Spring Newsletter 2018



President's Message by Timothy Billiar, MD

This year we celebrate 40 years of successful Shock Society meetings. Many of our past presidents will return for the meeting in Scottsdale, Arizona, June 9 - 12, 2018 to be recognized and celebrate this important

occasion with the Society. In addition, Program Chair, David Hackam, MD, PhD and Program Committee have organized an exciting and cutting-edge program. Therefore, you will want to make sure you attend this years' meeting and bring your trainees and colleagues interested in the world of Shock research.

There are many important initiatives happening in the Society, this includes a strategic planning exercise headed by Marc Jeschke, Chair of the Strategic Planning Committee to be completed during the upcoming meeting. Plans are now complete for a co-located meeting with the Surgical Infection Society in 2019. This one year "trial" represents an opportunity for both societies to extend their reach and build collaborations. Membership feedback will be important to both of these initiatives.

I would like to thank the Shock Society Council and Committee members for their hard work and dedication. It has been a pleasure to work with such a thoughtful and committed group of colleagues. It is with great confidence that I will turn over the baton to able hands of the next Shock Society President-Liz Koyacs in June.

I look forward to seeing you all in Scottsdale in June.

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President-Elect's Message by Elizabeth J. Kovacs, PhD

The year had flown by without much time for me to stop and reflect on all of the exciting things that are yet to come. It has been a pleasure and an honor to work with President Tim Billiar and the Shock Council. The collective group has been so helpful in getting me up to speed with the tasks, issues and challenges facing the Shock Society today and thoughts of the future.

As I am sure you know, our upcoming annual meeting in Scottsdale, AZ will be held from June 9th to 12th, 2018, at the JW Marriot Camelback Inn Resort and Spa. David Hackam and the Program Committee have put together a sensational program with outstanding speakers. 2018 will be the 41st meeting of the Shock Society and we will be celebrating the continued success of the Shock Society along with remembering from where we came by bringing back past society presidents. In addition, we are working on the future of the Shock Society with strategic planning, improvements to the journal and to the Society. Want to put in your two cents? Come to the annual meeting and let's discuss ideas. Register, book a hotel room and hop a plane and I will see you at the 2018 meeting!



Treasures Report by Charles Wade

The Shock Society is finically sound. The wealth management accounts have done well over the past six months, and incomes from membership fees and the journal have met expenses. A primary aim of the society is the education of the next generation of investigators in the field of trauma, shock and sepsis. To this aim, this year we have awarded over \$166,000 in

young investigator and travel awards. We also supported Dr. Paul Wischmeyer with a travel award to be a keynote speaker at the European Shock Society meeting. The title of his talk was, "Role of the microbiome in critical illness: can we change the world?" I would like to thank Drs. Michaela West and Lorrie Langdale for their input and continued support.

41st Annual Conference on Shock

JW Marriott Camelback Inn Resort and Spa Scottsdale, Arizona June 9 - 12, 2018





2018 Program Chair by David Hackam, MD, PhD, FACS

We are extremely excited for the upcoming Shock Society Conference, which will be held from Saturday June 9 to Tuesday June 12, 2018 at the JW Marriott Scottsdale Camelback Inn Resort and Spa.

We received over 300 high quality abstracts to this year's meeting, which represents an increase over prior years, and which reflect the superb translational science being performed by our members.

Highlights of this year's meeting include the following:

- 1. An opening session pair of lectures by Dr. Peter Wipf and Dr. Isabelle G. De Plean, followed by 3 highest scoring abstracts submitted to the meeting.
- 2. A first day sessions with 8 of the highest scored abstracts covering important and innovative aspects of shock research, moderated by our president elect and program chair-elect.
- 3. An inspiring first day presidential address by followed by an exciting presidential reception.
- 4. A speed mentoring session on the evening of the first day, to introduce younger members of the society with more senior colleagues.
- 5. An exciting second day including a session on grant writing tips and tricks
- 6. A keynote address on the second day by Dr. Michael Gershon, a pioneer in the enteric nervous system.
- 7. A fabulous second day luncheon seminar by the diversity and inclusion committee of the shock society.
- 8. Ever popular new investigator award and research fellowship award competitions on the second day.
- 9. Selected talks from the submitted abstracts throughout the conference program.
- 10. A dinner on the second day to acknowledge the new investigator competition and travel awards.
- 11. The extremely popular fun run on the third day of the meeting, followed by the

- annual parade of sweaty runners through the poster hall and breakfast, ensuring a wide berth and greater access to coffee.
- 12. Fabulous talks on the third day by Dr. Ori Rotstein and Dr. Paul Kubes true pioneers in shock research.
- 13. A final day which will include invited talks from luminaries in the shock world speaking on translational approaches in shock research.
- 14. A master class in shock research by nationally recognized leaders in shock investigation, held on the last day.
- 15. A final night dinner to acknowledge the scientific achievements and service awards.

For a complete meeting schedule click **HERE**.

We look forward to seeing you at the meeting, and wish everybody safe travels.

David Hackam, MD, PhD Professor of Surgery and Chief of Pediatric Surgery, Johns Hopkins University Program Chair, Shock Society 2018



Awards & Honors Committee by Weng-Lang Yang, PhD

We have received 124 abstracts that applied for the Travel Awards this year, compared to 116 abstracts applied in 2017. The Awards and Program Committee members have completed the review and ranking of these

abstracts. The award recipients will receive the email notification very soon. In the named awards, we have selected 1 from 16 applicants (21 in 2017) for Chaudry International Award, 5 New Investigator Awards from 50 applicants (30 in 2017), and 5 Diversity Enhancement Awards from 13 applicants (9 in 2017). Total of 48 awardees will be recognized at the Award Night Dinner on Sunday June 10, 2018 at the Annual Meeting.

The Shock Society has also provided fellowship and research grant to support the investigators at their early career stage in studying the research areas related to trauma, shock and sepsis, including:

- Research Investigator Fellowship (http://shocksociety.org/Awards/(NEW!)-Award-for-Early-Scientists.aspx)
- Faculty Research Award (http://shocksociety.org/Awards/Research-Fellowship.aspx)

Apply Now! Please follow the web link for the detail to submit. The deadline is extended to **04/02/18**.



Ad Hoc Strategic Planning Committee

by Marc Jeschke, MD, PhD

The strategy committee completed its work on the first collocated meeting between Shock and the Surgical Infection Society (SIS). This meeting will occur in 2019 at the Loews Coronado Bay Resort in Coronado, CA from June 8th -11th. The vision for the collocated meeting is to foster a collaborative and inspiring environment for the two societies and to explore whether this is a format the membership likes and wants to continue or

whether the Shock membership prefers a stand-alone meeting. We will assess during the 2019 meeting what the membership prefers. We hope that this combined meeting will be a success for both societies raising interest, attendance, and the quality of clinical, clinical translational and basic science presented at the meeting.

The Committee is actively creating a new Strategic Plan for Shock as an organization. We recruited a professional company specializing in creating Strategic Plans and we are underway in this process. This is an exciting initiative as it will outline the priorities of the Shock Society for the next years to come.

Editor-in-Chief, SHOCK by Irshad H. Chaudry, PhD

I would like to take this opportunity to thank President Timothy Billiar and the Shock Society for giving me the opportunity to contribute to the 2018 Spring Newsletter of our Society.

Several significant changes have occurred since January, 2018 with the European Associate Editors. The changes include the following: Professor Christoph Thiemermann, because of the tremendously increased additional responsibilities he has been assigned and he has therefore stepped down as Senior Associate Editor – Europe. I would like to express my sincere thanks and appreciation to Professor Thiemermann for the superb help and support he has provided over the many years as Senior Associate Editor, European office. This vacancy that Professor Thiemermann was creating was not easy to fill, but I am pleased and delighted to inform you that Professor Jean-Marc Cavaillon kindly agreed to take on the responsibility as Senior Associate Editor – Europe. Professor Peter Radermacher, an Associate Editor from Europe, also needed to step down for personal reasons at the end of 2017. I am grateful to Peter for all the kind help he provided Chris and me in various capacities. Professor Soheyl Bahrami from Vienna, Austria was very kind to accept to help us as an Associate Editor - Europe effective January 1, 2018. In addition, Professor Karim Brohi from London, United Kingdom has taken on the role as one of the Associate Editors from Europe. I welcome Jean-Marc, Soheyl and Karim to their new positions.

In the next few months, we are going to complete another United States Department of

Defense Combat Casualty Care Research Program Supplement titled "Oxygen Carriers: State of the Science", which follows up their meeting held in February, 2017.

In 2017, the *SHOCK* journal continues to receive more manuscripts than previous years and the total submissions in last year were 750. This number included full manuscript submissions, Commentaries, and submissions to the Military Supplement.

I wish to express my sincere thanks and gratitude to all the authors who have contributed their outstanding work to the journal. I also am indebted to the Associate Editor-in-Chief, Senior Associate Editor, Europe; all of the Associate Editors, the Editorial Board members, and the Guest referees, for the thorough and expeditious review of the manuscripts, and for their tremendous help and support to the journal. I am grateful to the members who continue to take time from their busy schedules to write "What's New in Shock?" in each issue of the journal.

Again, I wish to also express my sincere thanks to: Connie Weldon for continuing to provide tremendous help in all facets of the journal, John Ewers, Anna Butrim, and Kathy Pajuelas, at Wolters Kluwer, for their continued help in all regards to the journal, *SHOCK*.

I am requesting any of our member's suggestions for improving any facet of our journal. Our journal is well established, but we need to further strengthen and improve our journal. I am sure we can do that with your kind help and support of our Societies journal. Please e-mail your suggestions to me at shock@uabmc.edu. The Editor-in-Chief and the Editorial Office of SHOCK wish to thank all of the authors who have submitted, and who continue to submit articles to SHOCK. I also wish each of our members the most wonderful spring season of 2018.

A life dedicated to shock research in China: "A Tribute to Professor Ke-seng Zhao"

Qiaobing Huang¹, Marc Maegele²

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On November 10-12, 2017, an International Forum of Shock (From Basic Research to Clinical Application) was held in Guangzhou, China. Apart from high-level academic communications between experts from the United States of America and Europe, the meeting

made a special tribute to the remarkable achievements in shock research in China over the past decades, as well as to the outstanding contributions to the knowledge in the field by Professor Ke-seng Zhao. Since the beginning of his long and successful career in the early 1960s, Professor Zhao has been a key promotor and driver of shock research hosting scholars from all over the world in his Key Laboratory for Shock and Microcirculatory Research at the Southern Medical University in Guangzhou (PR China). His major contributions in the development of shock research in China were emphasized on his 80th birthday on November 11, 2017.

Professor Zhao has been engaged in the study of pathogenesis and treatment of severe shock for more than 50 years, since he had his first paper on burn shock published in 1966. Further studies in his lab have demonstrated that it is the venules, but not the capillaries that suffered from significant hyperpermeability and the inhibition of MAPK signal pathways, especially p38 α and γ , in endothelial cells ameliorated burn-derived vascular hyperpermeability. Prof. Zhao classified burn-related reaction of skin microvasculature into vasoconstriction and vasodilatation while vasoconstriction is prone to formation of microthrombosis, which aggravates the area and depth of burn-induced skin injury. This study of Prof. Zhao was well accepted and he received an invitation to present his work at an international conference in Hong Kong as early as in 1985. In 1993, Prof. Zhao introduced his work to the American colleagues as Dr. Basil Pruitt invited him to present his work at Fort Sam Houston, Texas. Serving as a Vice President, Prof. Zhao hosted the Third Sino-US Academic Conference on Burn and Trauma in Guangzhou with approximately 300 international and domestic participants and published a collection of "Advances in Burns and Trauma" in English. In the book of "Chinese Burn Surgery" published by Springer in New York in 2015, Prof. KS Zhao and Dr. QB Huang were invited to write the second chapter entitled "Alteration of Microvascular Permeability in Burn Injury".

In 1982, Prof. Zhao was bestowed a scholarship from World Health Organization to study in UCSD and was supervised by Dr. Benjamin W. Zweifach. The result of this visit was the publication of a paper "Microvascular Adjustments during Irreversible Hemorrhagic Shock in Rat Skeletal Muscle", which drew much attention and Dr. Pruitt wrote: "This finding is completely consistent with our clinical observations and has important clinical significance."

Since the establishment of a laboratory in Guangdong, China for shock and microcirculation research, Prof. Zhao dedicated the last 36 years for the in-depth study of the mechanism and treatment of refractory shock. His work helps to clarify the pathogenesis of non-reflow phenomenon during the development of shock by elucidating the roles of leukocyte plugging and microvascular hypo-reactivity. The study titled "Role of Leukocytes in the Dysfunction of Microcirculation in Shock" earned Prof. Zhao the Japanese Microcirculatory Society Award in the Fourth World Conference of Microcirculation (WCM) in Tokyo in 1987. Furthermore, Prof. Zhao was regarded as one of the outstanding young returning students by Ministry of Education of China at that time. The series of studies on the alterations in ion channel activities, especially the opening of potassium channels in smooth muscles (ASMCs) has gained tremendous international interest with the publication of an editorial comment in *Circ Res* and a cover photograph in *Shock* [1]. Based on those outstanding discoveries, Prof. Zhao put forward the new concept of "restitution of

vasoreactivity" for the treatment of sustaining hypotension in a paper published in Shock in 2002 [2].

In the last 10 years, Prof. Zhao and his students and colleagues have also been working on the mechanisms of mitochondrial dysfunction (MD) in the late stage of severe shock. Those outstanding studies earned the publication of another cover photo in an international journal and their inclusion in two additional editorial comments.

As a Chinese Scientist, Prof. Zhao and his colleagues has been devoted significant effort in the development of traditional Chinese medicine for the treatment of shock. Polydatin (PD), an extract of herbal polygonum cuspidatum was found to be beneficial in maintaining various cellular functions and improving microcirculation following shock. Polydatin is now approved by Chinese Food and Drug Administration (CFDA) as a class I New Drug for antishock treatment. This agent also obtained the clinical trial verification from the American FDA and CFDA and is currently undergoing Phase II clinical trial, both in China and in the USA (ClinicalTrials.gov Identifier: NCT01780129).

As one of pioneers of shock research, Prof. Zhao is an important participant and great referee in the development of shock research in China. He established the first key laboratory of Shock and Microcirculation Research in China and was the President, and is still the Honorary President of the Shock Committee of Chinese Association of Pathophysiology. In 1993, with the permission of the State Science and Technology Commission, Prof. Zhao, on behalf of Chinese Shock Society, went to the USA and signed a document to set up the International Federation of Shock Societies (IFSS), which made China one of four founding countries and Prof. Zhao as one of the 15 founders of the organization (http://europeanshocksociety.org/IFSS). On behalf of China Shock Society, Prof. Zhao signed an IFSS document "Cologne Declaration on Shock" at the 6th International Conference of Shock that was held in Cologne in 2008. He also gave a plenary lecture entitled "The Current Situation of Shock Research in China" at that meeting. Furthermore, he was invited to give scientific reports in four American universities and institutions. Prof. Zhao has made great contributions in promoting China's shock research and in integrating Chinese shock research community into the world through extensive academic communication. The China Shock Society is now a very active member in IFSS and is becoming one of the leading forces in shock research worldwide. Dr. Yong-Ming Yao, the first President-Elect of IFSS from China, attributes the success of shock research in China to the efforts made by Prof. Zhao and other great predecessors in China. Dr. Yao also made a special tribute to Prof. Zhao in a ceremony for his 80th birthday party last year. Prof Zhao was also very instrumental in helping the journal SHOCK by serving as a valuable Editorial Board member for many years.

Prof. Zhao and his team have published over 180 original research and review papers in Chinese and international academic journals such as *Acta Pharmacol Sin, Adv Med Biol, Am J Hyper, Am J Physiol, Crit Care Med, Exp Opin Invest Drugs, Exp Opin Therap Targets, Int J Mol Med, J Appl Toxicol,* and *Shock*, to name some. The achievement in shock research also gained the attention of international publishers. They have edited the book entitled "Molecular Mechanism of Severe Shock" that was published by an international publisher

Research Signpost. Another book titled "Advances in the Mechanism of Cardio-Cerebral Disease" is currently in press by the same publisher, in which Prof. Zhao retrospect his 50 years in shock research intensively. His students in China and in United States contribute their reviews in advanced research in shock, trauma, and other cardio-cerebral diseases as well.

References

- 1. Zhao Q, Zhao KS. Inhibition of L-type calcium channels in arteriolar smooth muscle cells is involved in the pathogenesis of vascular hyporeactivity in severe shock. *Shock* 28: 717-721, 2007.
- 2. Zhao KS, Huang X, Liu J, Huang Q, Jin C, Jiang Y, Jin J, Zhao G. New approach to treatment of shock-restitution of vasoreactivity. *Shock* 18: 189-192, 2002.



2019 Program Chair by Laurie Kilpatrick, Ph.D.

42nd Annual Conference on Shock

Mark your calendars for the 42nd Annual Shock Meeting that will be held at the beautiful Loews Coronado Bay Resort in



Coronado, California on June 8-11, 2019. For the first time, we are holding a co-located meeting with the Surgical Infection Society (SIS). On Saturday afternoon and Sunday morning, there will be joint sessions covering basic, translational and clinical research topics of mutual interest to both societies. On Saturday night, Shock and SIS will co-host a reception for all attendees. Our goal is to provide the opportunity for networking and the exchange of ideas between the two societies. We look forward to seeing you in Coronado in 2019!

Laurie Kilpatrick PhD (Shock Program Chair) Chair) Heather Evans MD (SIS Program

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Internet Committee Chair by Melanie Scott, MD, PhD

Shock Society technology revolution...

I'm sure that most of you will have noticed by now the upgrades we have made to our website. The website was redesigned to help members find information more easily, and to make the information more accessible through smart phones, tablets and other mobile technology. Keep up to date with all the happenings at Shock by checking back to our homepage frequently (www.shocksociety.org), and let us know your exciting news so we can highlight our member achievements and keep information current.

You can also stay updated with Shock events through our social media pages and add your comments to discussions. Follow us on Twitter (@shocksociety) and use #Shock2018 to find all the updated news about the annual meeting in Arizona in June. Tag us on your twitter posts about all things shock, trauma, sepsis and burns and we will retweet and follow you back (probably). You can also find us on Facebook, and we have a nascent LinkedIn group – just search for us on LinkedIn and ask to join. All these platforms are great for topical discussions and even better for networking with other shock members, and you can help us get the word out about what an incredible society The Shock Society really is. What better way is there to set up conversations and collaborations to discuss further at #Shock2018?

If you needed any additional incentive to join us for the annual meeting 40th anniversary celebrations, then we have that for you too. New this year for #Shock2018 we will have an App to help you navigate speaker sessions, read poster abstracts, join in social media conversations, network with members, create your personal itinerary and so much more! Information on downloading and accessing the app will be provided ahead of time to those who have registered for the annual meeting.

As always we would love to hear from all of you about what you would like or don't like about any and all things to do with internet and media communications. Feel free to give us some feedback and suggestions (especially if you like what you are seeing). You can contact Serena Weisman (Sweisman@faseb.org) or me (Melanie Scott, scottm@upmc.edu). See you in Scottsdale!

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2017-2018

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