

# ECOLOGY and EVOLUTION/BIOCHEMISTRY and PHYSIOLOGY

April 1, 2023 NCB114

Evaluators: Greg Thorn, Mark Bernards, Jessica Sinka

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8:45-9:00 a.m. **LOAD PRESENTATIONS**

9:00-9:15 a.m. **Eva Visscher** (Dr. Keith Hobson)  
Dietary niches of colonial waterbirds breeding on the Laurentian Great Lakes established with stable-isotope analysis ( $\delta^{13}\text{C}$  and  $\delta^{15}\text{N}$ ) of chick blood

9:15-9:30 a.m. **Ryan Matteazzi** (Dr Greg Thorn)  
Multilocus phylogenetic analysis of jelly fungi, *Exidia*

9:30-9:45 a.m. **Shaira Shafiquzzaman** (Dr. Ben Rubin)  
Validating and calibrating indices of gap age

9:45-10:00 a.m. **Julia Lacika** (Dr. Graham Thompson)  
Towards probiotic supplementation of honeybee queens: a first test of microbe viability in edible bee candy

10:00-10:15 a.m. **Prianca Joseph** (Dr. Hugh Henry)  
Fall nitrogen retranslocation and frost tolerance in common buckthorn

10:15-10:45 a.m. **Coffee Break**  
**LOAD PRESENTATIONS FOR THE NEXT PRESENTORS**

10:45-11:00 a.m. **Giulia Clarizio** (Dr. Sheila Macfie)  
Fatal fungicides: examining the effects of applied copper on hydroponically-grown *Brassica napus*

11:00-11:15 a.m. **Michelle Tzanetakis** (Dr. Christopher Guglielmo)  
Assessing if migratory songbirds are receiving marine-derived nutrients at coastal sites in Eastern New Brunswick

11:15-11:30 a.m. **Aisha Ali** (Dr. Mark Bernards)  
Characterization of primary metabolites in wound-healing potato tubers with RNAi silenced *FHT* and *FACT* genes

11:30-11:45 a.m. **Lance Javier** (Dr. Sheila Macfie)  
Soybean response to microplastic and copper in soil

11:45-12:00 p.m. **Ryan Weiner** (Dr. Natasha Mhatre)  
Using finite element models to capture the effect of veins on the vibrational behaviour of field cricket forewings

12:00-12:15 p.m. **Arvindsai Satishkumar** (Dr. Jim Staples)  
Seasonal plasticity of the myocardium of yellow-rumped warblers, *Setophaga coronata*, to cope with the increased heart demands during migration

12:15 p.m. **MEET FOR AWARDS FOR BEST PRESENTATIONS**

# ECOLOGY and EVOLUTION

April 1, 2023 NCB117

Evaluators: Andre Lachance, Jennifer Peters, Ryley Yost

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8:45-9:00 a.m. **LOAD PRESENTATIONS**

9:00-9:15 a.m. **Alexis Sherbourne** Dr. (David Coltman)  
Hunting-induced selection on thinhorn sheep (*Ovis dalli*) horn morphology

9:15-9:30 a.m. **Sravanthi Cheekati** (Dr. Graeme Taylor)  
Trade-offs in rusty crayfish morphology

9:30-9:45 a.m. **Michela Contursi** (Dr. Nusha Keyghobadi)  
Temporal analysis of genetic diversity in an isolated population of Bog Copper butterflies, *Tharsalea epixanthe*

9:45-10:00 a.m. **Ashleigh Vos** (Dr. Paul Mensink)  
Marine biodiversity assessment around the Maiden Islands using baited remote underwater video (BRUVs)

10:00-10:15 a.m. **Kate Robinson** (Dr. Liana Zanette)  
Testing for enduring effects of fear in the brains of free-living meadow voles (*Microtus pennsylvanicus*) using  $\Delta$ FosB

10:15-10:45 a.m. **Coffee Break**  
**LOAD PRESENTATIONS FOR THE NEXT PRESENTORS**

10:45-11:00 a.m. **Shenella George** (Graham Thompson)  
Preparing honeybee (*Apis mellifera*) brain tissue for histological staining: a methods overview

11:00-11:15 a.m. **Madeleine Wong** (Dr. Yolanda Morbey)  
Exploring sex-based differential fall migration of adult ovenbirds (*Seiurus aurocapilla*)

11:15-11:30 a.m. **Michelle Ziemski Cho** (Dr. David Coltman)  
Examining the evolution of *Ovis dalli* (thinhorn) and *Ovis canadensis* (bighorn) sheep using whole mitochondrial genomes

11:30-11:45 a.m. **Matthew Chung** (Dr. Liana Zanette)  
The enduring effects of fear on neurogenesis in free-living meadow voles

11:45-12:00 p.m. **Amber Patten** (Dr. Greg Thorn)  
Phylogenetic analysis of *Elaphomyces* from New Brunswick and Nova Scotia

12:15 p.m. **MEET FOR AWARDS FOR BEST PRESENTATIONS**

# GENETICS, MOLECULAR BIOLOGY and DEVELOPMENT 1

April 1, 2023      NCB293

Evaluators: Sash Damjanovski, Tony Percival-Smith, Jordan VanderBurgt

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8:45-9:00 a.m.      **LOAD PRESENTATIONS**

9:00-9:15 a.m.      **Emily Kesteloot** (Dr. Kathleen Hill)

Expanding the capability of machine learning with digital signal processing (MLDSP) to classify SNP genotype data by phenotype

9:15-9:30 a.m.      **Adam Shedeed** (Dr. Bogumil Karas)

Building a genetic toolbox for *Haemophilus influenzae*

9:30-9:45 a.m.      **Roukayah Rifai** (Dr. Sashko Damjanovski)

From the shadows: revealing MT1-MMP's novel mechanisms in human breast cancer cell death

9:45-10:00 a.m.      **Caleb Charette** (Dr. Kathleen Hill)

Expanding the machine learning with digital signal processing pipeline for classification of novel data: a case study on bat calls

10:00-10:15 a.m.      **Jacob Trombley** (Dr. Rima Menassa)

Plant production and improved purification of protein nanoparticle vaccine candidates against porcine reproductive and respiratory syndrome virus

10:15-10:45 a.m.      **Coffee Break**

**LOAD PRESENTATIONS FOR THE NEXT PRESENTORS**

10:45-11:00 a.m.      **Josey Marks** (Dr. Vojislava Grbic)

The role of phenylpropanoids in *Arabidopsis thaliana* defense against *Tetranychus urticae* herbivory

11:00-11:15 a.m.      **Jiayi Xu** (Dr. Jim Karagiannis)

Role of Cch1p calcium channel in the fission yeast cytokinesis checkpoint response

11:15-11:30 a.m.      **Livy Lyon** (Dr. Sasko Damjanovski)

Characterizing the interaction between membrane type 1 matrix metalloproteinase (MMP) and hyaluronan mediated motility receptor (HMMR)

11:30-11:45 a.m.      **Kathleen Hon** (Dr. Vojislava Grbic)

Assessing amiRNA format of actin as a genetic target for RNAi efficiency in *Tetranychus urticae*

11:45-12:00 p.m.      **Oluwapelumi Adeyemo** (Dr. Nusha Keyghobadi)

The butterfly who never left home: a study of one gene's effects on butterfly dispersal

12:15 p.m.      **MEET FOR AWARDS FOR BEST PRESENTATIONS**

## GENETICS, MOLECULAR BIOLOGY and DEVELOPMENT 2

April 1, 2023      NCB295

Evaluators: Greg Kelly, Anne Simon, Donovan McDonald

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8:45-9:00 a.m.      **LOAD PRESENTATIONS**

9:00-9:15 a.m.      **Ethan Zand** (Dr. Vojislava Grbic)  
Evaluating spiromesifen resistance in various populations of two spotted spidermites

9:15-9:30 a.m.      **Jessica Arci** (Dr. Jim Karagiannis)  
The role of the cat1p amino acid transporter in the fission yeast cytokinesis checkpoint response

9:30-9:45 a.m.      **Jessika Noenchen** (Dr. Edward Topp)  
The effects of long-term streptomycin application on the abundance of antibiotic resistant bacteria and co-selection for additional antibiotic resistance in apple orchard soils

9:45-10:00 a.m.      **Sara Cristiano** (Dr. Alexander Timoshenko)  
Investigating neutrophil-like phenotypes of HL-60 cells induced by different compounds

10:00-10:15 a.m.      **Connor Holmes** (Dr. Kathleen Hill)  
Machine learning gone viral: new perspectives on *Astrovirus* and *Tobamovirus* taxonomy leveraging alignment-based and alignment-free genome comparisons

10:15-10:45 a.m.      **Coffee Break**  
**LOAD PRESENTATIONS FOR THE NEXT PRESENTORS**

10:45-11:00 a.m.      **Karen Nagy** (Dr. Kathleen Hill)  
A mysterious case of a somatic gene deletion: single copy loss of the developmental gene, *hoxa13*, in a mouse family

11:00-11:15 a.m.      **C'airah Ceolin** (Dr. Greg Kelly)  
Insights into nek2 expression during zebrafish development

11:15-11:30 a.m.      **Cooper Brabrook** (Dr. Anthony Percival-Smith)  
Phenotypic non-specificity of signal transduction pathway function in *Drosophila melanogaster*

11:30-11:45 a.m.      **Maegha Subramaniam** (Dr. Martin Duennwald)  
The unique role of DNAJC7 in cellular protein quality control

11:45-12:00 p.m.      **Sinead Osivwemu** (Dr. Kathleen Hill)  
The concurrent validity of ML-DSP: a novel mode of fNIRS analysis

12:15 p.m.      **MEET FOR AWARDS FOR BEST PRESENTATIONS**