitopes. The model suggests that the strong binding of MHC-peptide complexes in epitope I, and TCR antagonism may be involved in this low number of mutations found in the study.

Our objective is to observe the relationship between cytotoxic T lymphocytes and SV 40 T antigen epitope I that successfully escapes from recognition. We isolate a new set of CTL escape variant cell lines from SV40 Tag epitope I-specific K-11.10 CTL clone. Molecular analysis is also performed by PCR amplifications of the epitope I Tag sequence from the CTL resistant populations. The nature of these escape variant cells is going to be determined by DNA sequencing.

Does the Female Pink-spotted Ladybeetle, *Coleomegilla maculata fuscilabris* (Coleoptera: Coccinellidae), Utilize a Sex Pheromone?

*Jamie Martin
Pi, Millikin University*

We studied the possible role of sex pheromones in the female pink-spotted ladybeetle, *Coleomegilla maculata fuscilabris* (Coleoptera: Coccinellidae). We tested for pheromone presence by using a series of behavioral and chemical assays. We subjected males to choice tests between *C. maculata* and *Musca domestica*

pupae to determine whether males were more attracted to conspecific pupae, indicating the possible role of a sex pheromone.

We also subjected males to choice tests between virgin and non-virgin females to determine whether males were more attracted to virgins than non-virgins. In addition, we performed pheromone extraction techniques on female *C. maculata* and examined male behaviors (crawling, grooming, and stationary activity) and distance in the presence of extracted materials versus a 95% ethanol control. Males did not show a significant preference between *C. maculata* and *M. domestica* pupae, nor do they show a preference between virgin and non-virgin females. Males also did not exhibit a significant difference in behaviors between the ethanol control and the extracted material. In addition, males did not demonstrate a significant difference in distance between the ethanol control and the extracted materials.

Modeling the Red Blood Cell

Timothy Nace

Beta Lambda, Messiah College



The principle function of human red blood cells is to carry nutrients to various parts of the body and to carry away waste products. These red blood cells normally have a bi-concave shape. Frequently, nature behaves as if some quantity is being maximized or minimized. Based on this optimality principle, using researched data about red blood cells, I have developed mathematical models to describe the shape of the red blood cells.

Endless Sets of Odd Integers

Scott Parker

Beta Lambda, Messiah College

The set $\{7,9,15,27,35,45,63,105,135,189,315\}$ contains 11 odd integers, all of which divide the sum of the members of the set. In how many different sizes does this type of set exist? That is, can sets of odd integers which each divide their sum come in an infinite number of cardinalities? We will prove by a construction argument that there are an infinite number of integers n for which there exists a set of n distinct positive odd integers such that each member of the set divides the

sum of all the members of the set, and in so doing will exhibit one procedure for actually producing an infinite number of these sets.

Effects of Urea on the Ventral Nerve Cord Conduction Velocity in the Oligochaete *Lumbriculus variegatus*.

Tony Paulson
Pi, Millikin University

Effects of urea on ventral nerve-cord conduction velocity were studied on oligochaete *Lumbriculus variegatus*. My hypotheses were that treated oligochaetes would have a decreased conduction velocity compared to untreated oligochaetes and that the decrease would be concentration dependent.

Urea was chosen because it is a nitrogenous waste found in the benthic environment of oligochaetes. Oligochaete conduction velocities were recorded for



experiments at concentrations 2000, 4000, 8000, 10000, 12000, 16000, 32000, and 64000-ppm urea (99.9%) solution. Temperature, barometric pressure, and oligochaete length were covariates of the study. It appears urea treatment does decrease conduction velocity. Urea potentially decreases the oligochaete ability to respond nominally to stimuli from its environment. When all of the untreated oligochaetes tested were compared to treated oligochaetes using a T-test the conduction velocities were significantly lower for treated oligochaetes ($p < 0.0001$). Thus, our first hypothesis was supported.

A second hypothesis that as the concentration of urea increased, the conduction velocity would decrease proportionately was not supported by our data. An ANOVA test showed no significant difference between 2000, 4000, 8000, 10000, 12000, and 16000-ppm urea concentrations.

The Effect of Nutrient Loading on a Freshwater Algal Community

Kelli Reese
Beta, McKendree College

Eutrophication of waterways has significantly increased in many areas of the United States and the world over the last decade. This increase is due to the introduction of nitrogen and phosphorus loading from agricultural, atmospheric, urban/industrial, and wastewater pollution. Previous studies have shown that there is a significant

association between nitrogen concentration and the amount of algal growth that takes place in lakes and rivers. Studies have also shown chlamydomonads and euglenoids to be prevalent in waterways near agriculture and livestock. These algal species have the ability to survive high concentrations of herbicide application and are considered indicators of eutrophication influencing the water quality of the source. The main objective of this research was to determine the effect of nitrogen and phosphorus loading on an algal community located within a habitat near agricultural land. Water samples were analyzed for nitrogen and phosphorus content as well as algae (both numbers and species present). These data were combined with daily rainfall amounts to determine if any eutrophication had occurred within the aquatic habitat. The results indicate that rainfall caused an increase in nutrient loading and influenced which algal species were most prevalent. Chlamydomonads, *Platydorina*, and *Scenedesmus*, were all prevalent suggesting possible eutrophication of the habitat.



Dental Restoratives: An Overview of Liner X, a Resin-Modified Glass Ionomer Liner/Base Material from 3M ESPE Dental

Michelle Reimer
Beta Iota, Bethel College

This paper reports the experiments on product development of the resin-modified glass ionomer cement, Liner X, at 3M ESPE Dental. This product is recommended for use as a liner or base under composite, amalgam, metal and ceramic restorations. The objective was to develop a glass ionomer material with enhanced properties compared to competitive liner/base materials. Liner X combines fluoroaluminosilicate glass powder and liquid modified polyacrylic acid with methacrylate groups, HEMA (2-hydroxyethylmetacrylate), water and photoinitiator to form a polymerized matrix. Liner X shows improved working time, strength properties, radiopacity, adhesion, and fluoride release compared to conventional glass ionomers. Liner X has unique dual cure system consists of the acid-base reaction and a 20 second light cure on command. The glass ionomer cements have three major advantages: fluoride release, bonding to tooth structure, and biocompatibility. The



resin component contributes to higher strength properties, enables a longer working time, and short setting time. The aforementioned properties contribute to Liner X's user friendliness and versatility among dental practitioners.

Results: Working Time: 4:00 min; Set Time 0:20 min; Dentin Bond Strength: 7 Mpa; Compressive Strength: 96.5 Mpa; Diametrical Tensile Strength: 17.4 Mpa; Flexural Strength: 25.5 Mpa; Radiopacity: 1.6; Thermal diffusivity: 0.26 mm²/s

Paleopathology and the Diseases from Four Biblical Accounts: The Sickness at Jericho, the Death at Nabal, Hezekiah's Sickness, and the Plague of the Philistines

*Timothy Romanoski and Christine O'Flaherty
Beta Lambda, Messiah College*

The Bible contains references to numerous diseases, but the identity of many remains unknown. Explicit details of symptoms suffered by biblical figures are not generally in the biblical record. By investigating the text, it becomes possible to discover the nature of these ancient ailments. Along with the writings, archeology has also shed some light on these illnesses. By combining biblical exegesis and archeology, paleopathology becomes possible. The illnesses suffered by the people of Jericho, the sudden death of Nabal, Hezekiah's sickness, and the plague of the Philistines can be completely taken from the supernatural realm and be grounded in the physical world of microbiology. The sicknesses of these four possibly range from an outbreak of bubonic plague to anthrax to a simple staph infection. Because documentation from this early period of history is incomplete, the exact cause of any ancient epidemic is merely speculation, but this does not mean that these hypotheses are invalid.

Effects of Simulated Acid Rain on Leaching of Ions from Soil

*Jennifer Ryan
Beta, McKendree College*



Acid rain is a growing environmental concern that has detrimental effects on plant life. Sulfuric acid, emitted mainly from the burning of fossil fuels, combines with precipitation to form acid rain. Studies have shown that acid rain causes many problems for plants, including the leaching of important ions from soil. This leaching may cause limited availability of ions important for plant growth and survival. The goals of this study were: 1) to determine how acid rain affects the leaching of nitrate,

phosphate, potassium, and calcium; 2) to see whether duration or frequency of acid rain applications had an effect on the leaching of these ions; and 3) to determine the effects of ion leaching on the growth of wheat plants. Soil was treated with two simulated acid rain treatments, one at pH 4.5 and a second at pH 6.0. After contact with soil, simulated rainwater was collected and analyzed to determine concentrations of nitrate, phosphate, calcium, and potassium. Results show varying amounts of leaching for each of these ions. Also, the amount of leaching differed among pH treatments, duration, and frequency of treatments. In addition, results lead to the conclusion that duration of soil-acid rain exposure, rather than pH, may play a larger role in ion leaching. Preliminary data also suggests that no significant affect on plant growth was found emphasizing that damage of exposed plant tissues by acid rain causes more detrimental effects on plant life than lack of nutrients.

The Solid State Synthesis and Iodometric Titration of Yttrium Barium Copper Oxide



Lee Steely

Beta Lambda, Messiah College

The development of high temperature superconductors is one of the most promising areas of material chemistry. The unique electrical properties of this material may give us a better understanding of the fundamental nature of matter. Yttrium Barium Copper Oxide was one of the first high temperature superconductors to be discovered and serves as a prime material upon which to study this class of materials. The

purpose of this project was to refine high temperature solid state synthesis methods and iodometric titration techniques to be incorporated into the Messiah College chemistry curriculum.

The Hat Game

Nicholas C. Zoller

Beta Lambda, Messiah College

An intriguing open research question in mathematics asks us to consider a fictitious game show called “The Hat Game.” A team of contestants sits in a circle with each team member blindfolded. A red or blue hat is



randomly assigned to each team member and placed on his/her head. When the blindfolds are removed, each team member can see the color of the other team members' hats but not his/her own. The object of the game is for each team member to guess his/her hat color correctly. However, some team members may choose to pass instead of guess. If all the guesses must be submitted simultaneously and communication between team members is prohibited, how can the team develop a strategy to maximize its probability of winning? We shall develop such a strategy for teams with a carefully chosen number of members.

Proceedings of the National Convention April 10 - 12, 2002

Thursday April 11, 2002 Executive Council Meeting Minutes

Meeting convened at 8:30 p.m. The meeting was brought to order by Executive Director Harold Wilkinson.

Roll Call

Officers: Executive Director Harold Wilkinson, Past President Angela Hare, President Jim Hall, President Elect Jim Reynhout, Historian Bob Moffitt, Treasurer Glenn McQuaide

Chapter Representatives: Cary Guffey, Sigma; Rob VanPutte, Beta; Joe Sheldon, Beta Lambda

Approval of Previous Minutes: Minutes for the convention April 06-08, 2001 were reviewed. The following changes were made: Minutes were approved and accepted.

Reports from National Officers

President James Hall - At the officers meeting on November 11, 2001, it was agreed that:

(1) Increasing the number of chapters in the organization and (2) increasing the attendance at the yearly convention of chapters that are locally, but not nationally active were two goals that would help support the purpose of Sigma Zeta and help to ensure a healthy future. It was agreed that these goals could be best achieved if all of the officers, not just the past-president, tried to contact at least three schools in their region that do not have Sigma Zeta chapters and try to stimulate interest in joining. If there were chapters in our regions that had not

attended a national meeting in several years, we were to encourage attendance at the 2002 convention.



l to r: Dr. Harold Wilkinson, Dr. Angela Hare,
Dr. Jim Hall, Dr. Cary Guffey

When I contacted faculty that I knew in the biology department at the schools in the immediate San Antonio area, I found that most had Beta Beta Beta chapters, and

they were unanimously reluctant to start a competing organization. When I told them that the 2003 convention would be in San Antonio, that did peak the interest of some, and I will pursue those schools more in the coming months.

In February 2002 I attended the meeting of the Texas Association of Advisors to the Health Professions (TAAHP). I brought many copies of the Sigma Zeta History and Constitution, the "Introducing You to Sigma Zeta" pamphlets and some recent Sigma Zetans. I made contact with representatives of several small private schools and received some interest from Hardin Simmons University, Abilene Christian University and Tarlton State University. A representative from International Service Learning took and promised to deliver several pamphlets as he visited schools to attract participants in his organization's service learning projects. In the near future I plan to reconnect with these individuals. If Sigma Zeta's Council agrees, I plan to invite these schools to participate as guests (if I'm unsuccessful in persuading them to submit a new chapter application) at the 2003 meeting in San Antonio. Currently the Sigma Chapter is the only chapter in Texas.

I brought to the meeting the 2001-2002 financial statement of the TAAHP to share with Sigma Zeta Officers. I found similarities in their discussions and our discussions regarding a not-for-profit organization accumulating too much money. TAAHP voted to increase the number of scholarships they awarded.

I have made some initial contacts in regards to field trips and have prepared a flier advertising the 2003 convention in San Antonio. Because of the great travel distance for EVERY attending chapter, we will do everything we can to encourage a healthy attendance.

I think we should all be encouraged by the enthusiasm and energy of the advisors and students of the chapters that have been active at the national level recently, and I am confident that we can achieve slow but steady growth in the coming years.

Treasurer Glenn McQuaide - There is currently a balance of \$31,189.18 in the combined accounts of Sigma Zeta. These accounts are at Union Planter National Bank and Millikin University. Income from Chapters and other sources for the period 3/31/01 to 4/1/02 was \$12,980. Total expenses were \$10,535.52. There is currently \$15,000 in the Development Fund as a Long Term Certificate of Deposit. The remainder of the Development Fund is in a checking account. (Report prepared by Harold Wilkinson for Glenn due to timing of transferring information)

Past President Angela Hare: Everyone was satisfied with the latest Sigma Zetan. Color is nice but considering the expense and overall improvement in quality it was decided to continue with black and white versions.

Webmaster Bob Kistler: I have been getting several requests from chapters to update advisors and email and I take this as evidence that the web site is being used to a certain extent. The web site is up to date, although changes have been mostly maintenance in the last year. (Written report submitted via Jim Reynhout)

I plan to (given time) to expand and modify the site in the coming year in the following ways.

A. Replace the front-page images with some meaningful Sigma Zeta “iconography”. I have some ideas, but would welcome others and images that you might have.

B. Put some pictures (like those currently on the home page) at appropriate places in the site to depict what is going on in both chapters and national meetings. (Of course this assumes that I can get pictures from Chapters and National Meetings.)

C. Develop and advisor’s email mailman list serve (Bethel’s server guru who was a student member in days gone by has agreed to set this up for us). We could start this with the existing list and then allow a policy of “opt-in” and “opt-out”?

D. I would still like to get the past Sigma Zetans on-line as a pdf files to provide an archive and examples of Future Students.

Historian Bob Moffitt: This past year I received the national archives from Kem Badger (Xi) at Ball State. A complete inventory of these materials was made. I have also endeavored to make a complete list of all local chapters (active, inactive, and retired). It seems in recent years there have been some questions regarding the growth of the Development Fund. I thought the history might be helpful. All of this information is included in this journal. I am also making a proposal for the purchase of software and hardware for archiving historical matters for the society.

Motion- A motion was made and passed to provide Bob Moffitt with \$850 to purchase software and hardware (scanner/CD burner) for improving Sigma Zetan publication and archival storage.

Following up from the Advisor’s meeting on November 11, 2001 at Immaculata College, I emailed 4 chapters to try and determine their level of activity. I got no response. The chapters I contacted on March 12, 2002 are:

Oglethorpe, Alpha Nu, icramer@falstaff.oglethorp.edu, Jeff Cramer
Clinch Valley, Alpha Xi, vwd@wise.virginia.edu, Van Daniel, (Now

known as the University of Virginia at Wise)

Belhaven College, Beta Theta, achestnut@belhaven.edu, Al Chestnut
Coastal Carolina Univ., Beta Mu susan@coastal.edu, Susan Libes

Executive Director Harold Wilkinson reported on the activity of the National Office by

Distributing a handout. From March 31, 2001 to April 1, 2002, the number of new student initiates joining the society is 363. Faculty initiates total 8. 167 items of jewelry was distributed. 22 of 50 chapters had submitted Officer report forms. 31 chapters communicated with the National Office. \$9,097 was recorded as being received from chapters for Dues and Jewelry.

Efforts have been made to recover the \$6539.00 in outstanding checks from the years of 1999 and 2000. Of the \$3929.00 in organizational checks, \$2656.00 has been recovered or 67.6%. Of the \$2,610.00 in individual checks, \$595 was recovered or 22.8%. There is little hope of recovering the remaining \$3,288.00. The issue will be considered closed.



Dr. Jim Reynhout and Dr. Harold Wilkinson

Minutes of the Fall Advisors Meeting were discussed and approved. See separate handout.

There was a discussion regarding the amount of money in the Sigma Zeta account. It was thought that we should try to spend all of what we take in and that the best direction for this money would be to spend it to support travel to the national convention.

A discussion regarding whether or not we should change the honor award pin resulted in a decision to retain the current pin in a slightly larger form to be used as either a key chain fob or necklace pendant.

Sigma Zeta

National Office Activity Report 1-April-2001 to 1-April-2002

Chapter	New Student Memberships	New Faculty Sponsors	Dues Received	Date of Last Election Report	Officer Report Received	Pins/Medallions Disbursed
Beta	23		\$575.00	11/1/01	01-02	13
Gamma			\$0.00			
Delta			\$0.00			
Epsilon			\$0.00			
Lambda	8		\$200.00	12/7/01	02-03	7
Mu			\$0.00			
Xi			\$0.00			
Pi			\$0.00	2/5/01	00-01	
Rho	15		\$375.00	12/5/01	01-02	

Chapter	New Student Memberships	New Faculty Sponsors	Dues Received	Date of Last Election Report	Officer Report Received	Pins/Medallions Disbursed
Sigma	10		\$250.00	12/10/01	01-02	
Tau			\$0.00			
Upsilon			\$0.00			
Phi	13	2	\$325.00	3/5/02		10
Chi			\$0.00			
Psi			\$0.00			
Alpha Beta	7	1	\$175.00	4/25/01	99-00	2
Alpha Gamma	22		\$550.00	4/9/01	00-01	
Alpha Delta			\$0.00			
Alpha Epsilon			\$0.00			
Alpha Zeta			\$0.00			
Alpha Eta			\$0.00			
Alpha Theta	14		\$350.00	5/1/01	00-01	
Alpha Kappa			\$0.00	10/1/00	00-01	
Alpha Lambda			\$0.00			
Alpha Mu			\$0.00	4/12/00	01-02	
Alpha Nu	10		\$250.00	4/12/01	01-02	12
Alpha Xi	13		\$325.00	5/1/02	98-99	
Alpha Pi			\$0.00	4/25/00	00-01	
Alpha Rho	16		\$400.00	11/14/01	01-02	12
Alpha Sigma	6		\$150.00	4/29/01	01-02	
Alpha Tau			\$0.00			
Alpha Upsilon	13		\$325.00	2/25/02	00-01	
Alpha Phi			\$0.00	3/8/01	00-01	
Alpha Chi	6		\$150.00	2/24/01	00-01	
Alpha Psi	7	1	\$175.00	11/15/01	01-02	7
Alpha Omega			\$0.00			
Beta Alpha			\$0.00		01-02	
Beta Beta	6		\$150.00	2/9/02	01-02	
Beta Gamma			\$0.00			
Beta Delta			\$0.00	10/29/00		
Beta Epsilon			\$0.00	4/27/00		
Beta Zeta			\$0.00	3/31/00	01-02	
Beta Eta			\$0.00			
Beta Theta	20		\$500.00	4/25/02	00-01	10
Beta Iota	25		\$625.00	4/26/01	99-00	
Beta Kappa			\$0.00			
Beta Lambda	49		\$1,225.00	2/20/02		10
Beta Mu	21		\$525.00	12/4/01	01-02	22
Beta Nu	26		\$650.00	4/19/01	00-01	15
Beta Xi			\$0.00	1/25/01	99-00	
Beta Omicron	33	4	\$825.00	3/22/02	00-01	47
Somerset Associate			\$0.00		98-99	
Count	22	4	22	31	30	12
Total	363	8	\$9,075.00			167

Past President Angela Hare - The duties of the Past-President were on my mind several years ago as our chapter planned to host the national convention this year. The convention has not been at a northeast location for several years,

and I thought this would be a good opportunity to encourage northeast chapters who have recently been inactive at the national level to increase their involvement. Toward that end, I made several overtures over the past eighteen months to chapters within a 200 mile radius of Messiah College, offering to bring our chapters together for some regional activities and reminding them of the up coming convention. We also purposely held the fall advisors meeting in 2001 at Immaculata College to encourage local advisors to attend. However, as the roll call for this 2002 convention indicates, I have not been very successful at promoting more involvement among northeast chapters. Apparently, these chapters are rather inactive or have their hands full with their own chapter activities. Perhaps I would have better luck with a different approach. I suggest that in the future, the officers and Past-President in particular, change their focus from promoting the national organization primarily to chapter advisors and instead attempt to specifically target a small number of students in these chapters. By inviting one or two students to present their work and helping them make the trip even without an advisor, we might be able to generate enthusiasm that those students could take back to their chapters.



Dr. Angela Hare

Old Business

Gamma Chapter - At the 2001 convention, a letter from Thomas Karnes, former advisor of Gamma Chapter (School of Pharmacy at Virginia), indicated a replacement advisor was not forthcoming. He wanted to know what to do with the \$3000 dollars in the chapter account. He felt it needed to be forwarded to the national organization. The following motions were then passed.

Motion - A national officer visits the university and encourages the reactivation of the chapter. Motion Passed.

Motion - In the event that reactivation fails, it is moved that the Gamma Chapter submit their monies to the National office with the idea that this money would be deposited into a separate interest bearing account and maintained until such time as the chapter actually withdrew its charter or was reactivated. If reactivated, the principal would be returned. A time limit of 5 years would be set at which time the monies become National assets. Motion Passed

Dr. Hare was assigned to make the contact and try to move the chapter towards activity. She was unsuccessful. It was decided to follow through with the second

motion with Dr. Wilkinson writing a letter to Dr. Karnes and explaining our decision.

Sigma Zeta Advising Handbook - Nothing has been done recently to improve the handbook. Discussions for whether to retitle and modify the contents so that it includes instructions to chapter officers and members were conducted. The impression from the comments was to proceed in this direction. Bob Moffitt agreed to put together a small copy if Harold will send any corrections received from last year's ad hoc committee.

New Business

Committee Assignments - Angela Hare - Forms were distributed for sign-up of students for the following committees: Founder's Cup, Nominations, Honor Award, Auditing, and Resolutions. It was suggested that each chapter provide one or two names of students to serve on the various committees.

Founders Cup

Chairman - Rob VanPutte, Beta
Members of the Beta Chapter
Harold Wilkinson
Jim Hall

Honor Award

James Hall, Sigma
Harold Wilkinson, Pi

Nominations

Chairman, Richard Stewart, Alpha Gamma
Tony Paulson
Nick Zoller
Kim Romanoski,
Jennifer Vernowski
Leah Travoni
Sarah Nelson
Jennifer Vallah
Mike Perez
Issu Ramirez

Auditing

Chairman, Carry Guffy, Sigma
Jennifer Gumm
Cheryl Weening
Mike Sauder

Sare Brown
Joy Hassen
Glenn McQuaide, National Treasurer, Alpha Beta
Daniel Hold

Resolutions

Chairman, Monica Rivera/Rob VanPutte, Beta
Paul Boswell
Michelle Riemer
Andrea Fuller
Elizabeth Kreakie
Samantha Breedin
Sara Blauch
Olivia Hipolit
Jamie Martin
Jessica Munoz
Monica Rivera

Travel Reimbursement - Expense vouchers were distributed for individuals to fill out. Reimbursement is at a rate of 20 cents per mile. Checks will be issued Saturday.

Convention Preparation Report - Angela Hare -Shanks Ferry field trip will be leaving early to enable the participants to get back in time for the banquet.

Fall Meeting Plans - Motion to hold the fall meeting in November was approved. Meetings will begin at 1:00 p.m. All National Officers are to attend. Advisors from any chapter may also attend at their own expense. It is suggested that ways be sought after to assist the attendance of as many advisors as possible.

Future Convention Sites - Year 2003 - Our Lady of the Lake University, TX.
Year 2004 - Millikin University, 2005 - Malone College, 2006 - Otterbein??

Friday April 12, 2002

Opening Session 8:00 am

Dr. James Hall opened the meeting with the Historic Gavel in the Jordan Science Center. He welcomed the members of Sigma Zeta to the conference. Host chapter introductions followed. Dr. Angela Hare encouraged all to wear their nametags and sign up for field trips.



Dr. Jeff Frazier
welcomes SZ

Dr. Jeff Frazier, Dean of the School of Health and Natural Sciences welcomed the members to Messiah College. He declared his support for the science endeavors of Sigma Zeta. His talk emphasized the need for more literacy in science.

Business Meeting 11:20

Jim Hall began the meeting with introduction of the national officers and establishment of committee assignments. Executive Director Harold Wilkinson, Treasurer Glenn McQuaide, Publicist and Past-President Angela Hare,

National Webmaster Bob Kessler (not in attendance), Historian Bob Moffitt. Attendance: 57.

Committee assignments were read and committees were allowed to meet and make plans for their responsibilities. Committees were instructed to meet whenever possible. The meeting adjourned for lunch.

Friday afternoon was spent attending field trips. Destinations included: Shenk's Ferry Wildflower Preserve, Gettysburg National Military Park, Whitaker Center for Science and the Arts, Canoe/Kayak Trip and Hershey's Chocolate Factory.



Dr. Jim Hall opens the meeting

Friday Banquet Session

The banquet began at approximately 6:15 at the Grantham Church. Dr. James Hall officially greeted the 67 members and guests in attendance. A prayer was given followed by announcements by Dr. Angela Hare. A buffet dinner followed.

Dr. David Olson, a senior research scientist for Dupont-Merck Pharmaceuticals was the guest speaker. He spoke on his drug intervention research on HIV infection protease inhibitors. A review of the process of AIDS infection was presented including how protease enzymes promote activation of the immature virion. His research is discovering ways to block the protease enzyme.

Dr. Olson's talk was followed by the presentation of 2 honor award keys: Kimberly Brothers, Messiah College Beta Lambda chapter and Melissa Adams, McKendree College Beta chapter. Dr. Harold Wilkinson read the petitions and President Hall presented the awards.

Honor Award Petitions

Kimberly Brothers
Beta Lambda Chapter
Messiah College



Kim has been very active in Sigma Zeta for two years, and she is currently President of our chapter, which is a heavy task during a year when the chapter is host of the national convention. Kim's strengths are organization and motivating her fellow students to step up to the large and small tasks and work well together. She is definitely an encourager. During her year as President, our chapter membership has increased significantly, particularly among mathematics and computer science majors. Students are eager to join an organization like Sigma Zeta and present their work when they hear her enthusiastically describe the benefits of membership. As a senior Kim has presenter her research several time, most recently at the Pennsylvania Academy of Science. She plans to continue her studies in graduate school after graduation. Her character, passion, and organizational skills will serve her well in the future.

Melissa Adams
Beta Chapter
McKendree College

The Beta chapter wishes to nominate Melissa Adams for the Sigma Zeta Honor Award. Melissa is biology major. She joined the chapter in the fall of 1999. Melissa soon showed much interest in the chapter. Her many efforts in the chapter's ongoing reconstruction and renovation of McKendree's on-campus greenhouse should be commended. In addition, Melissa has actively supported fundraisers for our chapter as well as assisting in the judging of



science fairs. Melissa’s leadership toward educating our campus community about Earth Day should also be rewarded. Melissa’s academic excellence is highlighted by her many academic honors, including a Presidential Scholarship. It is with great pride that our chapter nominates Melissa for this award.

Saturday April 13, 2001

President James Hall called the closing business meeting to order. He extended a special thanks to all the participants in attendance at this convention. There was a special thanks for the work of the host chapter, members of the various national committees, and for the excellent speech by Dr. Olson. After this brief welcome, Dr. Hall introduced the current National Officers who gave a brief report of their service.

- Dr. Harold Wilkinson - National Executive Director
- Dr. Glenn McQuaide - National Treasurer
- Dr. Angela Hare - National Publicist and Sigma Zetan Editor
- Dr. Bob Kistler - National Webmaster (in absentia)
- Mr. Robert Moffitt - National Historian

Dr. Wilkinson presented a plaque to the officers of the Beta Lambda chapter recognizing their service as the host of the 2002 convention.

Dr. Wilkinson conducted a roll call of chapters with the following results:

Chapter	Number of Attendees
Alpha Beta	2 faculty, 7 students
Alpha Gamma	2 faculty, 4 students
Beta	1 faculty, 5 student
Beta Iota	1 faculty, 45students
Beta Lambda	5 faculty, 21 students
Pi	1 faculty, 4 students
Sigma	2 faculty, 11 students

Committee Reports

Auditing Committee

We the members of the auditing committee have examined the ledger, check records and receipts for the fiscal year 1 April 2002 and have made the following recommendations.

1. That the Development Fund be maintained separately from the General Business Fund.

2. That the Treasurer should verify the amount shown for the 1 April 2001 balance Forward;

3. That the Treasurer's Report for 1 April 2002 be adjusted as follows:

A. The line item entitled "Transfer of Funds from West Shore Credit Union" should be omitted (Because this amount was already included in the Balance Forward from 1 April 2001).

B. The line item entitled "Development Funds" that is currently listed under "Disbursements" be placed in a separate category for transfers.

C. The total disbursements should be adjusted to reflect the above changes and corrections to the line items entitled "National Convention Travel" and "Miscellaneous". It should total \$10,850.98

4. That a new balance of \$25,000 be established in the Development Fund (per the Treasurer's Report of 1 April 2002). This includes a transfer of \$3,484.30 from the General Business Fund



Dr. Cary Guffey, Sigma

We commend the work of Glenn McQuaide as Treasurer over the past year, and we especially applaud the extensive efforts of Executive Director Harold Wilkinson in updating the fiscal records.

Resolutions Committee Report

Be it resolved that...

1. All historians make sure the batteries in their cameras are good
2. Northerners be prepared for a change in the weather because southerners like it hot.
3. All future water sports take place in 80-degree weather rather than 50-degree weather.
4. Kayaking is not easier than canoeing
5. The next person who falls asleep and snores during the speaker does not wake up and ask questions.
6. The hotel ceiling be 4 feet instead of 5 feet.
7. All presenters bring their own laptop in case the disks are unreadable.
8. During student presentations their mentors aren't allowed to ask questions.

9. Beta Lambda be thanked for hosting a great convention
10. All trips recommended to take 4 hours not be condensed to 2.
11. No more presentations are held in rooms with stuffed, hung or horny animals on the wall.
12. Field trips that include members from the Texas group are monitored for wondering off cliffs.
13. Shrek be designated as the Sigma Zeta Mascot for 2002.
14. More durable plastic cups, ones that don't crack & spill grape juice on khaki pants first thing in the morning are provided.
15. The 2002 Sigma Zeta National Meeting theme song should be the Hershey



Chocolate-World Ride song ...”Hershey, Hershey, the greatest chocolate in the world!”



16. Any future Thursday night movie mixers include popcorn & pizza.
17. Any Thursday night meeting will always last 2-3 hours longer than planned therefore should be planned until at least 12:00 midnight.

18. The resolutions committee should be more resolved.

Nomination Committee

It is with great pleasure that the nominations committee present the following slate of National Officers for 2002-2003.

- National Executive Director - Dr. Harold Wilkinson, Pi
- National Treasurer - Dr. Glenn McQuaide, Alpha Beta
- National Publicists - Mr. Bob Moffitt, Alpha Gamma
- National Webmaster - Dr. Bob Kistler, Beta Iota
- National Historian - Mr. Bob Moffitt, Alpha Gamma
- National President Elect - Dr. Cary Guffy, Sigma
- National President - Dr. Jim Reynhout, Beta Iota
- National Past President - Dr. Jim Hall, Sigma

It was moved, seconded and voted to approve this slate of officers for the next year.



2002 Founders Cup Winner
Alpha Beta

Founders Cup

No traditional founders cup committee was formed because only one application was submitted. After reviewing the report, the national officers felt it met all qualifications. President Jim Hall presented the traveling cup to the Alpha Beta Chapter officers from Campbellsville University, Campbellsville, Kentucky.

Presentations and Announcements

A recognition plaque was presented to the Beta chapter for being the Founder's Cup recipient for the 2000-2001 academic year.

A recognition plaque was also presented to the Beta Lambda chapter for their hosting of the April 2002 national convention.



Dr. Wilkinson presents plaque to
2001 Founders Cup winners, Beta

Dr. Dr. Angela Hare was recognized for her three years of service as an officer in the National Organization.



Dr. Angela Hare, Beta Lambda

Dr. Hall announced the site of next year's convention to be Our Lady of the Lake University, San Antonio, Texas. The Sigma chapter will be host. There are many interesting field trips that the organization can anticipate. April 4-6, 2003 is the tentative dates for the meeting. The fall advisor's meeting will be the first week in November.

Chapters are reminded that students could submit their papers for publication in the Sigma Zetan.



The gavel was passed by President Hall to Dr. Jim Reynhout who gave a short speech of appreciation. The meeting adjourned at 12:10 p.m.

Treasurer's Annual Report
for Sigma Zeta
National Chapter
April 1, 2001- April 1, 2002

Balance Forwarded April 1, 2001 (Recorded vs. Adjusted to Right) 31189.18 **34758.51**

Income

Chapter Income 13548.45
Other Income 1000.00

Total Income **14548.45** **49306.96**

Disbursements

National Convention Travel 2896.40
National Officer Travel 1087.97
National Officer Expenses 365.36
National Office Equipment 1899.97
National Publications 1839.45
National Convention Awards 75.00
Jewelry- King Pin 1446.78
Stationery- Pamco Label 368.36
Miscellaneous 557.63
Other Misc. 314.06

Total Disbursements **10850.98** **38455.98**

Balance April 1, 2002 **38455.98**

Development Fund Investment

Transfer of Funds (Closing Accounts with SCUA) 24458.23

Long-term CD 15000.00
Conventional Savings Account 10000.00

Total Development Funds **25000.00**

(Open Accounts with Union Platers)

Sigma Zetan Journal Inventory

<u>Volume</u>	<u>Date</u>	<u>Volume</u>	<u>Date</u>
I No. 1	4/29	XXXII No. 1	12/61
2 No. 1	4/30	XXXIII No. 1	4/62 - 4/63
3			
4		XXXIV No. 1	4/63 - 4/64
5		XXXV	4/64 - 4/66
6 No. 2	4/35	XXXVI	4/66 - 4/67
7 No. 1	35-36	XXXVI	4/67 - 4/68
8 No. 2	5/37	XXXVII	4/68 - 4/69
9 No. 1	4/38	XXXVIII	69 - 70
X No. 1	1/39	XXXIX	70 - 71
No. 2	3/13/39	XL	71 - 72
No. 3	5/39	XLI	72 - 73
XI No. 1	3/40	XLII	73 - 74
No. 2	5/40	XLIII	74 - 75
XII No. 1	4/41	XLIV	4/75
No. 2	5/41		(GOLDEN ANNIVERSARY ISSUE)
XIII	5/42	XLV	4/76
XIV No. 1	2/43	XLVI	9/76 - 4/77
No. 2	4/43	XLVII	4/78
XV No. 1	12/43	XLVIII	5/79
No. 2	4/44		(50th CONVENTION ISSUE)
XVI No. 1	12/44	XLIX	5/80
No. 2	4/45	XLX	5/81
XVII No. 1	12/45	XXLI	4/82
No. 2	4/46	XXLII	4/83
XVIII No. 1	12/46	XXLIII	4/84
No. 2	5/47		(numbers out of sequence)
XIX No. 1	12/47	XLXVI	4/85
No. 2	5/48	XLXVII	4/86
XX No. 1	12/48	LVIII	4/87
No. 2	5/49	MCMLXXVIII	4/88
XXI No. 1	12/49	LV	4/89
No. 2	9/50	LVI	4/90
	(SILVER ANNIVERSARY ISSUE)	LVII	4/91
XXII No. 1	2/51	LVIII	4/93
XXIII No. 1	12/51	LIX	3/94
No. 2	5/52	LX	3/94
XXIV No 1	1/53	LXI	3/95
XXV No. 1	1/54	LXII	3/96
XXVI No. 1	1/55	LXIII	3/97
No. 2	11/55	LXIV	3/98
XXVII No. 1	12/56	LXV	3/99
XXVIII No. 1	2/58	LXVI	4/00
XXIX No. 1	2/59	LXVII	4/01
XXX No. 1	4/60		
XXXI No. 1	9/60		

Inventory of Historical Archives

1. Scrapbooks

- 1938 through 1958 convention memorabilia
- 1959 through 1964 convention memorabilia
- 1970 through 1979 convention memorabilia
- 1980 through 1989 convention memorabilia
- 1990 through 1992 convention memorabilia
- Nearly complete set of Sigma Zetans (see previous page)

2. Brochures

- 1942 National Constitution; 4 copies
- 1947 History and Constitution; 1 copy
- 1956 History and Constitution; 1 copy
- 1959 History and Constitution; 5 copies
- 1977 History and Constitution; 1 copy
- 1998 History and Constitution; 1 copy
- Promotional brochure; history, gavel information, officers for 1947-48; 73 copies
- Development Fund brochure; ~100 copies

3. File folders containing:

- Information from 1985 convention at Ball State
- Various SZ correspondences
- National installation ceremonies, chapters mimeo masters, associate chapter installation information
- Titled Sigma Zeta national; correspondence from Joe Sheldon asking for letters re David Dautenhahn retirement at March 1993 convention
- Returned questionnaires from chapters regarding attendance at conventions 1988
- A Manual for Chapter Secretaries and Advisors dated Sept. 1943
- Installation of new chapters ceremony, used for Alpha Mu and Alpha Pi installation
- Information from 1987 convention at Eureka College
- Sigma Zeta brochure material, photos, 3 mockups of original Introducing You to Sigma Zeta brochure
- Sigma Zeta National Chapters, computer printout of chapter information
- Old National materials from mid to late 1960's
- Catalogs of jewelry, 1963 and 1957

4. 31 envelopes of correspondence from national chapter late 50's early 60's mostly from Duane Deal recorder/treasurer (Ball State) and historian Gould

5. Loose collection of various mementos from past conventions, programs, banquet menus etc.

6. History of the Sigma Zeta Society; original (?) typed manuscript and several copies, some marked up by chapters with comments and edits. Dated from early 1950's. Transmitted from Duane Deal to H. Gould at Anderson Convention in April, 1960
7. Three negative photographs of (1) original Sigma Zeta charter for Alpha chapter, (2) State of Illinois certificate number 9983 recognizing Sigma Zeta incorporation (3) receipt for incorporation signed by Carleton, Powell, and List, founders of SZ.
8. One large box containing various copies of past Sigma Zetans
9. Constitution of Xi chapter, Ball State; 7 copies
10. Brown multi-pocket folder with materials from 1991 McKendree convention
11. Half size manila envelope; pictures and program of Suffolk University installation Nov.12, 1970
12. Bethel folder; material from 1990 April convention
13. A collection of brochures from three other honor societies, 1940's

Development Fund History

<u>Journal</u>	<u>Date of report</u>	<u>Contribution</u>	<u>Interest</u>	<u>Expense</u>	<u>Total</u>
XXVI	May 1955	10.00	0		10.00
XXVII	55-56	60.00	0		70.00
XXVIII	56-57	0	0		70.00
XXIX	57-58	38.66??	0		108.66
XXX	58-59	48.00	3.95		160.61
XXXI	59-60	2.00	20.84		183.45
XXXII	60-61	0	77.12		260.57 ¹
XXXIII	61-62	1.00	91.34		352.91
XXXIV	62-63	2.00	144.04		498.95
XXXV	63-64	20.00	101.16		620.11
XXXVIa	64-65	0	149.89		770.00
XXXVIb	65-66	0	183.99		953.99
XXXVIb	66-67	0	50.01		1004.00
XXXVIII	67-68	0	120.23		1124.23
XXXVIII	68-69	0	142.98		1267.21
XXXIX	69-70	0	154.23		1421.44
XL	70-71	0	185.76		1607.20
XLI	71-72	0	202.68		1809.88
XLII	72-73	2.00	214.10		2025.98
XLIII	73-74	5.00	226.52		2257.50
XLIV	74-75	187.72 (Nu) ²	282.86	(40.20)	2687.88
XLV	75-76	0	339.44	(155.00)	2872.32
XLVI	76-77	0	355.67	(110.84)	3117.15
XLVII	77-78	0	375.76	0.00 ³	3492.91
XLVIII	78-79	0	403.67	(118.00)	3778.58
XLIX	79-80	100 (Alpha Tau)	427.13	(119.31)	4186.40
XLX	80-81	0	422.80	(156.50)	4452.70
XLXI	81-82	0	326.51		4779.21
XLXII	82-83		715.53		5494.74
XLXIII	83-84		856.27		6351.01
XLXVI*	84-85		818.47		7169.48
XLXVII*	85-86		719.38		7888.86
LVIII*	86-87		791.56		8680.42
MCMLXXVIII*	87-88		648.03		9328.45
LV**	88-89		688.30		10016.75
LVI	89-90		750.26		10767.01
LVII	90-91		818.37		11585.38
LVIII	91-92		881.79		12467.17
LIX	92-93		602.54		13069.71
LX	93-94		627.39		13697.10
LXI	94-95		768.80		14465.90
LXII	95-96		944.59		15410.49

LXIII (Same financial report as in LXII; Editor switched to new publishing schedule for the journal)

<u>Journal</u>	<u>Date of report</u>	<u>Contribution</u>	<u>Interest</u>	<u>Expense</u>	<u>Total</u>
LXIV	96-97		997.75		16408.24
LXV	98-99	No financial report in this journal			
LXVI	99-00	Development Fund not reported separately			
LXVII	00-01	Development Fund not reported separately			

* Journal numbers out of sequence these years

** Although not the correct number, the Journal numbering sequence is followed from this point

¹- Growth of fund is from interest on a \$2000 account in the general budget. (XXXII 1961, Pg. 6)

²- Funds sent to national chapter when the local chapter retired. (XLIV 1975, Pg. 15)

³- The Financial Report for this year shows that regional expenses were taken from the general budget.

<u>Chapter Identity</u>	<u>School</u>	<u>Status</u>
Alpha (1925 – 1960)	Shurtleff College, Alton, IL	Retired
	College absorbed by Southern Illinois University at Edwardsville	
Beta (June 9, 1926) XX pg. 3	McKendree College, Lebanon, IL 62254	Active
Gamma (1927)	VCUMCV School of Pharmacy Richmond, VA 23219	?
Delta (1927-)	Missouri State Teachers College, Kirksville, Missouri	inactive 1943 XIV pg. 10
Epsilon (1929)	Otterbein College, Westerville, OH 43081	Active
Zeta (1929-)	Central State Teachers College, Stevens Point, WI	
Eta (1929 – 1949)	State Teachers College, Cape Girardeau, Missouri	Retired
	Inactive since 1934 as noted in 1942; charter was recalled in 1949 (XX No. 2 page 8)	
Theta (1932 – 1949)	Elizabethtown College, Elizabethtown, PA	Retired
	Charter recalled in 1949 (XX No. 2 page 8)	
Iota (1933)	Indiana State Teachers College, Terre Haute, IN	Never Chartered (see history and XIV pg 10)
Kappa (May, 1935 -)	Western Illinois State Teachers College, Macomb, IL	
Lambda (Oct. 19, 1936 -)	Mansfield State University, Mansfield, PA 16933	Active
Mu (April 16, 1937 -)	Minnesota State University, Mankato, MN 56001	
	Mankato State College	
Nu (1937 - 73/74) XLII pg.3	Northern Illinois State Teachers College, DeKalb, IL	Retired
Xi (May 23, 1938)	Ball State University, Muncie, IN 47306	Active
Omicron (March 30, 1939 – 1959)	Wilson Teachers College, Washington, D.C.	Retired
	Charter recalled in 1959 (XXIX page 2, bottom)	
Pi (1943)	Millikin University, Decatur, IL 62522	Active
Rho (July 10, 1943)	University of Indianapolis, Indianapolis, IN 46227	Active
	Indiana Central College	
Sigma (Oct. 23, 1944)	Our Lady of the Lake University, San Antonio, TX 78227	Active
Tau (1947)	East Stroudsburg State College, East Stroudsburg, PA 18301	

Upsilon (1948)	Anderson University, Anderson, IN 46012	
Phi (May 27, 1948)	Eureka College University , Eureka, IL 61530	Active
Chi (June 1, 1951)	Missouri Valley College, Marshall, MO 65340	
Psi (May 7, 1956)	Central Missouri State University, Warrensburg, MO 64093	
Omega (1961 -)	Frostburg State Teachers College, Frostburg, MD	
Alpha Alpha (1961 – 73/74) XLII pg.5	State Univ. of New York College of Education, Oswego, NY	Retired
Alpha Beta (1963)	Campbellsville University, Campbellsville, KY 42718	Active
Alpha Gamma (1969)	Malone College, Canton, OH 44709	Active
Alpha Delta (1969)	Newman University Kansas Newman College , Wichita, KS 67213	
Alpha Epsilon (1969)	Indiana Wesleyan University, Marion, IN 46952	Active
	Marion College	
Alpha Zeta (May 9, 1969 -)	Indiana State University, Terre Haute, IN, 47809	
Alpha Eta (Dec. 17, 1969 -)	Olivet College, Olivet, MI, 49076	
Anne Arundel Associate (Feb. 13, 1970 -)	Anne Arundel Community College, Arnold, MD 21012	
Alpha Theta (March 30, 1970 -)	Asbury College, Wilmore, KY 40390	Active
Illinois Central Associate (Apr. 8, 1970 -)	Illinois Central College, East Peoria, IL, 61635	
Alpha Iota (May 12, 1970 -)	Wisconsin State University, LaCross, WI, 54601	
Alpha Kappa (May 21, 1970 -)	University of Southern Indiana, Evansville, IN 47712	Active
Alpha Lambda (Oct. 17, 1970)	Suffolk University, Boston, MA 02114	
Alpha Mu (March 3, 1971)	Immaculata College, Immaculata, PA 19345	Active
Alpha Nu (March 4, 1971)	Oglethorpe University, Atlanta, GA 30319	Active
Alpha Xi (April 22, 1971)	The University of Virginia's College at Wise, Wise, VA 24293	Active
	Clinch Valley College	
Alpha Omicron (Nov. 12, 1971(2?) -)	Baptist College, Charleston, S.C., 29411	
Alpha Pi (March 24, 1972)	Trevecca Nazarene University College , Nashville, TN 37201	Active
Alpha Rho (1972)	Stonehill College, North Easton, MA 02356	Active
Alpha Sigma (1972)	Dakota Wesleyan University, Mitchell, SD 57301	Active
Alpha Tau (Nov. 15, 1973 – May, 1980)	Annhurst College, Woodstock, CONN, 06281	Retired
	College closed in May, 1980	
Alpha Upsilon (1975)	Union University, Jackson, TN 38301	Active
Alpha Phi (1975)	Marist College, Poughkeepsie, NY 12601	Active
Alpha Chi (1976)	Eastern University College , St. Davids, PA 19087	Active
Alpha Psi (1976)	Hillsdale College, Hillsdale, MI 49242	Active

Alpha Omega (1976)	St. Mary of the Woods College, St. Mary of the Woods, IN 47876	Active
Beta Alpha (May 6, 1977) XLVI pg.7	Lyndon State College, Lyndonville, VT 05851	Active
Beta Beta (1978)	George Fox College, Newberg, OR 97132	Active
Beta Gamma (1978)	Columbia College of Missouri, Columbia, MO 65216	
Beta Delta (1996)	Gwynedd-Mercy College, Gwynedd Valley, PA 19437	Active
Beta Epsilon (1979)	Arcadia University Beaver College , Glenside, PA 19038	Active
Beta Zeta (1981)	Cabrini College, Radnor, PA 19087	Active
Beta Eta (1985)	Evangel University College, Springfield, MO 65807	
Beta Theta (1983)	Belhaven College, Jackson, MS 39202	Active
Beta Iota (1983)	Bethel College, St. Paul, MN 55112	Active
Beta Kappa (1991)	Kentucky Wesleyan College, Owensboro, KY 42302	
Beta Lambda (1993)	Messiah College, Grantham, PA 17027	Active
Beta Mu (1994)	Coastal Carolina University, Conway, SC 29526	Active
Beta Nu (1997)	Houghton College, Houghton, NY 14744	Active
Somerset Associate (1997)	Somerset Community College, Somerset, KY 42501	Active
Beta Xi (1999)	Pikeville College, Pikeville, KY 41501	Active
Beta Omicron (2001)	Madonna University, Livonia, Michigan 48150-1173	Active

Convention Photos









