

Program

SFRR Australasia & Japan Conference 2022

Redox Pathways in Biology & Medicine

Monday 5 December

Registration Opens 8:15 am

Mihi whakatau 8:45-9:00 am **Rangihau Te Moana**

Morning Session 1

Plenary Lecture 9:00-9:40 am

Kate Carroll

Chair: Tony Kettle

TBC

Invited Speaker 9:40-10:10 am

Phil Hogg

Multiple covalent protein forms: new look at the mature functional protein

Selected Talk 10:10-10:30 am

Pramod Subedi

The identification and characterisation of an unusual disulfide bond forming protein from *Salmonella typhimurium*.

Morning Tea 10:35-11:05 am

Morning Session 2

Invited Speaker 11:05-11:35 am

John Aitken

Chairs: John Aitken & Judy DeHaan

Oxidative stress and fertility.

Selected Talk 11:35-11:55 am

Judy DeHaan

Novel antioxidant and anti-inflammatory treatments for diabetic cardiovascular complications.

Selected Talk 11:55-12:15 pm

Julie Lim

Circadian regulation of glutathione homeostasis in the lens.

Selected Talk 12:15-12:35 pm

Renita Martis

Cysteine analogues as protective agents against lens cataract.

Selected Talk 12:35-12:55 pm

Annika Seddon

Epigenetic regulation of gene expression following exposure to neutrophil oxidants.

Lunch 1:00-2:00 pm

Afternoon Session 3

Plenary Speaker 2:00-2:40 pm

Peter Sly

Chair: Nina Dickerhof

Oxidative stress in cystic fibrosis.

Selected Talk 2:40-3:00 pm

Joshua Chandler

Oxidized methionine species in pediatric cystic fibrosis airways implicate hypochlorous acid exposure in lung damage.

Afternoon Break 3:05-3:15 pm

Afternoon Session 4

Selected Talk 3:15-3:35 pm

Ayaho Yamamoto

Chairs: Louisa Ashby & Paul Witting

Environmentally persistent free radicals: Oxidative stress and related gene expression effects on well-differentiated human nasal epithelium.

Selected Talk 3:35-3:55 pm

Paul Witting

Neutrophil extracellular trap density increases with increasing histopathological severity of Crohn's disease

Selected Talk 3:55-4:15 pm

Belal Chami

Can myeloperoxidase alone initiate early stages of colitis?

Selected Talk 4:15-4:35 pm

Thomas O'Neil

Defining and characterising mononuclear phagocyte populations in human healthy and Crohn's-affected tissue.

Poster Session 1

4:35 pm -6:00 pm

Six Poster Pitches

Abigail Schartfeger, Ansa Thomas, Emma Vlasuik,

Jia Jing Shao, Te Rina King-Hudson, TBC

Social get together 6:00 pm onwards at the Astro Lounge

Tuesday 6 December

Dawn Dialogue 8:15-9:00 am

Chair: Mark Hampton

Christine Winterbourn, Tobias Dick (zoom), Mike Murphy (zoom)

10 min break

Morning Session 5

Chair: Margreet Vissers

Plenary Lecture 9:10-9:50 am

Ursula Jakob

Early life ROS as modulator of lifespan and age-associated diseases.

Selected Talk 9:50-10:10 am

Heather Shearer

A *Streptococcus pneumoniae* genome-wide screen identifies genes that confer tolerance to hypothiocyanous acid.

Selected Talk 10:10-10:30 am

Nina Dickerhof

Thiol-based antioxidant systems protect pathogens from hypothiocyanous acid.

Morning Tea 10:35-11:00 am

Morning Session 6

Chair: Andrew Bulmer & TBC

Invited Talk 11:00-11:30 am

Gemma Figtree

New strategies to discovering coronary artery disease biomarkers- beyond traditional risk factors.

Selected Talk 11:30-11:50 am

Shane Thomas

The effect of 2-thioxanthines on the involvement of myeloperoxidase in abdominal aortic aneurysms.

Selected Talk 11:50-12:10 pm

Xiaoying Wang

Molecular MR imaging of unstable plaque targeting myeloperoxidase activity in a rabbit atherosclerosis model.

Selected Talk 12:10-12:30 pm

Steven Gieseg

Scavenger receptor CD36 levels may be moderated by redox balance of 7,8-dihydroneopterin/neopterin with atherosclerotic plaque

Invited Speaker 12:30-1:00 pm

Aki Hirayama

Serum multiple radical scavenging activity assay (MULTIS) as a non-behavioural diagnostic biomarker for autism spectrum disorders.

Lunch 1:00-2:00

SFRR A AGM 1:15-2:00 pm

SFRR J AGM 1:15 -2:00 pm

Afternoon Session 7

Chair: Hirofumi Matsui

Invited Speaker 2:00-2:30 pm

Yukio Nagasaki

Antioxidant nanoparticle for oxidative stress diseases

Selected Talk 2:30-2:45 pm

Hayley Turnham

The production of nanobodies as a tool for understanding ferritin in *C. elegans*.

Selected Talk 2:45-3:00 pm

Zac Tillet

Developing conformationally selective nanobodies for peroxiredoxin 1.

Selected Talk 3:00-3:15 pm

Albaraa Mojadadi

Characterising the effects of nano-selenium on metabolism and microbiome health in mouse models.

Afternoon Break 3:15-3:25 pm

Afternoon Session 8

Chair: Liz Ledgerwood

Selected Talk 3:25-3:45 pm

Anitra Carr

Oxidative stress in sepsis: can vitamin C administration help?

Selected Talk 3:45-4:00 pm

Carlos Smith Diaz

Low maternal vitamin C during guinea pig pregnancy causes epigenetic dysregulation in the hippocampus of offspring together with an ADHD-related phenotype.

Selected Talk 4:00-4:20 pm

Jereme Spiers

Identification of inflammatory nitric oxide signalling in brain-derived extracellular vesicles using advanced surface analysis.

Poster Session 2 4:25 pm-6:00 pm

Six Poster Pitches

Jennifer Supple, Chloe Mountain, Tamara Ortiz Cerda,

Nick Magon, Alice Au, Grace Borichevsky.

Conference Dinner Ilex Botanical Gardens 7:30 pm

Wednesday 7 December

Dawn Dialogue 8:15-9:00 am

Chair: Mark Hampton
Tony Kettle, Kate Carroll, Vadim Gladyshev

10 min break

Morning Session 9

Chair: Kate Carroll

Plenary Lecture 9:10-9:50 am

Vadim Gladyshev TBC

Selected Talk 9:50-10:10 am

Christine Winterbourn CO₂/bicarbonate requirement for rapid inactivation of mammalian GAPDH by low concentrations of H₂O₂.

Selected Talk 10:10-10:30 am

Guy Jameson Ferroxidase reactivity of *C. elegans* ferritins.

Morning Tea 10:35-11:00 am

Morning Session 10

Chairs: Christoph Goebel & TBC

Selected Speaker 11:00-11:20

Margaret Sunde Competing roles for functional amyloid fibrils in programmed cell death by necroptosis.

Selected Talk 11:20-11:40

Vanessa Morris Cysteine oxidation triggers amyloid fibril formation of the tumor suppressor p16.

Selected Talk 11:40-11:55

Noralyn Manucat-Tan Hypochlorite – a novel inhibitor of amyloid beta aggregation and toxicity.

Selected Talk 11:55-12:10

Jake Andersen Examining the reactivity and speciation of selenoneine *in vitro* via synchrotron radiation.

Selected Talk 12:10-12:25 pm

Gawain McColl Optogenetic triggered lipid peroxidation.

Lunch 12:30 pm – 1:30 pm

(Executive committee meeting for SFRR&J)

Afternoon Session 11

Chairs: Mike Berridge & Martinna Paumann-Page

Plenary Lecture 1:30-2:10 pm

Hirofumi Matsui A novel cancer therapy using proton beam: an integrated proton dynamic therapy, iPDT.

Selected Talk 2:10-2:30 pm

Bob Anderson Ubiquinone negatively affects the activity of bioreductive prodrugs against hypoxic tumour cells.

Selected Talk 2:30-2:45 pm

Martina Paumann-Page Peroxidase as a modulator of cancer cell invasion.

Selected Talk 2:45-3:00 pm

Patries Herst Metabolic flexibility and metastasis in a murine breast cancer model.

Selected Talk 3:00-3:15 pm

Yuta Koda Design of nanomedicine based on polycysteine suppressing C26-tumor growth on a xenograft mouse model.

Closing Address 3:15-3:30

Rangihau Te Moana
Tony Kettle, Louisa Ashby *et al*