



Resuscitation
28 | 29 | 30 September
2017
Freiburg | Germany



RESUSCITATION 2017

Society saving lives

Freiburg im Breisgau, Germany
28 - 30 September 2017

Scientific programme

WWW.ERC.EDU

WWW.RESUSCITATION2017.EU



#erc17freiburg



**EUROPEAN
RESUSCITATION
COUNCIL**

A System of Care Symposium

Improving patient care

Featuring Keynote Speakers:

Dr. Mark Frank - Städtisches Klinikum Görlitz
Mr. Jan Noelle - Rettungsdienst Kooperation in Schleswig-Holstein GmbH
Dr. Dmitrii Buzanov – Alexandrovskaya Hospital, Saint Petersburg
Mr. Mark Whitbread - London Ambulance Service and South East Coast Ambulance Service
Mr. Matthew Ibrahim - The Princess Alexandra Hospital NHS Trust



There will be a number of exciting sessions including:

- Ergonomics in EMS
- Environment
- Mechanical CPR
- Chest compression efficacy
- Debriefing
- Temperature Management
- Crew Resource Management

Event Date:

Thursday, 28th September 2017, 10:00–15:00

Friday, 29th September 2017, 10:30–16:00

Where:

ERC Congress 2017, Freiburg (Breisgau), Germany

Who should attend?

Any ERC participant with an interest in resuscitation and improving patient care.

Register

Please visit the Stryker booth H1

Content

- 2 Committees
- 7 Faculty
- 15 Pre Congress
- 16 Scientific programme - German Council
- 20 Scientific programme

ERC has created an app to navigate the programme.

This is available in the Apple store and Google play.

Look for “ERC European Resuscitation Council” or scan de QR below.

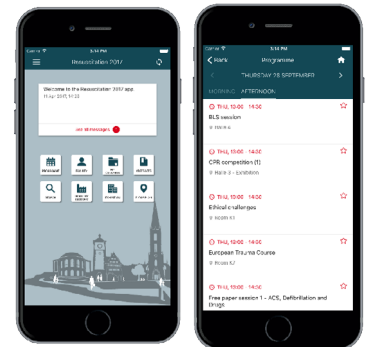
iPhone

Short link: <http://bit.ly/2vRc1wx>



Android

Short link: <http://bit.ly/2vRanL8>



Scientific Committee

Chair:

Gavin Perkins

*University of Warwick and Heart of England NHS Foundation Trust, Warwick,
United Kingdom*

Members:

Jan Bahr

European Resuscitation Council, (Past) Director Congresses

Leo Bossaert

*European Resuscitation Council, Representative of the Advisory Committee
University of Antwerp, Belgium*

Bernd Böttiger

*European Resuscitation Council, Director Science and Research
University Hospital of Cologne, Cologne, Germany
University of Cologne, Cologne, Germany*

Maaret Castrén

Helsinki University Hospital, Finland

Pat Conaghan

The University of Manchester, Manchester, United Kingdom

Robert Greif

*European Resuscitation Council, Director Training and Education
Bern University Hospital and University of Bern, Bern, Switzerland*

Andrew Lockey

*Emergency Department, Calderdale & Huddersfield NHS Trust, Halifax, United
Kingdom*

Carsten Lott

Universitätsmedizin Johannes Gutenberg-Universität, Mainz, Germany

Ian Maconochie

Imperial College Healthcare Trust, London, United Kingdom

Michael Müller

University of Freiburg, Freiburg

Koen Monsieurs

University of Antwerp, Antwerp, Belgium

Nikolaos Nikolaou

Agia Olga General Hospital, Nea Ionia, Greece

Jerry Nolan

*European Resuscitation Council, Chair of the board
University of Bristol and Royal United Hospital, Bath, United Kingdom*

Violetta Raffay

Municipal Institute for Emergency Medicine Novi Sad, Serbia

Joachim Schlieber

AUVA Trauma Center, Salzburg, Austria

Jasmeet Soar

Southmead Hospital, Bristol, United Kingdom

Patrick Van de Voorde

*Ghent University, Ghent University Hospital, Ghent, Belgium
Federal Department of Health, Belgium*

Jonathan Wyllie

The James Cook University Hospital, Middlesbrough, United Kingdom

David Zideman

Imperial College Healthcare NHS Trust, London, United Kingdom

Organising Committee

Chair:

Jan Bahr

European Resuscitation Council, Past Director Congresses

Members:

Jeroen Janssens

European Resuscitation Council, Congress manager

Michael Müller

University of Freiburg, Freiburg

Congress Committee

Chair:

Jan Bahr

European Resuscitation Council, Past Director Congresses

Members:

Leo Bossaert

*European Resuscitation Council, Representative of the Advisory Committee
University of Antwerp, Belgium*

Bernd Böttiger

*European Resuscitation Council, Director Science and Research
University Hospital of Cologne, Cologne, Germany
University of Cologne, Cologne, Germany*

Marios Georgiou

*European Resuscitation Council, Director External Affairs
American Medical Center, Nicosia, Cyprus.*

Tony Handley

*European Resuscitation Council, Treasurer
Cambridge, United Kingdom*

Jeroen Janssens

European Resuscitation Council, Congress manager

Gavin Perkins

*Chair Scientific Committee Resuscitation 2016
University of Warwick and Heart of England NHS Foundation Trust, Warwick,
United Kingdom*

Anatolij Truhlář

*Farmaceutická fakulta v Hradci Králové, Czech Republic
ERC Director Congresses*

Bart Visser

European Resuscitation Council, CEO

Social Media

Twitter



#ERC17

Facebook



Social event

The social event will take place at **Ballhaus Freiburg**.

(Leo-Wohleb-Straße 1, 79098 Freiburg im Breisgau)

The event starts at 18:30 and we close at 22:30.

If you have not registered but still want to attend, please register at the registration desk as of 13:30 on Thursday. Cash only (ATM machine at entrance).

How to get there?

The Ballhaus is 4km from the venue.

Taxi

A taxi will cost around €15.

T: 0761 55.55.55

Tram nr 4

From the venue, walk 500 meter to stop 'Technische Fakultät' and take the stop at 'Freiburg Bertoldsbrunnen' (9 stops later & the end station). From here it is another kilometer to the venue.

Faculty

Janusz Andres

Department of Anaesthesiology and Intensive Care Medicine, Jagiellonian University Krakow, Poland

Richard Aickin

Starship Paediatric Emergency Department, Starship Children's Hospital, New Zealand

Jan Bahr

Bovenden, Germany

John Ballance

Hereford, UK

Roberto Barcala-Furelos

University of Vigo. Spain

Farzin Beygui

Caen University Hospital

Tonje Soraas Birkenes

Laerdal Medical, Stavanger Norway

Bernd Böttiger

University Hospital of Cologne, Cologne, Germany

University of Cologne, Cologne, Germany

Caroline Busche

University Emergency Center, University of Freiburg, Germany

Domagoj Damjanovic

Heart Center Freiburg University, Freiburg, Germany

Natale Daniele Brunetti

University of Foggia, Italy

Clifton W. Callaway

University of Pittsburgh, Pittsburgh, PA, United States

Alain Cariou

Cochin University Hospital and Paris Descartes University, Paris, France

Pascal Cassan

International Federation of Red Cross and Red Crescent

Maaret Castren

Helsinki University Hospital, Finland

Diana Cimpoesu

*University of Medicine and Pharmacy Gr.T. Popa Iasi
University County Hospital Sf. Spiridon Iasi, Romania*

Robin Davies

Heart of England NHS Foundation Trust, Birmingham, United Kingdom

Emmy de Buck

Centre for Evidence-Based Practice, Belgian Red Cross-Flanders, Belgium

Charles D. Deakin

University Hospital Southampton, United Kingdom

Joe Fawke

*University Hospitals Leicester, University of Leicester and Resuscitation Council
(UK)*

Hans Friberg

Lund University, Lund, Sweden

Michael Fries

*St. Vincenz Krankenhaus, Abteilung für Anästhesie und operative
Intensivmedizin, Limburg an der Lahn*

Marios Georgiou

American Medical Center - Cyprus

Jan-Thorsten Gräsner

*University Medical Center Schleswig-Holstein, Institute for Emergency Medicine,
Germany*

Robert -Tino- Greif

Bern University Hospital and University of Bern, Bern, Switzerland

Monika Grünfeld

Prehospital unit, Community Health Centre Kranj, Slovenia

Anthony J. Handley

Cambridge, United Kingdom

Jörg Hanusch

*Abteilung für Anästhesie, Intensiv- und Notfallmedizin, St Josefskrankenhaus
Freiburg, Germany*

Kirstie Haywood

Warwick Research in Nursing, Division of Health Sciences, Warwick Medical School, United Kingdom

Rudolph Koster

Academic Medical Center, Amsterdam, the Netherlands

Lionel Lamhaut

University of Paris Descartes and Necker Hospital (APHP), Paris, France

Thomas Lindner

Stavanger Acute Medicine Foundation for Education and Research, Stavanger, Norway

Andy Lockey

Calderdale & Huddersfield NHS Trust, Halifax, United Kingdom

Carsten Lott

Universitätsmedizin Johannes Gutenberg-Universität, Mainz, Germany

Ileana Lulic

University Hospital Centre Zagreb, School of Medicine University of Zagreb, Croatia

Ian Maconochie

Imperial College Healthcare Trust, London, United Kingdom

John Madar

Plymouth hospitals NHS trust

Spyros Mentzelopoulos

First Department of Intensive Care Medicine, University of Athens Medical School, Athens, Greece

Koen Monsieurs

Antwerp University Hospital, Antwerp, Belgium

Peter Morley

*Royal Melbourne Hospital
Royal Melbourne Hospital Clinical School, The University of Melbourne*

Laurie J. Morrison

Rescu, Li Ka Shing Knowledge Institute, St Michael's Hospital, University of Toronto, Toronto Ontario Canada

Michael Müller

RKK Klinikum St. Josefskrankenhaus, Freiburg, Germany

Vinay Nadkarni

University of Pennsylvania Perelman School of Medicine, Philadelphia, Pennsylvania, USA

Kevin Nation

New Zealand Resuscitation Council

Robert Neumar

University of Michigan Health System, USA

Jerry Nolan

University of Bristol and Royal United Hospital, Bath, United Kingdom

Gavin Perkins

University of Warwick and Heart of England NHS Foundation Trust, Warwick, United Kingdom

Charles-Christoph Roehr

Oxford University Hospitals, NHS, United Kingdom

Marc Sabbe

University of Leuven, Leuven, Belgium

Claudio Sandroni

Department of Anaesthesiology and Intensive Care - Catholic University School of Medicine, Rome, Italy

Ferenc Sari

Clinical Training Center, Skellefteå, Sweden

Joachim Schlieber

AUVA Trauma Center, Salzburg, Austria

Tobias Schröder

Klinikum Frankfurt Höchst, Klinik für Anästhesie und Notfallmedizin (HIEST), Germany

Federico Semeraro

Maggiore Hospital, Bologna, Italy

Eunice ('Nici') Singletary

University of Virginia, USA

Jasmeet Soar

Southmead Hospital, Bristol, United Kingdom

Kjetil Sunde

Oslo University Hospital, Oslo, Norway

Hildigunnur Svavarsdóttir

Akureyri Hospital, Akureyri, Iceland

Heidrun Thaiss

Director of The Federal Centre for Prevention and Health Promotion (BZgA)

Jonathan Tilsed

Hull York Medical School, University of York, United Kingdom

Anatolij Truhlář

*Farmaceutická fakulta v Hradci Králové, Czech Republic
ERC Director Congresses*

Georg Trummer

Heart Center Freiburg University, Freiburg/Germany

Patrick Van De Voorde

Ghent University - Ghent University Hospital - Fed. Dpt. Health; Belgium

Ulrich Von Kirchbach

*Bürgermeister für Kultur, Integration, Soziales und Senioren der Stadt Freiburg
im Breisgau
Mayor of Freiburg im Breisgau*

Tested Every Day.
Rescue Ready® Every Day.



Powerheart® G5 AEDs test every day to verify their medical-grade batteries, non-polarized pads, and critical components are connected and fully functional for the upcoming day.

Visit our booth: #H2 at Zentralfoyer Hall



Pre-congress meeting

Thursday September 28



Educator meeting (on invitation only)

Room K1 09:00 - 12:30

Chaired by Robert Greif & Andy Lockey

Intro and overview of the Educator Meeting

Robert Greif (Switzerland)

Role of the Educator and the new ERC framework for peer review

TBD

The "new" ERC GIC 2017

Robert Greif (Switzerland)

Coffee

Faculty and candidate management for the ERC teaching staff

Andy Lockey (United Kingdom)

Quality assurance and auditing for Educators and the GIC

Robert Greif (Switzerland)

Panel Discussion with the WGE



Begrüßung und Eröffnung

Halle 4 08:45 - 09:00

Bernd W. Böttiger

Vorstandsvorsitzender des Deutschen Rates für Wiederbelebung

Heidrun Thaiss

Leiterin der Bundeszentrale für gesundheitliche Aufklärung



Zukunftswerkstatt oder bereits Realität?

Halle 4 09:00 - 10:30

Chaired by Matthias Fischer & Stefan Beckers

Smartphone bei der Reanimation: Die Lösung?

Michael Müller

ECLS - präklinisch Realität?

Georg Trummer

Traumatischer Kreislaufstillstand: Was ist anders?

Matthias Münzberg



Reanimation in der täglichen Praxis

Room K7 09:00 - 10:30

Chaired by Christoph Eich & Hans-Jörg Busch

Kinderreanimation

Florian Hoffmann

ROSC und dann? Postreanimationsbehandlung beginnt am Einsatzort!

Hans-Jörg Busch

Spezielle Umstände bei der Reanimation: Was ist anders?

Claas T. Buschmann

Workshops

09:00 - 10:30

Strukturierte Übergabe von Postreanimationspatienten

Jörg Bayer, Thorsten Hammer, Frank Koberne, Timo Schädler,
Bonaventura Schmid, Tobias Wengenmayer

Fokussierte Ultraschalluntersuchung bei der Reanimation

Raoul Breitreutz, Caroline Busche, Jörg Hanusch, Jens Schneider

Zwischenfallmanagement in der Luftrettung

Frank Lerch, Daniel Schmitz, Matthias Roth



10:30 - 11:00

Coffee break

Education & Training

Halle 4 11:00 - 12:30

Chaired by Volker Wenzel & Bernhard Gliwitzky

Implementierung der Leitlinien: Wo stehen wir?

Uwe Kreimeier

Der neue ALS-Kurs

Carsten Lott

Auswahl und Ausbildung der Ausbilder

Ralf Bischoini

GRC-Projekte

Room K7 11:00 - 12:30

Chaired by Bernd W. Böttiger & Karl Heinrich Scholz

Cardiac Arrest Center: Warum brauchen wir CAC?

Jan-Thorsten Gräsner

Cardiac Arrest Center: Umsetzung aus Sicht eines Uniklinikums

Markus Rössler

Kids save lives

Bernd W. Böttiger

Nationales Aktionsbündnis Wiederbelebung (NAWIB)

Karl Heinrich Scholz

Workshops

Halle 3 11:00 - 12:30

Strukturierte Übergabe von Postreanimationspatienten

Jörg Bayer, Thorsten Hammer, Frank Koberne, Timo Schädler, Bonaventura Schmid, Tobias Wengenmayer

Nicht-technische Fertigkeiten bei der Reanimation

Markus Schmidt, Matthias Roth

Zwischenfallmanagement in der Luftrettung

Frank Lerch, Daniel Schmitz, Matthias Roth



12:30 - 13:00 Lunch (only for participants of GRC sessions)



EASY PULSE®



Efficient and compact mechanical CPR thanks to technological innovation

The smallest and lightest mechanical chest compression device is portable, stand-alone and automatically delivers chest compressions at a consistent rate and depth. A high-quality uninterrupted chest compression can be guaranteed, even during transport.

BLS Session

Chaired by Joachim Schlieber & Sanna Hoppu

Halle 4 13:00 - 14:30

What drives blood flow during CPR?

Marios Georgiou (Cyprus)

Compression only CPR - good or bad?

Gavin Perkins (United Kingdom)

Adjuncts to improve CPR effectiveness.

Jas Soar (United Kingdom)

European Trauma Course - Joint Session

Chaired by Anatolij Truhlář & Pierre Carli

Room K7 13:00 - 14:30

Resuscitative thoracotomy - what is the best access?

Marc Sabbe (Belgium)

Trauma network - improving patients outcome.

Jonathan Tilsed (United Kingdom)

Teaching strategies in trauma management.

Ileana Lulic (Croatia)

Ethical Challenges

Chaired by Claudio Sandroni & Silviya Hunyadi

Room K1 13:00 - 14:30

Patient autonomy in Europe: the law and the practice (living will, patient preferences).

Spyros Mentzelopoulos (Greece)

Medical-centered and patient-/family-centered ethics: a dynamic balance.

Kirstie Haywood (United Kingdom)

Early prognostication. Is it possible? Is it helpful?

Claudio Sandroni (Italy)

Free Paper Session 1 - ACS, Defibrillation and Drugs

Chaired by Michael Baubin & Giuseppe Ristagno

Room K9 13:00 - 14:30

ASo1:

First real-world experience with CardioSecur® in the preclinical setting - when time does matter

ASo2:

Internal pacemaker pulse rejection in AEDs with low sampling rate front-ends

ASo3:

A Shock Advisory Algorithm to Analyse through Chest Compressions for Reducing Interruptions during Cardiopulmonary Resuscitation

ASo4:

Predictors of Amplitude-Spectral Area (AMSA) during CPR in a Swine Model of Electrically-Induced Ventricular Fibrillation

ASo5:

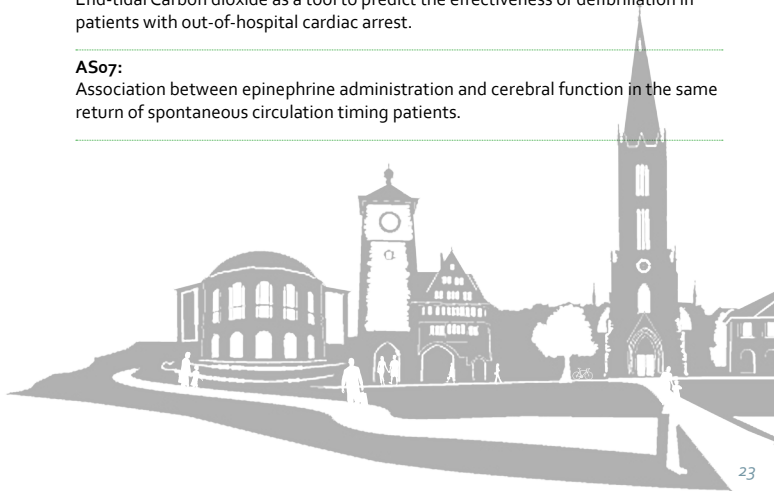
Analysis of the End-tidal CO₂ as Shock Outcome Predictor in Out-of-hospital Cardiac Arrest.

ASo6:

End-tidal Carbon dioxide as a tool to predict the effectiveness of defibrillation in patients with out-of-hospital cardiac arrest.

ASo7:

Association between epinephrine administration and cerebral function in the same return of spontaneous circulation timing patients.



Free Paper Session 2 - paediatrics/neonate

Chaired by Jonathan Wyllie & Ian Maconochie

Room K6 13:00 - 14:30

AS08:

Smart CPR to teach neonatal resuscitation?-Use of QCPR mannequin for teaching CPR on the Neonatal life support course- analysis through questionnaire and observations

AS09:

"Knocking-fingers" chest compression technique in infant cardiac arrest: single rescuer manikin study

AS10:

Modified Berden Score for paediatric basic life support assessment

AS11:

Two-thumb encircling technique with novel compression assist device can provide safe and effective chest compression in infant: A manikin simulation study.

AS12:

Paramedic Newborn Life Support - How much do they know? An exploratory study of the understanding and application of contemporary recommendations on early stabilisation of the unwell newborn.

AS13:

Retention of knowledge and skills in paediatric basic life support amongst paediatricians

Workshop 1: Focused Sonography during CPR

Instructors:

Halle 3 13:00 - 14:30

Raoul Breikreutz (Germany)

Caroline Busche (Germany)

Jörg Hanusch (Germany)

Tobias Schröder (Germany)

Damjanovic Domagoj (Germany)

Workshop A: Crisis Resource Management in HEMS missions

Instructors:

Helicopter 13:00 - 14:30

Frank Lerch

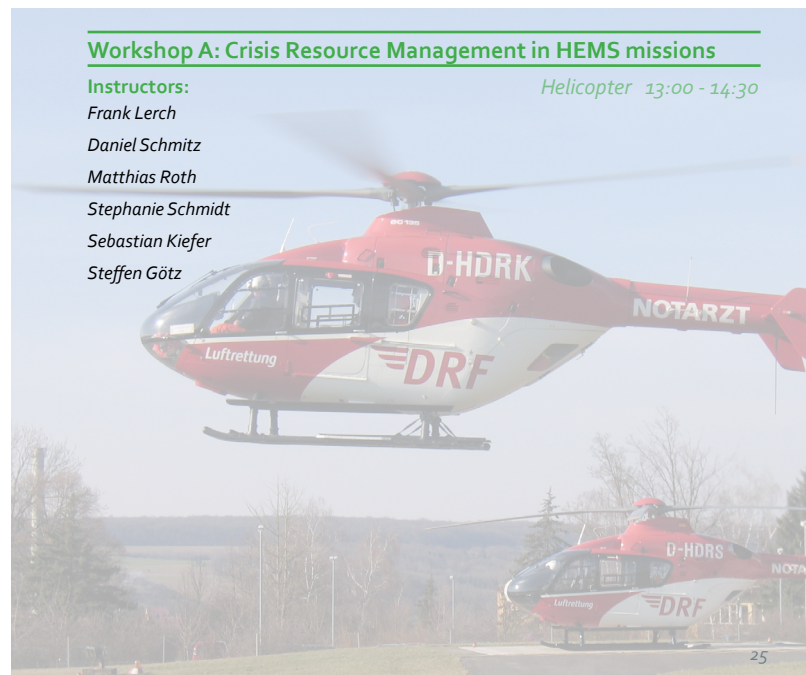
Daniel Schmitz

Matthias Roth

Stephanie Schmidt

Sebastian Kiefer

Steffen Götz



CPR Competition (1)

Halle 3 13:00 - 14:30

First round of the competition

13.00-13.30 **Country 1**

Judges:

13.30-14.00 **Country 2**

Judges:

14.00-14.30 **Country 3**

Judges:

14:30 - 15:00

Coffee break

ALS Session

Chaired by Janusz Andres

Halle 4 15:00 - 16:30

Controversies in ALS.

Charles Deakin (United Kingdom)

Duration of traditional ALS - when to stop?

Kjetil Sunde (Norway)

Hyperinvasive approaches to CPR - are they worthwhile?

Lionel Lamhaut (France)

Red Cross - Joint Session

Chaired by Jacques Delchef

Room K7 15:00 - 16:30

Implementation of ILCOR/ERC guidelines into IFRC International and Red Cross guidelines 2016.

Nici Singletary (USA)

Contextualisation of guidelines.

Emmy de Buck (Belgium)

First Aid and the community.

Pascal Cassan (France)

Paediatrics - Neonatal

Chaired by Ian Maconachie & Kevin Nation

Room K1 15:00 - 16:30

European Paediatric Basic Life Support - is there a need?

Ian Maconachie (United Kingdom)

Special circumstances - how special?

Richard Aickin (New Zealand)

Guidelines and courses - a perfect match?

Patrick Van de Voorde (Belgium)

Free Paper Session 3 - BLS

Chaired by Simon Attard

Room K9 15:00 - 16:30

AS14:

Assessing the safety of a displaced chest compression to the left and caudally. First results using a detailed thoracic finite element model.

AS15:

Evaluation of user specific AED guidance's

AS16:

Cardiovascular injuries due to manual cardiopulmonary resuscitation: results from a prospective study of a Mediterranean area.

AS17:

CorPatch® - a smartphone-based BLS guidance and feedback system: Improvements in laypersons' chest compressions

AS18:

Keeping Laypersons as First Responders Engaged: A Qualitative, Focus Group Interview Study

AS19:

Improving the out-of-hospital cardiac arrest response by empowering the first responder.

AS20:

New criteria for start of chest compressions before definitive cardiac arrest improved survival from EMS-witnessed out-of-hospital cardiac arrest

AS21:

The influence of the „CPR-free interval“ on short- and longterm survival after Out-of-hospital cardiac arrest

Free Paper Session 4 - Education / simulation / implementation 1

Chaired by Monika Grunfeld

Room K6 15:00 - 16:30

AS22:

Basic Life Support training for blind people. An observational study

AS23:

The School Lifesavers Study - A Randomised Controlled Trial comparing the impact of Lifesaver only, Lifesaver with face-to-face training and face-to-face training only on CPR knowledge, skills and attitudes in UK school children

AS24:

Interactive Multi-perspective Video-e-learning tool (iMuVi) for resuscitation training in flipped classrooms

AS25:

CPR training in secondary schools. An evaluation of the digital learning tool Relive. A study in secondary schools to evaluate CPR knowledge, retention and the link to be found with motivation.

AS26:

The Design and Structured Performance Evaluation of A Nationwide Quality Measurement Registry for Dispatcher-assisted Cardiopulmonary Resuscitation of Out-of-hospital Cardiac Arrest

AS27:

Evaluation of ReSPECT forms in critical care: a clinical audit

AS28:

Virtual Reality for Resuscitation using an I-Phone

Workshop 2: Learning conversation

Instructors

Robert Greif (Switzerland)

TBD

Halle 3 15:00 - 16:30

Workshop B: Crisis Resource Management in HEMS missions

Instructors

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

Helicopter 15:00 - 16:30

CPR Competition (2)

First round of the competition

15.00-15.30 Country 4

Judges:

15.30-16.00 Country 5

Judges:

16.00-16.30 Country 6

Judges:

Halle 3 15:00 - 16:30

Opening Ceremony

Chaired by Jerry Nolan & Gavin Perkins

Halle 4 16:45 - 18:15

Opening by ERC Chair and Chair of Scientific Committee

Jerry Nolan (United Kingdom)

Gavin Perkins (United Kingdom)

ERC Lifetime Achievement Award - Prof. Douglas Chamberlain

Jerry Nolan (United Kingdom)

ERC Research net / EU funding / KIDS SAVE LIVES

Bernd Böttiger (Germany)

Hano Tan (Netherlands)

Video presentation: Kids Save Lives

Carlos Moedas (Portugal), European Commissioner on Science

National initiatives to increase school children education and lay CPR rates

Dr Heidrun Thaiss (Germany)

German Resuscitation Council welcome

Bernd Böttiger (Germany)

Safar lecture

Peter Morley (Australia)

Paediatrics

Chaired by Vinay Nadkarni

Halle 4 09:00 - 10:30

How to teach to perform/advise on CPR?

Vinay Nadkarni (USA)

Taking paediatric critical care to the ED.

Patrick Van de Voorde (Belgium)

Outcomes in paediatric CPR - What are we looking for?

Ian Maconachie (United Kingdom)

ESICM - Joint Session

Chaired by Jasmeet Soar & Alain Cariou

Room K7 09:00 - 10:30

PCI after cardiac arrest.

TBC Alain Cariou (France)

Oxygenation and ventilation after ROSC.

Jerry Nolan (United Kingdom)

Prognostication.

Claudio Sandroni (Italy)

Dispatcher

Chaired by Michael Baubin & Maaret Castrén

Room K1 09:00 - 10:30

T-CPR for paediatric resuscitation.

Richard Aickin (New Zealand)

How to enhance dispatcher recognition of cardiac arrest?

Maaret Castrén (Finland)

Integrating ambulance dispatch with mobile phones.

Rudy Koster (The Netherlands)

Free Paper Session 5 - special circumstances, trauma and disaster medicine

Chaired by Carl Gwinnutt

Room K9 09:00 - 10:30

AS29:

Survival in cardiopulmonary resuscitation due to massive pulmonary embolism: A case series in a tertiary hospital

AS30:

Effect of gelatin-polysuccinate infusion on cerebral oxygenation and microcirculatory perfusion in a porcine hemorrhagic shock model.

AS31:

Closed chest compressions reduce survival in a model of haemorrhage-induced cardiac arrest

AS32:

Optimal practice for emergency 'front-of-neck' airway in trauma setting: words of European Trauma Course Austria instructors

AS33:

Resuscitation after smoke inhalation with cyanide intoxication: Influence of hydroxycobalamin on the change of blood cyanide level during resuscitation.

AS34:

Toxic smoke inhalation with cyanide: Correlation of blood cyanide and lactate levels in a pig model.

Free Paper Session 6 - ALS, Airway and ventilation

Chaired by Pascal Cassan & John Ballance

Room K6 09:00 - 10:30

AS35:

A systematic literature review & triage tool for pre-hospital extracorporeal cardiopulmonary resuscitation in London

AS36:

Validation of the US-CAB Protocol for Ultrasonographic Evaluation during Cardiopulmonary Resuscitation

AS37:

Influence of low flow time on survival after extracorporeal cardiopulmonary resuscitation (eCPR)

AS38:

The time period of on-scene resuscitation in out of-hospital cardiac arrest patients transported without return of spontaneous circulation.

AS39:

The new Pavia ECPR Program: more cooperation, shorter times for a better survival

AS40:

Quantifying inspiratory volumes generated by manual chest compressions during resuscitation in the prehospital setting

AS41:

Reliability of ventilation guidance using capnography during ongoing chest compressions in out-of-hospital cardiopulmonary resuscitation

AS42:

Effect of one-lung ventilation during cardiopulmonary resuscitation on end-tidal carbon dioxide in a pig model of cardiac arrest

Workshop 3: Debriefing of OHCA and other critical clinical incidents

Organised by SAFER

Halle 3 09:00 - 10:30

Workshop C: Crisis Resource Management in HEMS missions

Instructors:

Helicopter 09:00 - 10:30

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

CPR Competition (3)

Halle 3 09:00 - 10:30

First round of the competition

09.00-10.30 **Country 7**

Judges:

10.30-11.00 **Country 8**

Judges:

11.00-12.30 **Country 9**

Judges:



10:30 - 11:00

Coffee break

Neonatal

Chaired by Jonathan Wyllie

Halle 4 11:00 - 12:30

Newborn Life Support and simulation - do we have the tools we need?

John Madar (United Kingdom)

Advanced resuscitation of the newborn infant course - is one approach feasible?

Joe Fawke (United Kingdom)

Newborn resuscitation equipment - state of the art.

Charles-Christoph Roehr (United Kingdom)

ESA - Joint Session

Chaired by Bernd Böttiger & Adriana Boccuzzi

Room K7 11:00 - 12:30

Cardiac arrest in the operating room.

Janusz Andres (Poland)

Airway management.

Bernd Böttiger (Germany)

Using anaesthetic drugs to protect the brain.

Michael Fries (Germany)

How to get published?

Chaired by Laurie Morrison & Jan-Thorsten Gräsner **Room K1** 11:00 - 12:30

What makes a good paper?

Jerry Nolan (United Kingdom)

How to write a good peer review?

Gavin Perkins (United Kingdom)

Bibliometrics.

Peter Morley (Australia)

Free Paper Session 7 - CPR quality 1

Chaired by Ferenc Nagy & Charles Deakin

Room K9 11:00 - 12:30

AS43:

Machine Learning - a novel approach to increase recognition of Out-of-Hospital Cardiac Arrest

AS44:

Central vs. Cerebral Resuscitation: Differences in Carotid and Aortic Blood Flow as a Function of Chest Compression Rate

AS45:

Can rescuers accurately deliver subtle changes to chest compression depth if recommended by future guidelines?

AS46:

Assessing the relationship between release velocity, compression depth and decompression time in manual chest compressions

AS47:

Could Passive Leg Raising (PLR) during CPR improve survival in out-of-hospital cardiac arrest

AS48:

New new-borns chest compression method. A prospective, randomized, crossover, manikin trial

AS49:

Is dispatcher-assisted CPR enough?

Free Paper Session 8 - Epidemiology and outcome (1)

Chaired by Kirstie Haywood & Carlo Clarens

Room K6 11:00 - 12:30

AS50:

Comprehensive Life Support: Superior outcome in out-of-hospital cardiac arrest by improving the whole Chain of Survival

AS51:

Lay-Rescuer-CPR and Telephone-Assisted-CPR shorten the resuscitation-free interval and thus improve long-time survival. An analysis of the german resuscitation registry

AS52:

Epidemiology of out-of-hospital cardiac arrest (OHCA) in Australia and New Zealand: results from the Aus-ROC OHCA Epistry

AS53:

Comparing Apples to Apples: Differences in Out-of-Hospital Cardiac Arrest Incidence and Outcomes between Sweden and Ireland.

AS54:

Investigating the optimal method of case ascertainment in Out of Hospital Cardiac Arrest (OHCA) in UK Ambulance Services.

AS55:

Long-term follow-up of out-of-hospital cardiac arrest survivors: the new challenge of cardiac arrest registries.

AS56:

Traumatic cardiac arrest with cranial damage: is resuscitation a lost cause?

Workshop 4:

Effective teaching: importance of learning climate and goals

Instructors

Halle 3 11:00 - 12:30

Robert Greif (Switzerland)

Monika Grünfeld (Slovenia)

Workshop D: Crisis Resource Management in HEMS missions

Instructors:

Helicopter 11:00 - 12:30

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

CPR Competition (4)

Halle 3 11:00 - 12:30

First round of the competition

09.00-10.30 Country 7

Judges:

10.30-11.00 Country 8

Judges:

12:30 - 14:00	Lunch
13:00 - 14:00	Poster tours 1 - 10
12:30 - 14:00	Trainee touchpoint (Room K9)
12:30 - 14:00	NRC meeting (Room K6)
12:30 - 14:00	ESCAPE-NET meeting (invitation only - meeting room 1)

ACS

Chaired by Nikolaos Nikolaou & Simon Montalto

Halle 4 14:00 - 15:30

Public awareness, does it help?

Natale Danielle Brunetti (Italy)

Networks for STEMI.

Lionel Lamhaut (France)

Prehospital treatment of ischemia in ACS.

Farzin Beygui (France)

Pro-con Debates

Chaired by Peter Morley & Ronald Melioste

Room K7 14:00 - 15:30

Prevent fever after cardiac arrest but don't use hypothermia.

Pro: Hans Friberg (Sweden)

Con: Kjetil Sunde (Norway)

Lidocaine is the first choice drug for the treatment of shock-refractory VF.

Pro: Jas Soar (United Kingdom)

Con: Clifton Calloway (USA)

ILCOR

Chaired by Maaret Castren & Swee-Han Lim

Room K1 14:00 - 15:30

ILCOR - 25 years old.

Gavin Perkins (United Kingdom)

How do we evaluate evidence?

Laurie Morrison (Canada)

How to become involved?

Robert Neumar (USA)

Free Paper Session 9 - Education / simulation / implementation 2

Chaired by Monika Grünfeld & Michael Kuiper

Room K9 14:00 - 15:30

AS57:

Is Heart Rate Variability a Useful Marker of Stress and Fatigue in Emergency and Pre-hospital Clinicians? - A Systematic Review

AS58:

ScuolaSalvaVita.it ("SchoolSavesLives.it"): how to teach effectively CPR in all the Secondary Schools of a whole Province

AS59:

Kids Save Lives: Comparison of different CPR teaching methods in the framework of Safety Education program in Poland.

AS60:

Successful implementation of the ReSPECT (Recommended Summary Plan for Emergency Care and Treatment) process in a large NHS trust.

AS61:

Emergency lights and sirens secures fast arrival with predictable gain in transportation time

AS62:

Progress of medical students resuscitation quality over the course of the curriculum at the Medical University of Vienna: the baseline

AS63:

CPR quality with conventional AED-audio instructions vs. audio-video instructions

Free Paper Session 10 - Prognostication and post resus care

Chaired by Ian Maconachie & Adeline Pereira

Room K6 14:00 - 15:30

AS64:

Is temperature variability during therapeutic hypothermia associated with long term functional outcome after out-of-hospital cardiac arrest?

AS65:

Palliative Care Utilization Following Out-of-Hospital Cardiac Arrest in the United States.

AS66:

Effect of target temperature management at 32 to 34°C in cardiac arrest patients stratified by regional cerebral oxygen saturation: a multicenter retrospective cohort study in Japan

AS67:

Effect of Levosimendan on Cerebral Oxygenation and Perfusion in a Swine Model of Cardiopulmonary Resuscitation

AS68:

Diagnostic and therapeutic value of coronary angiography and CT-scan after extracorporeal cardiopulmonary resuscitation (eCPR) - a single center registry study

AS69:

Development and external validation of a prognostic model for hospital survival in patients on venoarterial extracorporeal membrane oxygenation therapy using point of care biomarkers: The PREDICT-VA-ECMO score

AS70:

Out-of-hospital cardiac arrest at place of residence is associated with worse outcome – a post-hoc analysis of the TTM-trial

AS71:

The prognostic impact of infarct size on the development of cardiac arrest in premature acute myocardial infarction

Workshop 5: Kids save lives

Instructors

Halle 3 14:00 - 15:30

Bernd Böttiger (Germany)

Federico Semeraro (Italy)

Workshop E: Crisis Resource Management in HEMS missions

Instructors:

Helicopter 14:00 - 15:30

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)



15:30 - 16:00

Coffee break

Best of the Best Abstracts

Chaired by Jerry Nolan & Maaret Castren

Halle 4 16:00 - 17:30

Judged by Kevin Nation, Peter Morley & Anthony Handley

BoB1

Assessment of the diagnoses of automated external defibrillators operated by basic life support personnel

BoB2

Reliable detection of perfusing rhythms in automated external defibrillators

BoB3

Factors associated with prehospital re-arrest

BoB4

Time to Return of Spontaneous Circulation Associated with Bystander Resuscitative Efforts and Survival in Out-of-Hospital Cardiac Arrest

BoB5

Compression velocity and release velocity during manual chest compressions in out-of-hospital cardiac arrest

BoB6

The BHF PocketCPR smartphone application: 'Staying alive' with bystander CPR.

Round-Table Discussion

Chaired by Jasmeet Soar & Michael Müller
ECMO.

Room K7 16:00 - 17:30

Jas Soar (United Kingdom)

Georg Trummer (Germany)

Bob Neumar (USA)

Laurie Morrison (Canada)

Patrick Van de Voorde (Belgium)

Alain Cariou (France)

Community takes care.

Michael Müller (Germany)

Robert Greif (Switzerland)

Ulrich von Kirchbach (Germany)

Kirstie Haywood (United Kingdom)

Kids Save Lives

Chaired by Pierre Carli & Diana Cimpoesu

Room K1 16:00 - 17:30

Kids save lives with first aid.

Emmy de Buck (Belgium)

Kids save lives around the world.

Federico Semeraro (Italy)

ERC initiatives to help kids to save lives.

Bernd Böttiger (Germany)

Free Paper Session 11 - CPR quality (2)

Chaired by Violetta Raffay & Viktor Moroz

Room K9 16:00 - 17:30

AS72:

Recoil and release times in manual chest compressions – how fast can we go?

AS73:

Flowchart-Assisted Resuscitation. Standard CPR vs. Chest Compressions only: What happened to the Quality?

AS75:

Can release force be predicted from depth waveform metrics?

AS76:

Is there an elephant in the room?! A study to assess the chest compression ability of staff at a London acute hospital trust.

AS77:

Incidence of Shockable Rhythm by Dispatcher Assisted Cardio Pulmonary Resuscitation

AS78:

Saving 10,000 lives after out-of-hospital cardiac arrest - is this possible in Germany?

Free Paper Session 12 - Education / simulation / implementation 3

Chaired by Nikolaos Nikolaou & Zlatko Fiser

Room K6 16:00 - 17:30

AS79:

Lifesavers in the kindergarten - long term effects of a 3-day first aid programme for 5-6 years old children

AS80:

Analysis of the implantation of an immediate life support program.

AS81:

Severe Underuse of Dispatch Life Support in Traumatic Cardiac Arrest

AS82:

Do novice physicians know how to act in cases of torsade de pointes during simulated cardiopulmonary resuscitation? Preliminary data

AS83:

Simulation platform facilitates systematic performance assessment of algorithm for pulse detection during cardiopulmonary resuscitation

AS84:

The automated Laerdal Resusci Anne scoring system: scoring on slippery curves

Workshop 6: Focused Sonography during CPR

Instructors

Raoul Breitzkreutz (Germany)

Caroline Busche (Germany)

Jörg Hanusch (Germany)

Tobias Schröder (Germany)

Damjanovic Domagoj (Germany)

Halle 3 16:00 - 17:30

Workshop F: Crisis Resource Management in HEMS missions

Instructors

Frank Lerch (Germany)

Daniel Schmitz (Germany)

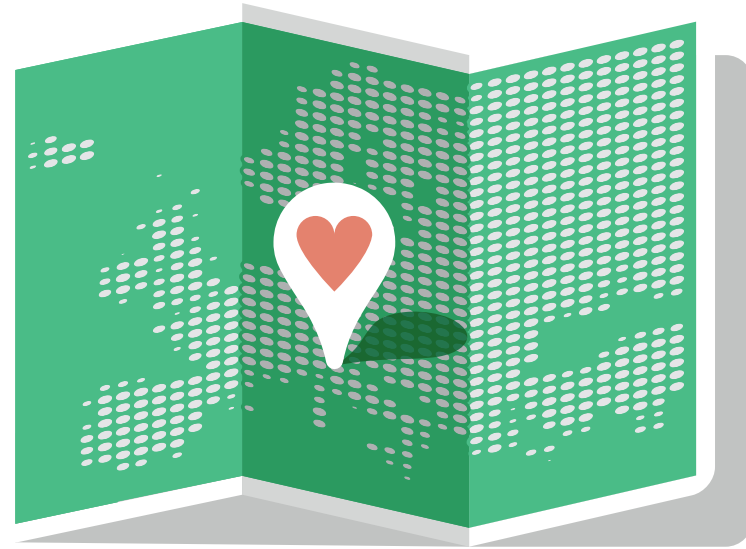
Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

Helicopter 16:00 - 17:30



RESUSCITATION 2018
New technologies in resuscitation
20 - 22 September • Bologna • Italy

First Aid

Chaired by Jozef Koppl

Halle 4 09:00 - 10:30

Gaps in evidence concerning first aid and how to fill the gaps.

Nici Singletary (USA)

Guideline development - more than evidence alone.

Emmy de Buck (Belgium)

The best implementation strategies for society.

Pascal Cassan (France)

ESC - Joint Session

Chaired by Nikolaos Nikolaou & Alain Cariou

Room K7 09:00 - 10:30

Is sudden death so sudden?

Charles Deakin (United Kingdom)

Prevention of sudden death - society in collaboration with medicine.

Jan-Thorsten Gräsner (Germany)

Refractory OHCA - CPR from scene to hospital.

Alain Cariou (France)

EuSEM - Joint Session

Chaired by Maaret Casten

Room K1 09:00 - 10:30

To be a leader.

Marc Sabbe (Belgium)

To be led.

Maaret Castren (Finland)

Is it different if the patient is a child?

Patrick Van de Voorde (Belgium)

What's new?

Chaired by Peter Morley & John Ballance

Room K9 09:00 - 10:30

COSCA

Kirstie Haywood (United Kingdom)

Gaps in science.

Gavin Perkins (United Kingdom)

What makes us ROC?

Laurie Morrison (Canada)

EuReCa Meeting

Chaired by Jan-Thorsten Gräsner

Room K6 09:00 - 10:30

Workshop 7:

Debriefing of OHCA and other critical clinical incidents

Organised by Safer

Halle 3 09:00 - 10:30

Workshop G: Crisis Resource Management in HEMS missions

Instructors

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

Helicopter 09:00 - 10:30



10:30 - 11:00

Coffee break

Education

Chaired by Robert Greif

Teaching the community to talk with a dispatcher in CA situations.

Tonje B. Soraas (Norway)

Halle 4 11:00 - 12:30

NTS in CA training.

Carsten Lott (Germany)

How to teach children best CPR.

Andrew Lockey (United Kingdom)

Systems

Chaired by Anatolij Truhlář & John Ballance

The hospital response to cardiac arrest.

Peter Morley (Australia)

Optimal configuration for first responders.

Michael Müller (Germany)

Update on the European Resuscitation Academy.

Maaret Castren (Finland)

Room K7 11:00 - 12:30

Young Investigators Competition

Chaired by Gavin Perkins & Hildigunnur Svavarsdottir Room K1 11:00 - 12:30

Judged by Kirstie Haywood, Laurie Morrison, Vinay Nadkarni
& Bernd Böttiger

Ian Jacobs award

Ben Beck

Cristian Abelairas-Gómez

Petter Steen Award

Cornelia Genbrugge

Violeta González-Salvado

Tobias Neumann

Enrico Baldi

How to engage?

Chaired by Carl Gwinnutt & Gamal Eldin Khalifa

Room K9 11:00 - 12:30

TED talking.

Koen Monsieurs (Belgium)

Engaging children.

Federico Semeraro (Italy)

Engaging those that are hard to reach.

Robert Greif (Switzerland)

Free Paper Session 13: Epidemiology and outcome (2)

Chaired by Marios Georgiou & Kevin Nation

Room K6 11:00 - 12:30

AS85:

Termination of resuscitation: Recognising futility

AS86:

Circadian variation in cardiac arrests in the Prague city between 2003 and 2015

AS87:

The Effect of Ambulance Response Time in the Outcomes of Patients with Out-of-Hospital Cardiac Arrest

AS88:

Cardiac arrest in patients over life expectancy at birth in Asturias

AS89:

Influence of EMS arrival time on outcome after out-of-hospital cardiac arrest

AS90:

Improving Data Quality in a UK Out-of-Hospital Cardiac Arrest Registry through Data Linkage between the Out-of-Hospital Cardiac Arrest Outcomes (OHCAO) Project and NHS Digital

AS91:

The futility of cardiopulmonary resuscitation attempts in nursing homes and primary care wards.

AS92:

The Chronological Trend and Predictors of Survival Outcomes for Utstein Cardiac Arrest of Ventricular Fibrillation

Workshop 8: Focused Sonography during CPR

Instructors

Raoul Breitzkreutz (Germany)

Caroline Busche (Germany)

Jörg Hanusch (Germany)

Tobias Schröder (Germany)

Damjanovic Domagoj (Germany)

Halle 3 11:00 - 12:30

Workshop H: Crisis Resource Management in HEMS missions

Instructors

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

Helicopter 11:00 - 12:30

CPR Competition Finals

Halle 3 11:00 - 12:30

12:30 - 14:00

Lunch

13:00 - 14:00

Poster Tours 11 - 20

12:30 - 14:00

Research Net meeting (Room K7)

Special Circumstances

Chaired by Ian Maconachie & Ahmed Samir

Halle 4 14:00 - 15:30

Resuscitating children.

Richard Aickin (New Zealand)

Resuscitation at sea - Training fishermen.

Roberto Barcala-Furelos (Spain)

Cardiac arrest in the air.

Tony Handley (United Kingdom)

New Technology For Saving Lives

Chaired by Hildigunnur Svavarsdottir & Mahmoud Tageldin Room K7 14:00 - 15:30

Virtual reality.

Federico Semeraro (Italy)

Apps

Andrew Lockey (United Kingdom)

Identifying deterioration.

Michael Müller (Germany)

Evidence Evaluation Masterclass

Chaired by Jerry Nolan & Laurie Morrison

Room K1 14:00 - 15:30

Laurie Morrison (Canada)

Ian Maconachie (United Kingdom)

Jerry Nolan (United Kingdom)

Resuscitation Academy Alumni

Chaired by Maaret Castren

Room K9 14:00 - 15:30

Free Paper Session 14 - Mechanical devices and CPR systems

Chaired by Kevin Nation

Room K6 14:00 - 15:30

AS93:

Characterization of the ECG compression artefact caused by the AutoPulse device

AS94:

Outcomes Comparison Between a Community-wide Bystander Defibrillation Program and Dispatcher-assisted CPR in Out-of-Hospital Cardiac Arrest at Public Locations

AS95:

Attitudes to CPR and Public Access Defibrillation: a survey of the UK public.

AS97:

Histological Changes of the Heart following prolonged Circulatory Arrest treated with Controlled Automated Reperfusion of the Whole Body

AS98:

Extracorporeal cardiopulmonary resuscitation during out of office hours: a single center registry study

AS99:

Manual chest compressions versus LUCAS 2©. A comparative study of End-tidal carbon dioxide levels during in-hospital resuscitation.

AS100:

Lifeline ARM is more effective than manual cardiopulmonary resuscitation during ambulance transport: a prospective randomized crossover manikin trial

AS99:

Function and Morphology of the Kidney following Circulatory Arrest up to 20 Minutes using Controlled Automated Reperfusion of the Whole Body

Workshop 9: Teaching NTS

Instructors

Marco Kuiters (The Netherlands)

Ruben Verlangen (The Netherlands)

Anne Lippert (Denmark)

Halle 3 14:00 - 15:30

Workshop I: Crisis Resource Management in HEMS missions

Instructors

Frank Lerch (Germany)

Daniel Schmitz (Germany)

Matthias Roth (Germany)

Stephanie Schmidt (Germany)

Sebastian Kiefer (Germany)

Steffen Götz (Germany)

Helicopter 14:00 - 15:30

Closing Ceremony

Chaired by Gavin Perkins, Jerry Nolan & Koen Monsieurs Halle 4 15:30 - 16:30

Negovsky memorial lecture.

Clifton Callaway (USA)

Best of the Best & Young Investigator awards

Winner of the CPR competition

New Honorary Members & Fellows

Outlook for Resuscitation 2018

Closing words

Resuscitation ventilation with CCSV[®] – when lung meets heart in CPR



Live Demonstration
& Expert Round at
WEINMANN booth Stand L3
Thursday, 28. Sept.
10.45 – 11.00, 14.45 – 15.00
Friday, 29. Sept.
10.45 – 11.00,
15.45 – 16.00

A ventilation mode for supporting the heart? It exists.

Take advantage of the latest ventilation technology and experience gained over years of research!

Chest Compression Synchronized Ventilation is the new and exclusive ventilation mode for MEDUMAT Standard² especially designed for resuscitation. CCSV supports the user directly during CPR and performs a pressure-controlled mechanical breath synchronized with each chest compression.

Medical efficacy compared to IPPV confirmed in studies: Improved hemodynamic and gas exchange!

Congress policy for a lower impact on the environment.

A congress means a lot of travelling by around a 1,000 people. Some can drive here, but most of us fly in. This means a lot of CO₂ emissions.

In order to reduce our carbon footprint we did:

- Most staff has travelled by train instead of flying
- All lunchboxes are vegetarian
- No unnecessary use of carpet in the exhibition
- Reusable visuals where possible
- A venue that is close to public transportation
- No congress bag
- No big printed programma
- Reusable cutlery

 **attune**medical
Booth L5

The world needs fewer complications.

Introducing the EnsoETM.

The EnsoETM is the only device that controls patient temperature through the esophagus. Our innovative solution is a single use, fully-enclosed triple lumen system that connects with your existing heat exchange units to safely and effectively cool or warm patients as needed. The result? The simple, cost-effective alternative to existing temperature management solutions.

ensoETM

Attune Medical delivers the tools and knowledge needed to simply and effectively manage patient temperature.

To learn more about Attune Medical and the EnsoETM, visit attune-medical.com, email info@attune-medical or call 1.888.534.4873.



EASY PULSE 6 DEFIGARD Touch 7



EASY PULSE



DEFIGARD TOUCH 7

Efficient and compact mechanical CPR thanks to technological innovation

The smallest and lightest mechanical chest compression device is portable, stand-alone and automatically delivers chest compressions at a consistent rate and depth. A high-quality uninterrupted chest compression can be guaranteed, even during transport.

Maximum performance, minimum weight, touch screen control: the power to save lives

Extremely compact and the latest defibrillation technology in combination with comprehensive monitoring functions, touch screen as well as the latest data transmission technology.

Headquarters: SCHILLER AG, Altgasse 68, CH-6341 Baar
Phone +41 41 766 42 42, Fax +41 41 761 08 80
sales@schiller.ch, www.schiller.ch



SCHILLER
The Art of Diagnostics

The **NEW** Little Anne QCPR



This we change

This we don't

Come to our booth
- and win one!



Laerdal

helping save lives

Added value for your emergency service:

Stryker EMS and Physio-Control

PHYSIO
CONTROL

LIFEPAK® 15

Monitor/Defibrillator



Power-LOAD 6390

Power-loading cot fastener system



Power-PRO XT 6506

Powered ambulance cot

LUCAS® 3

Chest Compression System



Stair-PRO 6252

Stair chair

For emergency services, one thing really counts: teamwork. The success of a call depends on everyone working hand in hand. **That is why Stryker EMS and Physio-Control** are now providing the perfectly aligned **PLUS Package: ultramodern technology**, from stretcher systems to stair chairs to chest compression systems and monitors/defibrillators. The whole package can be fully backed by our technical service. **All from one source.**

©2017 Physio-Control, Inc. All names are trademarks or registered trademarks of their respective Specifications are subject to change without notice. Not all products are available worldwide. Check the manufacturers' Declarations of Compliance for a list of products and accessories authorised for use within the EU. www.physio-control.com

stryker