

CMPD6 - Tuesday 2023-05-23

Schultz Theatre

Time	Talk
8:15 - 8:30	Conference opening at 8:15
8:30 - 9:30	<i>Folashade Agosto</i> From cultural practices to risky behaviors to public sentiment: Modeling human behavior and disease transmission
9:30 - 10:00	Morning coffee break
10:00 - 10:30	<i>Julien Arino</i> Role of case introductions in the community spread of infectious diseases
10:30 - 11:00	<i>Jorge Velasco-Hernandez</i> Modeling a traffic light warning system for acute respiratory infections
11:00 - 11:30	<i>Amy Veprauskas</i> Pathogen dynamic in a tick-host system: A discrete-time modeling approach
11:30 - 12:00	<i>Donglin Han</i> Retrospective estimation of proportion of total infections of COVID-19 during the first wave in Alberta
13:30 - 14:30	<i>Marisa Eisenberg</i> Identifiability and infectious disease interventions: exploring when uncertainty matters
14:30 - 15:00	Afternoon coffee break
15:00 - 15:30	<i>Jane Heffernan</i> Seasonality and Influenza pH1N12009 Vaccination Impact
15:30 - 16:00	<i>Jude Kong</i> Mpox dynamic model: incorporating adaptive behavioural changes, different control strategies in the MSM community & under-reporting
16:00 - 16:30	<i>Pei Yuan</i> Modelling for informing public health policy on prevention and control of COVID-19 epidemics in Toronto, Canada
16:30 - 17:00	<i>Adriana-Stefania Ciupeanu</i> Dynamics of COVID-19 Variants of Concern
17:30 - 20:00	Welcome reception

CMPD6 - Tuesday 2023-05-23

Room 202

Time	Talk
10:00 - 10:30	<i>Tracy Stepien</i> Deciphering Glioma Microenvironment Entry Mechanisms of Myeloid-Derived Suppressor Cells
10:30 - 11:00	<i>Erica Rutter</i> Modeling and Estimating Intratumoral Heterogeneity in Cancer
11:00 - 11:30	<i>Morgan Craig</i> The TME determines the efficacy of immunotherapies to treat glioblastoma
11:30 - 12:00	<i>Ernesto Lima</i> Development and calibration of a stochastic, multiscale agent-based model for predicting tumor and vasculature growth
15:00 - 15:30	<i>Kathleen Wilkie</i> Modelling Radiation Cancer Treatment with Ordinary and Fractional Differential Equations
15:30 - 16:00	<i>Ryan Thiessen</i> Travelling waves of a new glioma invasion model
16:00 - 16:30	<i>Nadia Loy</i> A non-local kinetic model for cell migration : a study of the interplay between contact guidance and steric hindrance
16:30 - 17:00	<i>Furkan Kurtoglu</i> Modeling Colorectal Cancer Spheroids using Agent-Based Modeling Including Metabolism

CMPD6 - Wednesday 2023-05-24

Schultz Theatre

Time	Talk
8:30 - 9:30	<i>Jim Cushing</i> Discrete-time models of infectious diseases: a project in memory of Aziz-Abdul Yakubu
9:30 - 10:00	Morning coffee break
10:00 - 10:30	<i>Xuyuan Wang</i> Detecting and Resolving Nonidentifiability In Infectious Diseases Modeling
10:30 - 11:00	<i>Pauline van den Driessche</i> Disease-Induced Hydra Effect
11:00 - 11:30	<i>Marie Betsy Varughese</i> Incorporating Health Seeking Behaviour in a Deterministic Model for Influenza
11:30 - 12:00	<i>Jacques Bélair</i> Modeling the use of Fangsang Shelter Hospitals in Wuhan
13:30 - 14:30	<i>Jay Newby</i> Dynamic self organization and microscale fluid properties of nucleoplasm
14:30 - 15:00	Afternoon coffee break
15:00 - 15:30	<i>Abba Gumel</i> Mathematical Assessment of the Role of Pre-Exposure Prophylaxis on the HIV Pandemic
15:30 - 16:00	<i>Tanya Philippsen</i> A retrospective modelling analysis of the effect of control measures on the transmission of SARS-CoV-2 in Canada
16:00 - 16:30	<i>Tanuja Das</i> An eclipse-phase lag drives oscillations in a viral infection model with a general growth function
16:30 - 17:00	<i>Marisa Eisenberg</i> Models to inform wastewater-based epidemiology: identifiability, uncertainty, and opportunities

CMPD6 - Wednesday 2023-05-24

Room 118

Time	Talk
10:00 - 10:30	<i>Kathleen Wilkie</i> Modelling the Evolution of the Immune Response to Cancer
10:30 - 11:00	<i>Suzan Farhang-Sardroodi</i> Mathematical model of muscle wasting in cancer cachexia incorporated with immunology
11:00 - 11:30	<i>Samaneh Gholami</i> Mathematical Modeling of Immune Response to Protein Subunit COVID-19 Vaccines
11:30 - 12:00	<i>Rebecca Bekker</i> Black Holes in TIME: the Effect of GRID Radiation on the Tumor-Immune Micro-environment
15:00 - 15:30	<i>Jessica Conway</i> Heterogeneity in HIV viral rebound
15:30 - 16:00	<i>Tin Phan</i> Modeling the emergence of viral resistance in SARS-CoV-2 patients treated with an anti-spike monoclonal antibody
16:00 - 16:30	<i>Xiaoyan Deng</i> Predicting heterogeneous CD8+ immune memory responses in COVID-19 using a virtual patient cohort
16:30 - 17:00	<i>Chapin Korosec</i> Longitudinal immunological outcomes from three doses of COVID-19 vaccines in people living with HIV: antibodies, memory-B cells, cytokines, and a novel within-host immunological model

CMPD6 - Wednesday 2023-05-24

Room 202

Time	Talk
15:00 - 15:30	<i>Ryo Oizumi</i> Analytical Representation of Eigensystem in Multiregional Leslie Matrix Model: Application to Sensitivity Analysis of Population Declining in Japan
15:30 - 16:00	<i>Loïc Louison</i> A Population Harvesting Model with Time and size Competition Dependence Function
16:00 - 16:30	<i>Joseph Baafi</i> Modelling the Impact of Seasonality on Mosquito Population Dynamics: Insights for Vector Control Strategies.
16:30 - 17:00	<i>Yasuhiro Takeuchi</i> Stability analysis of a single-species logistic model with time delay and constant inflow

CMPD6 - Wednesday 2023-05-24

Room 204

Time	Talk
10:00 - 10:30	<i>Chinwendu Emilian Madubueze</i> Modelling transmission dynamics of Lassa fever transmission with two environmental pathway transmissions
10:30 - 11:00	<i>Bernard Cazelles</i> Modeling infectious disease dynamics: the challenge of non-stationarity
11:00 - 11:30	<i>Tanuja Das</i> Effect of a novel generalized incidence rate function in SIR model: stability switches and bifurcations
11:30 - 12:00	<i>Anuraag Bukkuri</i> Models of Resistance in State-Structured Cancer Populations

CMPD6 - Thursday 2023-05-25

Schultz Theatre

Time	Talk
8:30 - 9:30	<i>Zhisheng Shuai</i> Heterogeneity and Aggregation in Modeling Infectious Diseases
9:30 - 10:00	Morning coffee break
10:00 - 10:30	<i>Jessica Conway</i> Modeling PrEP-on-demand strategies to prevent HIV transmission
10:30 - 11:00	<i>Fabian Cardozo-Ojeda</i> Mathematical modeling of gene and cell therapy for HIV cure
11:00 - 11:30	<i>Tin Phan</i> Integrating wastewater surveillance data with epidemic models: challenges and opportunities
11:30 - 12:00	<i>Stacey Smith?</i> Coupling the within-host process and between-host transmission of COVID-19 suggests vaccination and school closures are critical
13:30 - 14:30	<i>Esteban A. Hernandez-Vargas</i> The Shapes of Immunological Data during Respiratory Infections
14:30 - 15:00	Afternoon coffee break
15:00 - 15:30	<i>Erica Rutter</i> Global Sensitivity Analysis of a Structured Model of COVID-19 Transmission on a College Campus
15:30 - 16:00	<i>Jonathan Forde</i> Modeling the challenges of optimal resource deployment for epidemic prevention
16:00 - 16:30	<i>Suzan Farhang-Sardroodi</i> Mathematical Modelling of the Impact of Human Immune Diversity on COVID-19 transmission
16:30 - 17:00	<i>Stanca Ciupe</i> Multiscale models of SARS-CoV-2 infection
17:00 - 19:30	Barbecue at Daily Bread Café

CMPD6 - Thursday 2023-05-25

Room 202

Time	Talk
10:00 - 10:30	<i>Andrea Pugliese</i> Combining data from surveillance on mosquitoes and corvids to understand the factors affecting the dynamics of West Nile Virus in Emilia-Romagna, Italy
10:30 - 11:00	<i>Abba Gumel</i> Mathematics of Wolbachia-based biocontrol of mosquito-borne diseases
11:00 - 11:30	<i>Fabio Milner</i> A mosquito-bird-human model for West Nile virus disease transmission
11:30 - 12:00	<i>Jorge Velasco-Hernandez</i> The Ross-Mcdonald model revisited: linking transmission and within-host dynamics
15:00 - 15:30	<i>Nourridine Siewe</i> Increase Hemoglobin Level in Severe Malarial Anemia while Controlling Parasitemia: A Mathematical Model
15:30 - 16:00	<i>Folashade Agosto</i> Exploring the effects of prescribed fire and rising temperature on tick-borne diseases
16:00 - 16:30	<i>Christopher Kribs</i> Impact of tetravalent dengue vaccination with screening, ADE, and altered infectivity on dengue and Zika transmission

CMPD6 - Thursday 2023-05-25

Room 204

Time	Talk
10:00 - 10:30	<i>Kang-Ling Liao</i> The opposite functions and treatment outcomes of CD200-CD200R in cancer
10:30 - 11:00	<i>Harsh Vardhan Jain</i> A quantitative evaluation of an anti-cancer vaccine for treating advanced prostate cancer
11:00 - 11:30	<i>Leili Shahriyari</i> Digital twins of cancer patients: a step toward personalized treatments
11:30 - 12:00	<i>Nourridine Siewe</i> TGF-beta inhibition can overcome cancer primary resistance to PD-1 blockade: a mathematical model
15:00 - 15:30	<i>Vitalii Akimenko</i> Numerical Method for the Age-structured SIPCVC Epidemic Model of Healthy cells, Dysplasia, Cervical Cancer Cells and HPV Dynamics
15:30 - 16:00	<i>Ranjini Bhattacharya</i> Angiogenesis in Cancer: A Tragedy of Commons

CMPD6 - Friday 2023-05-26

Schultz Theatre

Time	Talk
8:30 - 9:30	<i>Anna Marciniak-Czochra</i> Evolution of stem cell populations: Mechanistic mathematical modelling vs single cell data
9:30 - 10:00	Morning coffee break
10:00 - 10:30	<i>Blessing Emerenini</i> Data Assimilation of Quorum Sensing Regulation of Bacteria-Phage Interaction in Biofilm
10:30 - 11:00	<i>Nourridine Siewe</i> Breast cancer exosomal microRNAs facilitate pre-metastatic niche formation in the bone: A mathematical model
11:00 - 11:30	<i>Sarafa Iyaniwura</i> Understanding the efficacy of capsid protein allosteric modulators using a multiscale model of hepatitis B virus
14:00 - 14:30	<i>Ephraim Agyingi</i> Modeling immune system priming: the miracle that saved Sub-Sahara Africa from COVID-19
14:30 - 15:00	<i>Jude Kong</i> Leveraging mathematical models to support early management of an emerging disease outbreak: the case of Covid-19 and Africa
15:00 - 15:30	<i>Jemal Mohammed-Awel</i> Mathematics model for assessing the impacts of pyrethroid resistance and temperature on population abundance of malaria mosquitoes
15:30 - 16:00	<i>Huaiping Zhu</i> Predictive modelling and forecasting of the mosquito abundance and risk of West Nile virus in Ontario Canada

CMPD6 - Friday 2023-05-26

Room 118

Time	Talk
10:00 - 10:30	<i>Lorenzo Pellis</i> Multi-scale time-since-infection models in evolutionary epidemiology
10:30 - 11:00	<i>Veronika Zarnitsyna</i> Competing Heterogeneities in Vaccine Effectiveness Estimation
11:00 - 11:30	<i>Nicola Mulberry</i> A nested model for pneumococcal population dynamics
14:00 - 14:30	<i>Asami Anzai</i> Estimating importation cases using mobility data
14:30 - 15:00	<i>Amanda Bleichrodt</i> Multi-model forecasts in the context of the Mpox outbreak in multiple countries (July 28th, 2022 through January 26th, 2023)
15:00 - 15:30	<i>Hiroshi Nishiura</i> Night-time population consistently explains the transmission dynamics of coronavirus disease 2019 in three megacities in Japan
15:30 - 16:00	<i>Katsuma Hayashi</i> Reconstructing the temporal dynamics of clustering from cluster surveillance of COVID-19

CMPD6 - Friday 2023-05-26

Room 202

Time	Talk
10:00 - 10:30	<i>Marek Kimmel</i> Site frequency spectra and estimation of clonal dynamics of tumors
10:30 - 11:00	<i>Brandon Legried</i> Inferring phylogenetic birth-death models from extant lineages through time
11:00 - 11:30	<i>Xiaochen Long</i> A Branching Process Model of Clonal Hematopoiesis
11:30 - 12:00	<i>Ren-Yi Wang</i> Analysis of A Countable-Type Branching Process Model for the Tug-of-War Cancer Cell Dynamics
14:00 - 14:30	<i>Toshiyuki Namba</i> Unexpected coexistence and extinction in an intraguild predation system
14:30 - 15:00	<i>Sonja Türpitz</i> Considering Subpopulations in Modelling Facultative Mutualism Reveals a New Approach to Model Interspecific Interactions
15:00 - 15:30	<i>Clotilde Djuiem</i> Impulsive modelling of rust dynamics and predator releases

CMPD6 - Saturday 2023-05-27

Schultz Theatre

Time	Talk
8:30 - 9:30	<i>Jane Heffernan</i> Modelling Immunity to SARS-CoV-2
9:30 - 10:00	Morning coffee break
10:00 - 10:30	<i>Azmy Ackleh</i> A Multiple-Strain Susceptible-Infected Model with Diffusion Formulated on the Space of Radon Measures
10:30 - 11:00	<i>Robert Stephen Cantrell</i> Resource Matching in Spatial Ecology and Evolutionary Advantage
11:00 - 11:30	<i>Paul Salceanu</i> Robust uniform persistence for structured models of delay differential equations
11:30 - 12:00	<i>Amy Veprauskas</i> The interplay between dispersal and Allee effects in discrete-time population models

CMPD6 - Saturday 2023-05-27

Room 118

Time	Talk
10:00 - 10:30	<i>Jacques Bélair</i> Population models with state-dependant delays
10:30 - 11:00	<i>Morgan Craig</i> Delays in the cell cycle: implications in immune responses
11:00 - 11:30	<i>Huaiping Zhu</i> A two-stage model with distributed delay for mosquito population dynamics
11:30 - 12:00	<i>Guihong Fan</i> Delayed model for the transmission and control of COVID-19 with Fangcang Shelter Hospitals