

Polymorphic Immune Molecules and Their Functional Diversity Across Species

Program 3 - 5 November 2025

Monday November 3rd

13:00 Registration open

17:45 Paul Norman Welcome Introduction
Frans Claas Travel Awards

Chairs Paul Norman and Ronald Bontrop

18:15 John van Rood Prize Lecture:
John Trowsdale FMedSci
Immune Defence and Polymorphism

19:00 *Welcome drinks and dinner*

Tuesday November 4th

Session 1 Chairs: John Trowsdale and Anna Savage

09:00 **Louise Boyle**
Peptides Controlling the Orchestration of Immune Responses

09:30 Griffin Kutler Dodd
Chimpanzees and gorillas lack an MHC-A peptide-binding specificity common in humans

09:45 Malcom Sim
High-throughput discovery of novel HLA-C bound peptide ligands for NK cell receptor KIR2DS4

10:00 Jim Kaufman
A tissue-specific helminth-inducible class II system in birds (and mammals?)

10:15 *Break*

10:45 **Jacek Radwan**
MHC Genes in the Red Queen Race

11:15 Joanna Róžańska-Wróbel
Interplay between vertebrate adaptive immunity and bacterial infectivity genes: Bank vole MHC versus *Borrelia afzelii* OspC

11:30 Javier Avalos Nunez
Searching for signatures of natural selection within the regions encoding NK cell receptors

11:45 Tobias Lenz
T-cell repertoire diversity analysis in a small teleost as a natural model system for adaptive immunity

12:00 *Lunch*

Session 2 Chairs: Tobias Lenz and Alicia Sanchez-Mazas

13:00 **Natasja de Groot**
MHC Diversity in Great Ape Species: Evolution and Host-Pathogen Interactions

13:30 Thomas Goeury
Markov chain modelling of MHC sequences in 38 primates species reveals complex evolutionary events

13:45 Pascale Gerbault
Contrasting patterns of nucleotide diversity along MHC class I genes A, B and C in bonobos, chimpanzees and humans

14:00 Richard Natarajan
A quantitative characterisation of the extent of homopolymer and repeat region polymorphism within the MHC

14:15 *Break*

14:45 **John Hammond**
Combining Genomics and Single Cell Sequencing to Understand the Evolution of MHC and NK Cell Receptors in Non-Model Species

15:15 Avik Bhattacharya
High-resolution investigation of the LILR gene complex unveils extensive allele and allotype diversity

15:30 Jamie Winternitz
High-resolution genotyping of complex immune gene families in model and non-model species using hybrid target capture and long-read sequencing

15:45 Susan Ott
The characterization and annotation of the highly diverse genomic IG regions in rhesus macaques

Lightning talks Chairs: Steve Mack and Gottfried Fischer

16:00 Jonathan Beaumont
Phased reference sequence assembly of the LRC and NKC regions

16:09 Clinton Azuure
Population Structure and Diversity of HLA Genes Across African Populations

16:18 Christopher Thorpe
Quantifying HLA ancestry bias in immunological datasets.

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- 16:27 Daniel Alvarez-Sirvent
The HLA-DRB1*15:01 allele is associated with increased microglial activation in the aging brain, proposing a functional link between HLA Class II polymorphism and Alzheimer's disease neuropathology
- 16:36 Dominic Barker
Updates to the IPD Sequence Feature Annotation Tool: sequence annotation for genes of the KIR system
- 16:45 Jonathan Downing
KIR alleles in Lung transplantation
- 16:54 Helena Westerdahl
Highly consistent MHC-I gene expression patterns across life-stages, generations and tissues in a songbird
- 19:00 *Drinks and dinner*
- 20:30 Erik Rozemuller
A Royal Dessert (Compere = Wietse Mulder)
Jacob van der Beugel

Wednesday November 5th

Session 3 Chairs: Martin Maiers and Natasja de Groot

- 09:00 **Josephine Pemberton FRS**
Maintenance of MHC Class II Variation in a Wild Sheep
- 09:30 Dorothea Heimeier
MHC diversity in the New Zealand southern right whale (*Eubalaena australis*; Tohorā nō Aotearoa)
- 09:45 Johannes Dijkstra
Extreme allelic MHC class I diversification in bony fish: evolutionary and structural perspectives of the salmonid example
- 10:00 Tony De Tomaso
Exceptional diversity of allorecognition receptors in a non-vertebrate chordate reveal principles of innate allelic discrimination and convergent evolution of mammalian immunity
- 10:15 *Break*
- 10:45 **Anna Savage**
MHC Polymorphism and Disease Susceptibility in Wild Amphibian and Reptile Populations
- 11:15 Magdalena Migalska
Major Histocompatibility Complex in Salamanders: annotation pitfalls and evolution of complex immune regions in giant genomes

- 11:30 Dimitri Monos
The complete haplotypic characterization of the swine MHC using ONT adaptive sampling and sequencing. Optimizing the swine xenotransplantation model
- 11:45 Saghar Kaabinejadian
Canine MHC Class I Molecules and their Human Homologs

12:00 *Lunch*

Session 4 Chairs: Jill Hollenbach and Dmitri Monos

- 13:00 **Alexander Mentzer**
HLA, Hepatitis B and Viral Evasion: Unravelling Vaccine Immunity in Bangladeshi Infants
- 13:30 Keyi Zheng
Investigating the Role of Chromosome 14 IGH Locus in COVID -19 Vaccine Immunogenicity and Infection
- 13:45 Kristen Wade
Novel multiple sclerosis MHC risk loci impact expression of cellular homeostasis , innate immune and viral infection pathways in EBV-transformed B-cells
- 14:00 Katherine Kichula
Dual effects of maternal killer cell immunoglobulin-like receptor genotype on preeclampsia risk in Ugandan women
- 14:15 *Break*
- 14:45 **Ed Hollox**
Copy Number Variation of Immunity Genes in the Age of Biobanks
- 15:15 Gabriela Sato Paes
Population-Specific Diversity of KIR2DS1 and KIR2DS4 Activating Receptors: Allelic Variation and Copy Number Patterns Across Global Ancestries
- 15:30 Joanna Malukiewicz
Organization, Diversity, and Copy Number Variation in the Major histocompatibility complex (MHC) region of Brazilian Marmosets (*Callithrix*)
- 15:45 Jesse Bruijnesteijn
Structural diversity and allelic polymorphism in the LILR gene cluster of humans and rhesus macaques
- 16:00 Martin Maiers and Jill Hollenbach
Closing Remarks
- 19:00 *Drinks and dinner*