

**Tuesday, March 26<sup>th</sup>, 2019**

18:00 – 22:00 Ice-breaker incl. Science slam (Seargents' Mess, building 07)

**Wednesday, March 27<sup>th</sup>, 2019**

08:00 – 08:25 Congress opening

08:00 Colonel (MC) Prof. Dr. Thiermann (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Welcome address**

08:10 Major General (MC) Dr. Krüger (Munich, Germany)  
*Bundeswehr Medical Academy*  
**Welcome address**

08:15 Dr. Pilsinger (Munich, Germany)  
*Member of German parliament*  
**Welcome address**

08:25 – 09:15 Historical Background and Current Political Situation  
Chair: Colonel (MC) Prof. Dr. Thiermann (DEU) & Prof. Dr. Vale (GBR)

08:25 Prof. Dr. Vale (Birmingham, United Kingdom)  
*University of Birmingham*  
**History of nerve agent releases**

08:50 Dr. Blum (The Hague, Netherlands)  
*Organisation for the Prohibition of Chemical Weapons (OPCW) Laboratory*  
**The OPCW Technical Assistance visits to the United Kingdom following the Salisbury and Amesbury incidents in 2018**

09:15 – 09:45 Coffee Break and Posters

09:45 – 11:15 Innovative approaches in treatment of organophosphate poisoning  
Chair: Colonel (MC) PD DR. Kehe (DEU) & Dr. Timperley (GBR)

09:45 Dr. Deng (Taipei, Taiwan)  
*The Founder and Emeritus director of The National Poison Center of Taiwan*  
**The management of organophosphates poisoning in Taiwan**

10:05 Dr. Kovarik (Zagreb, Croatia)  
*Institute for Medical Research and Occupational Health*  
**Novel oximes in counteracting organophosphates exposure**

10:25 Dr. de Koning (Amsterdam, The Netherlands)  
*Netherlands Organisation for Applied Scientific Research*  
**Non-Oxime reactivators of organophosphate inhibited acetylcholinesterase**

- 10:45 Dr. Nachon (Brétigny-sur-Orge, France)  
*Institute of Army Biomedical Research*  
**Research and development of bioscavengers for the pretreatment and emergency treatment of nerve agents intoxication**
- 11:05 Prof. Dr. Blain (Newcastle, UK) & Dr. Emmett (Salisbury, UK)  
*Newcastle University & Defense Science and Technology Laboratory*  
**The Salisbury incident: Lessons for clinical management**
- 11:25 – 11:40 Poster Award Competition  
Chair: Prof. Dr. Martin Wilks (CHE) & Dr. Fruchtengarten (BRA)
- 11:25 Simone Rothmiller (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Sulfur mustard exposure results in chronic senescence in mesenchymal stem cells**
- 11:30 Beatrice Andrae (Kaiserslautern, Germany)  
*Department of Chemistry, Technical University Kaiserslautern*  
**Functionalized sulfonatocalix[4]arenes as scavengers for the detoxification of V-type nerve agents**
- 11:35 Amelie Tsoutsouloupoulos (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Evaluation of a novel air-liquid interface exposure system for the aerosolization of the chemical warfare agent sulfur mustard**
- 11:40 – 13:10 Lunch
- 11:45 – 12:15 Meeting of the Scientific Advisory Board (members only)
- 13:10 – 14:10 Upcoming threats: chlorine  
Chair: Colonel (MC) Prof. Dr. Worek (DEU) & Dr. Dillman (USA)
- 13:10 Dr. Åstot (Umeå, Sweden)  
*Division of CBRN Defence and Security, Swedish Defence Research Agency*  
**Phospholipid chlorohydrins as potential biomarkers for chlorine gas exposure**
- 13:30 Dr. Jugg (Porton Down, United Kingdom)  
*Defence Science and Technology Laboratory*  
**Outlook for upcoming therapeutics for chlorine induced acute lung injury**
- 13:50 Dr. Zellner (Munich, Germany)  
*Technical University of Munich, School of Medicine, Department of Clinical Toxicology*  
**Fast-acting irritant gases / chlorine gas – clinical effect, symptoms and treatment**
- 14:10 – 14:40 Coffee Break and Posters

14:40 – 16:20 Upcoming threats: opioids  
Chair: Lieutenant Colonel (MC) PD Dr. Wille (DEU) & Prof. Bucht (SWE)

14:40 Dr. Timperley (Porton Down, United Kingdom)  
*Defence Science and Technology Laboratory*  
**Opioids: fundamentals**

15:05 Dr. Hamelin (Atlanta, USA)  
*Center for Disease Control and Prevention National Center for Environmental Health/ATSDR Division of Laboratory Sciences*  
**Identification of fentanyl exposures through analysis of clinical samples using mass spectrometry**

15:30 Dr. Kristovich (Baltimore, USA)  
*Toxicology and Obscurants Division, US Army Research Development and Engineering Command Edgewood Chemical Biological Center*  
**Derivation of human estimate of toxicity for ultra-potent opioid carfentanil**

15:55 Dr. Gummin (Milwaukee, USA)  
*Medical College of Wisconsin, Emergency Medicine/ Medical Toxicology*  
**Environmental hazards of potent opioids and implications for national defense**

19:00 – 22:30 Conference Dinner

## Thursday, March 28<sup>th</sup>, 2019

08:00 – 08:05 Opening of 2nd day

08:00 Lieutenant General Dr. med. Ulrich Baumgärtner, M.D. (Koblenz, Germany)  
*Surgeon General of the Bundeswehr, Germany*  
**Welcome address**

08:05 – 09:25 Chemical Warfare agents: From *in vitro* to *in vivo*  
Chair: Lieutenant Colonel (MC) PD DR. Steinritz (DEU) & Prof. Dr. Dorandeu (FRA)

08:05 PD Dr. Wille (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
***In vitro* and *ex vivo* models in medical chemical defence research**

08:25 Dr. Wong (Baltimore, USA)  
*US Army Medical Institute of Chemical Defense*  
**Developing medical countermeasures against aerosolized opioids: animal models and inhalation exposure**

08:45 Dr. Whitmore (Porton Down, United Kingdom)  
*Defence Science and Technology Laboratory*

**The evaluation of continuing medical management strategies in the VX-poisoned guinea-pig**

09:05 Dr. Adams (Fort Belvoir, USA)  
*Defense Threat Reduction Agency, Department of Defense*  
**Aiding the warfighter from chemical warfare agents using innovative medical diagnostics**

09:25 – 09:50 Coffee Break and Posters

09:50 – 11:00 Sulfur mustard poisoning  
 Chair: Prof. Dr. Gudermann (DEU) & Prof. Dr. Chambers (USA)

09:50 Prof. Dr. Jeffrey Laskin (New Jersey, USA)  
*Environmental and Occupational Medicine, Rutgers Robert Wood Johnson Medical School*  
**Vesicant-induced lung damage: The DNA damage response in lung epithelial cells**

10:05 Prof. Dr. Debra Laskin (New Jersey, USA)  
*Environmental and Occupational Medicine, Rutgers Robert Wood Johnson Medical School*  
**Natural history of inhaled sulfur mustard poisoning in rats: Mitigation of tissue injury by anti-TNF $\alpha$  antibody**

10:20 PD Dr. Mangerich (Konstanz, Germany)  
*Molecular Toxicology, Department of Biology, University of Konstanz*  
**A mass spectrometric platform for the quantitation of sulfur mustard-induced nucleic acid adducts as mechanistically-relevant biomarkers of exposure**

10:35 Prof. Dr. Gudermann (Munich, Germany)  
*Walther-Straub-Institute of Pharmacology and Toxicology, LMU Munich*  
**Interaction of sulfur mustard with proteins – Are there potential cellular effects in addition to DNA-alkylation?**

10:50 Prof. Dr. Schmidt (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Is sulfur mustard exposure induced chronic senescence the reason for the chronic wound healing disorder?**

11:10 – 11:30 Coffee Break and Posters

11:30 – 12:45 Nerve agent poisoning  
 Chair: Prof. Dr. Barth (DEU) & Prof. Dr. Laskin (USA)

11:30 Prof. Dr. Chambers (Starkville, USA)  
*Department of Basic Sciences, Mississippi State University, College of Veterinary Medicine*  
**Novel substituted phenoxyalkyl pyridinium oximes show promise for central neuroprotection against organophosphate anticholinesterase poisoning**

- 11:45 Prof. Dr. Kubik (Kaiserslautern, Germany)  
*Department of Chemistry, Technical University Kaiserslautern*  
**Low molecular weight scavengers for V-type nerve agents derived from cation-binding synthetic receptors**
- 12:00 Prof. Dr. Skerra (Munich, Germany)  
*Department of Biological Chemistry, Technical University of Munich*  
**Catalytic bioscavenger with improved substrate profile, stability and plasma half-life to treat acute poisoning with neurotoxic organophosphorous compounds (OPs)**
- 12:15 Dr. Seeger (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Correlation between positive allosteric modulation at human  $\alpha 7$  nicotinic acetylcholine receptors and functional recovery of soman-inhibited respiratory muscles**
- 12:30 – 13:30 Lunch
- 13:30 – 15:00 General aspects of Chemical Warfare Agents  
Chair: Prof. Dr. Grasshoff (DEU) & Dr. Joosen (NLD)
- 13:30 Dr. Hermanns-Clausen (Freiburg, Germany)  
*Center for Pediatrics, Medical Center – University of Freiburg, Faculty of Medicine, University of Freiburg, Germany*  
**Acute severe intoxication with cyclopropylfentanyl, a novel synthetic opioid**
- 13:45 Dr. Myers (Aberdeen Proving Ground, USA)  
*United States Army Medical Research Institute of Chemical Defense*  
**Characterizing carfentanil intoxication in a laboratory primate model: Behavioral safety and efficacy of naloxone therapy**
- 14:00 PD Dr. Sezigen (Ankara, Turkey)  
*Medical CBRN Defense, University of Health Sciences*  
**Recent sulfur mustard attacks in Middle East and experiences of health professionals**
- 14:15 Markus Siegert (Munich, Germany)  
*Bundeswehr Institute of Pharmacology and Toxicology*  
**Alkylation of Methionine<sup>329</sup> in human serum albumin by sulfur mustard**
- 14:30 Dr. Wigenstam (Umeå, Sweden)  
*Division of CBRN Defence and Security, Swedish Defence Research Agency*  
**Using precision cut lung slices to evaluate treatment strategies for nerve agents**
- 14:45 Kevin Lee (Calgary, Canada)  
*Hotchkiss Brain Institute, Cumming School of Medicine, University of Calgary*  
**Brain perfusion and oxygenation as markers of physiological response to**

**soman exposure in a rat model: a 9.4T MRI and fiber-optic oxygen sensor study**

15:00 – 15:15 Congress closing

15:00 Colonel (MC) Prof. Dr. Thiermann (Munich, Germany)  
*Commander Bundeswehr Institute of Pharmacology and Toxicology*  
**Closing remarks**