



Shock Society Newsletter

FALL 2012



President's Message Basilia Zingarelli, M.D., Ph.D.

Dear Shock Society Members:

Unfortunately, I begin this newsletter on a sad note. As you probably know, our former president, Dr. Daniel Traber, passed away on September 19th. This is a great loss for the Shock Society. Indeed, we will miss one of the most dedicated advocates and leaders of our Society. The *in memoriam* article in this newsletter provided by Dr. David Herndon honors Dr. Traber's professional and personal achievements and his enormous contributions to our Society. Dr. Traber will be missed and always remembered.

The new business year of the Shock Society has started with a schedule full of organizational initiatives. I would like to thank all Committee Chairs and Members for volunteering their service. During the upcoming year, Chairs and Members of our Shock Society working groups will re-examine their charges and goals, and will recommend specific guidelines of their Committee's roles. As the research in the field of shock and trauma continues to evolve, it is important that we ensure that each Committee's task is aligned with the mission of the Shock Society. These working groups are listed in details in our website (<http://www.shocksociety.org>), and I encourage the membership to visit the website for more information about the Committees. Also, I encourage the membership to keep in contact with these Committees, Council Members and myself to advocate for issues that are critical to our mission.

One activity that I already would like to acknowledge is the important work of the Task Force led by Dr. Dan Remick on the re-structure of the Meeting Program.

Over the past few months, this Task Force gathered input from the membership about the format of program events. And I would like to thank everyone who filled out the survey. It was a big help in deciding how to go forward with the new Program Structure.

While the Task Force will report its results at our 2013 Business Meeting in San Diego, I can anticipate that our membership is very appreciative of the important network initiatives that the Shock Society supports.

2012 Meeting

I would like to congratulate Dr. James Lederer and the members of the 2012 Program Committee for the success of this year's meeting. Over 450 registrants from national and international destinations attended the 7th Congress of the International Federation of Shock Societies and the 35th Annual Conference on Shock held in Miami, Florida.

Congratulations to Wendy Walker from Yale University who received the 2012 Early-Career Investigator Award. We also congratulate this year's winner of the New Investigator Award, Michael Kuncewitch, from Hofstra North Shore-LIJ School of Medicine, who gave an outstanding presentation entitled "WNT Agonist Attenuates Liver Injury and Improves Survival after Hepatic Ischemia Reperfusion"

The Shock Society proudly presented the 2012 SHOCK Society Scientific Achievement Award to Richard Hotchkiss and the 2012 Distinguished Service Award to Daniel Traber.

2013 Meeting

The Shock Society's Thirty Sixth Annual Conference will be held June 1 - 4, 2013 at the Sheraton San Diego Hotel & Marina in San Diego, California. Dr. Ping Wang, Chair of the Scientific Program, and his Committee has put together outstanding sessions and symposia, which will feature some of the most cutting-edge research and influential speakers, and will provide an enriching educational opportunity for our students and young investigators. Complete information about the meeting and abstract submission will be posted at our web site: <http://www.shocksociety.org>.

Please also mark your calendar for future Shock Society meetings. The 37th Annual Conference on Shock will be held June 7 - 10, 2014 at the Westin Hotel in Charlotte, North Carolina and the 2015 meeting will be held at the Grand Hyatt June 6 - 9 in Denver, Colorado.

An important reminder about the 2013 meeting is that five New Investigator Awards and forty Travel Awards are available to encourage participation by young investigators. Also, consistent with the mission of promoting diversity, I am proud to inform you that the Shock Society Council has re-appointed the Diversity Task Force, which will be led by Dr. Octavia Peck-Palmer. The Diversity Task Force will reward four additional Travel Awardees. In this difficult funding climate, I encourage young investigators to take advantage of these opportunities and to attend the meeting. It will be a unique experience to increase the visibility of their research and establish relationship with senior investigators in their field.

All members are also invited to send in nominations for the 2013 Shock Society Scientific Achievement and Distinguished Service Awards. Cover letter and curriculum vitae should be submitted to Yoram Vodovotz, PhD, Chair of the Awards Committee at vodovotz@upmc.edu by December 1, 2012.

Finally, as a kind reminder I would like to encourage all of you to renew your membership. Dues forms may be accessed on line at <http://www.shocksociety.org>. Be sure to pay your Shock Society dues so you can still enjoy reading the SHOCK journal and sponsor abstracts for the upcoming 2013 Annual Conference.

I look forward to working with all of you this year.

Sincerely,
Basilia Zingarelli



Ping Wang, M.D.
Chair, 2013 Program Committee

Dear Colleagues,

On behalf of the Scientific Program Committee, we invite you to attend the 36th Annual Conference on Shock in San Diego, California. This year's program is aimed at providing a broad and concise overview of the new developments in shock, injury and sepsis research. The array of presentations includes inflammatory mediators, trauma resuscitation, stem cell biology, cytokine/chemokine regulation, and microparticles in shock. These and many more topics will be presented as plenary sessions and parallel symposia. Our Keynote Speaker will be Kevin Tracey, MD, President and CEO of The Feinstein Institute for Medical Research, Manhasset, NY. We will have a lunch session on the topic "How to Advance Your Academic Career" given by Timothy R. Billiar, MD and David L. Williams, PhD. In addition to the New Investigator Competition presentations, this year we will have talks from the Research Fellowship Recipients, Daithi Heffernan, MD and Wendy Walker, PhD. We are certain that you will find the scientific and social program both rewarding and enjoyable. The following is the list of topics to be featured:

Plenary Sessions:

Inflammatory Mediators: History and Perspectives

Alfred Ayala, PhD (Brown University, Providence, RI) and Craig M. Coopersmith, MD (Emory University, Atlanta, GA)

This session will focus on the perspectives of inflammatory mediators both new and old to get better understanding in using them as diagnostics and/or therapeutics for injury, shock and sepsis.

Tranexamic Acid (TXA) and Trauma Resuscitation

Irshad H. Chaudry, PhD (University of Alabama at Birmingham, AL) and Anthony Pusateri, PhD (US Army Medical Research and Materiel Command)

This session will include four exciting presentations on the topic of trauma research and novel resuscitation approaches.

Symposia:

Plenary Abstracts

Basilia Zingarelli, PhD, MD (Cincinnati Children's Hospital Medical Center, OH) and Robert N. Cooney, MD (Upstate Medical University, Syracuse, NY)

This session will have seven presentations by investigators who received the top scores (non-new investigator competition abstracts) for the 2013 abstract submission.

Stem Cell Biology and Regenerative Medicine

James A. Cook, PhD (Medical University of South Carolina, Charleston, SC) and Ping Zhang, MD, PhD (Michigan State University, East Lansing, MI)

This session will have exciting presentations on a new topic concerning the role of stem cells and progenitor cells in regenerative medicine.

Cytokine and Chemokine Regulation

Barbara Sherry, PhD (The Feinstein Institute for Medical Research, Manhasset, NY) and Edward R. Sherwood, MD, PhD (Vanderbilt University, Nashville, TN)

This session will cover stimulating topics including oxidant regulation of chemokines, regulation of lymphocyte trafficking, dysregulated cell trafficking in sepsis, and immunotherapeutics in sepsis.

Microparticles, Inflammation and Shock

Charles C. Caldwell, PhD (University of Cincinnati, OH) and Marc Maegele, MD, PhD (University of Witten/Herdecke, Cologne, Germany)

This session will deal with a novel aspect of microparticles in injury and inflammation. The topics will include microparticles in sepsis, shock, and traumatic brain injury.

Mini-Symposia:

Sepsis: Mechanism and Therapeutics

Edwin A. Deitch, MD (UMDNJ-New Jersey Medical School, Newark, NJ) and Haichao Wang, PhD (The Feinstein Institute for Medical Research, Manhasset, NY)

This session will have 10-min presentations from 8 selected abstracts submitted for the meeting in the mechanism and therapeutics in sepsis.

Trauma and Hemorrhagic Shock

John G. Younger, MD (University of Michigan, Ann Arbor, MI) and Celeste C. Finnerty, PhD (University of Texas Medical Branch, Galveston, TX)

This session will have 10-min presentations from 8 selected abstracts submitted for the meeting on the topic of trauma and hemorrhagic shock.

Inflammation Signaling

Martin G. Schwacha, PhD (University of Texas Health Science Center at San Antonio, TX) and Christine Metz, PhD (The Feinstein Institute for Medical Research, Manhasset, NY)

This session will have 10-min presentations from 8 selected abstracts submitted for the meeting on the topic of signaling factors and pathways in inflammation.

Ischemia and Reperfusion Injury

Edmund J. Miller, PhD (The Feinstein Institute for Medical Research, Manhasset, NY) and Hiroshi Saito, PhD (University of Kentucky, KY)

This session will have 10-min presentations from 8 selected abstracts submitted for the meeting on the topic of ischemia and reperfusion injury.

NOTE: The program booklet with registration forms and meeting info will appear on the website soon. Abstract submission opens December 3, 2012. www.shocksociety.org

SHOCK SOCIETY COUNCIL – 2012-2013

Basilia Zingarelli, M.D., Ph.D., President (2013)
Robert Cooney, M.D., President-Elect (2013)
Sanna Goyert, Ph.D., Secretary (2015)
Lorrie Langdale, M.D., Treasurer (2013)
Mark Clemens, Ph.D., Past President (2013)
Daniel Remick, M.D., Past President (2014)
Timothy Buchman, Ph.D., M.D., Past President (2015)
Irshad H. Chaudry, Ph.D., Editor, SHOCK
Ping Wang, M.D., Program Chair (2013)
Charles Lang, Ph.D., Publications Chair (2015)
Rosemary Kozar, M.D., (2013)
Wolfgang Junger, Ph.D., (2013)
Laurie Kilpatrick, Ph.D., (2014)
Steven Wolf, M.D., (2014)
Craig Coopersmith, M.D., (2015)
Cynthia Otto, DVM, Ph.D., (2015)
Yoram Vodovotz, Ph.D., (2016)
John Younger, M.D., (2016)

STANDING COMMITTEES

Awards and Honors Committee

Yoram Vodovotz, Chair (2013)
Michael Dubick (2014)
Charles Wade (2014)
Perenlei Enkhbaatar (2014)
Csaba Szabo (2014)
Philip Efron (2015)
Jennifer Kaplan (2016)
Mark Clemens, Past President (2013)
Daniel Remick, Past President (2014)
Timothy Buchman, Past President (2014)

Development Committee

David N. Herndon, Chair (2013)
Ping Wang, ex-officio (2013)
Ron Tompkins (2013)
Carl Hauser (2013)
Ed Deitch (2014)
Charles Caldwell (2015)

Finance Committee

Lorrie Langdale, Chair (2013)
David Herndon (2013)
Robert Cooney, ad hoc (2012)

International Relations Committee

Daniel Remick, Chair
Mark Clemens
Basil Pruitt, ex-officio
Timothy Buchman, ex-officio
Basilia Zingarelli, ex-officio
Irshad H. Chaudry, ex-officio
Tina Palmieri, ex-officio

Internet Committee

Gary An, Chair (2013)
Deborah Stearns-Kurosawa (2013)
Edmund Neugebauer (2013)
Yoram Vodovotz (2013)
Irshad H. Chaudry, ex-officio

Laboratory Animals Issues

Piper Wall, Chair (2014)
Martyn van Griensven (2013)
Kevin McConnell (2014)
Penny Reynolds (2014)
Narayanan Parameswaran (2015)

Membership Committee

Octavia Peck-Palmer, Chair (2013)
Joseph Messina (2013)
Michelle Henry-Stanley, Past Chair (2013)
Wei Chao (2015)

Mentorship Committee

Brenda Smith, Co-Chair
Jennifer Kaplan, Co-Chair
Richard Hotchkiss
Alfred Ayala
Deborah Carlson
Irshad Chaudry, Senior Advisor
Daniel J. Brackett, Senior Advisor

Nominating Committee

Timothy Buchman, Chair (2016)
Daniel Remick (2015)
Mark Clemens (2014)
Basil Pruitt, Jr. (2013)

Publications Committee

Charles Lang, Chair (2015)
Celeste Finnerty (2014)
Ping Wang (2013)

Rules Committee

Cynthia Otto, Chair (2013)
Carrie Simms (2015)
Rajesh Aneja (2015)
Joshua Gatson (2015)

Scientific Program Committee

Ping Wang, (Chair 2013)
Edmund Miller (2013)
Charles Caldwell (2013)
Michael West, (Chair 2014)
Celeste Finnerty (2014)
Judith Hellman (2014)
Edward Sherwood (Chair 2015)
Perenlei Enkhbaatar (2015)
Hiroshi Saito (2015)



In Memoriam

Daniel L. Traber, Ph.D.
Past President

Dr. Daniel Traber, Ph.D., a longtime active member of The Shock Society, passed away on September 19, 2012 following a 2-year illness. One of the world's most renowned physiologists, Dan was a true Renaissance man. He was an expert in lung physiology, sepsis and burns, as well as in the music, geography and history of the beloved cities and countries to which he traveled. He was a magical teacher and storyteller who probably shared a joke or a story with most of the Society's members. His wife Lillian, also a member of our Society, was a constant collaborator and companion on all of Dan's journeys – scientific and otherwise.

Dan earned a M.A. in Physiology and Biochemistry (1962) and a Ph.D. in Physiology and Pharmacology (1965) from the University of Texas Medical Branch (UTMB) in Galveston, Texas. Following a brief postdoctoral fellowship in Pharmacology at The Ohio State University College of Medicine, Dan returned to UTMB as a member of the faculty in 1966 and remained an active educator and researcher at the University for over 50 years.

Throughout his tenure at UTMB and at the Shriners Burns Hospital, Dan held many influential positions. Most recently at UTMB, he was appointed the Charles Robert Allen Professor of Anesthesiology and a Professor of Neuroscience & Cell Biology. Following many years of service to the Shriners Burns Hospital as the Chief of Anesthesia Research and the Coordinator of Research, Dan remained an active Shrine-funded investigator and was awarded a new grant within the last weeks of his life.

As the Director of the Investigational Intensive Care Unit, he established a world-class research facility that was a truly unique gift to the scientific community. Collaborators and friends from around the world would come to Galveston to work with Dan, Lillian, and the rest of their incredible staff. As a member of the UTMB faculty, and the Shrine's Scientific Staff, Dan played an active role in educating students, residents, post-doctoral fellows, and junior faculty and never missed an opportunity to share his wealth of knowledge in each interaction.

Minutes of the Shock Society Council Meeting - June 8, 2012

The meeting was called to order at 8:04 am by President Tim Buchman and the minutes of the May 2012 Council Teleconference were reviewed and approved.

The **Nominating Committee** report and election results were reviewed and approved. The Shock Society President-elect is Robert Cooney and the Secretary is Sanna Goyert, PhD, the Scientific Program Chair for 2015 will be Edward Sherwood, The Basic Science councilor will be Yoram Vodovotz and the Clinical Science Counselor will be John Younger.

The **Program Committee** report was reviewed and several comments were made by Dr Lederer. This year 328 abstracts were submitted (up from 278 last year) and over one third were from international members. Dr. Ping Wang the 2013 Program Chair indicated he would solicit topics and/or themes from the membership for the 2013 meeting in San Diego. This will be done by email with an embedded link to facilitate responses. Dr. Zingarelli mentioned having a Mentorship Course the 1st day of the meeting and will follow up on this idea with the Mentorship and Program Committees. In addition, Dr. Younger noted the SAT IRG group will be meeting immediately after next year's Shock Meeting in San Diego.

The **Strategem** report was presented by Mary Schuerman which contains information about meeting registration (160 members registered), geographic representation of registrants and historic attendance. The pre-registration of 403 attendees this year is increased relative to last year in Norfolk, VA. 44 or 11% of registrants are from Asia and 73 or 18% are from Europe. Mary noted the 2013 meeting will be in San Diego, the 2014 meeting will be in Charlotte, NC, the location for the 2015 meeting has yet to be determined and the 2016 meeting will be held in Tokyo, Japan. The membership survey on meeting location and cost was briefly discussed and will be considered in planning the 2015 meeting.

The **Honors and Awards Committee** report – was presented by Dr Bulger. A total of 45 awards were granted: 5 candidates for the New Investigator award, 40 Travel Awards. A total of 12 Research Grant applications were received. This year's winner is Dr Wendy Walker from Yale. In addition, all applicants were notified and received a "summary statement" with written comments from the reviewers. The importance of communicating this practice to the new program chair was emphasized.

The **Development Committee** – Dr Herndon's efforts were recognized by President Buchman and his report was presented to Council. There will be four exhibitors at this year's meeting. Dr Herndon expressed how difficult it is to solicit funds in the current economic environment. Discussion of this identified several "key issues" for further discussion and action.

- a) Public ambiguity regarding the Shock Society mission and the need for better public relations in this area
- b) The need to develop Society specific development goals and strategies e.g. support for funding fellowships, increasing exhibitors at meetings,
- c) Investigate the possibility of approaching Private Foundations for support, e.g. Gates Foundation
- d) The need for the membership to leverage personal relationships in recruiting exhibitors.
- e) The ideas of inviting industry to give talks and reaching out to past presidents were also mentioned.

The **Treasurer Report** was presented by Dr Langdale and approved by Council. The 2012 meeting costs were increased, primarily due to the costs of having 40 travel and 5 New Investigator awards. ***A motion to approve funding for 40 travel awards and 5 new investigator awards was made and approved by Council.*** Mary Schuerman noted the revenue from the exhibitors (\$6,000) will be sent to the Treasurer's office after the meeting. Successful reduction of liability insurance related to the journal and associated costs was accomplished by Dr Langdale.

The **Shock Journal Editor's Report** was presented by Dr Chaudry. Total manuscript submission is down slightly from 519/yr to 490 this year. An overview of submissions and published manuscripts is detailed in the report. The average turn around time from acceptance to publication is 3 months. Continued submission of manuscripts to Shock was encouraged by Dr Chaudry.

The **Internet Committee Report** was presented by Dr An. Many of the society functions including membership application, dues, balloting for officers, etc. have become internet based functions. The need for a social media strategy including media Facebook, Twitter and Linked in was discussed. The need for input for more "social media" savvy junior members was acknowledged and will be pursued by the committee to be brought back to Council

The **Lab Animals Issues Committee report** was reviewed and the need to use the ARRIVE Guidelines in reporting animal-based research was discussed. An editorial on the subject will be published in the July issue of Shock and it will be brought up at the Business Meeting as well.

The **Membership Committee Report** was discussed by Dr Henry-Stanley and her efforts to increase the membership were applauded by Dr Buchman.. There were 24 new members in 2010, 32 new members in 2011 and 29 new members in 2012. **A motion to approve the Emeritus membership status and form were voted on and approved by Council.** Several recruitment strategies were discussed. Sending a letter to authors submitting manuscripts to the journal Shock was of limited success despite President Buchman's editorial assistance with the request for membership letter. In contrast, prior relationships with senior members seemed to be a very successful strategy for recruiting new members.

The **Mentorship Committee Report** was presented by Dr Brenda Smith. The session on "Oral Presentations by and for New Investigators" will be held again this year. Attendance and participation by the membership was encouraged. Plans to consider a Mentorship Course were discussed briefly and will be followed up by the committee and President Zingarelli.

The **Publication Committee Report** was reviewed and discussed by Dr. Chuck Lang. He noted many journals have moved to having an electronic version only vs. electronic and print. He also noted an increased number of Ethical Violations are being identified in peer-reviewed journals including: self plagiarism, manipulated figures, etc. Following discussion, **the publication committee was asked to develop guidelines for these issues for Shock and report back to Dr. Chaudry and Council on them.**

The **Rules Committee Report** was reviewed in Dr. Ayala's absence and approved by Council.

The **Strategic Planning Report 2011** was presented by Dr Remick. Year to date accomplishments and strategic plans not achieved were discussed. The need to directly involve the president and president elect in developing strategic goals for the year to come was encouraged.

Dr. Buchman charged a Task Force (Drs. Lederer, Wang, West, Sherwood and Remick) to

A) Review and make recommendations regarding the current and future meeting structure and content to Council and

B) To develop specific guidelines for abstract submission

This group was asked to present a report specifically addressing these issues to President Zingarelli by September 30, 2012.

The **President Elect** report including updated officers and revised committee appointments was presented by Dr. Zingarelli. This will be incorporated in the revised 2012 – 2013 Shock Society Handbook.

Old Business – none

New Business – two motions were raised , discussed and voted on by Council

A) A motion to increase the journal rate for nonmember individuals (from \$428 to \$454/yr) and for institutions (from \$1862 to \$2011/yr) was made, discussed and approved.

B) A motion to eliminate figures from abstracts was made, discussed and rejected

LWW information – John Ewers circulated and discussed his report. An iPad version of the journal will be made available in 2012. Other items e.g. limited universal access for a monthly editor's choice Shock article and CME were discussed and deferred to the Shock Editorial Board meeting on June 9, 2012.

A motion to adjourn was approved and passed.

Respectfully Submitted,

Robert N. Cooney, MD
Shock Society Secretary

Shock Society Business meeting, Monday, June 11, 2012

1. Dr. Tim Buchman called the meeting to order, Monday, June 11, 2012, 12 PM and requested committee chairs to make their individual reports.
2. Dr. Traber, Nominating Committee, reported the election results for 2012:
 - a. President Elect – Robert Cooney, M.D.
 - b. Secretary – Sanna Goyert, Ph.D.
 - c. Scientific Program Chair – Edward Sherwood, M.D. (2015)
 - d. Basic Science Councilor – Yoram Vodovotz, Ph.D. (4 year term)
 - e. Clinical Science Councilor – John Younger, M.D. (4 year term)Dr. Traber requested that members with suggestions for nominees should let the nominating committee know
3. Dr. Jim Lederer, current meeting Program Chair (2012) said there is a lot of excitement about the exhibitors (Hycult, Biolegend, Luminex) and that he already has them signed up for next year
We had 403 pre-registrants and 435 final registrants
4. Dr. Ping Wang, Program Chair 2013, requested suggestions for sessions
5. Dr. Eileen Bulger, Awards and Honors Committee: announced that Wendy Walker won the award for her research grant application out of a group of 12 grants submitted
6. Dr. Buchman reported for the Development committee: - important to align and clarify mission
7. Dr. Lorrie Langdale, Finance: reported that the Society's finances are healthy. Although the office expenditures are significant, this is offset by strong returns from the Journal. Total assets are just over \$1million. We have utilized all of the Horton and Sayeed memorial funds in support of travel awards. We have lost some of our mutual fund investment (on paper) but expect to recover these losses as the market recovers.
8. Dr. Irshad Chaudry: editorial report: journal is doing well financially
 - a. Average time after submission for rev is 14 days, published in 2.5 months
 - b. An ipad app is being developed and Journal has a link on Facebook
 - c. Shock will use the ARRIVE guidelines for the reporting of in vivo animal studies (<http://www.nc3rs.org.uk/page.asp?id=1357>) – authors must follow – if not reviewers must note
9. Dr. Gary An, Internet committee: is exploring Linked-in as an option for a Shock Society group for communication.
10. Dr. Piper Wall: Lab Animal issues: Dr. Wall mentioned that in following the ARRIVE guidelines (a checklist of ~20 items) authors must report time of day that experiments were done and emphasized that this is important for interpretation of potential effects of circadian rhythm
11. Dr. Michele Henry-Stanley, membership committee:
 - a. This is still largely a male-dominated society;
 - b. Described that she emailed 77 invitations for new members only got 3 new members, but it was worth it!!!
12. Dr. Brenda Smith, Mentorship committee:
 - a. Committee focuses primarily on young, new investigators by offering an oral session – at 12 PM, for new investigators ONLY, There are 7 presentations this year.
13. Dr. Charles Lang, Publications committee; Discussed ARRIVE issues where the committee has had to deal with a small number of handling issues – no need for action against those authors.
14. Dr. Al Ayala, Rules committee: clarified emeritus status; he encouraged other members to volunteer for committees in general.
15. Dr. Dan Remick – strategic planning: asked members to email him any suggestions; this group has been charged by Dr. Buchman to re-evaluate the current meeting structure.

16. Dr. Chaudry – asked members to take a moment of silence to honor deceased members

Dr. Buchman asked for comments from membership and then asked Dr. Basilia Zingarelli to come to the microphone and introduced her to the members as the new President.

Dr. Zingarelli said that the theme of next year will be communication and noted a need for feedback from the membership to improve and grow and asked for members to volunteer if they want to be more involved. She then thanked Dr. Buchman for starting several efforts such as the strategic planning task force and suggested that perhaps a training workshop should be held before next meeting.

Dr. Buchman presented a plaque to Dr. Cooney for his service as secretary for 2009-2012.

Dr. Buchman presented Dr. Zingarelli with the President's plaque that has a gavel and a list of the names of past presidents (35 years). Dr Zingarelli presented Dr. Buchman with a plaque as outgoing President and thanked him for his mentoring.

Basilia adjourned the meeting at 1:40 PM.

Respectively submitted,

Sanna Goyert, Ph.D.

Shock Society Secretary