Resuscitation Science Symposium 2017

Final Program

November 11-13 | Anaheim Convention Center | Anaheim, California

Sponsored by the American Heart Association Emergency Cardiovascular Care Committee and the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation.

Register online at scientificsessions.org/ress
<table>
<thead>
<tr>
<th>Time</th>
<th>Friday, Nov. 10</th>
<th>Saturday, Nov. 11</th>
<th>Sunday, Nov. 12</th>
<th>Monday, Nov. 13</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM</td>
<td>8:00-8:15 Symposium Opening: Welcome and Introduction</td>
<td>8:00-9:30 ReSS Poster Sessions</td>
<td></td>
<td>8:00-9:30 ReSS Poster Sessions</td>
</tr>
<tr>
<td>8:30 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:30 AM</td>
<td>8:15-9:30 Outcomes of Cardiac Arrest Survivors With ICDs</td>
<td>8:00-9:30 ReSS Poster Sessions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:30 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 AM</td>
<td></td>
<td></td>
<td></td>
<td>10:45-11:45 Dickinson W. Richards Lecture Oral Abstracts</td>
</tr>
<tr>
<td>11:30 AM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>11:45 -12:15 Lunch Break</td>
<td>12:00-1:15 The role of Genetics in Cardiac Arrest and Trauma</td>
<td></td>
<td>11:45-12:15 Lunch Break</td>
</tr>
<tr>
<td>1:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>12:15-1:15 Concurrent Sessions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:30 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00 PM</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:30 PM</td>
<td>6:30-9:30 Young Investigator Dinner and Presentation of the YI Awards</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Program Committee

The American Heart Association thanks the members of the Program Committee for their dedication and leadership in planning the program.

Benjamin S. Abella, MD, MPhil, FACEP, FAHA, Symposium Co-Chair, University of Pennsylvania, Philadelphia, Pennsylvania
Monique L. Anderson, MD, MHS, Duke University Medical Center, Durham, North Carolina
Mark Angelos, MD, FAHA, Ohio State University, Columbus, Ohio
Tom P. Aufderheide, MD, MS, FACEP, FACC, FAHA, Symposium Co-Chair, Medical College of Wisconsin, Milwaukee, Wisconsin
Lance B. Becker, MD, FAHA, Northwell Health, Manhasset, New York
Marc Berg, MD, University of Arizona, Tucson, Arizona
John S. Berry IV, MD, Brooke Army Medical Center, San Antonio, Texas
Clifton W. Callaway, MD, PhD, University of Pittsburgh, Pittsburgh, Pennsylvania
Leopoldo Cancio, MD, U.S. Army Institute of Surgical Research, Fort Sam Houston, Texas
Maaret Castrén, MD, PhD, FERC, Helsinki University Hospital, Helsinki, Finland
Irshad H. Chaudry, PhD, University of Alabama at Birmingham, Birmingham, Alabama
Michael W. Donnino, MD, Beth Israel Deaconess Medical Center, Boston, Massachusetts
Dana P. Edelson, MD, MS, FAHA, FHM, University of Chicago, Chicago, Illinois
Judith Finn, PhD, MEdSt, GradDipPH, BSc, DipAppSc, RN, RM, ICCert, FACN, FAHA, Curtin University and Monash University, Perth and Melbourne, Australia
Raul Gazmuri, MD, PhD, FCCM, Rosalind Franklin University of Medicine and Science, North Chicago, Illinois
Fumito Ichinose, MD, PhD, FAHA, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts
Tami L. Kayea, LP, MSML, Dallas Fire-Rescue Department, Dallas, Texas
Monica E. Kleinman, MD, Boston Children's Hospital, Boston, Massachusetts
Matthew Huei-Ming Ma, MD, PhD, Department of Emergency Medicine, National Taiwan University Hospital, Taipei, Taiwan
Raina M. Merchant, MD, MSHP, FAHA, University of Pennsylvania, Philadelphia, Pennsylvania
Laurie J. Morrison, MD, MSc, FRCP, Director of Rescu, Li Ka Shing Knowledge Institute, St. Michael's Hospital, University of Toronto, Toronto, Ontario, Canada
Sarah B. Murthi, MD, FACS, University of Maryland, The R. Adams Cowley Shock Trauma Center, Baltimore, Maryland
Robert Neumar, MD, PhD, FAHA, University of Michigan, Ann Arbor, Michigan
Graham Nichol, MD, MPH, FRCP(C), FAHA, University of Washington, Harborview Center for Prehospital Emergency Care, Seattle, Washington
Jerry Nolan, FRCA, FRCP, FFICM, FRCEM (Hon), University of Bristol, Royal United Hospital, Bath, United Kingdom
Brian O'Neil, MD, Wayne State University, Department of Emergency Medicine, Detroit, Michigan
Theresa M. Olasveengen, MD, PhD, Oslo University Hospital, Oslo, Norway
Melissa Parker, MD, MSc, FRCP, FAAP (PEM, PCCM), McMaster University, Hamilton, Ontario, Canada
Kelly Sawyer, MD, MS, Beaumont Health System, Royal Oak, Michigan
Jane D. Scott, ScD, MSN, National Heart, Lung, and Blood Institute, NIH, Bethesda, Maryland
Carrie Sims, MD, MS, University of Pennsylvania, Philadelphia, Pennsylvania
Jasmeet Soar, MA, MB, BCHir, FRCA, FERC FFICM, FRCP, Southmead Hospital, Bristol, United Kingdom
Daniel W. Spalte, MD, FACEP, University of Arizona College of Medicine, Tucson, Arizona
Samuel A. Tisherman, MD, FACS, FCCM, University of Maryland, Baltimore, Maryland
Sandra Wanek, MD, Legacy Emanuel Medical Center, Portland, Oregon
Demetris Yannopoulos, MD, University of Minnesota, Minneapolis, Minnesota
The American Heart Association gratefully acknowledges the financial support provided by
Physio-Control
ZOLL Medical

Invited Speakers

Michael J. Ackerman, Rochester, Minnesota
Hasan B. Alam, Ann Arbor, Michigan
Tom P. Aufderheide, Milwaukee, Wisconsin
Bryn Baxendale, Nottingham, United Kingdom
Lance Becker, Manhasset, New York
Bentley Bobrow, Phoenix, Arizona
Jeremy Brown, Bethesda, Maryland
Drew E. Carlsson, Bethesda, Maryland
J. Perren Cobb, Los Angeles, California
Charles Deakin, Southampton, United Kingdom
Marina Del Rios, Chicago, Illinois
Edie Farrell, San Ramon, California
Joe Farrell, San Ramon, California
Ralph J. Frascone, St Paul, Minnesota
Jennifer Frontera, Brooklyn, New York
Raúl J. Gazmuri, North Chicago, Illinois
Karen G. Hirsch, Stanford, California
John B. Holcomb, Houston, Texas
Jo Kramer-Johansen, Oslo, Norway
Peter J. Kudenchuk, Seattle, Washington
Michael Levy, Anchorage, Alaska
Gisella Lilja, Lund, Sweden
Michael T. McCurdy, Baltimore, Maryland
Elizabeth McNally, Chicago, Illinois
Toshiaki Mano, Amagasaki, Japan
Nuala Meyer, Philadelphia, Pennsylvania
Ernest Moore, Denver, Colorado
Peter Morley, Melbourne, Australia
Laurie J. Morrison, Toronto, Ontario, Canada
Sarah B. Murthy, Lutherville, Maryland
Robert Neumar, Ann Arbor, Michigan
Chika Nishiyama, Kyoto, Japan
Theresa Olavseth, Oslo, Norway
Marcus Ong, Singapore
Martin Percy, London, United Kingdom
Sarah Perman, Aurora, Colorado
John Rittenberger, Pittsburgh, Pennsylvania
Laurenc Rochlen, Ann Arbor, Michigan
Lori A. Shutter, Pittsburgh, Pennsylvania
George Sopko, Rockville, Maryland
Demetris Yannopoulos, Minneapolis, Minnesota
Scott Youngquist, Salt Lake City, Utah

Moderators

Monique L. Anderson Starks, Durham, North Carolina
Dianne L. Atkins, Iowa City, Iowa
Jason A. Bartos, Minneapolis, Minnesota
Abhishek Bhardwaj, Philadelphia, Pennsylvania
Lance Becker, Manhasset, New York
Steffie Beesems, Amsterdam, Netherlands
Bentley J. Bobrow, Phoenix, Arizona
Maaret K. Castren, Helsinki, Finland
Rajat Deo, Philadelphia, Pennsylvania
Cameron Dezfulian, Pittsburgh, Pennsylvania
Michael Donnino, Boston, Massachusetts
Rosemarie Fernandez, Seattle, Washington
Henry R. Halperin, Baltimore, Maryland
Taku Iwami, Kyoto, Japan
Karl Kern, Tucson, Arizona
Rudolph W. Koster, Amsterdam, Netherlands
Michael C. Kurz, Birmingham, Alabama
Marion Leary, Philadelphia, Pennsylvania
Michael Levy, Anchorage, Alaska
Mark Link, Dallas, Texas
Freddy Lippert, Copenhagen, Denmark
Bryan McNally, Atlanta, Georgia
Laurie J. Morrison, Toronto, Ontario, Canada
Robert W. Neumar, Ann Arbor, Michigan
Mary Newman, Wexford, Pennsylvania
Graham Nichol, Seattle, Washington
Theresa M. Olavseth, Oslo, Norway
Gavin D. Perkins, Warwick, United Kingdom
David B. Seder, Portland, Maine
Eirik Skogvoll, Trondheim, Norway
Myron L. Weisfeldt, Baltimore, Maryland
Information for Presenters

On-Site Registration

Registration for Scientific Sessions (attendees, invited speakers, exhibitors and groups) will be in Hall A. Hours for on-site registration are:

- Saturday, November 11  7:00 AM–5:30 PM
- Sunday, November 12  7:00 AM–6:00 PM
- Monday, November 13  7:00 AM–5:30 PM
- Tuesday, November 14  7:30 AM–5:30 PM
- Wednesday, November 15  7:30 AM–1:00 PM

Speaker Resource Room

All speakers must submit their presentations, and moderators must submit their disclosure slide, at least three hours before their session is scheduled to begin. Please note that no personal laptops will be permitted.

The Speaker Resource Room is located in the Hall D and will be open during the following times:

- Saturday, November 11  7:00 AM–5:30 PM
- Sunday, November 12  7:00 AM–5:30 PM
- Monday, November 13  7:00 AM–5:30 PM
- Tuesday, November 14  7:30 AM–5:30 PM
- Wednesday, November 15  7:30 AM–11:00 AM

Abstract Presentations

Abstracts from ReSS and Scientific Sessions 2017 are available on USB (visit the Science and Technology Hall, Booth 2543, Janssen Pharmaceuticals booth for a complimentary copy), Circulation online (circ.ahajournals.org), the Scientific Sessions Program Planner (scientificsessions.org), Mobile Meeting Guide (available in the App Store and in Google Play by searching “AHA Events”), ePosters and other online attendee resources.

Abstracts and presentations are embargoed for release at the date and time of presentation or the time of the AHA news event. Written embargoed information can’t be shared with anyone, but one-on-one embargoed media interviews can be conducted as long as the reporter agrees to abide by the embargo policy. Failure to honor embargo policies will result in the abstract being withdrawn and barred from presentation.

Oral abstracts The following oral abstracts will be presented on Saturday, Sunday and Monday:

**154-158 (ACC North), Saturday, November 11**
- Best of the Best, abstracts 1-4
- Late-Breaking Resuscitation, abstracts 5-8

**151 (ACC North), Sunday, November 12**
- Concurrent Session: Basic Science/Translational, abstracts 9-12
- Concurrent Session: Cardiac Arrest Epidemiology, abstracts 17-20

**152 (ACC North), Sunday, November 12**
- Concurrent Session: Clinical, abstracts 13-16
- Concurrent Session: Trauma, abstracts 21-24

**154-158 (ACC North), Monday, November 13**
- Oral Abstracts 25-26 (following the Dickenson W. Richards Lecture)
- Oral Abstracts 27-30

**Poster abstracts** will be presented in 155-159 (ACC North). The poster hall will be available for set-up beginning at 7:30 AM, Saturday. To maximize the poster viewing time for attendees, all posters will be available for viewing throughout all three days of ReSS (Saturday, Sunday and Monday). Attendees are encouraged to visit the posters during breaks and lunch.

Poster abstract presenters will be available for questions and discussion during the dates/times specified below.

- Saturday, Nov. 11  1:15-2:45 PM  Abstracts 100-188 and 400-403 (late-breaking science)
- Sunday, Nov. 12  8:00-9:30 AM  Abstracts 189-275
- Monday, Nov. 13  8:00-9:30 AM  Abstracts 276-362

**ePosters**

In addition to the traditional poster format, poster abstract presenters were invited to upload their posters electronically. During the meeting, ePosters are available only to attendees and may be viewed from the Communication Centers throughout the convention center and the scientificsessions.org website.

**QR Codes**

QR codes enable attendees with smart phones to view ePosters and, if applicable, the author’s narration of the poster. QR codes for all ReSS posters will be displayed on the poster boards.
ReSS Highlights

Women in Resuscitation Science Networking Meeting
Resuscitation medicine is unique and presents unique challenges, especially for women. We are committed to fostering the growth and development of all young investigators and scientists. Again this year, we are pleased to offer the Women in Resuscitation Science Networking Meeting which offers an informal setting to network and learn from others. This year, the focus will be on mentorship and sponsorship. Please join us on Saturday, November 11, at 12:15 PM in room 151 (ACC North). This session is open to all.

Japanese Circulation Society/ReSS Joint Session
Join us in room 152 (ACC North) at 12:15-1:15 PM Saturday.

EMS Session: Mechanical CPR
This special session takes place in room 152 (ACC North) at 12:15-1:15 PM Monday.

NIH Report Session
This session will take place Monday from 12:15-1:15 PM in room 151 (ACC North).

Lunch will be available for purchase through vendors located in the convention center.

Late-Breaking Abstracts in Resuscitation Science
Late-breaking resuscitation abstracts were evaluated based on their impact and the novelty of the science. These oral and poster abstracts are innovative and provide the latest breakthroughs in basic or clinical science, presenting cutting-edge, exciting and pivotal research results. Oral abstracts will be presented in 154-158 (ACC North) at 4:30-5:30 PM Saturday. Poster abstracts will be presented in 155-159 (ACC North) at 1:15-2:45 PM Saturday. Late-breaking resuscitation science abstracts will be published in Circulation Research and will be available online at http://circres.ahajournals.org/.
The Lifetime Achievement Awards in Cardiac and Trauma Resuscitation Science were established by the AHA Committee on Emergency Cardiovascular Care in 2003 to honor scientists for their outstanding contributions in cardiac and trauma science. The 2017 Awards for Lifetime Achievement will be presented at 9:30 AM Saturday. Plan to join us to celebrate and recognize these giants in cardiac and trauma resuscitation science.

The 2017 Award for Lifetime Achievement in Cardiac Resuscitation Science will be presented to Vinay Nadkarni, MD, FAAP, FAHA. Dr. Nadkarni is a professor and endowed chair at the Children’s Hospital of Philadelphia, Departments of Anesthesia, Critical Care and Pediatrics, University of Pennsylvania Perelman School of Medicine. He founded and directs the CHOP Center for Simulation, Advanced Education and Innovation. He served as chair of the International Liaison Committee on Resuscitation (2007-16) and was chairman of the AHA Emergency Cardiovascular Care Committee (2006-10). Dr. Nadkarni has authored more than 400 peer-reviewed manuscripts and 35 book chapters related to the practice of CPR, critical care and resuscitation science. He has conducted several collaborative multi-center NIH research grants, and was the founding pediatric member of the American Heart Association’s National Registry of CPR (Get with the Guidelines-Resuscitation) in more than 350 hospitals nationwide, the AHRQ funded National Emergency Airway Registry for Children (NEAR4KIDS) across 30 hospitals in the United States, and served on the board of directors of the World Federation of Pediatric Intensive and Critical Care Societies. He serves as the founding senior chair and mentor for the 106-site International Network for Simulation-Based Pediatric Innovation, Research and Education (INSPIRE) investigators. He, with collaborative partners including the American Heart Association, Zoll Foundation and Laerdal Foundation, have assembled robust clinical, laboratory and simulation-based resuscitation “learning laboratories” that include “live-capture” of resuscitation events to inform practice and help pioneer “next generation” resuscitation care. During his career, he has mentored more than 100 postdoctoral fellows and physician-scientists, culminating in recognition by the CHOP 2011 Outstanding Mentor Award, the American Heart Association’s 2012 Ron Haddock International Impact Award, the R-Baby Foundation 2013 Pioneer Award, the AAP 2014 critical care Lifetime Distinguished Career Award and the International Liaison Committee on Resuscitation (ILCOR) 2015 Giant’s Award.

The 2017 Award for Lifetime Achievement in Trauma Resuscitation Science will be presented to Hasan Alam, MD, Norman Thompson Professor of Surgery and section head for the Section of General Surgery at the University of Michigan Hospital. He is an acute care surgeon who is certified by the American Board of Surgery in general surgery and surgical critical care. He received his surgical training at the Washington Hospital Center in Washington, D.C., followed by a post-doctoral research fellowship at the Uniformed Services University of Health Sciences (USUHS) in Bethesda, Maryland. He then served as a faculty member at Georgetown University as well as USUHS before moving to Boston to join the Massachusetts General Hospital in 2005. He then was rapidly promoted to professor of surgery at the Harvard Medical School, and served as the director of Surgical Critical Care Fellowship Program at the MGH. He was also the founding medical director of the multi-disciplinary Intensive Care Unit, and chaired the State Committee on Trauma for many years before moving to Ann Arbor in 2012.

Dr. Alam’s clinical interests are in the areas of trauma, emergency general surgery and surgical critical care. His research focuses on hemorrhagic shock, traumatic brain injuries, resuscitation techniques, novel cell preservation strategies, modulation of response to lethal insults, therapeutic hypothermia, hemorrhage control and development of new treatments for sepsis. His research is funded by large federal grants from the National Institutes of Health and the U.S. Department of Defense. He has published nearly 200 manuscripts and book chapters and is the holder of six patents. He has won numerous awards for excellence in teaching and research, and serves on the editorial boards of nearly all of the leading surgical, trauma and critical care journals. He is a member of more than 15 surgical/scientific societies including the American Surgical Association, American Association for the Surgery of Trauma, Society of University Surgeons, and the Society of Clinical Surgery.
Previous winners of the Lifetime Achievement Awards

**Cardiac Resuscitation Award Recipients**
- 2003 Myron L. Weisfeldt, MD, FAHA
- 2004 Max Harry Weil, MD, PhD
- 2005 Petter Steen, MD, PhD
- 2006 Robert Berg, MD, FAHA, FAAP
- 2007 Joseph P. Ornato, MD, FAHA, FACCP, FACCC, FACEP
- 2008 Douglas Chamberlain, CBE, DSc (Hon), FRCP, FRCA, FACC, FESC
- 2009 Mickey S. Eisenberg, MD, PhD
- 2010 G. Guy Knickerbocker, PhD, and James R. Jude, MD
- 2011 Lance Becker, MD, FAHA
- 2012 Michael K. Copass, MD
- 2013 Mary Fran Hazinski, MSN, FAAN, FAHA, FERC
- 2014 Jerry P. Nolan, FRCA, FRCP, FFICM, FCEM (Hon)

**Trauma Resuscitation Award Recipients**
- 2003 James Atkins, MD
- 2004 G. Tom Shires, MD
- 2005 Irshad H. Chaudry, PhD
- 2006 David B. Hoyt, MD, FACS
- 2007 Ronald V. Maier, MD, FACS
- 2008 John B. Holcomb, MD, FAHA, FACS
- 2009 Samuel A. Tisherman, MD
- 2010 Donald Trunkey, MD
- 2011 Thomas M. Scalea, MD
- 2012 Ernest Moore, MD
- 2013 Demetrios Demetriades, MD, PhD, FACS
- 2014 Kenneth L. Mattson, MD
- 2015 Ellen MacKenzie, PhD
- 2016 Karim Brohi, BSc, MBBS, FRCS, FRCA

**2017 Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science**

This award was established in 2010 to recognize international collaboration among individuals over an extended time that has resulted in major contributions to fundamental or clinical science related to cardiac arrest or traumatic injury. The award was named posthumously in honor of professor Ian George Jacobs, PhD, OStJ, FERC, FAHA, in 2014 in recognition of his tireless efforts to bring clinicians and researchers together from multiple disciplines and countries to improve acute resuscitation care throughout the world.

The 2017 award will be presented to the **European Registry of Cardiac Arrest (EuReCa investigators)**. EuReCa is an international European project for collecting and analyzing out-of-hospital cardiac arrest (OHCA). The European Resuscitation Council (ERC) initiated a campaign in 2007 for a Europe-wide collaboration. The establishment of a European cardiac arrest registry allows international analysis of resuscitation treatments in different emergency service systems. EuReCa offers both existing and new registries an option to collaborate internationally, providing a platform for joint scientific activities.

**Dickinson W. Richards Memorial Lecture**

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR)

The Dickinson W. Richards Memorial Lecture was established and presented in 1973 when the council was known as the Council on Cardiopulmonary Disease. Dr. Richards shared the Nobel Prize in 1956 with Drs. Andre Cournand and Werner Forssman for work leading to a practical method of cardiac catheterization. Dr. Richards served as associate editor of Circulation in the 1950’s.

This year’s awardee, **Laurie J. Morrison, MD**, will present her lecture, “Advancing Resuscitation Science: A Combination of Courage, Compassion, Collaboration, Carpe Diem and a Little Grace” at 10:45 am, Monday.

Dr. Morrison is the Robert & Dorothy Pitts Research Chair in Acute Care & Emergency Medicine, professor and clinician scientist in the Division of Emergency Medicine, Department of Medicine at the University of Toronto and Li Ka Shing Knowledge Institute at St Michael’s Hospital. She is the director of Rescu, a resuscitation research program focusing on the evaluation and implementation of prehospital and transport medicine time sensitive interventions in acute emergencies (www.rescu.ca). She conducts systematic reviews and meta-analyses in topics pertaining to resuscitation and has established a collaborative network to conduct randomized controlled trials and outcome validation studies in prehospital resuscitation research. Her research if funded by the Canadian Institute of Health Research and the Heart and Stroke Foundation of Canada. She contributed to the development of the 2005, 2010 and 2015 AHA guidelines. She currently leads the Continuous Evidence Evaluation working group for International Liaison Committee on Resuscitation. She was born and educated in Peterborough Ontario, Canada and completed her undergraduate at Queens University, Kingston Ontario and her medical degree at McMaster University, Hamilton Ontario. She completed postgraduate training in emergency medicine at McGill University in Montreal prior to completing her fellowship at the University of Toronto and returning to McMaster in 2000 to obtain a graduate degree in Health Research Design. She has received the Canadian Medical Association Award for excellence in mentorship; the May Cohen Award...
ReSS Awards (continued)

and a similar award from the University of Toronto with the Department of Medicine; and the Bob Hyland Award. She was awarded the William Goldie Award from the Department of Medicine at the University of Toronto for outstanding contribution as a leader and scholar in emergency medicine. She also received the University of Toronto Helen P. Batty Award for Excellence and Achievement in Faculty Development for Sustained Contribution to the field. She received the distinction of Fellowship in the Canadian Academy of Health Sciences in 2016.

2017 Best Abstract Awards

Four recipients will be honored for the top-scoring abstracts submitted to the Resuscitation Science Symposium. The winners of the Best Abstract Awards will be recognized during ReSS.AOS.04: Best of the Best Oral Abstract Presentations at 10:30 AM, Saturday.

<table>
<thead>
<tr>
<th>Name</th>
<th>Presentation Number</th>
<th>Title</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brahmajee K. Nallamothu</td>
<td>01</td>
<td>How Do Resuscitation Teams at Top-Performing Hospitals for In-Hospital Cardiac Arrest Differ? A Qualitative Study</td>
<td>Cardiac Resuscitation Science</td>
</tr>
<tr>
<td>Zi Yan</td>
<td>02</td>
<td>Endoplasmic Reticulum Stress Contributes to Cardiomyocyte Apoptosis in Trauma-Induced Secondary Cardiac Injury</td>
<td>Trauma Resuscitation Science</td>
</tr>
<tr>
<td>Sarah M. Perman</td>
<td>03</td>
<td>Do Race and Sex Differences Exist for Do Not Attempt Resuscitation Orders in Patients Successfully Resuscitated From In-Hospital Cardiac Arrest?</td>
<td>Trauma Resuscitation Science</td>
</tr>
<tr>
<td>Tatsuma Fukuda</td>
<td>04</td>
<td>Prehospital Advanced Life Support and Survival After Traumatic Out-of-Hospital Cardiac Arrest: A Cohort Study From the Japanese National Registry</td>
<td>Cardiac Resuscitation Science</td>
</tr>
</tbody>
</table>
These awards are presented for the top-scoring abstracts submitted by young investigators who are within the first five years of their appointment. The Young Investigator event will recognize the following winners on Friday, November 10.

<table>
<thead>
<tr>
<th>Name</th>
<th>Presentation Number</th>
<th>Abstract Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Makoto Aoki</td>
<td>22</td>
<td>Increased Risk of Mortality With Vasopressor Use in Traumatic Hemorrhage Shock: A Nationwide Cohort Study in Japan</td>
</tr>
<tr>
<td>Mina Attin</td>
<td>R349</td>
<td>Paced Electrocardiogram Prior to In-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Jason Bartos</td>
<td>13</td>
<td>Burden of Coronary Artery Disease in Patients With Out-of-Hospital Refractory Ventricular Fibrillation Cardiac Arrest</td>
</tr>
<tr>
<td>Justin Benoit</td>
<td>R121</td>
<td>Timing of Advanced Airway Placement After Out-of-Hospital Cardiac Arrest: Earlier is Better</td>
</tr>
<tr>
<td>Abhishek Bhardwaj</td>
<td>R114</td>
<td>Targeted Temperature Management and Acute Kidney Injury in Cardiac Arrest</td>
</tr>
<tr>
<td>David Buckler</td>
<td>R303</td>
<td>Association of Demographic and Geospatial Factors With the Provision of Bystander CPR Following Out-of-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Apurba Chakrabarti</td>
<td>19</td>
<td>Hospital-Level Variation in Short-Term and Long-Term Survival After In-Hospital Cardiac Arrest in the Veterans Health Administration</td>
</tr>
<tr>
<td>Christopher Cheung</td>
<td>R131</td>
<td>Clinical and Electrocardiographic Predictors of Occlusive and Obstructive Coronary Artery Disease Following Out-of-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Andrea Cogliati</td>
<td>R348</td>
<td>Annotating ECG Signals With Deep Neural Networks</td>
</tr>
<tr>
<td>Patrick Coppler</td>
<td>20</td>
<td>Long-Term Outcomes Disparities in Survivors of Cardiac Arrest</td>
</tr>
<tr>
<td>Guillaume Debaty</td>
<td>R149</td>
<td>Defining the End of the Circulatory Phase in Humans Undergoing Cardiopulmonary Resuscitation</td>
</tr>
<tr>
<td>Duc Do</td>
<td>R347</td>
<td>Predicting the Risk of In-Hospital Cardiac Arrest in Real Time by Identification of Changes on Continuous Electrocardiographic Telemetry Monitoring Using Automated Algorithms</td>
</tr>
<tr>
<td>Asger Granfeldt</td>
<td>R329</td>
<td>The Association Between the Severity of Chronic Obstructive Pulmonary Disease and Presenting Rhythm in Patients With Out-of-hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Brian Grunau</td>
<td>14</td>
<td>The Relationship Between Intra-arrest Transport and Survival for Refractory Out-of-hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Kei Hayashida</td>
<td>10</td>
<td>Soluble Guanylate Cyclase-α1 in Bone Marrow Derived Cells is Required for Inhaled Nitric Oxide to Improve Outcomes After Cardiac Arrest and Cardiopulmonary Resuscitation in Mice</td>
</tr>
<tr>
<td>Mathias Holmberg</td>
<td>28</td>
<td>Derivation and Internal Validation of a Mortality Prediction Tool for Initial Survivors of Pediatric In-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Rohan Khera</td>
<td>R334</td>
<td>Hospital Variation in the Use of Targeted Temperature Management for Out-of-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Name</td>
<td>Presentation Number</td>
<td>Abstract Title</td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Takahiro Kinoshita</td>
<td>R127</td>
<td>Novel Trauma Work Flow Using IVR-CT Installed in Trauma Resuscitation Room Improved Mortality in Patients With Severe Torso Injury</td>
</tr>
<tr>
<td>Dong Hun Lee</td>
<td>23</td>
<td>Prognostic Performance of Five Disseminated Intravascular Coagulation Score Systems in Severe Trauma</td>
</tr>
<tr>
<td>Ronstan Lobo</td>
<td>R132</td>
<td>Acute Coronary Occlusion is Common in Patients Without STEMI Undergoing Early Coronary Angiography After Out-of-Hospital Cardiac Arrest</td>
</tr>
<tr>
<td>Tsung-Chien Lu</td>
<td>R227</td>
<td>Development and Validation of a Triage Tool in Predicting Cardiac Arrest in the Emergency Department</td>
</tr>
<tr>
<td>Constantine Mavroudis</td>
<td>R199</td>
<td>Inhaled Nitric Oxide Improves Cerebral Mitochondrial Function in a Blinded, Randomized Controlled Pediatric Swine Asphyxial Cardiac Arrest Trial</td>
</tr>
<tr>
<td>Takahiro Nakashima</td>
<td>R215</td>
<td>The Potential of Public-access Defibrillation by Citizen Before Emergency Medical Service Contact in Out-of-hospital Cardiac Arrest Patients With Shockable Rhythm</td>
</tr>
<tr>
<td>Mitsuaki Nishikimi</td>
<td>R356</td>
<td>Risk Classification of Post-Cardiac Arrest Syndrome Based on the CAST: Is Targeted Temperature Management at 34°C Recommended in the Moderate-Risk Group?</td>
</tr>
<tr>
<td>Takayuki Ogura</td>
<td>24</td>
<td>Pre-hospital Traumatic Bleeding Severity Score: A Validation Study of On-scene Prediction of the Need for Massive Transfusion</td>
</tr>
<tr>
<td>Masashi Okubo</td>
<td>R201</td>
<td>Variation in Survival After Out-of-Hospital Cardiac Arrest Between Emergency-Medical-Services Agencies</td>
</tr>
<tr>
<td>Gwan Jin Park</td>
<td>R232</td>
<td>Preventive Effects of Safety Car Seat on Clinical Outcomes to Children in Road Traffic Injury</td>
</tr>
<tr>
<td>Juan Russo</td>
<td>R326</td>
<td>Optimal Mean Arterial Pressure in Comatose Survivors of Out-of-hospital Cardiac Arrest: An Analysis of Area Below and Between Blood Pressure Thresholds</td>
</tr>
<tr>
<td>Jessica Salerno</td>
<td>R292</td>
<td>Simulation of the Effects of Co-Locating Naloxone With Automated External Defibrillators</td>
</tr>
<tr>
<td>Huu Tam Truong</td>
<td>R162</td>
<td>Combining Mechanical Chest Compressions With a Percutaneous Left Ventricular Assist Device Improves Favorable Neurological Function After Cardiac Arrest in a Large Animal Catheterization Laboratory</td>
</tr>
<tr>
<td>Chih-Hsien Wang</td>
<td>30</td>
<td>A Pilot Study of Cerebral Selective Deep Hypothermia in Extracorporeal Cardiopulmonary Resuscitation for Out-of-hospital Cardiac Arrest Patients</td>
</tr>
<tr>
<td>Jiefeng Xu</td>
<td>R104</td>
<td>The Effects of Rapid Esophageal Cooling on Cardiac Outcomes After Cardiopulmonary Resuscitation in a Porcine Model</td>
</tr>
</tbody>
</table>
ReSS Awards (continued)

2017 3CPR Emergency Medical Services Travel Stipends

Sponsored by the Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation (3CPR), the EMS travel stipends support the efforts of EMS chiefs, educators and other non-physician EMS leadership by providing travel stipends to attend ReSS. The recipients of the 2017 travel stipends were selected based on their commitment and interest in cardiac arrest, CPR and resuscitation care, their potential to make an impact in out-of-hospital resuscitation care, and their record of EMS accomplishments.

The 2017 3CPR EMS Travel Stipend recipients are:

Michael Galie, Durham, NC
Ryan P. Strum, Toronto, Canada
ReSS 2017 3-Day Event Program

Friday, November 10
6:00–9:30 PM
Young Investigator Event

Saturday, November 11
8:00–8:15 AM
154-158 (ACC North)
ReSS.CVS.01
Symposium Opening:
Welcome and Introduction

8:15–9:30 AM
154-158 (ACC North)
ReSS.CVS.02
Main Event: Outcomes of Cardiac Arrest Survivors With ICDs

Moderators:
Mark Link, Dallas, Texas
Mary Newman, Wexford, Pennsylvania

8:15
Living With an ICD: A Survivor’s Perspective
Joe Farrell, San Ramon, CA

8:30
Caring For a Loved One With an ICD
Edie Farrell, San Ramon, CA

8:45
Rehabilitation for Cardiac Arrest Survivors With ICDs
Jon Rittenberger, Pittsburgh, PA

9:00
Rehabilitation Services: Who Needs What?
Gisella Lilja, Lund, Sweden

9:15
Panel Discussion

10:00–10:15 AM
154-158 (ACC North)
ReSS.CVS.03
2017 Awards for Lifetime Achievement in Cardiac Resuscitation Science and Trauma Resuscitation Science and Presentation of the Ian G. Jacobs Award for International Group Collaboration to Advance Resuscitation Science

Moderators:
Benjamin S. Abella, Philadelphia, Pennsylvania
Tom P. Aufderheide, Milwaukee, Wisconsin

10:15–10:30 AM
Refreshment Break/Networking

10:30–11:45 AM
154-158 (ACC North)
ReSS.AOS.04
Best of the Best Oral Abstract Presentations and Presentation of the Best Abstract Awards for Cardiac and Trauma Resuscitation Science

Moderators:
Maaret K. Castren, Helsinki, Finland
Lance Becker, Manhasset, New York

Oral Abstract Presentations

10:30
How Do Resuscitation Teams at Top-Performing Hospitals for In-Hospital Cardiac Arrest Differ? A Qualitative Study
Brahmajee K. Nallamothu, Tim Guetterman, Univ Michigan Health System, Ann Arbor, MI; Molly Harrod, VA Medical Ctr - Ann Arbor, MI; Sarah Krein, VA Medical Ctr - Ann Arbor, MI; Joan Kellenberg, Jessica Lehrich, Apurba Chakrabarti, Steven Kronick, Univ Michigan Health System, Ann Arbor, MI; Paul Chan, Saint Luke’s Hosp of Kansas City, Kansas City, MO

10:45
Endoplasmic Reticulum Stress Contributes to Cardiomyocyte Apoptosis in Trauma-Induced Secondary Cardiac Injury
Zi Yan, Jin-Ling He, Dan Li, Xian-yan Zeng, Na Ning, ShanXi Medical Univ, Taiyuan, China; Jie Wang, First Hosp of Shanxi Medical Univ, Taiyuan, China; Li Wang, Jin Wang, Xiang-Ying Jiao, Ji-Min Cao, ShanXi Medical Univ, Taiyuan, China; Hui-Rong Liu, Capital Medical Univ, Beijing, China; Zhong-Mei He, ShanXi Medical Univ, Taiyuan, China

11:00
Do Race and Sex Differences Exist for Do Not Attempt Resuscitation Orders in Patients Successfully Resuscitated From In-Hospital Cardiac Arrest?
Sarah M. Perman, Brenda L. Beatty, Stacie L. Daugherty, Univ of Colorado Sch of Med, Aurora, CO; Steven M. Bradley, Minneapolis Heart Inst, Minneapolis, MN; Timothy J. Fendler, St. Luke’s Mid America Heart Inst, Kansas City, MO; Jason S. Haukoos, Edward P. Havranek, Denver Health and Hosp Authority, Denver, CO; Paul S. Chan, St. Luke’s Mid America Heart Inst, Kansas City, MO
11:15  Prehospital Advanced Life Support and Survival After Traumatic Out-of-Hospital Cardiac Arrest: A Cohort Study From the Japanese National Registry
Tatsuma Fukuda, Univ of the Ryukyus, Okinawa, Japan; Naoko Ohashi-Fukuda, The Univ of Tokyo, Tokyo, Japan; Yutaka Kondo, Univ of the Ryukyus, Okinawa, Japan; Takeshi Wada, Hokkaido Univ Graduate Sch of Med, Hokkaido, Japan; Kei Hayashida, Massachusetts General General Hosp, Harvard Medical Sch, Boston, MA; Ichiro Kukita, Univ of the Ryukyus, Okinawa, Japan

11:45 AM–12:15 PM
Lunch Break

12:15–1:15 PM
Room 151 (ACC North)
ReSS.CVS.05A
Concurrent Session A
Women in Resuscitation Networking Meeting (Brown Bag Session)
Moderators:
Audrey L. Blewer, Philadelphia, Pennsylvania
Marion Leary, Philadelphia, Pennsylvania
Panelists:
Laurie J. Morrison, Toronto, ON, Canada
Sarah M. Peman, Denver, CO
Mary Fran Hazinski, Nashville, Tennessee

12:15–1:15 pm
Room 152 (ACC North)
ReSS.05B
Concurrent Session B
Joint AHA/Japanese Circulation Society Session
Moderators:
Taku Iwami, Kyoto, Japan
Benjamin S. Abella, Philadelphia, Pennsylvania
Presenters:
Toshiaki Mano, Amagasaki, Japan
Chika Nishiyama, Kyoto, Japan
Michael Levy, Anchorage, AK
Marina Del Rios, Chicago, IL

1:15–2:45 PM
155-159 (ACC North)
Ress.APS.01
Poster Session 1
Late-Breaking Resuscitation Science Posters 400-403 Abstracts 100-188
4:45  Resuscitation of Exsanguination Cardiac Arrest in a Porcine Model using REBOA

5:00  One Year Results of the Finding the Optimal Cooling Temperature After Out-of-hospital Cardiac Arrest Trial. FROST-I Pilot Trial
Esteban A. Lopez-de-Sa, Hosp Univio La Paz, Madrid, Spain; Miriam Juarez, Hosp Univio Gregorio Marañón, Madrid, Spain; Eduardo Armada, Hosp Univio La Paz, Madrid, Spain; Jose C. Sanchez-Salado, Hosp Univio de Bellvitge, L'Hospitalet de Llobregat, Spain; Pedro L. Sanchez, Complejo Asistencial Univio de Salamanca, Salamanca, Spain; Pablo Lorna-Osorio, Hosp Univio Josep Trueta, Girona, Spain; Alessandro Sionis, Hosp de la Santa Creu i Sant Pau, Barcelona, Spain; Maria C. Monedero, Hosp Univio La Paz, Madrid, Spain; Manuel Martinez-Selles, Hosp Univio Gregorio Marañón, Madrid, Spain; Miguel Sanchez-Gracia, Hosp Clinico San Carlos, Madrid, Spain; Albert Ariza, Hosp Univio de Bellvitge, L'Hospitalet de Llobregat, Spain; Aitor Urbarri, Hosp Univio de Salamanca, Salamanca, Spain; José M. García-Acuña, Complejo Hospario Univio de Santiago, Santiago de Compostela, Spain; Patricia Villa, Hosp Univio Principe de Asturias, Alcala de Henares, Spain; Pablo J. Perez, Hosp Univio de Canarias, San Cristóbal de La Laguna, Spain; Christian Storm, Charité-Universmedizin, Berlin, Germany; Anne Dee, ZOLL Medical Corp, San Jose, CA; Jose L. Lopez-Sendon, Hosp Univio La Paz, Madrid, Spain

5:15  Effects of Intra-Resuscitation Antiarrhythmic Administration on Rearrest Occurrence and Intra-Resuscitation ECG Characteristics in the ROC ALPS Trial
David D. Salcido, University of Pittsburgh, Pittsburgh, PA; Robert H. Schmicker, Noah Kime, University of Washington, Seattle, WA; Jason E. Buick, Univ of Toronto, Toronto, ON, Canada; Sheldon Cheskes, Sunnybrook Ctr for Prehospital Med, Toronto, ON, Canada; Brian Grunau, Univ of British Columbia, Vancouver, BC, Canada; Stephanie Zollner, Medical Coll of Wisconsin, Milwaukee, WI; Dana Zive, Oregon Health Sciences Univ, Portland, OR; Tom P. Aufderheide, Medical Coll of Wisconsin, Milwaukee, WI; Allison C. Koller, University of Pittsburgh, Pittsburgh, PA; Heather Herren, Univ of Washington, Seattle, WA; Jack Nuttall, Oregon Health Sciences Univ, Portland, OR; Matthew L. Sundermann, James J Menegazzi, University of Pittsburgh, Pittsburgh, PA

SUNDAY, NOVEMBER 12

8:00–9:30 AM
155-159 (ACC North)
ReSS.APS.02
Poster Session 2

9:30–10:30 AM
154-158 (ACC North)
ReSS.CVS.08
Main Event: Year in Review
Moderators:
Gavin D. Perkins, Warwick, United Kingdom
Jerry Nolan, Bath, United Kingdom

9:30  Trauma Year in Review
Sarah B Murthi, Lutherville, MD

10:00  Cardiac Arrest Year in Review
Lance Becker, Manhasset, NY

10:30–10:45 AM
Refreshment Break/Networking

10:45–11:45 AM
Room 151 (ACC North)
ReSS.AOS.09A
Concurrent Session A
Oral Abstracts – Basic Science/Translational
Moderators:
Robert W. Neumar, Ann Arbor, Minnesota
Cameron Dezfulian, Pittsburgh, Pennsylvania

10:45  Head and Thorax Elevation During Cardiopulmonary Resuscitation Improves Cerebral Perfusion in a Swine Model of Prolonged of Cardiac Arrest
Johanna C. Moore, Hennepin County Medical Ctr, Minneapolis, MN; Nicolas Segal, Univ of Minnesota, Minneapolis, MN; Guillaume Debaty, Univ Hosp of Grenoble Alps, Grenoble, France; Michael C. Lick, Hennepin County Medical Ctr, Minneapolis, MN; Keith G. Lurie, Univ of Minnesota, Minneapolis, MN
10:45–11:45 AM
Room 152 (ACC North)
ReSS.AOS.09B
Concurrent Session B
Oral Abstracts – Clinical

Moderators:
Theresa M. Olasveengen, Oslo, Norway
Myron L. Weisfeldt, Baltimore, Maryland

Oral Abstract Presentations

10:45 Burden of Coronary Artery Disease in Patients With Out-of-Hospital Refractory Ventricular Fibrillation Cardiac Arrest
Demetris Yannopoulos, Jason A. Bartos, Ganesh Raveendran, Univ of Minnesota, Minneapolis, MN; Marc Conterato, North Memorial Medical Ctr, Robbinsdale, MN; RJ Frascone, Regions Hosp, St. Paul, MN; Alexander Trembley, North Memorial Medical Ctr, Robbinsdale, MN; Ranjit John, John Connett, David Benditt, Keith G. Lurie, Robert F. Wilson, Univ of Minnesota, Minneapolis, MN; Tom P. Aufderheide, Medical Coll of Wisconsin, Milwaukee, W

11:00 Soluble Guanylate Cyclase-α1 in Bone Marrow Derived Cells is Required for Inhaled Nitric Oxide to Improve Outcomes After Cardiac Arrest and Cardiopulmonary Resuscitation in Mice
Kei Hayashida, Kohei Ikeda, Eizo Marutani, Aurora Magliocca, Naohiro Mori, Robert E. T. Tainsh, Massachusettas General Hosp, Charlestown, MA; Kimberly B. Johansson, David K. Rhee, Emmanuel S. Buys, Massachusettas General Hosp, Boston, MA; Fumito Ichinose, Massachusettas General Hosp, Charlestown, MA

11:15 Periodic Acceleration (pGz) After Cardiac Arrest Restores Antioxidant Capacity in Swine Hearts
Jose Antonio Adams, Arkady Uryash, Jose R. Lopez, Mount Sinai Medical Ctr, Miami Beach, FL

11:30 S-nitrosoglutathione Improves Post-resuscitation Cerebral Perfusion and Inhibits Neuronal Apoptosis via Reciprocating eNOS-NO Signaling
Wei-Tien Chang, Woan-Yi Wang, Min-Hsuan Hsu, Chih-Hung Wang, Min-Shan Tsai, Hsiao-Ju Cheng, Chien-Hua Huang, Wen-Jone Chen, Natl Taiwan Univ Hosp and Coll of Med, Taipei, Taiwan

10:45–11:00 The Relationship Between Intra-arrest Transport and Survival for Refractory Out-of-hospital Cardiac Arrest
Brian E. Grunau, Univ of British Columbia, Vancouver, BC, Canada; Noah Kime, Tom Rea, Gerald Van Belle, Univ of Washington, Seattle, WA; Jonathan Elmer, Univ of Pittsburgh, Pittsburgh, PA; Christian Vaillancourt, The Ottawa Hosp, Ottawa, ON, Canada; Brian Leroux, Univ of Washington, Seattle, WA; James J. Menegazzi, Univ of Pittsburgh, Pittsburgh, PA; Laurie Morrison, Univ of Toronto, Toronto, ON, Canada; Peter Kudenchuk, Univ of Washington, Seattle, WA; Dana Zive, Nancy Le, Oregon Health & Science Univ, Portland, OR; Heather Herren, Univ of Washington, Seattle, WA; Richard Verbeek, Univ of Toronto, Toronto, ON, Canada; Michael Austin, The Ottawa Hosp, Ottawa, ON, Canada; Tom Aufderheide, Medial Coll of Wisconsin, Milwaukee, W; Ahamed Idris, UT Southwestern Medical Ctr, Dallas, TX; Neal Richmond, MedStar, Inc, Fort Worth, TX; Riccardo Colella, Medical Coll of Wisconsin, Milwaukee, WI; Jim Christenson, Univ of British Columbia, Vancouver, BC, Canada

11:15 Risk Prediction of Future Cardiac Arrest by Evaluation of Genetic Risk Score Alone and in Combination With Traditional Risk Factors
Marcus A. Ohlsson, Linn M. Kennedy, Tord Juhlin, Olle Melander, Skåne Univ Hosp, Malmö, Sweden

11:30 Acute Respiratory Compromise on Hospital Wards: Risks and Outcomes Associated With Recent Discharge From an ICU
Katherine M. Berg, Michael W. Donnino, Anne V. Grossestreuer, Beth Isreal Deaconess Medical Ctr, Boston, MA

11:45 AM–12:00 PM
Break

12:00–1:15 PM
154-158 (ACC North)
ReSS.CVS.10
Main Event: The Role of Genetics in Cardiac Arrest and Trauma

Moderator:
Rajat Deo, Philadelphia, Pennsylvania
Graham Nichol, Seattle, Washington

12:00 Genetics of Sudden Death
Elizabeth McNally, Chicago, IL

12:15 Genetics of the Response to Trauma
J. Perren Cobb, Los Angeles, CA
Pediatric Genetics of Sudden Death
Michael J. Ackerman, Rochester, MN

Genetics and Epigenetics of Sepsis
Nuala Meyer, Philadelphia, PA

1:00 Panel Discussion

1:15–3:00 PM
Lunch/Scientific Sessions Opening Sessions

3:15–4:15 PM
Room 151 (ACC North)
ReSS.AOS.11A
Concurrent Session A
Oral Abstracts – Cardiac Arrest Epidemiology

Moderators:
Monique L. Anderson Starks, Durham, North Carolina
Bryan McNally, Atlanta, Georgia

Oral Abstract Presentations

Gender Disparities Among Patients Receiving Bystander Cardiopulmonary Resuscitation in the United States
Audrey L. Blewer, Shaun K. McGovern, Univ Pennsylvania, Philadelphia, PA; Rob Schmicker, Univ of Washington, Philadelphia, PA; Laurie J. Morrison, Univ of Toronto, Toronto, ON, Canada; Susanne May, Univ of Washington, Seattle, WA; Tom P. Aufderheide, Medical Coll of Wisconsin, Milwaukie, WI; Mohamud Daya, Oregon Health and Science Univ, Portland, OR; Ahmed H. Idris, University of Texas Southwestern Medical Ctr, Dallas, TX; Clifton W Callaway, Univ of Pittsburgh, Pittsburgh, PA; Peter J. Kudenchuk, Univ of Washington, Seattle, WA; Gary M. Vilk, Univ of California San Diego, La Jolla, CA; Benjamin S. Abella, Univ Pennsylvania, Philadelphia, PA

Health Impacts of the Southeast Asian Haze Problem – A Time-Stratified Case Crossover Study of the Relationship Between Ambient Air Pollution and Sudden Cardiac Deaths in Singapore
Marcus Eh Ong, Andrew Fw Ho, Win Wah, Singapore General Hosp, Singapore; Arul Earnest, Monash Univ, Victoria, Australia; Yih Yng Ng, Singapore Civil Defence Force, Singapore; Zhenjia Xie, Nati Univ of Singapore, Singapore; Nur Shahidah, Susan Yap, Pin Pin Pek, Singapore General Hosp, Singapore; Nan Liu, Sean SW Lam, Singapore Health Services, Singapore; Singapore PAROS Investigators

Hospital-Level Variation in Short-Term and Long-Term Survival After In-Hospital Cardiac Arrest in the Veterans Health Administration
Apurba K. Chakrabarti, Theodore Iwashyna, Univ of Michigan, Ann Arbor, MI; Jennifer Burns, Sanjay Saint, VA Ann Arbor Healthcare System, Ann Arbor, MI; Paul Chan, St Luke's Mid America Heart Inst, Kansas City, MO; Steven Bradley, Minneapolis Heart Inst, Minneapolis, MN; Peter Kaboli, Iowa City VA Healthcare System, Iowa City, IA; Lee Kamphuis, Anne Sales, VA Ann Arbor Healthcare System, Ann Arbor, MI; Brahmajee Nallamothe, Univ of Michigan, Ann Arbor, MI

4:00 Long-Term Outcomes Disparities in Survivors of Cardiac Arrest
Patrick J. Coppler, Jonathan Elmer, Jon C. Rittenberger, Clifton W Callaway, David J. Wallace, Univ of Pittsburgh, Pittsburgh, PA

3:15–4:15 PM
Room 152 (ACC North)
ReSS.AOS.11B
Concurrent Session B
Oral Abstracts – Trauma

Moderators:
Sarah B. Murthi, Lutherville, Maryland
Abhishek Bhardwaj, Philadelphia, Pennsylvania

Oral Abstract Presentations

Evaluation of the Combined Prehospital Hypoxia-Hypotension “Depth-Duration Dose” and Mortality in Major Traumatic Brain Injury
Daniel W. Spaite, Chengcheng Hu, Univ of Arizona, Phoenix, AZ; Bentley J. Bobrow, Vatsal Chikani, Arizona Dept of Health Services, Phoenix, AZ; Joshua B. Gaither, Univ of Arizona, Tucson, AZ; Bruce J. Barnhart, Univ of Arizona, Phoenix, AZ; P. David Adelson, Phoenix Children’s Hosp, Phoenix, AZ; Kurt R. Denninghoff, Amber D. Rice, Chad Viscusi, Univ of Arizona, Tucson, AZ; Terry Mullins, Arizona Dept of Health Services, Phoenix, AZ; Duane Sherrill, Samuel M. Keim, Univ of Arizona, Tucson, AZ

Increased Risk of Mortality With Vasopressor Use in Traumatic Hemorrhage Shock: A Nationwide Cohort Study in Japan
Makoto Aoki, Gunma Univ Hosp, Maebashi, Japan; Toshikazu Abe, Juntendo Univ Urayasu Hosp, Urayasu, Japan; Shuichi Hagiwara, Kiyohiro Oshima, Gunma Univ Hosp, Maebashi, Japan
3:45 Prognostic Performance of Five Disseminated Intravascular Coagulation Score Systems in Severe Trauma
Dong Hun Lee, Byung Kook Lee, Sang Mi Noh, Chonnam Natl Univ Hosp, Gwangju, Korea, Republic of

4:00 Pre-hospital Traumatic Bleeding Severity Score: A Validation Study of On-scene Prediction of the Need for Massive Transfusion
Takayuki Ogura, Japan Red Cross Maebashi Hosp, Maebashi, Japan; Alan Kawarai Lefor, Jichi Medical Univ, Shimotsuke, Japan; Kenji Fujizuka, Hiroshi Machida, Shu Utsumi, Mitsunobu Nakamura, Minoru Nakano, Japan Red Cross Maebashi Hosp, Maebashi, Japan

4:15–4:30 PM Refreshment Break/Networking

4:30–5:45 PM
154-158 (ACC North)
ReSS.CVS.12 Main Event: New Directions in Dispatch-Assisted CPR
Moderators:
Rudolph W Koster, Amsterdam, Netherlands
Freddy Lippert, Copenhagen, Denmark

4:30 Dispatch Tools and Training – Current Best Practices
Marcus Ong, Singapore, Singapore

4:45 Quality Monitoring of Dispatch CPR
Charles Deakin, Southampton, United Kingdom

5:00 Training Bystanders to Interact With Dispatchers
Jo Kramer-Johansen, Oslo, Norway

5:15 Translation of Dispatch CPR into Improved Outcomes
Bentley Bobrow, Phoenix, AZ

5:30 Panel Discussion

Monday, November 13

8:00–9:30 AM
155-159 (ACC North)
ReSS.APS.03 Poster Session
Abstracts 276-362

9:30–10:30 AM
154-158 (ACC North)
ReSS.CVS.13 Main Event: Educational Innovations in Resuscitation
Moderators:
Rosemarie Fernandez, Seattle, Washington
Marion Leary, Philadelphia, Pennsylvania

9:30 Social Media and FOAM (Free Open Access Meducation)
Michael T. McCurdy, Baltimore, MD

9:45 Augmented Reality
Laurny Rochlen, Ann Arbor, MI

10:00 Simulation
Bryn Baxendale, Nottingham, United Kingdom

10:15 Educating the Masses
Martin Percy, London, United Kingdom

10:30 Panel Discussion

10:45–11:45 AM
154-158 (ACC North)
ReSS.AOS.14 Dickinson W. Richards Memorial Lecture
Moderators:
Bentley J. Bobrow, Phoenix, Arizona
Henry R. Halperin, Baltimore, Maryland

10:45 Dickinson W. Richards Lecture
Advancing Resuscitation Science: A Combination of Courage, Compassion, Collaboration, Carpe diem and a Little Grace
Laurie J. Morrison, Toronto, ON, Canada
Oral Abstract Presentations

11:15 Epidemiology of Out-of-Hospital Cardiac Arrest Within the Resuscitation Outcomes Consortium From 2011 to 2015: Improved Survival Though Site Differences Persists
Dana M. Zive, OHSU, Portland, OR; Robert Schmicker, Univ of Washington, Seattle, WA; Mohamud Daya, OHSU, Portland, OR; Peter Kudenchuk, Univ of Washington, Seattle, WA; Jon C. Rittenberger, Univ of Pittsburgh, Pittsburgh, PA; Tom Aufderheide, Medical Coll of Wisconsin, Milwaukee, WI; Gary Vilke, Univ of California San Diego, San Diego, CA; Jim Christenson, Univ of British Columbia, Vancouver, BC, Canada; Jason Buick, St. Michael's Hosp, Toronto, ON, Canada; Ken Kaila, Univ of Alberta, Edmonton, AB, Canada; Susanne J. May, Thomas Rea, Univ of Washington, Seattle, WA; Laurie J. Morrison, St. Michael's Hosp, Toronto, ON, Canada

11:30 Race/Ethnicity and Socioeconomic Factors are Associated With Bystander CPR in Pediatric Out of Hospital Cardiac Arrest: A Study From the Cardiac Arrest Registry to Enhance Survival (CARES)
Maryam Y. Naim, Heather M. Griffis, Childrens Hosp of Philadelphia, Philadelphia, PA; Rita V. Burke, Childrens Hosp of Los Angeles, Los Angeles, CA; Bryan F. McNally, Emory Univ, Atlanta, GA; Lihai Song, Robert A. Berg, Vinay M Nadkarni, Childrens Hosp of Philadelphia, Philadelphia, PA; Kimberly Vellano, Emory Univ, Atlanta, GA; Richard N. Bradley, Univ of Texas, Houston, TX; David Markenson, Sky Ridge Medical Ctr, Lone Tree, CO; Joseph W. Rossano, Childrens Hosp of Philadelphia, Philadelphia, PA

11:45 AM–12:15 PM
Lunch Break

12:15–1:15 PM
Room 151 (ACC North)
ReSS.CVS.15A
Concurrent Session A
NIH Funding Report
Moderator:
Robert W Neumar, Ann Arbor, Michigan

Presenters:
Drew E. Carlson, Bethesda, MD
George Sopko, Rockville, MD
Jeremy Brown, Bethesda, MD
Jane D. Scott, Bethesda, MD

12:55 Panel Discussion/Q&A

12:15 The Science Behind Manual and Mechanical CPR
Tom P. Aufderheide, Milwaukee, WI
12:30 Mechanical CPR Use in Out-of-Hospital Cardiac Arrest
Ralph J. Frascone, St Paul, MN
12:45 Effectiveness of Manual CPR in Out-of-Hospital Cardiac Arrest
Ahamed H. Idris, Dallas, TX
1:00 Panel Discussion/Q&A

1:30–2:45 PM
154-158 (ACC North)
ReSS.CVS.16
Main Event: Coagulopathies in Resuscitation
Moderator:
Michael C. Kurz, Birmingham, Alabama
Aaron Strumwasser, Los Angeles, California

1:30 Coagulopathy in Trauma
Ernest Moore, Denver, CO
1:45 Coagulopathy in Cardiac Arrest
Robert Neumar, Ann Arbor, MI
2:00 Treatment: Factor Based Therapy
John B. Holcomb, Houston, TX
2:15 Treatment: Anticoagulation Reversal
Jennifer Frontera, Brooklyn, NY
2:30 Panel Discussion

2:45–3:15 PM
Refreshment Break/Networking
ReSS 2017 3-Day Event Program (continued)

3:15-4:30 PM
154-158 (ACC North)
ReSS.CVS.17
Main Event: Pharmacologic Resuscitation Therapies
Moderators:
Michael Donnino, Boston, Massachusetts
Laurie J. Morrison, Toronto, ON, Canada

3:15  Lessons From Preclinical Studies
Theresa Olasveengen, Oslo, Norway

3:30  Pharmacologic Approaches During Cardiac Arrest Resuscitation
Peter J. Kudenchuk, Seattle, WA

3:45  Pharmacologic Effectiveness in Clinical Trials
Peter Morley, Melbourne, Australia

4:00  Alternative Pharmacologic Agents
Raúl J. Gazmuri, North Chicago, IL

4:15  Panel Discussion

4:30-5:30 PM
154-158 (ACC North)
ReSS.AOS.18
Oral Abstracts Session
Moderators:
Dianne L. Atkins, Iowa City, Iowa
David B. Seder, Portland, Maine

Oral Abstract Presentations

4:30  Arterial Hyperoxia Exposure Time and Survival Among Resuscitated Patients With Out-of-hospital Cardiac Arrest, The Critical Study in Osaka, Japan
Takeyuki Kiguchi, Kyoto Univ, Kyoto, Japan; Tetsuhisa Kitamura, Osaka Univ, Suita, Japan; Daisuke Kobayashi, Chika Nishiyama, Kyoto Univ, Kyoto, Japan; CRITICAL study; Satoshi Fujimi, Osaka General Medical Ctr, Osaka, Japan; Takashi Kawamura, Taku Iwami, Kyoto Univ, Kyoto, Japan

4:45  Derivation and Internal Validation of a Mortality Prediction Tool for Initial Survivors of Pediatric In-Hospital Cardiac Arrest
Mathias J. Holmberg, Ari Moskowitz, Beth Israel Deaconess Medical Ctr, Boston, MA; Tia T. Raymond, Medical City Children’s Hosp, Dallas, TX; Robert A. Berg, Vinay M Nadkarni, Alexis A Topjian, The Children’s Hosp of Philadelphia, Philadelphia, PA; Anne V. Grossestreuer, Michael W. Donnino, Beth Israel Deaconess Medical Ctr, Boston, MA; Lars W Andersen, Aarhus Univ Hosp, Aarhus, Denmark; American Heart Association’s Get With The Guidelines-Resuscitation Investigators

5:00  Complete Blood Substitute for Massive Transfusion in Thrombocytopenic and Hemorrhagic Shock Rabbits
Kohsuke Hagisawa, Manabu Kinoshita, Natl Defense Medical Coll, Tokorozawa, Japan

5:15  A Pilot Study of Cerebral Selective Deep Hypothermia in Extracorporeal Cardiopulmonary Resuscitation for Out-of-hospital Cardiac Arrest Patients
Chih-Hsien Wang, Yih-Sharng Chen, Nat’l Taiwan Univ Hosp, Taipei City, Taiwan