

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	<i>Chair</i> 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 <i>Salmonella typhimurium</i> .

Morning Tea 10:35-11:05 am

Morning Session 2

Invited Speaker	11:05-11:35 am	John Aitken	<i>Chair</i> 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	<i>Chair</i> 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	<i>Chair</i> 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, Sana Kawaguchi

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

Tues 6 December

Dawn Dialogue 8:15-9:00 am Chair *Mark Hampton*

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** TBC
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 atherothrombosis 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 TBC
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

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

Chair 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 Anderson 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 SFRRA&J)

Afternoon Session 11

Chair 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*