



## **20th World Congress of the International Society on Toxinology**

**"Toxinology in the 21st century: Public health impact from basic,  
translational and clinical sciences"**

<b>Sunday September 8</b>	
<b>14:00 – 17:00</b>	Registration (Foyer)
<b>17:00 – 17:30</b>	Welcome and Opening Remarks (Salon Río Parana)
<b>17:30 – 18:30</b>	Redi Award Lecture (Salon Río Parana)
<b>18:30 – 20:30</b>	Reception and Inter Sectional Event (Salon Patagonia)

<b>Monday September 9</b>	
<b>9:00 – 10:00</b>	<b>Plenary: “Public Health and Toxinology”</b> David J. Williams, World Health Organization “The WHO roadmap for confronting snakebite envenoming” ( <b>SALON RIO PARANA</b> )
<b>10:00 – 10:30</b>	Coffee
<b>Concurrent Session I</b>	
	<b>SALON RIO PARANA</b>
<b>10:30 – 12:30</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>1A. Public Health and Toxinology. Chairs: J.M. Gutiérrez/Fan Hui Wen</b></p> <p>Abdulrazaq Habib (Bayero University, Nigeria): Burden of Snakebite and Antivenom Supply Challenges in Africa (25 min)</p> <p>Mohammad Afzal Mahmood: A framework for shifting the paradigm and developing coalitions to address neglected public health problems: Lessons from the Myanmar Snakebite Project (25 min)</p> <p>Fan Hui Wen: (Instituto Butantan, Brazil): Public health policies to better manage the burden of scorpion sting envenoming (25 min)</p> <p>Ymkje Stienstra (University of Groningen, the Netherlands): The neglected tropical disease Buruli ulcer; time to team up. (25 min)</p> </div> <div style="width: 48%;"> <p><b>1B. New Developments in Basic Toxinology I. Chairs: J.J. Calvete/ S. Luo</b></p> <p>Vincent Viala: Long reads DNA sequencing in genomics and venom gland transcriptomics (21 min)</p> <p>Aida Verdes: Venom without glands: Novel methods to investigate toxin diversity, function and evolution in ribbon worms (Nemertea) (21 min)</p> <p>María Ikonomopoulou: The antiproliferative profile of a linear octopus-derived peptide in melanoma of BRAF-mutation (21 min)</p> <p>Denis Servent: Pinnatoxins, an emergent class of marine toxins interacting with nAChRs. Pharmacological characterization, biodistribution and musculo-skeletal effect of these neurotoxic agents (21 min)</p> <p>Sulan Luo: Preclinical Research of Analgesic <math>\alpha</math>O-Conotoxin GeXIVA Without Addiction Side Effect (21 min)</p> <p>Alexander A. Vassilevski: P2X3 receptor antagonists from spider venom (15 min)</p> </div> </div>
<b>12:30 – 14:00</b>	Lunch on your own
<b>Concurrent Session II</b>	
	<b>SALON RIO PARANA</b>
<b>14:30 – 16:45</b>	<div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> <p><b>2A. New Developments in Antivenoms. Chairs: A. Alagón/A. de Roodt</b></p> <p>Phillippe Billiald: Loxoscelism: Advances and challenges in the design of antibody fragments with therapeutic potential (25 min)</p> <p>Clara Guerra Duarte: Multi-epitope based immunogens applied to antivenom production (25 min)</p> <p>Fernando Goldbaum: Development by protein engineering of NEAST (neutralizing Equine Anti-Shiga Toxin): A new product to prevent the onset of Hemolytic Uremic Syndrome in STEC infected patients (25 min)</p> <p>Baltazar Becerril : Generation of a recombinant antivenom against scorpion stings in Mexico (25 min)</p> <p>Jordan Benjamin: Bedside Perspective to Antivenom Policy: Practical Considerations for Selecting Antivenoms based on Regional Challenges (25min)</p> </div> <div style="width: 48%;"> <p><b>2B. New Developments in Basic Toxinology II. Chairs: J.J. Calvete/S. Luo</b></p> <p>Eivind A. B. Undheim: New mass spectrometry-based tools for unravelling toxin function and evolution (21 min)</p> <p>Jeroen Kool: Picofractionation &amp; MS imaging: Analytics for pathology profiling of venoms (21 min)</p> <p>Daniel Petras: Large scale top-down venomomics – A bird’s-eye view of genus wide venom composition (21 min)</p> <p>Bruno Lomonte: Lys49 myotoxins: emerging insights into their modes of action (21 min)</p> <p>Elda Sanchez: A Myotoxin From The Venom Of <i>Crotalus oreganus helleri</i>: Its Role In Snake Envenoming (21 min)</p> <p>Tim Luddecke: Recent advances in Salamandra skin poison research (15 min)</p> <p>David Salazar-Valenzuela, An evolutionary framework for venom variation patterns in terciopelo pitvipers (<i>Bothrops asper</i>), a model organism in toxinology (15 min)</p> </div> </div>
<b>16:45 – 17:00</b>	Coffee
<b>17:00 – 19:00</b>	<b>Posters I</b>



<b>Wednesday September 11</b>		
<b>Concurrent Session V</b>		
	<b>SALON RIO PARANA</b>	<b>SALON AMAZONAS</b>
<b>9:00 – 10:00</b>	<p><b>5A. North American Society on Toxinology. Chairs: C. Vogel/J. Fox</b></p> <p>Micaiah Ward (Florida State University, Tallahassee, Florida, USA): Experimental evolution of venom resistance (15 min)</p> <p>Marcelo Strauch (Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil): Apilic antivenom, a new treatment for bee attacks, is effective in preclinical studies (15 min)</p> <p>Marcos Monteiro-Machado (Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil): Effects of fucosylated chondroitin sulfate (fucCS) and N-acylhydrazone derivative LASSBio-785 on Apis mellifera venom activities (15 min)</p> <p>Pamella Nogueira-Souza (Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil): Neutralization of bee venom activities by wedelolactone (15 min)</p>	<p><b>5B.</b></p> <p><b>Gold Sponsor Talk (10 min)</b> <b>Instituto Biológico Argentino - Laboratorio BIOL</b></p> <p><b>5B. Student Invited Presentations I</b> <b>(15 min each)</b></p>
<b>10:00 – 10:30</b>	Coffee	
<b>Concurrent Session VI</b>		
	<b>SALON RIO PARANA</b>	<b>SALON AMAZONAS</b>
<b>10:30 – 12:30</b>	<p><b>6A. North American Society on Toxinology. Chairs: C. Vogel/J. Fox</b></p> <p>Elda Sanchez (Texas A&amp;M University, Kingsville, Texas, USA): The role of snake venom CRiSP toxins on blood and lymphatic endothelial cell permeability and pro-inflammatory responses: New insights into the pathophysiology of snake bites (20 min)</p> <p>Jacob Galan (Texas A&amp;M University, Kingsville, Texas, USA): Proteomic identification and quantification of snake venom biomarkers in plasma extracellular vesicle (20 min)</p> <p>Paulo A. Melo (Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil): A synthetic metalloproteinase inhibitor derivatives from lapachol (20 min)</p> <p>Emelyn Salazar: (Texas A&amp;M University, Kingsville, Texas, USA): Biochemical characterization and comparative analysis of two phospholipases A2 from venoms of North American snakes (20 min)</p> <p>Carl-Wilhelm Vogel (University of Hawaii, Honolulu, Hawaii, USA): Identification of Functionally Important Amino Acid Residues for C3 Convertase Activity Using Chimeric Proteins of Human C3 and Cobra Venom Factor (15 min)</p>	<p><b>6B. Student Invited Presentations II</b> <b>(15 min each)</b></p>
<b>12:30 – 14:00</b>	Lunch on your own	

<b>Wednesday September 11</b>		
<b>Concurrent Session VII</b>		
	<b>SALON RIO PARANA</b>	<b>SALON AMAZONAS</b>
<b>14:30 – 16:45</b>	<p><b>7A. Clinical I. Chair: J. White/A. de Roodt</b></p> <p>Julian White: Latrodectism; evidence of “failure” or a failure of evidence? (15 min)</p> <p>Abdulrazaq G Habib: Clinico-Epidemiologic Determinants of Limb-Loss following Snakebite in Nigeria (15 min)</p> <p>Jordan Benjamin: Bringing Snakebite Treatment to the Point of Injury: The Asclepius Snakebite Foundation Model for Field Treatment (15 min)</p> <p>Fouad Chafiq: Assessment of Use of Inoserp®MENA in the management of snake envenomation in Morocco (15 min)</p> <p>Adolfo de Roodt: Relationship between separation between fangs and fang mark at the bite site and size of coral snakes in Argentina and their usefulness for early diagnose of snakebites (15 min)</p> <p>Caitlyn Rogers: Green snake” bites; characteristics and significance of this subset of snakebites in the Mandalay region of Myanmar (15 min)</p> <p>Caitlyn Rogers: The effect of snake length on the extent of envenoming in Russell’s Viper (<i>Daboia siamensis</i>) snake bite cases in Myanmar (15 min)</p> <p>José María Gutiérrez: Ability of the phospholipase A2 inhibitor Varespladib to abrogate or delay lethality induced by neurotoxic snake venoms (15 min)</p> <p>Julian White: Envenoming by monitor lizards; a modern mythology? (15 min)</p> <p>Adolfo de Roodt: Change in the distribution of <i>Tityus</i> species of sanitary importance in Argentina (15 min)</p>	<p><b>7B. Student Invited Presentations II</b> <b>(15 min each)</b></p>
<b>17:00 – 19:00</b>	<b>IST General Business Meeting</b>	

<b>Thursday September 12</b>	
<b>9:00 – 10:00</b>	<p style="text-align: center;">Platinum Sponsor Presentations (10 min each)</p> <p style="text-align: center;">Juan Silanes: The Challenge for Industry in the use of Antivenoms in the Developing World (Inosan Biopharma)</p> <p style="text-align: center;">Thermo fisher</p> <p style="text-align: center;">Instituto Nacional De Producción De Biológicos ANLIS "Dr. Carlos G. Malbrán"</p> <p style="text-align: center;">MDPI/Toxins - (SALON RIO PARANA)</p>
<b>10:00 – 10:30</b>	Coffee
<b>Concurrent Session VIII</b>	
	<b>SALON RIO PARANA</b>
<b>10:30 – 12:30</b>	<p><b>8A. New Biology and Evolution of Venomous Organisms I. Chairs: N. Casewell/M. Richardson</b></p> <p>Ronald Jenner (NHM, London): Parallel evolution of complex centipede venoms (20+5 min)</p> <p>Ashlee Rowe (University of Oklahoma): Molecular mechanisms of resistance to lethal scorpion neurotoxins in a scorpion predator (20+5min)</p> <p>Ray Norton (Monash University): Correlations among sequence, physicochemical properties and function in peptide toxins (20+5 min)</p> <p>Luciana Freitas-de-Sousa (Instituto Butantan) Individual variability and ontogenetic variation in <i>Bothrops jararacussu</i> snake venom (15+5min)</p> <p>Nick Casewell (Liverpool School of Tropical Medicine): Solenodon genome reveals convergent evolution of venom in eulipotyphlan mammals (15+5min)</p>
	<b>SALON AMAZONAS</b>
<b>10:30 – 12:30</b>	<p><b>8B. Clinical II. Emerging Clinical Topics. Chairs: W. Monteiro / Fan Hui Wen</b></p> <p>Charles Gerardo (Duke University): Need for better evidences and methodological aspects of clinical trials in snakebites (20 min)</p> <p>Ceila Málaque (Butantan Institute): Severe snakebite envenomations and management (20 min)</p> <p>Joao Ricardo Vissoci (Duke University): Bottlenecks for access to treatment of snakebites and scorpion stings, with special attention to clinical consequences (20 min)</p> <p>Jacqueline Sachett (Universidade do Estado do Amazonas): Barriers to access to antivenom serum in the Amazon (20 min)</p> <p>Fernando Val (Fundação de Medicina Tropical Dr. Heitor Vieira Dourado): Disabilities from snakebites in the Amazonia region (20 min)</p>
<b>12:30 – 14:00</b>	Lunch on your own
<b>Concurrent Session IX</b>	
	<b>SALON RIO PARANA</b>
<b>14:30 – 16:45</b>	<p><b>9A. New Biology and Evolution of Venomous Organisms II. Chairs: N. Casewell/M. Richardson</b></p> <p>Fernanda Cardoso (University of Queensland): Harnessing multifunctional spider-venom peptides to modulate pain pathways (20+5 min)</p> <p>Jens Puschhof (Hubrecht Institute): Slithering stem cells – understanding snake venom production in vitro using organoids (20+5 min)</p> <p>José Antonio Portes-Junior (Instituto Butantan): The venom variability of the <i>Bothrops jararaca</i> complex and its correlation with the speciation processes in continental islands (15+5 min)</p> <p>Tim Lüddecke (Fraunhofer IME) Translational tarantula phylogenomics: Evolution of theraphosid spiders and their defensive arsenal with implications for venom bioprospecting(15+5 min)</p> <p>Juan Calvete (CSIC, Valencia): Comparative venomomics of Brazilian coral snakes: <i>Micrurus frontalis</i>, <i>Micrurus spixii spixii</i>, and <i>Micrurus surinamensis</i> (15+5 min)</p> <p>Mike Richardson (Leiden University) Evo-devo and genomics of snakes (15+5min)</p>
	<b>SALON AMAZONAS</b>
<b>14:30 – 16:45</b>	<p><b>9B.SBTX: Innovation in Clinical and Basic Research in Toxinology.Chairs: G. Picolo /M. de Lima</b></p> <p>Gisele Picolo, Special Laboratory of Pain and Signaling, (Butantan Institute, São Paulo, Brazil) Crotoxin induces analgesic and immunomodulatory effects on chronic pain models that is potentiated by nanostructured silica SBA-15 (15 min)</p> <p>Jose M. Gutiérrez, (Universidad de Costa Rica, San Jose, Costa Rica): Novel alternatives for improving the therapy of snakebite envenomings (15 min)</p> <p>Maria Elena de Lima, (IEP/SCBH, Belo Horizonte, MG, Brazil): In vitro and in vivo antimicrobial activity of peptides derived from the venom of the spider <i>Lycosa erythrognatha</i> (15 min)</p> <p>Kenneth Shea: Synthetic antibodies. Polymer nanoparticles that sequester the medically relevant protein toxins in snake venom (15 min)</p> <p>Laura-Oana Albulescu: Repurposing DMPS, a metal chelator, as a rapid field intervention for treating hemotoxic snakebite.(10 min)</p> <p>Yaroslav Andreev: Sea anemone peptide modulates TRPA1 activity, produces analgesia andenhances process of regeneration .(10 min)</p> <p>Eliécer Jiménez Charris: Antitumor potential of Pllans-II, an acidic Asp49–PLA2 from <i>Porthidium lansbergii lansbergii</i> snake venom on human cervical carcinoma HeLa cells. (10 min)</p>
<b>16:45 – 17:00</b>	Coffee
<b>17:00 – 18:30</b>	<b>Closing Remarks (30 min)</b>
<b>20:30 – 23:00</b>	<b>Meeting Banquet</b>