

inVIVO Planetary Health Network



7th Annual Workshop
Canmore, Canada
April 4-6th 2018

Transforming Life

Unifying Personal, Public and
Planetary Health



People. Place. Purpose. Planet.



A warm welcome to Alberta!

Welcome to our 7th annual meeting in the spectacular Canadian Rockies!

The theme of the meeting “Transforming Life – Unifying Personal, Public and Planetary Health” underscores the imperative to address global ‘dysbiotic drift’ – life in distress - on every level. This reflects our increasing focus on understanding and improving the complex relationships **between human health and planetary health**. We seek to emphasize the eco-biological interactions in our living environments (including **food systems, climate change and biodiversity and microbial ecology**) on well-being, together with the **wider societal factors** that govern these.

In particular, we aim to define and modify impact of rapid global environmental change, urbanization, and biodiversity losses on **immune health** – which is fundamental to all aspects of health and the risk of **allergy and immune disease, obesity and metabolic disease and neurocognitive disorders**. We do this with a strong developmental ‘life-course’ approach that recognizes the critical need for long range vision and disease prevention.

We are very proud of our tremendous network of like-minded people from diverse fields and many regions who collaborate to address these modern health challenges and, importantly, how they link to **wider global challenges**. Our interests span from **planetary/population/ environmental health to microbial ecology/ systems biology** and the deep biological mechanisms - basically working ‘symbiotically’ to connecting the siloes through an integrated systems framework.

Our meetings are highly productive and interactive with as much emphasis on meaningful collaborations and productive friendships as on the data and opportunities we generate.

It is our privilege and pleasure to welcome you to Canmore!

Prof Susan Prescott (Network Director)
 Prof Dianne Campbell (Network Co-Director)
 Prof Anita Kozyrskyj (Local Organiser)



Susan Prescott
 Director, in-FLAME



Dianne Campbell
 Co-Director, in-FLAME



Anita Kozyrskyj
 Local Organiser





Our expanding horizons

In 2018 we continue to pursue our expanding vision which recognizes the vital importance of approaching complex environmental issues from a more holistic and integrated perspective. This extends and combines the typical focus on the biological and psychological level, with the wider sociological and environmental determinants of human health, and understanding how these are inter-related to societal health.

One important dimension of our meeting in Canmore will be the opportunity to discuss the relationships between **climate change, mental health, and ecological grief**, using **case studies** from **First Nations communities**. This extends our interest in how human health challenges are the culmination of a 'dual burden' - *increasing adverse exposures* (e.g. fast food, toxins and stress) *coupled with loss* of much that was protective in ancestral environments. The facets of 'loss' extend from the physical (loss of biodiversity, species, local foods and produce) to the loss of community (loss of language, tradition, and stories) and the far less tangible aspects of loss (such as loss of value systems, loss of purpose, peace, respect, spirituality, compassion, awe and wonder). **Canmore provides an ideal backdrop** to explore impact of disconnection from **natural environments** and loss of appreciation for **traditional cultures** - which extends from effect on individual mental and physical health to unsustainable social, economic and environmental consequences.

A new journal, a new partnership

inVIVO is very pleased to announce a new partnership with the journal **Challenges**. As part of this new relationship, we have launched a **"Special Issue" on Planetary Health**, and we are now inviting contributions. **Challenges** is a multidisciplinary journal that encourages creative work and spans all the Grand Challenges of our time - an ideal fit for inVIVO. This is a free, open access peer-review journal that promises very rapid publication. Please visit the journal website for details of this call <http://www.mdpi.com/journal/challenges>.



This is an opportunity for submissions with broad ranging scope and format, and could include unique perspectives, potential solutions, new proposals for collaboration, strategies for advocacy, public education, policy proposals, models for systemic change, community case studies, novel application or integration of technologies.

Special issue:
Planetary Health



Inviting contributions

Registration and Membership:

4

You must register on-line to attend the conference. Please visit our website www.in-flame.org/2018-meeting.html and click on the "REGISTER HERE" button, which will take you through the process.

We invite all attendees to join as members, to support running the inVIVO network (for AU\$150). **Student membership is free. Benefits include:**

- **Reduced Registration Fee** (member discount AU\$450; standard rate AU\$650; students AU\$280)
- **Subsidized Conference Excursion and Dinner** (actual costs AU\$170; members discount AU\$100; students AU\$90)

Registration fees cover the cost of venue hire, catering and includes internet access, all lunches and refreshment breaks from 4-6th April. You have the option of registering separately for the casual dinner on the 4th April (Day 1) and the main Conference Dinner on the 5th April (Day 2) at Banff Springs Hotel, including bus transfers (discounted for members).

Conference Dinner:

We are planning a wonderful excursion and culinary experience at the **Banff Springs Hotel on the 5th April!** Located in the heart of Banff National Park, a UNESCO World Heritage Site, the world famous Fairmont Banff Springs hotel stands as a landmark in the picturesque alpine town of Banff, Alberta. Canada's "Castle in the Rockies", has been providing legendary hospitality for more than 125 years. Fairmont Banff Springs is a year-round luxury mountain resort that offers a championship golf course during the summer, unparalleled skiing in the winter, the award winning European-style Willow Stream Spa, and authentically local dining experiences. This is 20 minutes drive from Canmore and some delegates may wish to choose accommodations here as well.

More about Canmore:

Located one-hour West of Calgary and only 5 minutes from the Banff National Park, Canmore lies nestled along the banks of the Bow River in the heart of the Rocky Mountains. Canmore is bounded by Banff National Park to the west and surrounded by Alberta Provincial Parks including Kananaskis Country. From humble beginnings as a coal mining town, Canmore has become Canada's premiere mountain destination, for full time living, vacation property ownership, or just visiting. Known for its endless outdoor recreational opportunities, Canmore continues to enjoy sustainable growth while maintaining its small town atmosphere.

Anita and her team are available to help organize some outdoor events (cross-country skiing at the Canmore Nordic Centre or downhill at Nakiska or other) for people who are arriving early or stay on later.



Our Venue: The Cornerstone Theatre

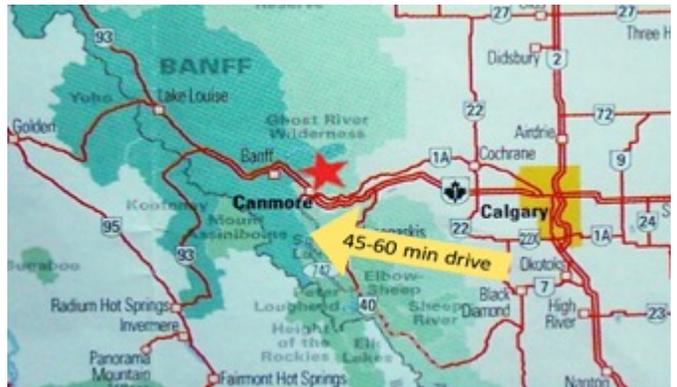
The Cornerstone Theatre, 125 Kananaskis Way, Canmore, Alberta T1W 2X2

- 5 minute walk from downtown Canmore
- 1 hour drive from downtown Calgary
- 75 minute drive from Calgary International Airport
- 15 minute drive from the Town of Banff



Getting there:

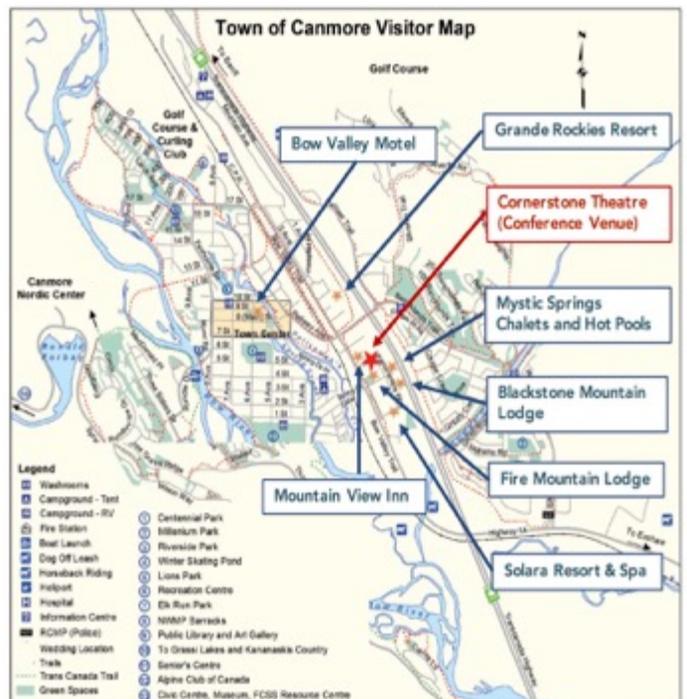
We recommend that you fly to Calgary International Airport. Canmore is a 45-60 minute drive west of Calgary on the Trans Canada Highway (approximately 100km) nestled in the Canadian Rocky Mountains. There are a number of shuttle buses or chauffeur and limousine, services available locally. We will provide more details in due course.



Accommodations

Go to our website to book your own accommodation directly this year! There are a range of hotels available close to the Cornerstone Conference Venue. The closest hotels are **Mystic Springs**, **Firemountain Lodge** and **Blackstone Mountain Lodge**. Please book DIRECTLY with the **meeting codes on our website** to indicate you are with the inVIVO meeting.

There are many other properties in Canmore, that can be found and booked by simple google search, however we do not have group rates on these units. The most economic options are **The Bow Valley Motel** and **Mountain View Hotel**. More deluxe properties available in Canmore include **Solara** and **The Grande Rockies**, and some delegates may choose to stay in nearby Banff (20 minutes by bus) at the legendary **Banff Springs Hotel** where we will also have our conference dinner (below)!



Go to: www.in-flame.org/2018-meeting.html for links and more information

2018 early career researcher (ECR) Travel Awards

Congratulations to our successful early career researcher travel award recipients. We are once again thankful to Danone Nutricia Research for supporting travel grants for ECR. We also welcome Genuine Health as a new (B-corp Certified) supporter. Many thanks!

Nelly Amenyogbe (Canada)
 Liene Bervoets (Netherlands)
 Andrew Bossick (USA)
 Alissa Cait (Canada)
 Colin Capaldi (Canada)
 Niels van Best (Netherlands)
 Zoya Gridneva (Australia)
 Hani Harb (USA)
 Nils Jøgi (Norway)
 Suzanne Johnson (Canada)
 Catherine Lai (Australia)
 Danica Larcombe (Australia)
 Jenni Lehtimäki (Finland)
 Emily Lindsay (USA)

Brittany Matenchuk (Canada)
 Charlene Nielsen (Canada)
 Jonathan Olsen (UK)
 Jake Robinson (UK)
 Kristina Rüeter (Australia)
 Cecilia Sierra-Heredia (Canada)
 Hein Tun (Canada)



Meeting Sponsorship

InVIVO is primarily supported through your participation and academic partnerships. We are grateful for small grants from universities including the University of Western Australia, the University of Alberta, the University of Rochester, Maastricht University, the University of Bergen, and the University of Sydney and extensive in-kind support from all of our collaborating partners in as part of the Worldwide Universities Network.



Contacts:



Conference Secretariat:

Jenny Boden jenny@corporatecommunique.com.au

Local Organiser:

Anita Kozyrskyj kozyrsky@ualberta.ca

Network Directors:

Susan Prescott: susan.prescott@uwa.edu.au

Dianne Campbell: dianne.campbell1@health.nsw.gov.au

Program at a glance:

Tuesday April 3 Arrival and Check in	Day 1 Wednesday April 4	Day 2 Thursday April 5	Day 3 Friday April 6
FREE TIME	Welcome Breakfast	Breakfast	Breakfast / Movement Session
	Session 1: Setting the Scene From Personal to Planetary health	Session 5: Mind and Body – links between emotion and immunity	Session 8: ONE Health – encouraging cross disciplinary approaches
	Session 2: Natural environments, immune health and wellbeing	Session 6: The future of food – ultra processing meets nutritional ecology	In a nut shell (v) (Campfire Abstract presentation)
	In a nut shell (i) (Campfire Abstract presentations)	In a nut shell (iii) (Campfire Abstract presentations)	Session 9: Stress, sleep, inflammation and aging
	Lunch	Lunch	Session 10: Looking back and moving forward
	Session 3: Planting the Seeds: Establishing Healthy Microbial Habitats in Early Life	Session 7: LactoActive Session – quality and influences of our first food	Lunch
	In a nut shell (ii) (Campfire Abstract presentations)	In a nut shell (iv) (Campfire Abstract presentations)	WORKSHOPS
	Session 4: Transgenerational perspectives - policy meets biology	Afternoon tea and collaborative discussions	1) SyMBIOTA Microbiome workshop -- 2) imPACT Interventional Cohort Network Discussion (TBC)
	Excursion and Local Dinner Market Bistro and the Wilks Band	Transfer to Banff and sight seeing	
		KEYNOTE LECTURE Conference Dinner at Banff Springs Hotel	

FROM 07.30 WELCOME BREAKFAST - JOIN US AT THE CONFERENCE VENUE!!!
 This is included in your registration package

08.00 -08.25 REGISTRATION, MINGLING AND OPPORTUNITIES

**Session 1: Setting the Scene
 From Personal to Planetary health**

08.25	WELCOME	Anita Kozyrskyj (Chair) (Canada)
08.30	Welcome video (framing our agenda)	
08.35	Setting the Scene: A unifying approach to personal, public and planetary health	Susan Prescott (Chair) (Australia)
08.50	KEYNOTE: Psychoterratic health in the Symbiocene	Glenn A Albrecht (Australia)
09.10	Projected local change in precipitation and its impacts on waterborne diseases in BC, Canada, 2020s-2080	Tim Takaro (Canada)
09.25	Redefining the modern health crisis – infectious and socially communicable disease	Tobias Kollman (Canada)
09.35	Personal, dense, dynamic data clouds to understand wellness and predict disease	Anthony Bosco (Australia)
09.45	A new Lancet Journal on Planetary Health	Raffaella Bosurgi (Editor, Lancet PH)
09.55	Questions and Discussion	ALL

10.10-10.30 MORNING TEA

Session 2: Natural environments, immune health and wellbeing

Chairs:	Alan Logan (USA) Desiree Silva (Australia)	
10.30	Natural environments, microbiota, and immunoregulation in mental health: Implications for public health	Christopher Lowry (USA)
10.45	Urban landscapes, mobility and environmental exposure: a prospective nationally representative study of UK children	Jonathan Olsen (UK)
11.00	Nature Relatedness and mental health	Colin Capaldi (Canada)
11.15	Immunomodulatory effects of probiotics in insects: could improve survival of honey bees exposed to pesticides	Brendan Daisley (Canada)
11.25	Impact of environmental pollutants on child health from a geographic perspective	Alvaro Orsonio-Vargas (Canada)
11.35	Governance and empowerment for health in Indigenous communities	Jamie Snook (Canada)
11.45	Questions and Discussion	ALL



In a nut shell – rapid fire oral poster session (i)

Goal: Short and snappy 3 minute ‘campfire’ presentations <i>Your world in 3 minutes! Will be strictly timed! FIVE slides only</i>		Chairs: Alan Logan (USA) Desiree Silva (Australia)
11.55	The effects of aeroallergens on asthma and allergy in Canada: Another impact of climate change?	Cecilia Sierra-Heredia (Canada)
11.59	A Dose of Nature: an interdisciplinary study of what makes GPs recommend green prescriptions, and a strategic assessment of their impacts upon the natural environment	Jake Robinson (UK)
12.03	Influence of sockeye salmon restoration on Syilx wellbeing	Suzanne Johnson (Canada)
12.07	The associations between natural environments and health outcomes are complex and under-studied	Andrew Bossick (USA)
12.11	Geospatial measurement of outdoor natural environment: preliminary results and future recommendations	Suzanne Mavoa (Australia)
12.15	Spatial relationships of neighborhood vegetation greenness and infant gut microbiota	Charlene Nielsen (Canada)
12.19	Measures of nature relatedness in high-rise apartment dwellers	Danica-Lea Larcombe (Australia)
12.23	Measuring connectedness to nature in urban preschool children and relation with psychological functioning & QOL	Tanja Sobko (Hong Kong)
12.27	Improved eating habits and active playtime though connecting preschool children to nature: preliminary results of a randomized controlled trial.	Tanja Sobko (Hong Kong)
12.30	PANEL DISCUSSION (Q AND A for all presentations)	

12.40-13.30 LUNCH

**Session 3: Planting the Seeds:
Establishing Healthy Microbial Habitats in Early Life**

Chairs	John Penders (Netherlands) Dianne Campbell (Australia)	
13.30	The indoor environmental microbiome and atopy development in childhood	Kei Fujimura Susan Lynch (USA)
13.40	Maturation of the gut microbiome: early complexity protects against asthma risk	Jakob Stokholm (Denmark)
13.50	Gut bacteria, host and dietary metabolic interplay during colonization in early life	Niels van Best (Netherlands)
14.00	Developmental trajectories of the child microbiome: New lessons from Scandinavia and beyond	Karsten Kristiansen (China/Denmark)
14.10	Distinct early immune phenotypes associating with later disease development	Susanne Brix (Denmark)
14.20	Interactions between systemic immunity and gut microbiome in four infant populations	Nelly Amenyogbe (Canada)
14.30	The bacterial exposome and protection of chronic inflammatory reactions – new experimental insights	Harald Renz (Germany)
14.40	Questions and Discussion	ALL





In a nut shell – rapid fire oral poster session (ii)

Short 3 minute ‘campfire’ presentations <i>Your world in 3 minutes! FIVE slides only</i>		Chairs: ...cont	John Penders Dianne Campbell
14.55	Quantitative profiling of IgG coated gut bacteria from IBD patients		Carsten Eriksen (Denmark)
15.59	Maternal lifestyle factors and infant gut microbiome		Merete Eggesbø (Norway)
15.03	Delayed gut microbiota development in high-risk for asthma infants modifiable by Lactobacillus supplementation		Juliana Durack (USA)
15.07	Restoring neonatal gut biodiversity after postnatal antibiotics exposure (RESTORE trial)		Shailender Mehta (Australia)
15.11	Infant immune development: New data on regulatory cell ontogeny and gut homing signatures		Peter Hsu (Australia)
15.15	Nature and Nurture: fecal microbiome studies in twins discordant for disease and exposures		Wendy Cozen (USA)
15.19	Gut microbial composition and diversity in young children with recurrent asthma-like symptoms: a case-control study		Liene Bervoets (Netherlands)
15.23	Butyrate: the missing link between the gut microbiome and asthma		Alissa Cait (Canada)
15.27	ORIGINS: an interventional birth cohort with a global vision - to improve people, place, purpose and planet		Desiree Silva (Australia)
15:31	PANEL DISCUSSION (Q AND A for all presentations)		

15.45 -16.00 AFTERNOON TEA

**Session 4: Transgenerational perspectives
- policy meets biology**

Chairs	Cecilie Svanes (Norway) Preeti Joshi (Australia)	
16.00	KEYNOTE: Transgenerational perspectives of environmental impact	Susanne Krauss Etchman (Germany)
16.15	Epigenetic Research: building maps for predicting and preventing disease	John Holloway: (UK)
16.25	Its not all passive: Maternal infection provide a long lasting footprint on offspring immunity	William Horsnell (South Africa)
16.35	Where do we focus resources for the future: Early puberty as a window for improving policy and practice	Cecilie Svanes (Norway)
16.45	Discussion	

17.00 FREE TIME

**17.20 BUSES LEAVE FOR HIKE, CASUAL DINNER AND ENTERTAINMENT
(pre-registration required - limit of 50 people)**

FROM 07.30 BREAKFAST - JOIN US AT THE CONFERENCE VENUE!!!

08.00 REGISTRATION, MINGLING AND OPPORTUNITIES

08.25 Framing the day and our next steps Susan Prescott

**Session 5: Mind and Body
– links between microbes, emotion and immunity**

Chairs	Colin Capaldi (Canada) Jake Robinson (UK)	
08.35	KEYNOTE: Positive emotions and immunity: the anti-inflammatory effects of positivity for health and resilience	Jennifer Stellar (Canada)
08.50	KEYNOTE: Mindfulness and inflammatory markers: Psychological and biological pathways leading from mindfulness interventions to improvements in stress-related health outcomes	Emily Lindsay (USA)
09.05	The influence of Aussie Optimism mental health promotion programs on inflammatory markers for children aged 0-5 years	Rosanna Rooney Natalie Baughman (Australia)
09.15	Exploring the gut-brain axis and the role of probiotics	Paul Forsythe (Canada)
09.25	Probiotics in pregnancy and postnatal depression	Julian Crane (New Zealand)
09.35	Assessment of brain derived neurotrophic factor (BDNF) in hair to study stress responses	Hani Harb (USA)
09.45	Mind and Body: Human physicality in personal and planetary	Frank Forenich (USA)
09.55	Discussion	

10.10 – 10.30 MORNING TEA

**Session 6: The future of food
– ultra processing meets nutritional ecology**

Chairs	Cecilie Svanes (Norway) Jarvinen-Seppo (USA)	
10.30	KEYNOTE: Healthy and sustainable diets for humanity: why food processing matters	Jean-Claude Moubarac (Canada)
10.45	KEYNOTE: The nutrition transition in Indigenous populations: from flour, sugar and lard to ultra-processed foods	Noreen Willows (Canada)
11.00	Mood effects associated with switching to a Mediterranean diet	Johan Garssen (Netherlands)
11.10	Do maternal low-fibre diets predispose to infant respiratory disease by altered infant gut ecology and immune maturation	Simon Phipps (Australia)
11.20	Preeclampsia, metabolites of the maternal gut microbiome and fetal immune development	Ralph Nanan (Australia)
11.30	Cluster analysis of factors influencing food sensitization and food allergy in urban and rural African children	Mike Levin (South Africa)
11.40	Discussion	



In a nut shell – rapid fire oral poster session (iii)

Chairs	Cecilie Svanes (Norway) Kirsi Jarvinen-Seppo (USA)	...cont/
11.50	Development of a dietary screening questionnaire to predict excessive weight gain in pregnancy.	Laufey Hrólfsdóttir (Iceland)
11.54	Characterization of ovalbumin-specific regulatory T & B cells in infants exposed to early dietary egg	Catherine Lai (Australia)
12.58	The influence of vitamin D on immune development in the first 6 months of life	Kristina Rüter (Australia)
12.02	A Low prevalence of pediatric food allergy (FA) among older order mennonites (OOM) Is related to robust mucosal IgA production	Kirsi Jarvinen-Seppo (USA)
12.06	Alpha-Gal in rural Africans	Mike Levin (South Africa)
12.10	Role of advanced glycation end products (AGEs) in the food allergy epidemic	Maresa Botha (South Africa)
12.14	Early life gut microbiota associates with IgE-mediated food allergy	Alexandra Sitarik (USA)
12.17	PANEL DISCUSSION (Q AND A for all presentations)	

**** GROUP PHOTO ****

12.30-13.20 LUNCH



**Session 7: LactoActive Session
– quality and influences of our first food**

Chairs	Anita Kozyrskij and Daniel Munblit	
13.20	Human milk oligosaccharides as primers for infant and long-term health	Lars Bode (USA)
13.35	Environmental contaminants in breast milk are associated with gut bacteria composition and metabolites in infants	Merete Eggesbø (Norway)
13.40	Metabolites in mother's milk: An update from the LactoActive Project	Anita Kozyrskij (Canada)
13.45	Impact of milk on the metabolic phenotype of the developing neonate	Carolyn Slupsky (USA)
13.50	Immunological factors in human milk and infant body composition over the first 12 months of life	Donna Geddes (Australia)
13.55	KYN Metabolites in breast milk	Kathy D. McCoy (Canada)
14.00	An update on the Breast Milk Donor Bank project	Daniel Munblit (UK/Russia)
14.05	PANEL DISCUSSION (Q AND A for all presentations)	

In a nut shell – rapid fire oral poster session (v)

Short and snappy 'campfire' presentations		Chairs: Anita Kozyrskij Daniel Munblit
14.15	Impact of maternal probiotic supplementation on human milk oligosaccharide composition	Antti Seppo (USA)
14.19	The effect of milk fat globule membrane supplementation and postnatal growth restriction on developing rat pup microbiota	Lauren R. Brink (USA)
14.23	TGF-beta in human milk and allergic outcomes in children: a systematic review	Ekaterina Khaleva (Russia)
14.27	Leptin in human breast milk and infant body composition: Results of Ulm Birth Cohort and Ulm SPATZ Health Studies	Jon Genuneit (Germany)
14.30	sCD14 in human breast milk and its potential role in child atopic dermatitis: Results of the Ulm birth cohort studies	Jon Genuneit (Germany)
14.34	Relationships between breastfeeding patterns and maternal and Infant body composition	Zoya Gridneva (Australia)
14.37	Appetite Hormones in human milk and maternal and infant body composition over the first 12 months	Zoya Gridneva (Australia)
14.41	Colostrum is necessary for Type 2 immunity development in neonates	Valérie Verhasselt (France/Australia)
14.44	A role for early oral exposure to house dust mite protease in food allergy susceptibility	Valérie Verhasselt (France/Australia)
14.47	PANEL DISCUSSION (Q AND A for all presentations)	
***Brief discussion of interest groups for collaborative discussions		





Afternoon Tea and Collaborative Discussions

15.05 15.45	Opportunity for informal discussions to develop collaborative projects.
16.00	TRANSFER TO BANFF SPRINGS HOTEL (BUSES PROVIDED) Approximately 20 minutes drive to Banff Village and the hotel.
16.30	PREDINNER EXCURSION TO BANFF VILLAGE The bus will stop at Banff Village, where we suggest a leisurely walk and sightseeing. Some may want to make the 10-15 minutes walk to the hotel.
17.30	The bus will continue to the hotel for those who do not wish to walk.

Keynote Lecture and Conference Dinner

Chairs	Susan Prescott and Anita Kozyrskyj	
18:00	A welcome to Banff - from the WUN team at the University Alberta	Stefan Scherer Marija Petrovic
18:10	Words of reflection and introduction	Anita Kozyrskyj
18:15	WORDS OF INSPIRATION Indigenous wellness project: revitalizing community health with language, culture, traditional foods and practices	Nicole Redvers - Arctic Indigenous Wellness Foundation <i>Winner of \$1-million Arctic Inspiration Prize</i>
18:30	KEYNOTE LECTURE Ecological grieving for planetary health and healing	Ashlee Cunsolo - Director, Labrador Institute of Memorial University
19:00	Opportunity for questions and discussion	ALL
19:10	Appetizers are Served	
then	Entrée and the meal continues!	
then	A musical interlude by inVIVO!! <i>We will be treated to the wonderful tenor voice of Royston with piano accompaniment by Cecilie</i>	Royston James Cecilie Svanes
then	Words of thanks	Susan Prescott Anita Kozyrskyj
then	Dessert and more	

22.00 TRANSFER BACK TO CANMORE (BUSES PROVIDED)

FROM 07.30 BREAKFAST - JOIN US AT THE CONFERENCE VENUE!!!
 This is included in your registration package

08.00 -08.30 MIND AND BODY – PUTTING IT IN ACTION
Greet the day by joining this movement session with author and movement specialist Frank Forencich

SOMETHING COMPLETELY DIFFERENT - ABOUT THE SESSION

After Franks oral presentation (Session 5) on the importance of human physicality you will have the chance to get involved in an experiential movement session. He will lead participants in functional movements and team-building games. Appropriate for all fitness levels, this session will leave you laughing, sweaty and inspired. An ideal way to start the day! This is optional but all are welcome....

ABOUT FRANK

Frank Forencich holds a BA in Human Biology from Stanford University and has been teaching movement for over 30 years. He holds black belt rank in aikido and karate, and is a licensed massage therapist. Frank has traveled to Africa to study the ancestral environment and is the author of several books on health and the human predicament including *Exuberant Animal*, *Beautiful Practice*, and *The Art is Long: Big Health and the New Warrior Activist*.

**Session 8:
 ONE Health – encouraging cross disciplinary approaches to symbiotic mutualism**

Chairs:	Tobi Kollman Karsten Kristiansen	
09.00	Antimicrobial resistance: linking science to policy development to curb AMR in humans and animals in Canada	Simon Otto (Canada)
09.15	Early life fungal and bacterial microbiome in asthma development	Marie-Claire Arrieta (Canada)
09.25	The microbiome (and resistome) in international travelers and rural populations in developing regions	John Penders (Netherlands)
09.35	Prenatal exposures and the infant microbiome, allergy and adiposity: lessons from the WHEALS cohort	Ganesa Wegienka (USA)
09.45	Cleaning products and other determinants of the infant microbiome and disease risk: the CHILD cohort	Anita Kozyrskij (Canada)
09.55	Questions and Discussion	





In a nut shell – rapid fire oral poster session (v)		
Short and snappy ‘campfire’ presentations	Chairs: cont./	Tobi Kollman Karsten Kristiansen
10.00	Exposure to tobacco smoke in prenatal and early postnatal alters infant gut microbiota and increases risk of childhood overweight	Hein Tun (Canada)
10.04	Exposure to <i>Ascaris</i> spp. is associated with lower lung function among males in a Norwegian cohort.	Nils Jøgi (Norway)
10.08	General causal factors in the development of allergies in mammals	Jenni Lehtimäki (Finland)
10.12	Association between antibacterial chemicals, oral microbiome and lung function	Randi J. Bertelsen (Norway)
10.16	Early anaesthetic exposure and the risk of attention deficit hyperactive disorder	Desiree Silva (Australia)
10.19	PANEL DISCUSSION (Q AND A for all presentations)	

10.30 -10.50 MORNING TEA

Session 9: Stress, sleep, inflammation and aging		
	Chairs: Christopher Lowry Ganesa Wegienka	
10.50	Stress, aging and our biological clock- lessons from Telomeres	Dries Martens (Belgium)
11.00	Noise stress during pregnancy and the risk of immune disease in offspring	Hind Sbihi (Canada)
11.10	Neurodevelopment: The importance of sleep and fruit consumption	Piush Mandhane (Canada)
11.20	Age-associated microbial dysbiosis and inflammation: normal aging or lifestyle changes?	Dessi Loukov (Canada)
11.30	Associations between infant short sleep duration and the gut microbiota composition at 3 months of age	Brittany Matenchuk (Canada)
11.40	Improving frailty and vulnerability in later life – applying lessons from the newborn?	Valérie Verhasselt (France/Australia)
11.50	Questions and Discussion	ALL



Session 10: Inspiration: Looking back but moving forward

Chairs: Susan Prescott and Dianne Campbell		
12:00	Making real change: The dawn of true prevention through the Natural Step program in Finland.	Jenni Lehtimäki (Finland)
12:10	The way forward: Backcasting into healthier biomes	Glenn Albrecht (Australia)
12:20	Reflections and discussions: What we might look like?	Susan Prescott (Australia)
12:30	Practicalities and Planning: Your feedback and ideas for 2019	Dianne Campbell Ganesa Wegienka (Australia)
12:35	Thanks and farewells Invitation to the afternoon Workshops	ALL

12.40 -13.30 LUNCH and MORE DISCUSSIONS

14.00 MAIN MEETING CLOSES
Departures / Sight Seeing / Workshops

FOCUSED WORKSHOPS

All conference participants are invited to join these

14.00-17.00	SyMBIOTA (microbiome workshop)	imPACT (Interventional Cohort workshop)
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18.00 Optional Dinner for those who are staying



Wi-Fi

Free Wi-Fi is available at the conference area and the meeting room. Login codes will be provided at registration.

Thanks to our local Team and Secretariat support

Special thanks to the team from the University of Alberta including **Shelly Jun** and SyMBIOTA trainees, **Hein Tun, Brittany Matenchuk, Mon Tun, Bolin Chen, Cara McLean, Kelsea Drall** and SyMBIOTA analyst-DoMiNO trainee **Charlene Nielsen** for their local logistic support. Thanks as always to **Jenny Boden, Louise Collett** and **Ben Thompson** for general administrative support.



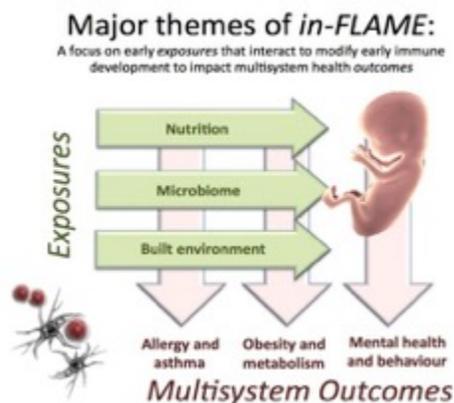
About the *inVIVO* network

Launched in 2012, the Network addresses the risk factors, pathways and strategies to overcome the rising propensity for chronic inflammatory disorders, with a focus on early effects on the developing immune system. Led from UWA by Professor Susan Prescott, it involves 9 WUN universities and WUN+ partners from >50 institutions, and 20 countries around the world. Together our >250 current members are working on an integrated program of population studies, biological studies and intervention studies aimed at preventing inflammation and the burden of subsequent disease.

'...There has been an unprecedented rise in non-communicable diseases (NCDs) such as allergies, asthma, cancer, diabetes, mental ill health and obesity. Inflammation and immune dysregulation are common features, often associated with similar environmental and lifestyle risk factors such as dietary patterns, environmental pollutants, microbial patterns and stress. Given the central role of the immune system in health and development, inflammation must be examined as both a common element and target for the prevention of NCDs...'

This initiative recognises that the health of humanity (in every sense) is interdependent on the health of the environment. We see the need to have a more expansive (broad and long ranging) vision in addressing human, environmental and planetary health. It draws on the overarching premise that 'it is time to shape a better future' – emphasizing the imperative for change: on all levels. Paradoxically, in a culture where 'there is a never enough' we are 'losing' everything that once gave us deeper value, and our sense of purpose, place and identity. It may be argued that our shifting values and loss of deeper purpose are a root cause of social and economic instability and underlie the more superficial drivers of environmental and societal degradation. This erosion is gradual and associated with a shift in the 'normative' position to one of greed and self-interest. To some extent this has 'radicalized' empathy, kindness and compassion. At the same time, we are carrying the increasing burden of technology and a culture of unhealthy 'excess':

ultra-processed food, sedentary indoor behaviour, air and water contamination, excessive noise and light pollution, stress, electromagnetic radiation, screen-time, sleep disruption and many other adverse exposures that were not present in traditional environments. Of great concern, the burden and consequences of these adverse exposures is greatest in the socially disadvantaged - amplifying the disparities in health and opportunity, and further widening social inequity. Together with the 'missing' elements (e.g. absence of green space) the many adversities associated with urbanicity are eroding health in built environments with the higher burden of NCDs shouldered by disadvantaged populations. Viewed through the lens of 'connectedness' (i.e. that we are all interconnected), this inequity can (and should be) viewed as a fundamental imbalance in our 'social ecosystem' which systemic consequences for all of us and beyond to our 'environmental ecosystems'.




PLANETARY HEALTH



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