1 Detailed Scientific Programme  Petersburg preliminary 10 March 2014
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CONTINUING EDUCATION IN CLINICAL TOXICOLOGY:
PRE-Congress Symposium

Natural Toxins

Session chair:

09.00 Keynote lecture: Plant toxicology

Hugo Kupferschmidt
Swiss Toxicological Information Centre, Associated Institute of the University of Zurich, Zurich, Switzerland

At the end of this session the audience should be able to:
• identify the most toxic plants and the mechanisms of toxicity of their toxic ingredients
• explain the risk assessment of toxic plants
• describe the medical management of toxic plant exposures and make a reasonable plan for the medical management of exposed patients

09.30 Keynote lecture: The "new" mushroom syndromes

Régis Bédry
Hospital Secure Unit, Pellegrin University Hospital, Bordeaux, France

At the end of this session the audience should be able to:
• list the main mushroom species that can result in "new" mushroom syndromes
• describe the clinical profile of the "new" mushroom syndromes
• describe the therapeutic management and follow-up of the "new" mushroom syndromes

10.00 Keynote lecture: New insights in marine toxicology (1)

Luc de Haro
Marseille Poison Centre, Hôpital Sainte Marguerite, Marseille, France

At the end of this session the audience should be able to:
• list the main emerging marine toxic syndromes present in the European coasts
• discuss the role of the European Poison Centres in the alerting and management of poisoned or envenomed patients
• describe the European situation in global ecological and toxicological aspects at the world level, with a description of tropical emerging problems which may soon be present in Europe

10.30 – 11.00 Coffee
Tuesday 27 May 2014  Silver Hall

Session chair:

11.00  Keynote lecture: Influence of climate change on the epidemiology of poisonous animals and envenomings  
Max Goyffon  
RDDM Department, National Museum of Natural History, Paris, France

At the end of this session the audience should be able to:

- examine the relationship between seasonal proliferation and territorial expansion and current climate change
- compare the situation and territorial expansion of terrestrial fauna (Hymenoptera Aculeata, scorpions) and marine fauna (Medusozoa) with that of other venomous groups deliberately introduced by man into new territories (Hymenoptera, Amphibians)
- discuss whether human factors are more important in the conquest of new territories by venomous species (in particular in anthropic environments) than climatic factors

11.30  Pro/Con debate  
Mannitol for the treatment of ciguatera poisoning?

Pro: Michael E Mullins  
Emergency Medicine, Washington University, Saint Louis, USA

Con: Robert S Hoffman  
New York City Poison Control Center, New York, NY, USA

At the end of this session the audience should be able to:

- describe the use of mannitol in ciguatera poisoning
- evaluate the literature on the efficacy of mannitol in ciguatera poisoning

12.15  Keynote lecture: Antivenom for snake envenoming: Efficacy, effectiveness and adverse reactions  
Geoff Isbister  
Calvary Mater Newcastle, Waratah, Australia

At the end of this session the audience should be able to:

- explain the difference between antivenom efficacy and effectiveness
- discuss the importance of early indicators of envenoming and timing of antivenom
- describe the type of adverse reactions to antivenom

12.45 – 14.00 Lunch
Interactive case studies

Session chair:

14.00 Case 1: Ricin poisoning
   Fridtjof Heyerdahl
   Department of Acute Medicine, Oslo University Hospital, Ullevaal, Norway

14.30 Case 2: Herbal tea intoxication
   Ming-Ling Wu
   Division of Clinical Toxicology, Taipei Veterans General Hospital, Taipei, Taiwan

15.00 Case 3: Spider toxicology
   Julian White
   Toxinology, Women’s & Children’s Hospital, North Adelaide, Australia

At the end of this session the audience should be able to:
- recognise the features of ricin poisoning
- describe a case of herbal tea poisoning
- discuss the features and management of spider bites

15.30 – 16.00 Coffee

Session chair:

16.00 Case 4: Collective toxic fish poisoning
   Man-Li Tse
   Hong Kong Poison Information Centre, United Christian Hospital, Hong Kong, China

16.30 Case 5: Exotic (non-native) snake poisoning
   Fabio Bucaretchi
   Campinas Poison Control Center, State University of Campinas, Campinas, Brazil

At the end of this session the audience should be able to:
- describe a collective fish poisoning incident
- summarise the problems of poisoning with exotic (non-native) snakes

17.00 Pro/Con debate
   Is supportive treatment for scorpion envenomation sufficient?

   Pro: Fekri Abroug
      Intensive Care, CHU F. Bourguiba, Monastir, Tunisia

   Con: Rachida Soulaymani-Bencheikh
      Centre Anti Poison et de Pharmacovigilance du Maroc (CAPM), Rabat, Morocco

At the end of this session the audience should be able to:
- evaluate specific treatments for scorpion envenomation
- debate the value of supportive treatment in scorpion envenomation

17.45 Close
Symposium: Where have we come from and where are we going?

**Session chair:**

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| 08.35 | PLENARY LECTURE | Thomas Zilker | Ups and downs in clinical toxicology: A review from 1964 to 2014. At the end of this session the audience should be able to:  
- describe the range of different intoxications during the last 50 years; which poisons are consistent throughout and which have emerged during this time?  
- list therapeutic options that have developed during the last half century and what sorts of therapy have come and disappeared  
- discuss how prevention of poisoning has improved since 1964 |
| 09.20 | Keynote lecture: 50 years of progress in the care of the patient with a toxicologic emergency | Lewis Goldfrank | At the end of this session the audience should be able to:  
- evaluate the rationale for the transition from high dose naloxone to low dose naloxone to home naloxone in the overdosed patient  
- discuss the rationale for the transition in management of the patient with an agitated delirium from restraints and antipsychotics to sedation and cooling  
- compare and contrast the use of public health approaches to unintentional kerosene poisoning in America in the 1960s and kerosene poisoning in Ghana in the 2000s to model collaborative global health approaches to toxicology |
| 09.40 | Keynote lecture: 50 years of paracetamol poisoning | D Nicholas Bateman | At the end of this session the audience should be able to:  
- describe the history of the development of treatments for paracetamol  
- discuss the issues in current management  
- outline methods of assessing paracetamol poisoning |
Mini-symposium: Emerging toxicities

Session chair:

09.20  Neurotoxicity of 1-bromopropane in workers: An outbreak reported to the National Poison Center in Taiwan (2)

TeHao Wang1,2, JouFang Deng1, ChengChang Yang1,2, MingLing Wu1,2

1Division of Clinical Toxicology, Taipei Veterans General Hospital, Taipei, Taiwan; 2Institute of Environmental and Occupational Health Sciences, National Yang-Ming University, Taipei, Taiwan

09.35  Arthroprosthetic cobaltism: Clinical features, management and chelating therapy of a 2012-2013 case series from Pavia Poison Control Centre (3)

Andrea Giampreti, Valeria M Petrolini, Sarah Vecchio, Davide Lonati, Anna Ronchi, Carlo A Locatelli

Poison Control Centre and National Toxicology Information Centre, Toxicology Unit, IRCCS Maugeri Foundation, Pavia, Italy

09.50  Computerized Early Warning System for emerging poisonings threatening public health (4)

Gerard A van Zoelen1, Tessa E van Riemsdijk1, Antoinette JHP van Riel1, Irma de Vries1, Jan Meulenbelt1,2,3

1National Poisons Information Center, University Medical Center Utrecht, Utrecht, The Netherlands; 2Department of Intensive Care Medicine, University Medical Center Utrecht, Utrecht, The Netherlands; 3Institute for Risk Assessment Sciences, Utrecht University, Utrecht, The Netherlands

10.05 10.30 Coffee and Posters (19-120)
Symposium: Where have we come from and where are we going?

Session chair:

10.30  Keynote lecture: From DDT to Bt: A brief history of insecticide toxicology  
Martin F Wilks  
Swiss Centre for Applied Human Toxicology, University of Basel, Basel, Switzerland

At the end of this session the audience should be able to:
• identify the most commonly used groups of insecticides and their properties
• describe typical toxidromes associated with insecticide poisoning
• discuss the major controversies with regard to insecticide toxicity in humans and the environment

10.50  Keynote lecture: 50 years of fungal poisoning and antidotes: Do we have progress?  
Hans Persson  
Swedish Poisons Information Centre, Stockholm, Sweden

At the end of this session the audience should be able to:
• describe the toxic mechanisms and symptoms, and discuss the treatment approaches after ingestion of fungi containing the extremely toxic amatoxins
• describe the effects of the toxin orellanine that occurs in certain Cortinarius spp
• discuss the toxicity and relevant treatment of morels (e.g. Gyromitra esculenta) and of fungi containing muscarine

11.10  Keynote lecture: 50 years of the EAPCCT  
J Allister Vale  
National Poisons Information Service (Birmingham Unit) and West Midlands Poisons Unit,  
City Hospital, Birmingham, UK; University of Birmingham, UK

At the end of this lecture the audience should be able to:
• explain why the EAPCCT is a vibrant international scientific society and how it has played a major role in establishing the scientific credibility of the specialty of clinical toxicology
• recognize that to fulfil its Aims and Objectives the EAPCCT organizes state-of-the-art coverage of important toxicological topics at each International Congress so that the continuing professional development of its members is ensured
• recognize that to further its Aims and Objectives the EAPCCT co-sponsors the journal Clinical Toxicology, Position Statements and international guidelines, holds membership in IUTOX and partners the European Commission in the development of an alerting system for chemical health threats (ASHT II)

11.30  GENERAL DISCUSSION
Mini-symposium: Psychotropic drugs

Session chair:

10.30 Retrospective analysis of poisonings with newer psychotropic drugs (5)
Jochen Stenzel, Leonie Ruhnau, Florian Ever
Clinical Toxicology, Klinikum rechts der Isar, Munich, Germany

10.45 Pregabalin: An assessment of its toxicity (6)
Dagmar Prasa¹, Uwe Stedtler², Carola Seidel³, Petra Hoffmann-Walbeck⁴,
Elja Heistermann⁵, Sonja Gros⁶, Cornelia Reichert⁶, Elke Färber⁷,
Sabine Stoletzki⁷, Dieter Genser⁸, Gabriele Dostal⁹
¹Poisons Information Centre Erfurt; ²Poisons Information Centre Freiburg; ³Poisons
Information Centre Bonn; ⁴Poisons Information Centre Berlin; ⁵Poisons Information Centre
Mainz, Germany; ⁶Poisons Information Centre Zurich, Switzerland; ⁷Poisons Information
Centre Göttingen, Germany; ⁸Poisons Information Centre Vienna, Austria; ⁹Poisons
Information Centre Munich, Germany

11.00 Are selective serotonin reuptake inhibitors responsible for an excess of morbidity in acute
poisonings admitted to the emergency department? (7)
Sébastien Beaune¹,², Emmanuel Curis¹, Philippe Juvin², Bruno Mégarbane¹
¹INSERM U1144, Paris-Descartes University, Paris, France; ²Emergency Department,
Georges Pompidou Hospital, Paris, France

11.15 Seizures after single-agent overdose with pharmaceutical drugs: Analysis of cases
reported to a poison centre (8)
Cornelia Reichert, Alessandro Ceschi, Hugo Kupferschmidt,
Christine Rauber-Lüthy
Swiss Toxicological Information Centre, Associated Institute of the University of Zurich,
Zurich, Switzerland

11.30 GENERAL DISCUSSION
Symposium: Where have we come from and where are we going?

Session chair:

11.45  Round table: Poisons centre information delivery, from clay tablet to 2014 and beyond

Session chair:

Edward Krenzelok  
School of Pharmacy, University of Pittsburgh, Pittsburgh, PA, USA

Kalle Hoppu  
Poison Information Centre, Helsinki, Finland

Andreas Stürer  
Poisons Centre and Clinical Toxicology, University Medical Centre, Mainz, Germany

Jou-Fang Deng  
Department of Internal Medicine, Taipei Veterans General Hospital, Taipei, Taiwan

Naren Gunja  
NSW Poisons Centre, Sydney Childrens Hospital Network, Sydney, Australia

At the end of this session the audience should be able to:

• describe the changes that have occurred since the setting up of poisons centres
• examine the changes in information provision over the years, from paper to smartphone
• debate what new technologies may be important in the future.

12.45 – 13.45 Lunch and Posters (19-120)
Mini-symposium: Severe illness from poisoning

Session chair:

11.40 Fatal salicylate levels can be lower than expected (9) 
Thomas G Martin
Utah Poison Control Center, University of Utah, Seattle, Washington, USA

11.55 Visual damage after acute methanol poisoning: prospective study in 50 patients (10)
Sergey Zakharov1, Tomas Navratil2, Pavel Diblik3, Pavel Urban1, 
Knut Erik Hovda4, Daniela Pelclova1
1Toxicological Information Center at General University Hospital, Charles University, Prague, Czech Republic; 2Department of Biophysical Chemistry, J. Heyrovsky Institute of Physical Chemistry, Prague, Czech Republic; 3Department of Ophthalmology, General University Hospital, Prague, Czech Republic; 4Norwegian Center for NBC Medicine, Oslo University Hospital, Ullevaal, Norway

12.10 Intoxicated intensive care unit patients: Long-term mortality? (11)
Raya Brandenburg1, Sylvia Brinkman2,3, Nicolet de Keizer2,3, Jan Meulenbelt1,4,5, 
Dylan W de Lange1,3,4
1Department of Intensive Care and Emergency Medicine, University Medical Center Utrecht; 2Department of Medical Informatics, Academic Medical Centre Amsterdam; 3National Intensive Care Evaluation (NICE) Foundation, Academic Medical Centre Amsterdam; 4National Poisons Information Center (NPIC), University Medical Center Utrecht; 5Institute for Risk Assessment Sciences (IRAS), University of Utrecht, The Netherlands

12.25 S100B protein predictive value for neuropsychological sequelae in carbon monoxide poisoning (12)
Miran Brvar
Poison Control Centre, University Medical Centre, Ljubljana, Slovenia

12.40 GENERAL DISCUSSION

12.45 – 13.45 Lunch and Posters (19-120)
Fellowship ceremony

LOUIS ROCHE LECTURE
Sea-dumped chemical weapons: Environmental hazard/Occupational risk

Michael Greenberg
Department of Emergency Medicine, Drexel University College of Medicine, Philadelphia, Pennsylvania, USA

Symposium: Chemical warfare agents

Session chair:

Keynote lecture: Chemical weapon risks to health in Syria – WHO Response
Joanna Tempowski, Catherine Smallwood
World Health Organization, Geneva, Switzerland

At the end of this session the audience should be able to:
- explain the role of WHO in a setting where chemical weapons may be used
- describe 3 types of activity engaged in by WHO for preparedness and response to the release of chemical weapons in Syria
- describe at least one challenge faced by WHO in the context of chemical weapon release in Syria

Keynote lecture: Process of verification of human exposure towards chemical warfare agents
Marc-Michael Blum
Organisation for the Prohibition of Chemical Weapons (OPCW), OPCW Laboratory, Rijswijk, The Netherlands

At the end of this session the audience should be able to:
- describe the foundations of the verification process as laid down in the Chemical Weapons Convention and the Verification Annex and the way the Organisation for the Prohibition of Chemical Weapons (OPCW) Technical Secretariat implements this process with respect to biomedical samples
- evaluate the current process followed by the OPCW laboratory to establish Proficiency Tests for analysis of biomedical samples by running a series of confidence building exercises
- list the areas where OPCW verification activities interface with practical work of (clinical) toxicologist; what information if of highest relevance for verification; how samples should be taken and documented; and how chain of custody issues are addressed

GENERAL DISCUSSION

15.45-16.15 Coffee and Posters (19-120)
**Mini-symposium: History of poisons and poison centres**

**Session chair:**

15.00  **The art of poisoning: A history of toxicology through art and literature** (14)  
Naren Gunja  
Toxicology Unit, Western Sydney, Australia

15.15  *  **50 years of the German National Committee for the Assessment of Poisonings** (93)  
Axel Hahn, Kathrin Begemann, Matthias Greiner  
Federal Institute for Risk Assessment, Berlin, Germany

15.25  *  **The Ljubljana Poison Control Center 40 years on** (94)  
Miran Brvar, Marija Jamsek  
Poison Control Center, University Medical Center, Ljubljana, Slovenia

15.35  *  **Setting up and stages of toxicological service work in the Sverdlovsk region: 40 years of toxicological service work in the Russian Federation** (95)  
Valentin G Sentcov¹, Konstantin M Brusin¹, Olga V Novikova¹, Sergey I Bogdanov¹, Andrey A Reutov¹, Dmitriy E Zhovtyak¹, Viacheslav U Misharin², Aleksey V Martinov³, Andrey A Masterkov³  
¹Toxicology Department, Ural State Medical University, Yekaterinburg, Russia; ²Sverdlovsk Regional Clinical Psychiatric Hospital ⁷ 7, Nizhny Tagil, Russia; ³City Clinical Hospital ⁹ 14, Yekaterinburg, Russia

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15.45 16.15 **Coffee and Posters (19-120)**

*Poster (see page 41)
Symposium: Chemical warfare agents (continued)

Session chair:

16.15  Keynote lecture: Biomarkers for nerve agent and mustard exposure  
       Daniel D Noort  
       CBRN Protection, TNO, Rijswijk, The Netherlands

At the end of this session the audience should be able to:
• explain the basic chemistry involved in the interactions between nerve agents/mustards and bio-macromolecules
• describe which biomarkers result after an exposure to nerve agents and mustard agents
• outline how these biomarkers can be used for retrospective exposure assessment

16.35  Keynote lecture: Treatment of mustard gas poisoning: Results and long term consequences (13)  
       John Jenner  
       Biomedical Sciences Department, Dstl, Porton Down, Salisbury, UK

At the end of this session the audience should be able to:
• identify the key signs and symptoms of sulphur mustard (SM, mustard gas) injury
• list the current treatments for SM eye, lung and skin injury
• distinguish the short and long term effects of SM poisoning.

16.55  Keynote lecture: Treatment of nerve agent poisoning: General principles  
       Horst Thiermann  
       Bundeswehr Institute of Pharmacology & Toxicology, Munich, Germany

At the end of this session the audience should be able to:
• distinguish toxicological properties and effects of G-type nerve agents and V-type nerve agents
• describe adequate methods for protection of medical personnel, patients and medical equipment as well as for personnel and patient decontamination
• perform appropriate life saving therapy as well as explaining the principles of maintaining patient oriented therapeutic measures
Mini-symposium: Antidotes

Session chair:

16.15  Uridine triacetate: Antidote for 5-fluorouracil overexposure (15)
  Michael Bamat, Robert Tremmel, Joan Helton, Reid von Borstel
  Wellstat Therapeutics LLC, Gaithersburg, MD, USA

16.30  Pyridoxine is still useful in isoniazid poisoning? (16)
  Monia Aloise, Valeria M Petrolini, Emanuela Cortini, Davide Lonati, Marta Mazzoleni,
  Giulia Scaravaggi, Sarah Vecchio, Andrea Giampreti, Carlo A Locatelli
  Poison Control Centre and National Toxicology Information Centre, IRCCS Maugeri
  Foundation and University of Pavia, Pavia, Italy

16.45  Modified-release paracetamol (Panadol Osteo®) poisoning: Is the Australasian
  management guideline being followed? (17)
  Andis Graudins
  Toxicology and Addiction Medicine Service, Monash Health and Southern Clinical School,
  Melbourne, Victoria, Australia

17.00  Effects of initial acetylcysteine infusion rates on adverse reactions in paracetamol
  overdose: A cohort study (18)
  N Nicholas Bateman1, Janice M Pettie1, Robert Carroll4, Margaret A Dow1, Judy Coyle2,
  Kristina R Cranfield2, Alisdair Gray2, Christopher Hook2, Euan A Sandilands1,
  Aravindan Veiraiah1, David J Webb3, James W Dear1,3, Michael Eddleston1,3
  1NPIS Edinburgh, Royal Infirmary of Edinburgh, Edinburgh, UK; 2Emergency Medicine
  Research Group, Royal Infirmary of Edinburgh, Edinburgh, UK; 3Pharmacology, Toxicology
  & Therapeutics, University/BHF Centre for Cardiovascular Science, Edinburgh, UK; 4School
  of Social and Community Medicine, University of Bristol, Bristol, UK
Symposium: Chemical warfare agents (continued)

17.15 Keynote lecture: Which oxime should be used for the treatment of nerve agent poisoning? 

Franz Worek
Bundeswehr Institute of Pharmacology & Toxicology, Munich, Germany

At the end of this session the audience should be able to:

- distinguish the pharmacological properties of relevant oximes
- contrast the advantages and limitations of oxime therapy in poisoning by different nerve agents
- select appropriate oximes, to determine effective doses, dosing intervals and duration of oxime therapy

17.35 Keynote lecture: Diagnosis and therapy of poisoning by incapacitating agents  
Paul Rice
Dstl, Porton Down, Salisbury, UK

At the end of this session the audience should be able to:

- describe the major categories of agents regarded as incapacitating agents
- recognise the typical clinical presentations associated with poisoning by these agents
- describe the medical management of cases due to poisoning by these agents

17.55 GENERAL DISCUSSION

18.00 Close
Mini-symposium: Antidotes (continued)

Session chair:

### 17.15 Pro/Con debate
Hydroxocobalamin as first-line antidote for smoke inhalation?

**Pro:** Kurt Anseeuw  
*Emergency Department, ZNA Stuivenberg, Antwerpen, Belgium*

**Con:** John P Thompson  
*All Wales Therapeutics & Toxicology Centre, Cardiff University, Cardiff, UK*

At the end of this session the audience should be able to:
- discuss the antidotes for cyanide poisoning
- evaluate whether hydroxocobalamin is the appropriate first-line antidote after smoke inhalation and for which patients

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18.00 Close
Symposium: Main challenges for the future

Session chair:

09.00  PLENARY LECTURE
Evidence based treatments  
Nicholas A Buckley  
Clinical Pharmacology, University of Sydney, Sydney, Australia

At the end of this session the audience should be able to:
• discuss why some treatments are regarded as more ‘evidence-based’ than other treatments
• examine the relevance to toxicology of the more recent variations in hierarchies of evidence, including increased recognition of ‘mechanistic evidence’ and ‘all or nothing’ evidence.
• recognise some of the common pitfalls in design of clinical trials in toxicology that lead to ‘failure’ to create stronger evidence; in particular lack of careful consideration of interventions, doses, primary outcomes, inclusion criteria, sample size and trial termination

09.45  Keynote lecture: Nanotoxicology: where are we now?  
Dominique Lison  
Louvain Centre for Toxicology and Applied Pharmacology, Université catholique de Louvain, Brussels, Belgium

At the end of this session the audience should be able to:
• define a nanomaterial
• identify the challenges, promises and drawbacks of nanotoxicology
• explain why progress has been (is) slow in defining health risks of nanomaterials

10.05  Keynote lecture: What's new in analytical toxicology  
Jean-Claude Alvarez  
Pharmacology & Toxicology, APHP and Versailles University, Garches, France

At the end of this session the audience should be able to:
• outline how new technology like mass spectrometry can be helpful when analyzing blood after suspicion of acute intoxication
• describe the value of hair analysis in the detection of acute or chronic intoxication, or in drug facilitated sexual assault
• examine the possibility of identifying and quantifying new drugs such as designer drugs responsible for acute or chronic intoxications

10.25  GENERAL DISCUSSION

10.30-11.00 Coffee and Posters (132-233)
### Symposium: Poisonings from animals

**Session chair:**

#### 09.45 Ciguatera outbreak in Germany in 2012 (122)

Martin M Ebbecke, Andreas Schaper, Herbert Desel  
*GIZ-Nord Poisons Centre, University Medical Center Göttingen, Göttingen, Germany*

#### 10.00 Measurement of venom and clotting function in patients with Russell’s viper coagulopathy and response to antivenom (123)

Kalana Maduwage¹, Fiona Scorgie², Mohamed Fahim³, Harindra Karunathilake⁴, Chandana Abeyasinghe⁵, Margaret A O’Leary⁶, Christeine A Ariaratnam⁷, Geoffrey K Isbister¹

¹School of Medicine and Public Health, University of Newcastle, Newcastle, Australia; ²Hunter Haematology Research Group, Calvary Mater Newcastle, Newcastle, Australia; ³South Asian Clinical Toxicology Research Collaboration, Peradeniya, Sri Lanka; ⁴Chilaw Hospital, Sri Lanka; ⁵Department of Medicine, University of Colombo, Colombo, Sri Lanka

#### 10.15 Negative predictive value of excluding embedded snake foreign body by ultrasound (124)

William F Rushton¹, Priyanka Vakkalanka¹, James H Moak², Nathan P Charlton¹

¹Division of Medical Toxicology, University of Virginia School of Medicine, Charlottesville, VA, USA; ²Department of Emergency Medicine, University of Virginia School of Medicine, Charlottesville, VA, USA

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**10.30 - 11.00 Coffee and Posters (132-233)**
Symposium: Main challenges for the future (continued)

Session chair:

11.00  Keynote lecture: Is there a risk of systemic metal poisoning from prosthetic hips?  
Sally M Bradberry\textsuperscript{1}, J Mark Wilkinson\textsuperscript{2}, Robin E Ferner\textsuperscript{3}  
\textsuperscript{1}West Midlands Poisons Unit, City Hospital, Birmingham, UK; \textsuperscript{2}Department of Human Metabolism, University of Sheffield, Sheffield, UK; \textsuperscript{3}West Midlands Centre for Adverse Drug Reactions, City Hospital, Birmingham, UK

At the end of this session the audience should be able to:
- explain the reasons for the recent increased concern regarding possible heavy metal toxicity from prosthetic metal hips.
- describe the circumstances in which cobalt poisoning might arise in prosthetic hip recipients.
- appreciate the problems encountered in assessing the risk of cobalt poisoning in metal hip recipients.

11.20  Keynote lecture: Aluminum toxicity in infants & children: What\textsuperscript{'}s known & what isn\textsuperscript{'}t\textsuperscript{(121)}  
Alan D Woolf\textsuperscript{1,2,3}  
\textsuperscript{1}Pediatric Environmental Health Center, Boston Children\textsuperscript{'}s Hospital, Boston, USA; \textsuperscript{2}Harvard Medical School, Boston, USA; \textsuperscript{3}Region 1 New England Pediatric Environmental Health Specialty Unit (PEHSU), Boston, USA

At the end of this session the audience should be able to:
- name three groups of infants and children who are most vulnerable to aluminum toxicity
- list three organ systems often adversely affected in aluminum overload states
- describe research needs in the assessment of a child\textsuperscript{'}s aluminum body burden

11.40 GENERAL DISCUSSION

11.50  Keynote lecture: How safe is food? Threats with unexpected toxic substances  
Robin E Ferner  
West Midlands Centre for Adverse Drug Reactions, City Hospital, Birmingham, UK

At the end of this session the audience should be able to:
- explore the global span and length of the food chain
- describe what toxicological problems have arisen in the past
- identify the key indicators of a food-related incident

12.10  Keynote lecture: Social network research methodology involving the Internet  
Alex F Manini  
Division of Medical Toxicology, Icahn School of Medicine at Mount Sinai, New York, USA

At the end of this session the audience should be able to:
- contrast the advantages and disadvantages of survey research versus social media research
- describe the concept of toxicovigilance and how it may be applied to social media research
- list three analytic techniques which may be applied to social media research for the purposes of toxicovigilance

12.30 GENERAL DISCUSSION
Symposium: Poisonings from animals (continued)

Session chair:

11.00 Predicting the severity of common krait envenomation at presentation: What signs to trust? (125)  
Ashish Bhalla, Mayank Singhal, Surjit Singh, Navneet Sharma, Sushil Kumar  
Department of Internal Medicine, PGIMER, Chandigarh, India

11.15 Scorpion envenomation management at King Khalid General Hospital Al Majmaah, Saudi Arabia: A study of 254 cases (126)  
N Ben Salah¹, Youssef Blel², Hafedh Thabet²  
¹Emergency Department, King Khalid General Hospital Al Majmaah, Saudi Arabia; ²Anti Poison Center, Tunis, Tunisia

11.30 Clinical consequences of scorpion stings in Campinas, São Paulo State, Southeastern Brazil (127)  
Fabio Bucaretchi¹,², Eduardo M De Capitani¹,³, Stephen Hyslop¹,⁴, Ronan J Vieira¹,³, Luciane CR Fernandes¹, Carla B Fernandes¹, Maira M Branco¹, Camila C Prado¹.  
¹Campinas Poison Control Center; ²Department of Pediatrics; ³Department of Clinical Medicine; ⁴Department of Pharmacology, State University of Campinas, Campinas, Brazil

11.45 The knowledge of receiving antivenom is more effective than antivenom or analgesia for treating latrodecism (128)  
Geoffrey K Isbister¹, Nicholas A Buckley², Simon GA Brown³  
¹Department of Clinical Toxicology, Calvary Mater Newcastle, NSW, Australia; ²Medical Professorial Unit, University of New South Wales, NSW, Australia; ³Centre for Clinical Research in Emergency Medicine, Royal Perth Hospital, WA, Australia

12.00 Pro/Con debate  
Gastric lavage should be stopped totally vs gastric lavage is sometimes useful

Pro: Sophie Gosselin  
Emergency Medicine, McGill University Health Centre & Centre Antipoison du Québec, Québec, Canada

Con: Lewis Nelson  
Emergency Medicine, New York University School of Medicine, New York, NY, USA

At the end of this session the audience should be able to:  
• discuss situations in which gastric lavage might be useful  
• evaluate whether gastric lavage could be totally abandoned

12.45 – 14.00 Lunch and Posters (132-233)
### Symposium: Revisiting the challenges posed by new recreational drugs

**Session chair:**

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<tbody>
<tr>
<td>14.00</td>
<td>PLENARY LECTURE</td>
<td>Mining the GPCR-ome to discover molecular targets for drug actions and side-effects</td>
<td>Bryan L. Roth</td>
<td>Pharmacology, UNC Chapel Hill Medical School, Chapel Hill, NC, USA</td>
</tr>
</tbody>
</table>

At the end of this session the audience should be able to:
- identify the 5-HT2B serotonin receptor as a major target for drug-induced valvular heart disease
- describe the power of genomic technology to discovery molecular targets responsible for drug side-effects
- discuss the power of genomic technology to propel therapeutic drug discovery

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<tr>
<td>14.45</td>
<td>Keynote lecture</td>
<td>Toxicosurveillance of novel psychoactive substances í European Monitoring Centre for Drugs and Drug Addiction perspective</td>
<td>Michael Evans-Brown</td>
<td>Supply Reduction and New Trends Unit, European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), Lisbon, Portugal</td>
</tr>
</tbody>
</table>

At the end of this session the audience should be able to:
- describe the European Union Early Warning System on new psychoactive substances which provides a fast-track mechanism for the information-exchange and rapid response to new drugs
- list examples and case studies describing the objectives, functioning and recent outputs of the Early Warning System
- discuss the challenges in monitoring and responding to new psychoactive substances

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<tbody>
<tr>
<td>15.05</td>
<td>Keynote lecture</td>
<td>Toxicosurveillance of novel psychoactive substances: A poisons centre perspective</td>
<td>Simon L. Hill</td>
<td>National Poisons Information Service UK (Newcastle Unit), Royal Victoria Infirmary, Newcastle-upon-Tyne, UK</td>
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</tbody>
</table>

At the end of this session the audience should be able to:
- describe the challenges associated with recording the possible harms of novel psychoactive substances (NPS) and list the other sources of information available
- compare the type and detail of data generated by poisons centres regarding NPS with that from other sources, discuss the limitations of each
- list examples where poisons centre data have been used in conjunction with other data sources to identify possible harms associated with NPS

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<th>Time</th>
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<td>15.25</td>
<td>GENERAL DISCUSSION</td>
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<th>Time</th>
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<tr>
<td>15.30</td>
<td>16.00 Coffee and Posters (132-233)</td>
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</tbody>
</table>
Symposium: New insights in mechanisms of toxicity and their clinical relevance

Session chair:

14.00  Keynote lecture: Role of epigenetics in toxicity: State of the art and clinical implications

Wilhelm Bloch

Department of Molecular and Cellular Sport Medicine, German Sport University, Cologne, Germany

At the end of this session the audience should be able to:
- describe how chromatin packages may be epigenetically regulated by modification of histones and how DNA may be altered by methylation and/or acetylation
- discuss how epigenetic modulation allows long-term regulation of gene activity and how it explains the long-term effects of toxic agents
- identify how detection of epigenetic modifications could be considered in prediction of future disease risk in order to determine the effective countermeasures to prescribe as well as to set up toxicity safety assessments

14.20  Keynote lecture: miRNA in toxicology

James W Dear

National Poisons Information Service (Edinburgh Unit), Royal Infirmary of Edinburgh, Edinburgh, UK

At the end of this session the audience should be able to:
- discuss what microRNA do inside and outside the cell
- describe the strengths and weaknesses of microRNA as toxicity biomarkers in blood and urine
- list how microRNA could mediate toxicity in a variety of tissues

14.40  Keynote lecture: Integrating mechanistic research for management of toxic alcohol poisoning (130)

Kenneth E McMartin, Greg Landry, Corie Robinson, Taylor Conrad

Louisiana State University Health Sciences Center, Shreveport, Louisiana, USA

At the end of this session the audience should be able to:
- describe the basic mechanistic work that has shown that diglycolic acid is the nephrotoxic metabolite of diethylene glycol poisoning
- discuss the importance of intracellular transport of diglycolic acid and how inhibitors of such transport might be useful new therapies for the renal toxicity of diethylene glycol
- discuss the mechanisms by which diglycolic acid can reduce mitochondrial oxidative phosphorylation leading to cell death

15.00  DNA-adducts and DNA repair after alkylation: Relevance for clinical toxicology

Kai Kehe1, Horst Thiermann2

1Military Medical Research and Development, Bundeswehr Medical Academy, Munich, Germany; 2Bundeswehr Institute of Pharmacology and Toxicology, Munich, Germany

At the end of this session the audience should be able to:
- describe the molecular action of DNA alkylating agents e.g. sulfur mustard and link it to the clinical picture
- predict the clinical course of sulfur mustard burns (acute toxicology) and link it to late effects
- recommend diagnostic tools and treatment

15.20  GENERAL DISCUSSION

15.30 – 16.00 Coffee and Posters (132-233)
Symposium: Revisiting the challenges posed by new recreational drugs

(continued)

Session chair:

16.00 Keynote lecture: Toxicosurveillance of novel psychoactive substances: An emergency department perspective and the role of the European Drug Emergencies Network (Euro-DEN) project (129)

David M Wood1,2, Paul I Dargan1,2
1Clinical Toxicology, Guy's and St Thomas' NHS Foundation Trust and King's Health Partners, London, UK; 2King's College London, London, UK

At the end of this session the audience should be able to:
- describe the limitations of currently available sources of acute toxicity (harm) related to the use of novel psychoactive substances (NPS)
- describe how data on presentations to Emergency Departments with acute toxicity related to the use of NPS can be collected and the usefulness of this information
- describe the development of the European Drug Emergencies Network (Euro-DEN) and what information on acute toxicities of recreational drugs and NPS this can project aims to add to that already available

16.20 Keynote lecture: International overview of prescription drug misuse

Richard C Dart
Rocky Mountain Poison and Drug Center, Denver Health and Hospital Authority, Denver, USA

At the end of this session the audience should be able to:
- compare overall prescription drug abuse trends between countries
- describe the relationship between opioid consumption by country and the abuse of prescription opioids in that country
- discuss the trends for most commonly abuse opioids and stimulants

16.40 *Monoamine transporter and receptor interaction profiles of halogenated phenethylamines (166)

Anna Rickli1, Marius C Hoener2, Matthias E Liechti1
1Clinical Pharmacology and Toxicology, University Hospital Basel, University of Basel, Switzerland; 2Neuroscience Research, F. Hoffmann-La Roche Ltd, Basel, Switzerland

16.45 *Prevalence of analytically confirmed intoxications by new psychotoxic substances in Italy: Data from Pavia Poison Centre and National Early Warning System (167)

Carlo A Locatelli1, Davide Lonati1, Eleonora Buscaglia1, Pietro Papa1, Valeria M Petrolini1, Sarah Vecchio1, Andrea Giampretti1, Catia Seri3, Claudiu Dima1, Elisa Roda2, Teresa Coccini2, Teodora Macchie5, Giovanni Serpelloni6
1Poison Control Centre & National Toxicology Information Centre and Clinico-toxicological Coordinating Centre of the National Early Warning System, IRCCS Maugeri Foundation, Pavia; 2Laboratory of Analytical Toxicology, IRCCS Policlinico San Matteo Foundation, Pavia; 3Addiction Department, ULSS 20, Verona; 4Laboratory of Clinical Toxicology, IRCCS Salvatore Maugeri Foundation, Pavia; 5Department of Therapeutic Research and Medicines Evaluations, Istituto Superiore di Sanità, Rome; 6Department for Antidrug Policies, Presidency of the Council of Ministers, Rome, Italy

16.50 *Toxicity after reported use of benzofury compounds ([2-aminopropyl]-2,3-dihydrobenzofurans) compared with mephedrone. A report from the UK National Poisons Information Service (168)

Ashraf Kamour1, David James1, David J Lupton2, Gillian Cooper3, Michael Eddleston3, Allister J Vale4, John P Thompson5, Ruben HK Thanacoody1, Simon L Hill1, Simon HL Thomas1
1National Poisons Information Service 1 Newcastle upon Tyne Hospitals NHS Foundation Trust, Newcastle upon Tyne, UK; 2Royal Infirmary of Edinburgh, Edinburgh, UK; 3University Hospital Llandough, Cardiff, UK; 4City Hospital, Birmingham, UK

*See page 46

Close 16.55
Symposium: New insights in mechanisms of toxicity and their clinical relevance
(continued)

Session chair:

16.00  Keynote lecture: TRP channels in the respiratory tract: potential therapeutic targets in toxic lung injury

Thomas Gudermann¹, Dirk Steinritz², Alexander Dietrich¹

¹Pharmacology & Toxicology, University of Munich, Munich, Germany; ²Bundeswehr Institute of Pharmacology & Toxicology, Munich, Germany

At the end of this session the audience should be able to:

• explain the role of Transient Receptor Potential (TRP) ion channels in cellular signaling processes
• explain the contribution of TRP channels to toxic lung injury in response to oxidative stress and toxic chemicals
• list the advantages of TRP channels as therapeutic targets in acute toxic lung injury

16.20  Keynote lecture: Genetic susceptibility in toxicology

Munir Pirmohamed

The Wolfson Centre for Personalised Medicine, Institute of Translational Medicine, Liverpool, UK

At the end of this session the audience should be able to:

• explain the basic concepts of pharmacogenetics and pharmacogenomics, including commonly used terminology (genotype, phenotype, allele, SNP, genome, etc)
• discuss the role of genetics in the response to drugs and other toxins
• give examples of some clinically important toxicological processes subject to genetic variability and explain the mechanisms involved

16.50  Carbon monoxide release curves from measurements during indoor charcoal burning: Systematic research on toxic levels for humans (131)

Axel Hahn¹, Sebastian Zellmer¹, Benno Riesselmann², Simone Krüger³, Tina Raspe³, Silke Schwarz³, Sebastian Stahn³, Klaus Urban³

¹Federal Institute for Risk Assessment, Berlin, Germany; ²State Institute of Legal and Social Medicine Berlin, Department of Forensic Toxicology, Berlin, Germany; ³Federal Institute for Materials Research and Testing (BAM), Berlin, Germany

17.05 Close

17.15  EAPCCT GENERAL ASSEMBLY
YOUNG INVESTIGATOR AWARD

Session chair:

08.30 Introduction to Young Investigator Award

08.35 Clinical findings and genomic biomarkers in three cases of chronic ciguatera poisoning (234)

Davide Lonati¹, Miryam Martinetti², Annamaria Pasi², Anna Gatti¹, Michele Buonocore³, Carlo A Locatelli¹

¹Pavia Poison Centre and National Toxicology Information Centre, IRCCS Maugeri Foundation Hospital; ²Immunogenetics Laboratory, Immunohematology and Transfusion Center, IRCCS Policlinico San Matteo Foundation; ³Unit of Clinical Neuropysiology & Neurodiagnostic Skin Biopsy, IRCCS Maugeri Foundation Clinical Institute, Pavia, Italy

08.50 The role of GABA receptors during intoxications with designer drugs: A mechanism-based approach for piperazine-derivatives (235)

Laura Hondebrink¹, Elise JP Hermans², Regina GDM van Kleef², Jan Meulenbelt¹,²,³, Remco HS Westerink².

¹National Poisons Information Center, University Medical Center Utrecht; ²Neurotoxicology Research Group, Institute for Risk Assessment Sciences, Utrecht; ³Department of Intensive Care Medicine, University Medical Center Utrecht, The Netherlands

09.05 Pharmacokinetic study of mitragynine in Kratom abuse users (236)

Satariya Trakulsrichai¹,², Kobthum Sathirakul³, Saranya Auparakkitanon⁴, Jatupon Krongvorakul¹, Jetjamnong Sueajai¹, Nantida Noumjad, Winai Wananukul²

¹Emergency Department, Ramathibodi Hospital; ²Ramathibodi Poison Center, Ramathibodi Hospital; ³Department of Pharmacy, Mahidol University; ⁴Department of Pathology, Ramathibodi Hospital, Bangkok, Thailand

09.20 Study of lithium pharmacokinetics in the rat according to the three different modalities of human poisoning (237)

Anne-Sophie Hanak¹, Lucie Chevillard¹, Souleiman El-balkhi¹, Patricia Risède¹, Katell Peoc'h¹, Bruno Mégabane¹,²

¹INSERM U1144, Paris-Descartes University; ²Department of Toxicological and Medical Intensive Care, Lariboisière Hospital, Paris, France

09.35 Judging commences

09.35 Keynote lecture: The Wetteren acrylonitrile disaster: Management, media communication, and biomarker-based screening

Peter De Paepe¹, An Van Nieuwenhuyse², Christophe Stove³, Walter Buylaert¹

¹Department of Emergency Medicine, Ghent University Hospital, Ghent, Belgium; ²Scientific Institute of Public Health, Brussels, Belgium; ³Laboratory of Toxicology, Faculty of Pharmaceutical Sciences, Ghent University, Ghent, Belgium

At the end of this session the audience should be able to:
- describe the medical management aspects of large-scale chemical disasters
- develop an understanding of the pitfalls and difficulties of risk and crisis communication
- list the advantages and limitations of biomonitoring

09.55 Presentation to the winner of the Young Investigator Award

10.00 - 10.30 Coffee and Posters (250-330)
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<tr>
<td>08.30 – 10.00</td>
<td>YOUNG INVESTIGATOR AWARD (Copper Hall) and Keynote lecture: The Wetteren acrylonitrile disaster: Management, media communication, and biomarker-based screening (Copper Hall)</td>
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<tr>
<td>10.00 – 10.30</td>
<td>Coffee and Posters (250-330)</td>
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</table>
Symposium: Poisonings in the developing world / resource-limited areas

Session chair:

10.30 Keynote lecture: Challenging the limitation of clinical toxicology in the developing world: Where do we go from here? (238) Andrew Dawson

NSW Poisons Center, Prince Alfred Hospital, Sydney, Australia

At the end of this session the audience should be able to:

- describe core limitations in global clinical toxicology
- discuss translational research block
- list some successful or potential strategies for addressing these blocks
Round table: Role of poison centres in the eyes of the European partners

Session chair:

10.30 To improve product safety in Europe
   European Commissionaire

10.40 To influence Public Health-related decisions based on risk assessment
   Herbert Desel
   GIZ-Nord Poisons Centre, University Medical Center Göttingen, Göttingen, Germany

At the end of this session the audience should be able to:

- list the steps for clinical risk assessment in exposure cases reported to poisons centres
- discuss mechanisms used to identify new poisoning risks and trends
- describe the cooperation of poisons centres and other stakeholders (public health authorities, industry) in cases of detection of unusual events with risk of mass poisoning casualties

10.50 To assess population health threats from chemicals
   Paolo Guglielmetti
   DG Sanco Health Threats Unit, European Commission, Luxembourg

At the end of this session the audience should be able to:

- list the scope and content of the new Decision of the European Parliament and the Council on serious cross border threats to health
- describe the flow of procedures and activities intended to capture signals, confirm and assess such threats
- discuss the respective roles of the Commission's Scientific Committee, experts' networks, and other EU bodies in the risk/threat assessment, management and coordination of response, including the recent developments of the Early Warning and Response System (EWRS) and of the Rapid Alert System for Chemical events (RAS CHEM)

11.00 To identify toxicological hazards and risks in clinical toxicology
   Irma de Vries
   National Poisons Information Center, University Medical Center Utrecht, Utrecht, The Netherlands

At the end of this session the audience should be able to:

- discuss the importance of the use of Early Warning Systems by PCs
- describe how PCs can contribute and work together to prevent poisonings on a European (and global) scale
- explain how close cooperation between PCs and national Health Authorities benefits European Early Warning Systems in case of toxicological hazards
## Symposium: Poisonings in the developing world / resource-limited areas

(continued)

### Round table: Adapting guidelines and recommendations for the developing world

**Session chair:**

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<th>Time</th>
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| 10.50 | How perfect turns into “as good as it gets”: Methanol | Knut Erik Hovda  
_The National CBRNe Centre, Oslo University Hospital, Ullevaal, Norway_  
At the end of this session the audience should be able to:  
- explain why the existing guidelines for methanol poisonings have a limited value in most of the world  
- describe how the existing guidelines can be used to develop a locally adapted diagnosis- and treatment protocol  
- list the main limiting factors for a beneficial outcome in methanol poisonings in the areas where they most often occur |  

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<th>Time</th>
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| 11.05 | How perfect turns into “as good as it gets”: Organophosphates | Michael Eddleston  
_NPIS, Edinburgh, Royal Infirmary, Edinburgh, UK_  
At the end of this session the audience should be able to:  
- explain the limitations that most clinicians will face in their treatment of poisoned patients in resource-limited areas  
- describe the best way to administer atropine to a patient with OP pesticide poisoning  
- discuss how management of organophosphate pesticide poisoning can be improved with widely available and affordable treatments |  

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<th>Time</th>
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| 11.20 | How perfect turns into “as good as it gets”: Paraquat | Indika Gawarammana  
_South Asian Clinical Toxicology Research Collaboration and Department of Medicine, University of Peradeniya, Peradeniya, Sri Lanka_  
At the end of this session the audience should be able to:  
- describe the way in which management guidelines developed in the 1st world are not always applicable in the developing world settings of poisoning due to resource limitation  
- discuss the best marker of prognosis following ingestion of paraquat (plasma paraquat level), which may be unavailable  
- assess the usefulness of the urine dithionite test and creatinine levels which can predict outcome from paraquat self poisoning with decent accuracy |  

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</table>
| 11.35 | How perfect turns into “as good as it gets”: Lead | Paul I Dargan  
_Guy's and St Thomas’ NHS Foundation Trust and King’s Health Partners, London, UK_  
At the end of this session the audience should be able to:  
- describe the challenges with using standard lead chelation protocols in the Zamfara lead poisoning incident  
- discuss how standard lead chelation protocols were adapted for use in the Zamfara lead poisoning incident  
- describe the initial results from the use of this protocol |  

11.50 GENERAL DISCUSSION

12.05 - 13.30 Lunch and Posters (250-330)
Round table: Role of poison centres in the eyes of the European partners
(continued)

11.10 To build pharmacovigilance based on the new European legislation on medical drugs
Simon Thomas
National Poisons Information Service (Newcastle), Newcastle Hospitals NHS Foundation
Trust, Newcastle-upon-Tyne, UK

At the end of this session the audience should be able to:
- describe the new obligations imposed on national regulatory authorities by the recent
  EU Pharmacovigilance Directive (2010/84/EU)
- define suspected adverse drug reactions according to this Directive
- discuss how data collected by poisons centres may assist regulatory authorities in
  meeting their new obligations under the terms of the Directive

11.20 To harmonize poisoning case data collection for regulatory needs
Axel Hahn
Federal Institute for Risk Assessment (BfR), Berlin, Germany

At the end of this session the audience should be able to:
- discuss the implementation of a standard dataset of poisoning cases based on EAPCCT
  definitions
- explore the harmonisation of at least the most important items on different poisoning
  database platforms
- develop a harmonised categorisation system for poisonings linked to a notification
  process of products

11.30 To provide useful data for product classification
Sylvie Lemoine
A.I.S.E. - International Association for Soaps, Detergents and Maintenance products,
Brussels, Belgium

At the end of this session the audience should be able to:
- demonstrate how to build on experience and expertise from poisons centres to
  successfully generate statistically robust information for Classification and Labelling of
  chemicals (eye effects of detergents)
- describe the complementary roles of poison centres and industry in managing incidents
  in specific sectors
- plan the way for more such cooperation, as appropriate

11.40 GENERAL DISCUSSION

12.00 - 13.30 Lunch and Posters (250-330)
Symposium: Poisonings in the developing world / resource-limited areas
(continued)

Session chair:

13.30 Keynote lecture: Toxic and corrosive: What should be done for first aid? Daniela Pelclova
Toxicological Information Centre, Charles University, Prague, Czech Republic

At the end of this session the audience should be able to:
- describe the preferred recommendations for first aid after ingestion of toxic agents
- describe the preferred recommendations for first aid after ingestion of corrosives
- explain the controversy in first aid recommendations and list several agents with both effects and recommend the optimal first aid for ingestion of those agents, based on the mechanisms and literature data

13.50 Keynote lecture: Phosphides and phosphine: Mechanisms for toxicity and range of the problem (239) Hossein Hassanian-Moghaddam
Department of Clinical Toxicology, Shahid Beheshti University of Medical Sciences, Tehran, Iran

At the end of this session the audience should be able to:
- discuss aluminum and zinc phosphide poisonings and their prevalent in Asian countries
- describe the most common presentations of these toxicities
- evaluate the most recent achievements in their management

14.10 Keynote lecture: Ayurvedic drugs: It's a jungle out there (240) Ashish Bhalla
Post Graduate Institute of Medical Education and Research, Chandigarh, India

At the end of this session the audience should be able to:
- discuss the basics of Ayurvedic medicine use and the scope of the problem
- describe the nature of ayurvedic medicine toxicity and the complexities of attributing effect to any single component of the medicine
- list the possible interactions between conventional and ayurvedic drugs and the ways these can be prevented

14.30 Keynote lecture: Pharmaceutical poisoning spectrum in the developing countries in Asia: Epidemiologic data and possible causes of poisoning Chen-Chang Yang
Division of Clinical Toxicology & Occupational Medicine, Taipei Veterans General Hospital, Taipei, Taiwan

At the end of this session the audience should be able to:
- describe the epidemiology of pharmaceutical poisonings in developing Asian countries
- contrast the differences in the pattern of pharmaceutical poisonings between various Asian countries
- identify possible causes and related geographic variation of pharmaceutical poisonings across developing Asian countries
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<tr>
<td>13.30</td>
<td>Poster discussion session</td>
<td>Alison Good, Horst Thiermann</td>
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</table>
Symposium: Poisonings in the developing world / resource-limited areas
(continued)

Session chair:

14.50  Keynote lecture: Setting up poison information services in developing countries: needs and accomplishments: The Poison Control Centre of Senegal (241)

Amadou Diouf\textsuperscript{1,2}, Absa Lam Faye\textsuperscript{1}

\textsuperscript{1}Centre Anti Poison, Ministère de la Santé et de l’Action Sociale, Dakar, Sénégal; \textsuperscript{2}Laboratoire de Toxicologie et d’Hydrologie, Université Cheikh Anta Diop, Dakar, Sénégal

At the end of this session the audience should be able to:

- discuss international initiatives on public health with respect to poisoning
- describe the setting up of a poisons centre in a developing country
- list the requirements and potential achievements of such a poisons centre

15.10  Feasibility study for a sub-regional poisons centre in the Eastern Africa sub-region (242)

John N Edwards\textsuperscript{1}, Joanna H Tempowski\textsuperscript{2}, Hawa S Senkoro\textsuperscript{3}, Clare Roberts\textsuperscript{4}, Carine J Marks\textsuperscript{5}, Caesar Nyadzedzor\textsuperscript{6}, Dexter Tagwireyi\textsuperscript{8}, Tom Menge\textsuperscript{7}, David Kapindula\textsuperscript{9}, Christopher Kanema\textsuperscript{9}

\textsuperscript{1}Nick Edwards Consulting Ltd, London, UK; \textsuperscript{2}International Programme on Chemical Safety, World Health Organisation, Geneva, Switzerland; \textsuperscript{3}World Health Organisation, Brazzaville, Congo; \textsuperscript{4}Poisons Centre, Red Cross War Memorial Children’s Hospital, Cape Town, South Africa; \textsuperscript{5}Tygerberg Poison Information Centre, Stellenbosch University, Cape Town, South Africa; \textsuperscript{6}Ghana Poisons Information Centre, Ridge Hospital, Accra, Ghana; \textsuperscript{7}National Poison Information and Management Centre, Kenyatta National Hospital, Nairobi, Kenya; \textsuperscript{8}Drug and Toxicology Information Service, Harare, Zimbabwe; \textsuperscript{9}Zambian Environmental Management Agency, Lusaka, Zambia

15.25  GENERAL DISCUSSION

15.30 - 16.00 Coffee and Posters (250-330)
Mini-symposium: What's new in drugs of abuse?

Session chair:

14.30 The pharmacology of novel psychoactive substances (246)
Matthias E Liechti¹, Linda D Simmler¹, Anna Rickli¹, Marius C Hoener²
¹Clinical Pharmacology, University of Basel, Switzerland; ²Neuroscience Research, F. Hoffmann-La Roche Ltd, Basel, Switzerland

14.45 Novel and emerging recreational drug detection: A signals intelligence approach (247)
Silas W Smith¹,², Cole Gibbons³, Brian J Gilberti³
¹Department of Emergency Medicine, NYU School of Medicine, New York, USA; ²New York City Poison Control Center, New York, NY, USA; ³NYU School of Medicine, New York, USA

15.00 Novel synthetic cannabinoid outbreak causing severe illness (248)
Janetta L Iwanicki¹,³, Dazhe J Cao¹,²,³, Jason Hoppe¹,², Christopher O Hoyte¹,², Alvin C Bronstein¹,², Eric J Lavonas³, Kristen J Heard¹,², Kristen Carpenter³, Andrew A Monte¹,²
¹Medical Toxicology, Rocky Mountain Poison and Drug Center, Denver, USA; ²Department of Emergency Medicine, University of Colorado School of Medicine, Aurora, USA; ³Department of Emergency Medicine, Denver Health Medical Center, Denver, USA

15.15 Acute effects of methylphenidate in healthy subjects alone or in combination with MDMA (249)
Yasmin Schmid, Cédric M Hysek, Matthias E Liechti
Clinical Pharmacology, University Hospital Basel, Basel, Switzerland

15.30 - 16.00 Coffee and Posters (250-330)
Mini-symposium: Management of severe poisonings

Session chair:

<table>
<thead>
<tr>
<th>16.00</th>
<th>Pro/Con debate</th>
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<td>Should we intubate all drug-induced comatose patients?</td>
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**Pro:** Philippe Hantson  
*Intensive Care, Cliniques St-Luc, Brussels, Belgium*

**Con:** Bruno Mégarbane  
*Medical and Toxicological Intensive Care Unit, Lariboisière Hospital, Paris, France*

At the end of this session the audience should be able to:
- describe when intubation is generally used in drug overdose
- discuss the value of intubating all drug overdose patients who are comatose

<table>
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<tr>
<th>16.45</th>
<th>Methanol and formate elimination half-life during treatment for methanol poisoning: Intermittent hemodialysis vs. continuous hemodialysis / hemodiafiltration (243)</th>
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<tr>
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<td>Sergey Zakharov¹, Daniela Pelclova¹, Tomas Navratil², Jaromir Belacek³, Ivana Kurcova⁴, Ondrej Komzak⁴, Knut Erik Hovda⁵</td>
</tr>
<tr>
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<td>¹Toxicological Information Center, General University Hospital at Charles University, Prague, Czech Republic; ²Department of Biophysical Chemistry, J. Heyrovský Institute of Physical Chemistry, Prague, Czech Republic; ³Institute of Biophysics and Informatics at Charles University, Prague, Czech Republic; ⁴Department of Toxicology, Institute of Forensic Medicine and Toxicology at Charles University, Prague, Czech Republic; ⁵Norwegian Center for NBC Medicine, Oslo University Hospital, Ullevaal, Norway</td>
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<tr>
<th>17.00</th>
<th>Úamanit in poisoning: Outcome in 242 patients treated with the Pavia mushroom protocol (N-acetylcysteine, forced diuresis and multiple-dose activated charcoal) (244)</th>
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<td>Valeria M Petrolini, Sarah Vecchio, Marta Crevani, Eleonora Buscaglia, Davide Lonati, Andrea Giampretti, Teresa Coccini, Elisa Roda, Davide Acerbi, Monia Aloise, Francesca Chiara, Carlo A Locatelli</td>
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<td>Pavia Poison Control Centre - National Toxicology Information Centre, IRCCS Maugeri Foundation, Pavia, Italy</td>
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<th>17.15</th>
<th>Arteriovenous extracorporeal life support in drug-induced cardiogenic shock: A ten-year experience (245)</th>
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<td>Frédéric J Baud¹, Pascal Leprince², Nicolas Deye¹, Isabelle Malissin¹, Pierre Brun¹, Bruno Mégarbane¹, Louis Modestin¹, Alain Pavie², Irajd Gandjbakhch³</td>
</tr>
<tr>
<td></td>
<td>¹Medical and Toxicological Intensive Care Unit, Lariboisière Hospital, Paris, France; ²Cardiothoracic Surgery Department, La Pitié-Salpêtrière Hospital, Paris, France</td>
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| 17.30 | Close |
The best paper session

Session chair: Knut Erik Hovda, Régis Bédry

16.00 The best papers of 2013

An international panel will each be asked to select a clinical toxicology paper published in the year 2013 that they consider to be among the best. Three speakers, from different countries will defend their choice in a brief 10 minute presentation followed by discussion.

Discussants and papers:

Max Goyffon
RDDM Department, National Museum of Natural History, Paris, France

Carlo Locatelli
Poison Control Centre and National Toxicology Information Centre, Toxicology Unit, IRCCS Maugeri Foundation, Pavia, Italy

Dag Jacobsen
Department of Acute Medicine, Oslo University Hospital Ullevaal, Oslo, Norway

17.30 Close
Epidemiology

19. Use of artificial adaptive system software for real-time Poison Center outbreak localization  
   **Alvin C Bronstein, Weldon A Lodwick, Massimo P Buscema**

20. Using Twitter to measure underage alcohol usage  
   **Michael Chary, Nick Genes, Alex F Manini**

21. Monitoring of domperidone and dextromethorphan intoxications reported to Poisons Information Center following change in legal sales status  
   **Henneke N Mulder-Spijkerboer, Antoinette JHP van Riel, Agnes G van Velzen, Jan Meulenbelt, Irma de Vries**

22. Acute poisoning in psychiatric patients  
   **Konstantin M Brusin, Yulia V Krayeva, Viacheslav G Ustyuzhanin, Nikolay V Druzhinin, Knut Erik Hovda**

23. Epidemiology and mortality of hospitalized acute poisonings in Yekaterinburg and Oslo: A comparison of two cities  
   **Konstantin M Brusin, Cathrine Lund, Yulia E Krayeva, Knut E Hovda**

24. Impact of changes in UK management advice for paracetamol overdose on the numbers of adult patients admitted and treated in Newcastle upon Tyne?  
   **Muhammad EMO Elamin, Lucy C Peart, Simon L Hill, Simon HL Thomas**

25. Etiology of severe acute fatal poisoning in southern Romania between 2004-2012  
   **Alexandru I Ulmeanu, Dora A Boghitoiu, G Viorela Nitescu, Coriolan E Ulmeanu**

26. Acute renal damage: Cause of death in acute severe poisoning in children  
   **Alexandru I Ulmeanu, Dora Boghitoiu, Coriolan E Ulmeanu**

27. Risks from Russia — an analysis of 225 intoxications with Russian medicines over a 15 year period  
   **Andreas Schaper, Alexander Emmert, Alessandro Ceschi**

28. Evaluation of the completeness of epidemiological surveillance systems for poisoning by the capture-recapture system in Rabat and region, Morocco, 2012  
   **Asmae Khattabi, Nasser Meskaoui, Hanane Chaoui, Rachida Soulanymani-Bencheikh**

   **Narjis Badrane, Fatima Abadi, Fouad Chafi, Driss Soussi Tanani, Abdelmajid Soulanymani, Naima Rhalem, Rachida Soulanymani Bencheikh**

30. Morbidity and mortality associated with exposures to over-the-counter combination acetaminophen products in the United States  
   **Edward P Krenzelok, Becki Bucher Bartelson, Jody L Green**

31. Intentional substance exposures in young persons: Inquiries to the New Zealand Poisons Information Centre from 2008-2012  
   **Richard Mason**
32. Acute fatalities reported to the National Poisons Information Centre of Ireland from 2000-2012: A prospective observational study

Nicola Cassidy, Patricia B Casey, Edel Duggan

33. Enquiries to the National Poisons Information Centre, Dublin concerning new generation anticoagulant agents

Elaine Donohoe, Patricia Casey, Edel Duggan

34. Analysis of the database of patients admitted with acute intoxications with substances of abuse in a large, university toxicology unit

Oana Avram, Radu A Macovei, Ilenuta Danescu

35. Evolution of fatal cases by chemicals in the Spanish Toxic Surveillance System

Ana Ferrer-Dufol, Santiago Nogue-Xarau, Ana Serrano-Ferrer, Francisco Ruiz-Ruiz

36. Fatal Poisonings in the Toxicology Clinic of UMHATEM N.I.Pirogov for the period 2009–2011

Julia V Radenkova-Saeva, Rayna Stoyanova

37. Intentional self-poisoning by alkaline corrosive agents: A study for the period 2010-2012

Julia V Radenkova-Saeva, Anelia Loukova, Hristo Tzekov

38. Patients presenting with acute poisoning to an outpatient emergency clinic in Oslo: A one year prospective observational study

Odd Martin Vallersnes, Dag Jacobsen, Øivind Ekeberg, Mette Brekke

39. Self-poisoning with drugs in Bamako, Mali

Hinde Hami, Tidiane Diallo, Ababacar Maiga, Abdelrhani Mokhtari, Rachida Soulaymani-Bencheikh, Abdelmajid Soulaymani

40. Acute poisonings in Iceland: A prospective study of poisonings presenting to the Emergency Department at Landspitali University Hospital

Gudborg A Gudjonsdottir, Anna M Thordardottir, Jakob Kristinsson

Antidotes

41. Plasma pralidoxime concentrations: A paradigm in antidotal efficacy of pralidoxime towards paraoxon toxicity

Pascal Houze, Tania M Duarte, Frédéric J Baud, Chantal Martin, Olivier Laprevote

42. Paracetamol poisoning in Melbourne, Australia: Are we maintaining the NAC of treating paracetamol poisoning?

Andis Graudins

43. A review of physical exam findings associated with anticholinergic poisoning reversed with physostigmine

Timothy J Wiegand, Rachel Schult

44. Rivastigmine toxicity safely treated with pralidoxime without atropine

Larissa K Laskowski, Cindy Wang, Mary A Howland, Robert S Hoffman, Lewis S Nelson

45. A Belgian survey on the management of acute paracetamol intoxications by emergency physicians

Henk van Pelt, Martine Mostin
46. Hydroxocobalamin - an antidote for sodium azide poisoning?  
Kinga Bartecka-Mino, Helmut Schiel, Angelika Holzer, Tara Arif, Gerald Raab, Hermann Mascher

47. Successful use of fomepizole during second trimester of pregnancy  
Sian CD Harbon, John P Thompson

48. Poisonings in Greenland: Remote-area challenges  
Lotte CG Hoegberg, Niels E Ebbehoej

49. Five years of antivenom delivery: Cooperation between the National Serum Depot and the Dutch Poisons Information Center  
Marieke A Dijkman, Kees Van der Zwan, Jan Meulenbelt, Irma De Vries

50. Hydroxocobalamin administration falsely lowers carboxyhemoglobin determination  
Rana Biary, Lewis S Nelson, Robert S Hoffman, Daniel Lugassy

51. L-Carnitine supplementation in the treatment of acute valproic acid overdoses  
Maria Sili, Arianna Dilibghi, Arianna Totti, Brunella Occupati, Alessandra Pistelli, Guido Mannaioni

52. Factors associated with prehospital naloxone use in the United States: 2010  
Benjamin W Hatten, Robert G Hendrickson, Mohamud Daya, Rongwei Fu, Craig Newgard

53. Administration of expired methylene blue in patients with methemoglobinemia: A therapeutic dilemma  
Wanling Wong, Chen-Chang Yang, Jou-Fang Deng

54. Symptomatic methemoglobinemia in a home hemodialysis patient and tolerance of methylene blue  
Charlotte Van Ende, Vincent Haufroid, Eric Marion, Johann Morelle, Philippe Hantson

ADR and medication errors

55. Seizures and sustained encephalopathy following an accidental 4-aminopyridine overdose  
Maria Ballesta Méndez, Vincent van Pesch, Arnaud Capron, Philippe Hantson

56. Adverse consequences of low-dose methotrexate medication errors  
Thierry Vial, Anne-Marie Patat, Clement Gegu, Delphine Castellan, Antoine Villa, Helene Theophile, Luc De Haro, Dorothee Durand, Andrea D’Amico, Aurore Gouraud, Christine Payen, Jacques-Georges Descotes

57. A dietary supplement public health event  
Shireen Banerji, Alvin C Bronstein

58. Persistent effects after camphor ingestion: A case report and review of the literature  
Cynthia Santos, Jennifer Cabot

59. Vitamin D overdose in infant and newborns after medication error: Public health problem in Morocco  
Narjis Badrane, Loubna Alj, Driss Soussi Tanani, Naima Rhalem, Rajae Benkirane, Rachida Soulaymani Bencheikh

60. AV block II in a toddler after accidental ingestion of a single tablet of fingolimod for multiple sclerosis  
Jonas Höjer, Eva Olsson
61. Asymptomatic rhabdomyolysis after pyridoxine treatment of an isoniazid intoxication
   Gabi Dostal, Katrin Romanek, Raphael Stich, Rudi Pfab, Florian Ever

62. A case report of exogenous human chorionic gonadotropin use leading to laparoscopy to exclude
ectopic pregnancy
   Scott N Lucyk, Stephanie H Hernandez, Lewis S Nelson

63. Metformin induced leukemoid reaction
   Ross W Sullivan, Jennifer Cochran, Jeanna Marraffa

64. Post-injection delirium/sedation syndrome after olanzapine pamoate intramuscular injection
   confirmed by serum olanzapine concentrations
   Magdalena Łukasik-Łębocka, Karina Sommerfeld, Artur Teżyk, Pawel Paniecki, Czesław Łaba,
   Barbara Zielinska-Psiuła

65. Toxic epidermal necrolysis associated with lomefloxacin: Case report and molecular typing studies
   Arturo Zancan, Davide Lonati, Andrea Giampreti, Miryam Martinetti, Antonella Pasi, Maurizio Stella,
   Carlo A Locatelli

66. Encephalopathy due to prolonged misuse of ivermectin (Stromectol R) after scabies infection
   Elisabeth Goossens, Catherine Deraemaeker, Susana Ferrao, Martine Mostin, Christian Sindic

67. Chlorine dioxide from a dietary supplement causing hemolytic anemia
   Vincent Nguyen, Robert S Hoffman, Lewis S Nelson

68. Methemoglobinemia in long term dapsone treatment
   Radu Macovei, Ilenuta Danescu, Genica Caragea, Mihai Ionica

69. Medication errors in the first six months of life
   Valeria M Petrolini, Elena Borlenghi, Giulia Scaravaggi, Sarah Vecchio, Andrea Giampreti,
   Francesca Chiara, Emanuela Cortini, Marta Mazzoleni, Monia Aloise, Marta Crevani,
   Carlo A Locatelli

70. Non-ST-segment-elevation myocardial infarction after phenylephrine misdosing
   Jason L Dorais, John Dayton

71. Topiramate-associated heat stroke resulting in disseminated intravascular coagulation
   Neal B Madhani, Andrew M King, Nathan B Menke, Andaleeb H Raja, Michael Abesamis,
   Anthony F Pizon

72. Reversible cardiomyopathy secondary to citalopram and methadone toxicity
   Anthony Pfeiffer, Andrew M King, Nathan B Menke, Andaleeb H Raja, Jawaid Akhtar, Kenneth D Katz

73. Medication incidents in primary care medicine: prospective observational pilot study with case-
control analysis
   Alessandro Ceschi, Dieter Conen, Lilli Herzig, Alfred Staehelin, Marco Zoller, Markus Gnädinger

74. Benzyl benzoate burns bad: 339 poison centre adverse reaction reports and counting
   Jared A Brown, Christopher I Johnston

75. Toxicokinetics of intravenous paracetamol overdose in a 13 kg girl
   Nicholas J Connors, Richard Marn, Mary Ann Howland, Lewis S Nelson, Robert S Hoffman
76. Neonatal medication errors reported to a Poison Control Center  
*Nicholas J Connors, Lewis S Nelson, Robert S Hoffman, Mark K Su*

77. Enquiries from nursing homes - increasing problems?  
*Jutta Trompelt, Oliver Sauer, Andreas Stürer*

78. Plan C: Intra-muscular overdose of methotrexate. A rarely reported entity  
*Mai Takematsu, Robert S Hoffman, Lewis S Nelson, Mary Ann Howland, Silas W Smith*

79. Iatrogenic recombinant factor VIII overdose in a patient with hemophilia A  
*Scott N Lucyk, Lewis S Nelson, Robert S Hoffman*

80. Pharmacogenomic testing to mitigate azathioprine adverse drug effects  
*Shannon Manzi, Michael Toce, Michele Burns*

**Psychotropic drugs**

81. Clinical outcomes of methylphenidate intoxications in children and adults: A prospective follow-up study  
*Saskia J Rietjens, Laura Hondebrink, Claudine C Hunault, Rob Pereira, Nuriye Kelleci, Gulhan Yasar, Ariam Ghebreslasie, Cindy Lo-A-Foe, Irina de Vries, Jan Meulenbelt*

83. Pregabalin and gabapentin abuse and toxicity as disclosed from postmortem cases  
*Margareeta Håkkinen, Erkki Vuori, Eija Kalso, Merja Gergov, Ilkka Ojanperä*

84. Specific aspects of acute poisoning with new psychoactive substances in adolescents in a pediatric poisoning centre  
*G Viorela Nitu, Dora Boghitoiu, Ramona Gheorghe, Alina Condoiu, Alexandru I Ulmeanu, Catalin Stimate, Coriolan E Ulmeanu*

85. Mild valproic acid poisoning and development of near fatal cerebral edema  
*William E Novotny, William J Meggs, Leonard Hymes, Marsha Ford*

86. Therapeutic drug monitoring of clozapine and norclozapine using a multidrug ultra-high performance liquid chromatography-tandem mass spectrometric method  
*Lisbeth Patteet, Zarha Vermeulen, Kristof E Maudens, Bernard Sabbe, Manuel Morrens, Hugo Neels*

87. Psychomotor agitation in acute poisoning: Could we call it a toxidrome?  
*Ana Ferrer-Dufol, Ana Serrano-Ferrer, Sebastian Menao-Guillen, Francisco Ruiz-Ruiz*

88. Gabapentin overdose: A case series  
*Dagmar Prasa, Uwe Stediler, Petra Hoffmann-Walbeck, Elja Heistermann, Cornelia Reichert, Carola Seidel, Elke Färber, Sabine Stoletzki, Dieter Genser, Sonja Gros*

89. Diabetes insipidus associated with valproic acid overdose: A rare case of valproic acid toxicity  
*Mai Takematsu, Lewis S Nelson, Robert S Hoffman, Jason Chu*

90. Bupropion and ethanol co-ingestion presenting with hypotension and focal seizure activity  
*Anthony Pfeiffer, Andrew M King, Nathan B Menke, Andaleeb H Raja, Anthony F Pizon*

90. Methylphenidate poisoning: A devil in disguise?  
*Sonja Gros, Ingo Sagoschen, Dagmar Eckart, Oliver Sauer, Andreas Stürer*
91. A case of unintentional naltrexone-induced opioid withdrawal successfully treated with buprenorphine in an emergency department setting  
   Cynthia Santos, Stephanie H Hernandez

92. Non-medical use of attention deficit hyperactivity disorder drugs by adults: A comparative study of atomoxetine versus methylphenidate  
   Louise S Jensen, Anne Katrine Pagsberg, Kim P Dalhoff

History

*93. 50 years of the German National Committee for the Assessment of Poisonings  
   Axel Hahn, Kathrin Begemann, Matthias Greiner

*94. The Ljubljana Poison Control Center 40 years on  
   Miran Brvar, Marija Jamsek

*95. Setting up and stages of toxicological service work in the Sverdlovsk region: 40 years of toxicological service work in the Russian Federation  
   Valentin G Sentcov, Konstantin M Brusin, Olga V Novikova, Sergey I Bogdanov, Andrey A Reutov, Dmitry E Zhovtyak, Viacheslav U Misharin, Aleksey V Martinov, Andrey A Masterkov

Poisons centres activity

96. Comparison of 15,329 unit dose and 12,599 non-unit dose pediatric laundry detergent exposures using US National Poison Data System data: 2012-2013  
   James B Mowry, Daniel A Spyker

97. Surveillance of biocide-related toxic exposures in Italy  
   Laura Settimi, Franca Davanzo, Luciana Cossa, Elisabetta Urbani, Felice Giordano, Giovanni Milanesi

98. A preliminary comparison between human exposure cases identified in the US by the National Poison Data System and in Italy by the National System for Surveillance of Toxic Exposures and Poisonings  
   Laura Settimi, Alvin C Bronstein, Franca Davanzo, Anna Celentano, Fabrizio Sesana

99. Surveillance of hazardous exposures to electronic cigarettes in Italy  
   Franca Davanzo, Laura Settimi, Giovanni Milanesi, Felice Giordano, Fabrizio M Sesana, Anna Celentano, Elisabetta Urbani, Giscardo Panzavolta, Luciana Cossa, Adriana Tomoiaiga, Angelo Travaglia, Valeria Dimasi

100. Snus vs. cigarettes: A change in pattern of calls to the Norwegian poisons information centre  
     Lise G Ringstad, Helga R Lorentzen

101. Calls concerning electronic cigarettes to the Finnish Poison Information Centre  
     Suvi Pajarre-Sorsa, Mervi Saukkonen, Kalle Hoppu

102. E-cigarettes: A need for better quality regulation?  
     Elisabeth J Scholiens, Antoinette JHP van Riel, Jan Meulenbelt, Irma de Vries

*Poster oral see page 11

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103. Trends in electronic cigarette exposures reported to the National Poison Center database
   J Priyanka Vakkalanka, Lewis S Hardison, William F Rushton, Christopher P Holstege

   Eleri Thomas, Rosie A Spears, Gloria Alldridge, Channa V Krishna, John P Thompson, Michael Eddleston, J Allister Vale, Simon HL Thomas

105. School-based health promotion for poisoning prevention education in children: A National Poisons Information Service proposal to reduce poisonings in the UK
   Eleri Thomas, Rosie A Spears, Gillian Cooper, Gloria Alldridge, Channa V Krishna, John P Thompson, Michael Eddleston, J Allister Vale, Simon HL Thomas

106. Serious adverse events associated with liquid laundry pods exposure: A retrospective study by the French poison control and toxicovigilance centres from 2005 to 2012
   Fatoumata Rigaux-Barry, Anne-Mare Patat, Laurie Cordier, Jacques Manel, Sandra Sinno-Tellier

107. An analysis of the UK National Poisons Information Service consultant referral process
   David A James, Simon HL Thomas, Rebecca ML Waugh, J Allister Vale, John Thompson, Michael Eddleston

   Bhupesh Panchal, Michael Eddleston, Simon HL Thomas, John P Thompson, J Allister Vale

109. Consequences of the inappropriate use of professional grade pesticides, an analysis using National Poisons Information Service Pesticide Surveillance Survey data
   Liam Perry, Andrew Bennett, Richard D Adams, Gill Jackson, Simon HL Thomas, John P Thompson, J Allister Vale, Michael Eddleston

110. National Poisons Information Service urgent alerting system for chemicals: Data from the first year
    Catherine L Crawford, Gill Jackson, Simon HL Thomas, John P Thompson, J Allister Vale, Michael Eddleston

111. Added value of poisons centers in the response to radiological incidents
    Marianne EC Leenders, Ronald De Groot, Gerard A Van Zoelen, Antoinette JHP van Riel, Jan Meulenbelt

112. National register of acute poisonings - role of the poison information center
    Zanina Pereska, Andon Chibishev, Cvetanka Bozhinovska, Lidija Petkovska, Natasha Simonovska, Aleksandra Babulovska, Irena Jurukov, Aleksandra Stevchevska, Marija Glasnovik

113. Sympathomimetic toxicity caused by adulterated food supplements for weight loss
    Chantal CJ Roelen, Antoinette JHP van Riel, Irma de Vries, Jan Meulenbelt

114. Use of Cloud technology reporting systems to motivate and improve staff performance in a poisons information service setting
    Alexander Campbell, Damian S Ballam, J Allister Vale

115. Agreement on product information requirements for Poisons Centres in European Union Member States
    Ronald de Groot, Pieter JAM Brekelmans, Herbert Desel, Martine Mostin, Karin Feychtin, Jan Meulenbelt
116. The impact of changes to packaging and labelling on exposures to liquid laundry detergent gel capsules

Patricia B Casey, Feargal O’Connor, Edel Duggan

117. Supporting the Union level co-ordinated assessment and management of cross border chemical health threats

Rob Orford, Charlotte Hague, Monique Mathieu-Nolf, Herbert Desel, Daniela Pelcova, Gabija Dragelyte, Laura Settimi, Lisbeth Hall, Ann Goransson Nyberg, Jose Javier Garcia del Aguila, Raquel Duarte-Davidson

118. Survey of toxicological analyses availability in the Italian national health system: Preliminary results and a national pilot database

Carlo A Locatelli, Eleonora Buscaglia, Pietro Papa, Teresa Coccini, Sarah Vecchio, Valeria M Petrolini, Davide Lonati, Andrea Giampreti, Olha Maystrova, Marta Mazzoleni, Giovanni Serpelloni, Marco Leonardi, Virgilio Costanzo

119. Development of syndromic surveillance system in toxicovigilance: Lessons learned from mushroom poisonings and Hymenoptera envenomations in France

Delphine Viriot, Sandra Sinno-Tellier, Vanina Bousquet, Abdessattar Saoudi, Jacques Manel, Robert Garnier

120. The Global Educational Toxicology Uniting Project

Anselm Wong, Rais Vohra, Anne Michelle Ruha, Zeff Koutsogiannis, Kimberlie A Graeme, Paul I Dargan, Anne Creaton, Shaun L Greene
Animal poisonings

132. How often do North American crotalid bites need surgical management?  
Andrew B Theilen

133. Weever fish envenomation - analysis of enquiries to the Poisons Information Centre Erfurt from 1994-2013  
Simone Just, Dagmar Prasa, Iris Bergmann, Gisela Enden, Germaine Frimlova, Helmut Hentschel, Gisela Liebetrau, Bettina Plenert, Anne Stürzebecher, Detlef Thiede, Michael Deters

134. Magnetic resonance appearance of the brain in snake bite patients: Resonating the venomous findings  
Ashish Bhalla, Chirag Ahuja, Surjit Singh, Niranjan Khandelval

135. Incidence and severity of hypotension and bradycardia in ciguatera  
Thomas YK Chan, Jones CM Chan, Raymond SM Wong

136. Complement cascade activation by Bothrops lanceolatus venom: A pathway to improving patient management in case of envenomation?  
Marie Delafontaine, Danielle Paixão-Cavalcante, Fernanda CV Portaro, Laurence Mathieu, Joël Blomet, Denise V Tambourgi

137. Vipera berus bite causing compartment syndrome in a 14 year old boy  
Tara Arif, Kinga Bartecka-Mino, Karl Hruby

138. Scorpion stings in Mali: Epidemiological aspects  
Sanou K Coulibaly, Hinde Hami, Ababacar Maiga, Rachida Soulaymani-Bencheikh, Max Goyffon, Abdelrhani Mokhtari, Abdelmajid Soulaymani

139. Envenomation by a sea anemone on the French Atlantic Coast  
Magali Labadie, Denis Dondia, Patricia Bernadet, Coralie Braganca, Françoise Penouil

140. Bitis arietans envenomation in snake charmers in the Province of Tiznit, Morocco: First two case reports  
Fouad Chafiq, Nadia Chrouqui, Emmanuelle Mangin, Abderrahmane Mataame, Naima Rhalem, Abdelmajid Soulaymani, Abdelghani Mokhtari, Ndjiss Badrane, Mohammed Fekhaoui, Rachida Soulaymani-Bencheikh

141. Risk profile Vipera berus bites  
Julia Eidt, Michael Deters, Adrienne Kilian, Cornelius Radamm, Anne Stürzebecher, Rafael Wagner, Andreas Schaper

142. Compartment syndrome after a bite by the South American rattlesnake (Crotalus durissus terrificus): Case report  
Fabio Bucaretchi, Eduardo M De Capitani, Stephen Hyslop, Sueli M Mello, Luciane CR Fernandes, Carla B Fernandes, Maira M Branco, Fernando H Bergo, Felipe BP Nascimento

143. Serum sickness after the administration of Australian snake antivenoms  
Nicole M Ryan, Simon SGA Brown, Geoffrey K Isbister
144. Cats experiencing toxicity after use of a new ŕSpot-onď pesticide product containing indoxacarb  
Chantal CJ Roelen, Antoinette JHP van Riel, Irma de Vries, Jan Meulenbelt

**Experimental investigations and mechanisms of toxicity**

145. Investigation of respiratory effects of norbuprenorphine and their modulation in the rat to define its contribution to buprenorphine toxicity  
Emilie Souton, Camille Cohier, Lucie Chevillard, Patricia Risède, Bruno Mégarbane

146. High mobility group box 1 protein changes in serum of subjects exposed to irritant factors released during uncontrolled fire  
Anna Krakowiak, Renata Winnicka, Maciej Czerniak, Ewa Nowakowska-Swirta

147. The antioxidant effect of *Glehnia littoralis* on Óamanitin induced hepatotoxicity  
Soohyung Cho, Yongjin Park, Kyunghoon Sun

148. Acid burns, comprehension of the lesions mechanism: The sulfuric acid example  
Céline Fosse, Colombe Gronnier, François Lutz, François Burgher, Laurence Mathieu

149. Pilot study comparing hemodynamic measures and survival in swine anesthetized with alpha-chloralose and isoflurane  
Christine M Murphy, Cliff Williams, Michael Quinn, Brian Nicholson, Thomas Shoe, Anna R Dulaney, Michael C Beuhler, Russ Kerns

**New recreational drugs**

150. Phenethylamine poisonings reported in a French Poison Control Center  
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151. Acute intoxications by new psychoactive substances: Patterns of use and circumstances of exposure EU Project SPICE II Plus  
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312. Plain abdominal radiography: A powerful tool to prognosticate zinc phosphide-poisoned patients’ outcome
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