**Contemporary strategies for the prevention and management of disease in the 2020s**

15th Indo-Australian Biotechnology Conference  
16-18 November 2019  
Adelaide, South Australia

### DAY 1 - Saturday, 16 November

<table>
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<tr>
<td>9:30 - 10:00</td>
<td>Registration</td>
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<td>10:00 - 10:10</td>
<td><strong>Welcome:</strong> Wayne Tilley (Dame Roma Mitchell Cancer Research Laboratories, University of Adelaide, Adelaide), Sheel Nuna (Queensland University of Technology, Brisbane)</td>
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<td>10:10 - 10:20</td>
<td><strong>Opening:</strong> Caroline McMillen, Chief Scientist South Australia, Adelaide</td>
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| 10:20 - 10:50 | **Keynote Speaker:** Vinod Scaria, CSIR Institute of Genomics and Integrative Biology, New Delhi  
“Personal genomes to precision medicine - Experiences from India”  |
| 10:55 - 11:15 | **Break (Coffee)**                                                                           |
| 11:15 - 12:40 | **Session 1: Developmental processes in disease: new roles for old friends**  
Chairperson: Frank Gannon (QIMR Berghofer Medical Research Institute, Brisbane)  
1. Kum Kum Khanna (QIMR Berghofer Medical Research Institute, Brisbane)  
“DNA damage response in normal tissue homeostasis”  
2. Natasha Harvey (Centre for Cancer Biology, Adelaide)  
“Understanding the genetic and developmental basis of human lymphatic vascular disease”  
3. Raman Sharma (University of Adelaide, Adelaide)  
“THOC2 variation implicates mRNA export in neurodevelopmental disorders: 45 years of perseverance pays off”  
4. Anuranjan Anand (Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru)  
“Pathogenesis of juvenile myoclonic epilepsy: Defective genes and malfunctioning neuronal circuits?”  |
| 12:40 - 1:30 | **Lunch**                                                                                    |
| 1:30 - 3:00 | **Session 2: Bridging basic science and public health outcomes**  
Chairperson: Klaus-Martin Schulte (Australian National University, Canberra)  
1. Anthony Cunningham (Westmead Institute for Medical Research, Sydney)  
“Striking improvements in vaccine efficacy in the ageing through new immunologic strategies”  
2. Kumarasamy Thangaraj (CSIR - Centre for Cellular and Molecular Biology, Hyderabad)  
“Population genomics and public health”  
3. Meru Sheel (Australian National University, Canberra)  
“Operational research in public health emergencies for prevention and control of infectious diseases outbreaks”  
4. Sutapa B. Neogi (Public Health Foundation of India, New Delhi)  
“Walking the fine line between science and culture: its impact on health”  |
| 3:00 - 3:20 | **Break (Coffee)**                                                                           |
| 3:20 - 4:50 | **Session 3: The disease micro-environment**  
Chairperson: Rik Thompson (Queensland University of Technology, Brisbane)  
1. Severine Navarro (QIMR Berghofer Medical Research Institute, Brisbane)  
“Hookworms and gut microbiome: focus on new therapeutic avenues”  
2. Bhupinder Pal (Olivia Newton-John Cancer Research Institute, Melbourne)  
“Using ScRNAseq to identify molecular events that shape tumour heterogeneity and microenvironment”  
3. Michael Samuel (Centre for Cancer Biology, Adelaide)  
“Probing biomechanical and biochemical inter-relationships in breast cancer progression”  
4. Steve Birrell (University of Adelaide, Adelaide)  
“Breast density – the hidden danger” |
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<td>4:50 - 5:00</td>
<td>Break</td>
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| 5:00 - 6:05  | **Session 4: Epigenetics vs genetic drivers of disease**  
Chairperson: Jyotsna Batra (Queensland University of Technology, Brisbane)  
2. Luke Selth (Flinders University / University of Adelaide, Adelaide) “Elucidating the androgen receptor cistrome in prostate cancer”  
3. Sudha Rao (University of Canberra, Canberra) “Epigenetic driven reinvigoration: Progress from mechanism to therapeutics and liquid biopsies in immune-oncology” |
| 6:10 - 6:40  | **Special Presentation:** Mohan Rao, Consultant Transplant Surgeon, Adelaide “The history and impact of renal transplantation in India”  
Chairperson: Wayne Tilley |
| 6:40 - 6:50  | Welcome to Country                                                        |
| 6:50 - 7:15  | Welcome Dinner                                                            |

**DAY 2 - Sunday, 17 November**

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| 9:00 - 10:35 | **Session 5: Stem cells: mechanisms and models of disease**  
Chairperson: Elizabeth Williams (Queensland University of Technology, Brisbane)  
1. Mark Nottle (University of Adelaide, Adelaide) “Embryonic stem cells. A tale of mice and men as well as pigs”  
2. Sharmila Bapat (National Centre for Cell Science, Pune) “Cancer stem cells and phenotypic plasticity in metastases”  
3. Cedric Bardy (South Australian Health & Medical Research Institute, Adelaide) “Modeling human brain disorders in vitro”  
4. Annapoorni Rangarajan (Indian Institute of Science, Bengaluru) “Stem cells in breast cancer initiation and progression” |
| 10:35 - 11:10| Break (Coffee)                                                            |
| 11:10 - 12:45| **Session 6: Omics and disease**  
Chairperson: John Bruning (University of Adelaide, Adelaide)  
1. Lisa Butler (University of Adelaide / South Australian Health & Medical Research Institute, Adelaide) “Lipidomics identifies clinically targetable biomarkers for prostate cancer”  
2. Daniel Kolarich (Institute for Glycomics, Griffith University, Brisbane) “Glycomics and glycoproteomics - deciphering the glyco-language of diseases”  
3. Mark Corbett (University of Adelaide, Adelaide) “Genomic approaches for discovery of non-coding variants in neurodevelopmental disorders”  
4. Ashwani Kumar (ICMR-Vector Control Research Centre, Puducherry) “Proteogenomic and transcriptomic approaches for accurate assembly and annotation of genomes” |
| 12:45 - 1:45 | Lunch                                                                     |
| 1:45 - 3:25  | **Session 7: New insights into disease mechanisms and novel therapeutic targets**  
Chairperson: Wendy Ingman (Basil Hetzel Institute/University of Adelaide, Adelaide)  
1. Sharad Kumar (Centre for Cancer Biology, Adelaide) “Caspase-2 dependent suppression of aneuploidy and tumourigenesis”  
2. Liz Caldon (Garvan Institute for Medical Research, Sydney) “BRCA1 mutation stabilises cyclin E1 in breast cancer to create a therapeutically targetable subset”  
3. David Waugh (Queensland University of Technology, Brisbane) “Re-education of tumor-associated macrophages in advanced prostate cancer”  
4. Harsha Gowda (QIMR Berghofer Medical Research Institute, Brisbane) “Novel avenues for therapeutic intervention based on proteogenomic landscape of esophageal squamous cell carcinoma” |
| 3:25 - 3:50  | Break (Coffee)                                                            |
| 3:50 – 5:25  | **Session 8: Immune response and immunotherapy**  
Chairperson: Michael Brown (Royal Adelaide Hospital, Adelaide)  
1. Shaun McColl (University of Adelaide, Adelaide) “The atypical chemokine receptor ACKR4 restrains anti-tumour immunity through regulation of CCL21”  
2. Simon Phipps (QIMR Berghofer Medical Research Institute, Brisbane) “Novel approaches for the treatment of viral bronchiolitis and prevention of later asthma” |
3. Nic Waddell (QIMR Berghofer Medical Research Institute, Brisbane) “Whole genome and RNAseq sequencing of cancers to predict response to immunotherapy”

4. Rajiv Khanna (QIMR Berghofer Medical Research Institute, Brisbane) “Harnessing the cellular immunity to fight cancers and infectious complications”

5:25 - 5:30 Short break

5:30 - 6:00 Special Presentation - Guest speaker: Professor Tom Calma AO, Chancellor, University of Canberra, Canberra. “Major challenges and successes in Indigenous health with a focus on prevention strategies and the importance of social and cultural determinants” Chairperson: Sheel Nuna

6:10 - 6:30 Buses depart from AHMS for conference dinner

7:00 Conference Dinner

**DAY 3 - Monday, 18 November**

9:00 - 10:35 Session 9: Better models of human disease
Chairperson: Judith Clements (Queensland University of Technology, Brisbane)

| 1. Maria Kavallaris (Children’s Cancer Institute, University of New South Wales, Sydney) “3D bioprinting tumours: Applications in drug screening and cancer biology” |
| 2. Kaylene Simpson (Peter MacCallum Cancer Centre, Melbourne) “Using high throughput cellular phenotyping to screen for novel disease targets” |
| 3. Renea Taylor (Monash University, Melbourne) “Using patient-derived xenografts to unveil prostate cancer phenotypes” |

10:35 - 11:00 Break (Coffee)

11:00 - 12:30 Session 10: Towards realising precision medicine
Chairperson: Wayne Tilley (University of Adelaide, Adelaide)

| 1. Shom Goel (Peter MacCallum Cancer Centre, Melbourne) “CDK4/6 inhibition in cancer – more than cell cycle arrest” |
| 2. Chamindie Punyadeera (Queensland University of Technology, Brisbane) “Liquid biopsy for detection of patients likely to develop metastasis in HNC and NSCLC” |
| 3. Melissa Davis (Walter and Eliza Hall Institute, Melbourne) “Molecular phenotypes and precision medicine: In silico sorting, subtyping and single patient analysis” |
| 4. Prashant Kumar (Institute for Bioinformatics, Bengaluru) “Patient derived circulating tumor cell cluster phenotype allows monitoring response to treatment and predicts survival” |

12:30 - 1:20 Lunch

1:20 - 3:20 Session 11: Realising precision medicine
Chairperson: Frank Gannon (QIMR Berghofer Medical Research Institute, Brisbane)

| 1. Philippa Middleton (South Australian Health & Medical Research Institute, Adelaide) “Can we reduce preterm birth through precision medicine?” |
| 2. Deborah White (University of Adelaide / South Australian Health & Medical Research Institute, Adelaide) “A systematic approach to understanding the factors that impact response of ALL patients to current therapies” |
| 3. Rebecca Robker (University of Adelaide, Adelaide) “Childhood obesity starts with egg and sperm” |
| 4. Susan Woods (South Australian Health & Medical Research Institute, Adelaide) “Patient derived organoids to guide personalised treatment for bowel cancer” |
| 5. Elgene Lim (Garvan Institute of Medical Research, Sydney) “Window (trials) to precision medicine” |

3:20 - 3:30 Short Break

3:30 - 4:00 Keynote Speaker: Alex Brown, Theme Leader, Aboriginal Health Equity, South Australian Health & Medical Research Institute, Adelaide “Overcoming inequity among indigenous Australians”

4:00 - 4:15 Meeting Close - Wayne Tilley and Sheel Nuna