

THUNDER 2023

The Inaugural THOR 'Down Under' #THUNDER Conference
 proudly hosted by WAAG
31 October – 3 November 2023



Conference Program

Tuesday 31 October 2023		
1800-2100	WELCOME RECEPTION	Scarboro Surf Live Saving Club
2100-0000h	Drinks back at the Rendezvous	Rendezvous Lobby Bar
Wednesday 1 November 2023		
0730 - 0900	Registration	
0850 - 0900	Welcome	Tania Rogerson
0900-1030	SESSION 1 – The Problem	
0900 - 0920	What is blood failure?	Pat Thompson
0920 – 9040	Epidemiology of traumatic hemorrhagic shock	Tania Rogerson

0940 – 1000	Overview of current resuscitation strategies in Australia	Michael Reade
1000 – 1020	Overview of current THOR based resuscitation strategies	Geir Strandenes
1020 – 1030	Discussion Session	Phil Spinella
1030 – 1100	Morning Tea	
1100 – 1235	SESSION 2 – The products. The Rationale. What's in the bag?	Speaker/Presenter
1100 – 1120	Blood Components, Whole blood, Leucocyte reduction	Denese Marks
1120 – 1140	Fresh Frozen Plasma vs Freeze Dried Plasma	Andrew Beckett
1140 – 1205	Cold, Frozen and Room temperature platelets	Lacey Johnson
1205 – 1225	Fibrinogen concentrates and Cryoprecipitate	James Preuss
1225 – 1230	Questions	Russell Gruen
1235 - 1330	Lunch	
1330 – 1500	SESSION 3 – The Clinical Outcomes	Speaker/Presenter
1330 – 1350	High ratios of plasma/platelets to RBC	Tom Woolley
1350 – 1410	Early plasma	Jason Sperry
1410 - 1445	Low Titre O Whole Blood	Phil Spinella

1445 - 1500	Discussion	Michael Reade
1500 – 1530	Afternoon Tea	
1530 – 1700	SESSION 4 – Adjuncts to Transfusion	Speaker/Presenter
1530 – 1550	TXA - biologic rationale & outcomes	Russell Gruen
1550 – 1610	Early empiric Fibrinogen – rationale & clinical data	Andrew Beckett
1610 – 1630	Why I use Point-of-Care testing to guide transfusion	Warren Pavey
1630 – 1650	Why I don't bother with Point-of-Care testing	Pat Thompson
1650 – 1700	Discussion	Andre Cap
1800 – 2200	Conference Dinner	
2200 – 0000	After party drinks	Lobby Bar at Rendezvous
Thursday 2 November 2023		
0730	Registrations Open	Rendezvous Mentelle Room
0900-1030	SESSION 5 – Pre-Hospital Challenges	Speaker/Presenter
0900 - 0920	Logistical constraints - military pre-hospital	Tania Rogerson
0920 – 9040	Logistical constraints - remote civilian pre-hospital	TBC

0940 – 1000	What I need as a remote care clinician - rural	TBC
1000 – 1020	What is the evidence in pre-hospital blood products?	Tania Rogerson
1020 – 1030	Discussion	Elon Glassberg
1030 – 1100	Morning Tea	
1100 – 1230	SESSION 6 – Practical Issues With Blood Supply	Speaker/Presenter
1100 – 1115	Regulatory & legal constraints for blood products	Therapeutic Drugs Administration
1115 – 1125	Challenges with supplying whole blood in Australia	Denese Marks
1125 – 1140	LTOWB logistic/testing issues (RBC inventory, low titre, Rh)	Mark Yazer
1140 – 1150	Stability of FDP in austere environments	Meital Zur
1150 – 1205	Regional LTOWB programs to minimize wastage	Andre Cap
1205 – 1220	How we made prehospital blood work in Norway	Geir Strandenes
1220 -1230	Questions	Phil Spinella
1235 - 1330	Lunch	
1330 – 1500	SESSION 7 – International Experience – Change Management	Speaker/Presenter
1330 – 1345	Low Titre O Whole Blood - USA	Mark Yazer

1345 – 1400	Emergency Donor Panel - Norway	Geir Strandenes
1400 – 1415	Empiric Fibrinogen in Trauma – Canadian Experience	Andrew Beckett
1415 – 1430	Hypotensive Resuscitation - UK Experience	Tom Woolley
1430 – 1445	Systems Change in Israel – FDP, TXA, LTOWB	Elon Glassberg
1445 – 1500	Discussion	Jennifer Gurney
1500 – 1530	Afternoon Tea	
1530 – 1700	SESSION 8 – Special Situations	Speaker/Presenter
1530 – 1550	Military Trauma – walking blood banks, cold stored platelets	Jennifer Gurney
1550 – 1610	How I treat haemorrhagic shock in Obstetrics	Matt Rucklidge
1610 – 1630	How do I treat haemorrhagic shock in Children	Phil Spinella
1630 – 1650	How is Cardiac surgery transfusion different?	Neville Gibbs
1650 – 1700	Discussion	Michael Reade
1800 – 2200	Free Evening - Scarborough Beach Night Markets 1800 - 2000 - Drinks – Lobby Bar	

Friday 3 November 2023		
0730	Registrations Open	Rendezvous Mentelle Room
0900-1030	SESSION 9 – Case Presentations	Speaker/Presenter
0900 – 0945	Pre-hospital - 2 cases with discussion. CASE 1: Military Case CASE 2: Civilian Case	Elon Glassberg – Moderator Michael Reade
0945 – 1030	In-hospital - 2 cases with discussion. CASE 1: Mass transfusion CASE 2: Emergency thoracotomy – stabbing	Jennifer Gurney - Moderator Warren Pavey Tim Cook
1030 – 1100	Morning Tea	
1100 – 1230	SESSION 10 – Optimal approach with current evidence	Speaker/Presenter
1100 – 1120	Benefits & limitations of CER versus RCT	TBC
1120 - 1140	Review of platform trials & their clinical application	Phil Spinella
1140- 1200	The right outcomes for trials in severely bleeding patients?	Andre Cap
1200- 1220	Pharmacoeconomics, health economic analysis	Rachel Morton
1220-1230	Discussion	Denese Marks

1230 – 1330	Lunch	
1330 - 1530	SESSION 11 – Panel Discussion and conclusions	Speaker/Presenter
1330 – 1400	Conference summary	Australian National Blood Authority
1400 - 1450	Controversies - Panel Discussion	Phil Spinella, Denese Marks, Michael Reade, Jennifer Gurney, National Blood Authority, Therapeutic Drug Administration
1450 - 1500	Conference Close	



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Confirmed Speakers



Dr. Philip C. Spinella is a professor in the Departments of Surgery and Critical Care Medicine, Co-Director of the Trauma and Transfusion Medicine Research Center and Associate Medical Director of the Center for Military Medicine Research at the University of Pittsburgh. He is internationally recognized as an expert in transfusion medicine and the resuscitation of hemorrhagic shock. Dr. Spinella served 15 years in the US Army and separated as a Lieutenant Colonel in 2007. He is a veteran of the Iraq War, where he received a Bronze Star and the Combat Medic Badge for providing care under fire. In collaboration with investigators at the US Army Institute of Surgical Research, his groundbreaking work in the area of the treatment of hemorrhagic shock received the US Army's Best Invention Award in 2008 for his role in the development of the concept of “damage control resuscitation”.

Dr. Spinella is a well-established clinical trialist, who has been funded by the US Department of Defense and the National Institutes of Health for trials examining RBC storage age, tranexamic acid, and cold-stored platelets. He has published over 250 manuscripts and 21 chapters and is the editor for a textbook on the topic of trauma resuscitation. Dr. Spinella has also participated in, organized research symposia for, or provided external review of research programs for the FDA, NIH, DoD, Homeland Security, and the Department of Health and Human Services. He has also participated on a committee for the National Academy of Sciences to develop recommendations for a national trauma system in the US.

Dr. Spinella co-founded the THOR Network and has been its Co-Director since 2011. The THOR network has hosted training and educational programs in over 12 countries in 4 continents. The THOR Network has also performed groundbreaking research related to whole blood and platelet transfusion for traumatic bleeding.



Professor Michael Reade is Deputy Head of the Medical School at the University of Queensland, with primary responsibility for all UQ Brisbane teaching hospitals and general practices along with the preclinical teaching resources on the St Lucia campus. He is an intensivist at the Royal Brisbane and Women's Hospital, and an anesthetist at Ipswich Hospital.

He was previously Director of Clinical Services of the Regular Army's only field hospital, and until 2021 with the rank of Brigadier he was Director General of the Health Reserve. Appointed Professor Military Medicine and Surgery by Joint Health Command in 2011, he continues to lead an expanding research program focused on military trauma medicine based at UQ, covering trauma systems design, blood and fluid resuscitation in trauma, and traumatic brain injury.

His frozen platelet trial program, conducted with Australian Red Cross Lifeblood, aims to improve worldwide access to this vital component of trauma resuscitation.



Associate Professor Denese C Marks, PhD has led the Product Development research team at Australian Red Cross Lifeblood since 2008. She holds an adjunct appointment with the School of Medicine at the University of Sydney. Denese received her PhD from the University of Technology, Sydney in 1995. She has held post-doctoral fellowships at the University of Vienna, the University of Melbourne and Great Ormond Street Hospital in London.

A/Prof Marks' current research focuses on improving blood processing technologies and component storage, investigating donor attributes that may influence blood component quality, and clinical trials of new blood products. She has over 100 peer-reviewed publications, and is a section editor for the *Vox Sanguinis* journal. She is a Team Leader of the Conventional Components Team in the Biomedical Excellence for Safer Transfusion (BEST) Collaborative, the Chair of the ISBT Blood Components Working Party and as a member of the ISBT Board of Directors. She currently holds grants from NHRMC, ARC, ANZSBT and the MRFF.



Brigadier Elon Glassberg is the Surgeon General and Chief of the Israel Defence Force Medical Corps. He is a board-certified general surgeon and graduated from the Ben-Gurion University Medical School in 1996 (with honors). He was then commissioned as a Lieutenant in the Medical Corps of the Israel Defence Forces in 1997. He was appointed as a medical officer of the "Egoz" Special Forces Unit, where he went on to serve as the senior medical officer until 2001. He also went on to serve as a flight surgeon and a medical commander in the Israeli Air Force.

BG Glassberg was later appointed to be the chief medical officer of a Paratroopers Division and served as the division surgeon during the second Lebanon war in 2006. Between the years 2010-2014, BG Glassberg served as Head of the Trauma & Combat Medicine Branch, including during operations "Cast Lead" and "Protective Edge" in Gaza. BG Glassberg helped to conceptualize and lead the implementation of the IDF's 10-year Strategic Force Generation plan, focusing on the elimination of preventable death. This plan is known as "My Brother's Keeper". BG Glassberg is an ATLS instructor, who served as the Israeli Defence Forces Liaison to the Committee on Tactical Combat Casualty Care and as a member of the board of the Israeli Trauma Association.

He is also a member of the steering committee of the Trauma, Homeostasis and Oxygenation Research Network (THOR), an international collaboration aimed at promoting and improving Damage Control Resuscitation in the pre-hospital settings and the Committee of the Chiefs of Military Medical Services in NATO (COMEDS).

BG Glassberg is a Professor of Surgery at the Faculty of Medicine in the Galilee (Bar-Ilan University) and a winner of the "best teacher" award for the year 2020. He is also an Adjunct Professor of Surgery at the Uniformed Services University of the Health Sciences in Bethesda, Maryland, USA (USUHS).

BG Glassberg is an expert in pre-hospital trauma care and military medicine and an active researcher who published over 125 articles in leading journals.



Professor Russell Gruen is a trauma surgeon and Dean of the College of Health and Medicine at the Australian National University in Canberra. He has been Director of the National Trauma Research Institute, Chaired the establishment of the Australian Trauma Registry and the Australian Trauma Quality Improvement Program, and led an Australia-India Trauma System Collaboration.

He wrote a history of the Victorian State Trauma System, has led a number of trauma and injury-related programs and trials, and continues efforts to ensure access to excellent trauma care, where and when it is needed, through specific projects and the WHO Global Alliance for Care of the Injured.



Dr Tania Rogerson is an anaesthetist at Sir Charles Gairdner Hospital in Perth, where she is the Education Lead, and Director of the SCGH Simulation Centre. She is committed to medical education, especially through trauma team training, and she is the lead faculty on a number of medical simulation courses, both in Australia and overseas. One of her passions is pre-hospital care of the wounded and the provision of critical care in the austere environment.

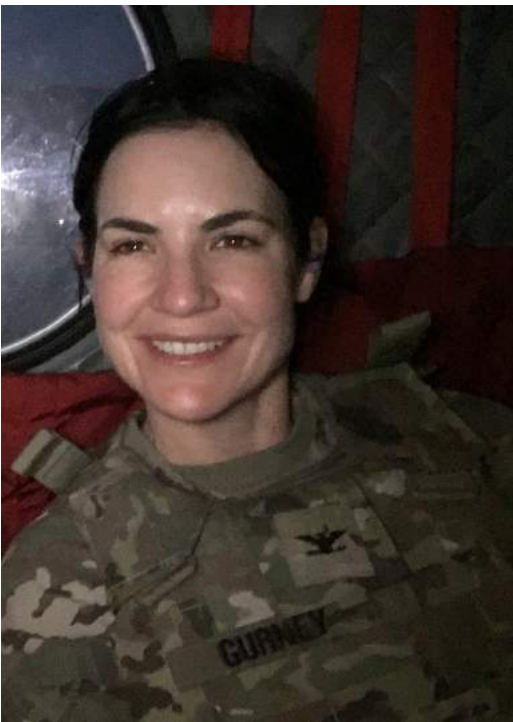
Dr Rogerson holds post graduate qualifications in Perioperative Medicine, Clinical Ultrasound, Sports Medicine, Public Health, Medical Education and Business Administration. She is also an Associate Fellow of the College of Medical Administrators.

She has been the Conference Convenor of the WA Airway Group annual conference for ten years, which is an international conference bringing together multiple critical care disciplines in the management and training of difficult airways. Dr Rogerson is a great believer of multidisciplinary collaboration in the management of complex patients, and she is on the steering committee of THUNDER as part of the WAAG THOR collaboration.



Dr Lacey Johnson is a principal research scientist at the Australian Red Cross Lifeblood. She undertakes both laboratory and clinical research to improve the quality and extend the shelf-life of platelets for transfusion. Her current work is focused on understanding the effects that alternative storage conditions, including cryopreservation and refrigeration, have on platelet quality and function.

Dr Johnson has a strong track record of achievement having authored more than 50 peer-reviewed publications, supervision of successful PhD, Honours and summer students and being the recipient of numerous national and international awards and grants.



Colonel Jennifer Gurney is the Chief of the Joint Trauma System. Prior to assuming this position, she was a surgeon at the US Army Institute of Surgical Research Burn Center. She also works at Brook Army Medical Center as a trauma surgeon. COL Gurney was the first chair of Defense Committee on Trauma, she was also the Chair of the Committee on Surgical Combat Casualty Care for three years. She joined the US Army while at Boston University Medical School on a Health Professions Service Program Scholarship and did her surgical training at Walter Reed Army Medical Center. She did a Surgical Critical Care Fellowship at Stanford Hospital and spending a year at the University of California San Francisco at San Francisco General Hospital.

She has deployed 8 times in support of military operations and has received a Legion of Merit with a 'C' (combat) device, three Bronze Star Medals, a Combat Action Badge and the Defense Meritorious Service Medal for wartime service. She has had the opportunity to work at every level of care after 'Role 1' in the deployed battlefield trauma system and has focused her surgical career to improving care of the combat casualty.



Dr. Mark Yazer is a professor of pathology at the university of Pittsburgh. He is also an adjunct professor of clinical immunology at the university of southern Denmark, and a visiting professor of pathology at Tel Aviv University. His research interests include blood use in massive bleeding, RhD alloimmunization, and whole blood. He has published over 300 peer reviewed papers and is an associate editor of the journal Hematology. He is on the editorial board of 4 other journals. He has lectured on his research and on the practice of transfusion medicine in more than 25 countries. He is on the board of directors of the THOR (Trauma, Hemostasis, and Oxygenation Research) Network and is the co-chairman of the AABB/THOR working group, and is a United Nations subject matter expert for hemotherapy and emergency medicine. He is also a co-editor of the THOR research supplement in Transfusion. He has received grant funding from the prestigious American National Institutes of Health, the American department of defense, and the American military-based DARPA group.



Andrew Beckett CD MD MSc FRCSC FACS is a Lieutenant-Colonel in the role Canadian medical services, where he serves as a trauma surgeon and critical care physician. He has served on multiple military missions overseas, including in the former Yugoslavia, Afghanistan, Africa and Iraq. He is currently the chief of general surgery for the Canadian forces, and the trauma advisor to the surgeon general. Lieutenant-Colonel Beckett has deployed as a surgeon to multiple Canadian forces operations, including Kandahar, Afghanistan, and Iraq.

Lieutenant-Colonel Beckett first became interested in military history at the age of 6, and since then he has continued his love for all things related military history throughout his life. He was the Royal Canadian Army Cadet in the Queen's York Ranger and then joined the Canadian Forces Medical Services as a regular member of in 1988. After several tours in Yugoslavia, Andrew completed an undergraduate degree and then medical school, obtaining his MD at the University Manitoba in 2005.

After completing medical school, he went on to complete a residency in general surgery at Dalhousie University, and then completed a fellowship in trauma surgery and critical care medicine at the University of Toronto in 2013. After fellowship, he was a staff surgeon at Montreal General Hospital and was an assistant professor at McGill University from 2014-2020. He is currently the medical director of the trauma program at St. Michael's Hospital, Toronto and is an Associate Professor at the University of Toronto.

Lieutenant-Colonel Beckett is a former board member for the Canadian center for Great War, a proud member of the Royal Canadian Military Institute and was the Vice-President of the Royal Canadian Medical Services Association. He is currently the President of the Trauma Association of Canada and a Fellow of the Canadian Institute for Military Veterans Health Research.

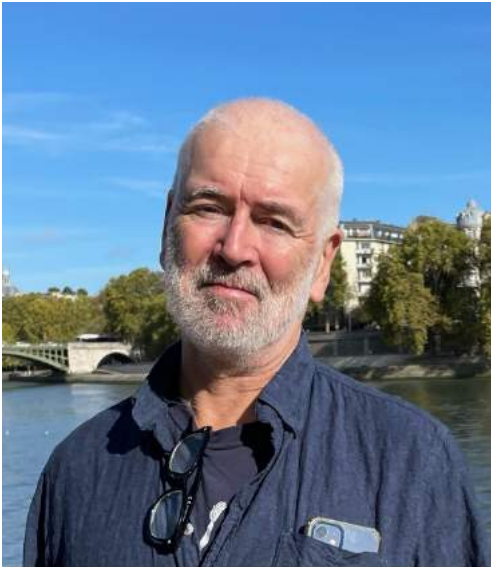


Colonel Andre Cap received a BA from Harvard University, an MS in Technology & Policy from MIT, and worked in management consulting at Arthur D. Little and in policy consulting at Industrial Economics. He then enrolled in the Boston University School of Medicine where he earned an MD *magna cum laude* and a PhD in Pathology, and was elected to the Alpha Omega Alpha Honor Medical Society. He completed Internal Medicine residency and Hematology-Oncology fellowship at Walter Reed Army Medical Center, with additional training in Stem Cell Transplantation at NIH.

He currently serves as Director of Research for the US Army Institute of Surgical Research (USAISR), with a staff of over 250 and a budget of over \$60M, executing the DoD's primary intramural research program in combat casualty care. COL Cap previously served as Chair, USAISR Coagulation and Blood Research, and led efforts to develop improved blood products as well as study mechanisms of acute traumatic coagulopathy, blood-device interactions in extracorporeal life support systems, and cellular therapies for trauma, burns and radiation injury.

COL Cap has served as fellowship director for the San Antonio Military Medical Center Clinical Research Fellowship, Associate Program Director for the Hematology-Oncology Fellowship and as Medical Director for the Fort Sam Houston Akeroyd Blood Donor Center. COL Cap is an active hematologist and transplant physician, a Professor of Medicine at Uniformed Services University, an Adjoint Professor of Biology and adjunct faculty in Biomedical Engineering at the University of Texas – San Antonio, and an Adjoint Professor of Surgery at the University of Texas Health Science Centers in Houston & San Antonio.

He has published over 290 peer-reviewed papers, 8 book chapters, and has filed several patent applications. He is an Associate Editor of *Transfusion* and Co-Editor of the Military Supplement of the *Journal of Trauma and Acute Care Surgery* and is on the editorial board of *Shock* and the *Journal of Trauma and Acute Care Surgery*. COL Cap served as Chief of Medicine in a Combat Support Hospital deployed to CENTCOM and has provided strategic support to the Armed Services Blood Program, the Joint Trauma System, SOCOM, INDOPACOM, AFRICOM and EUCOM. He served as Co-Chair of the NATO Blood Panel for five years. He currently serves as the Hematology-Oncology Consultant to the US Army Surgeon General.



Geir Strandenes is the senior Anaesthetist for the Norwegian Centre for Blood preparedness, Department of Immunology and Transfusion Medicine in Bergen.

He has extensive experience in both hospital and pre-hospital medicine, through both his time as a doctor for the Norwegian Naval Special Operations Commando, and HEMS Bergen.

Geir is the Principal Investigator for the Blood Far Forward Program which he initiated in 2010. He is a founding member of THOR, currently Co-Chair and convenor of the annual THOR conference in Norway since 2011. He was also awarded a US Airforce grant for research involving leuko-reduction of whole blood using a platelet sparing filter.

Geir spent time as a commercial fisherman and when he is not doing medicine, he can be found on his boat in the North Sea.

