


2021 Midwest *Drosophila* Conference



October 23rd-24th, 2021
Virtual Zoom Conference

2021 Midwest Drosophila Conference Schedule

Zoom links will be provided to registered attendees via Whova.

*All times are CST.

Saturday, October 23rd, 2021

9:00 AM – 9:15 AM Opening Remarks (Jennifer Jemc Mierisch)

**9:15 AM – 10:30 AM Session 1: Neurobiology
(Moderator: Alder Yu)**

9:15 AM, Fly seizure EEG: field potential activity in the Drosophila brain

Atulya Iyengar and Chun-Fan Wu

Presenting author: Atulya Iyengar

University of Iowa

9:30 AM, Loss of the nuclear export factor Nxt1 suppresses TDP-43 toxicity in Drosophila

Pedro Fernandez-Funez, Ryan Meyers, Weiguan Zhang, Aliciarose John, Wen-Quan Zou, Alessandro Cembran

Presenting author: Pedro Fernandez-Funez

University of Minnesota

9:45 AM, miR-277 targets hid to ameliorate A β 42-mediated neurodegeneration in Drosophila eye model of Alzheimer's Disease

Prajakta Deshpande, Chao-Yi Chen, Catherine Yeates, Chun-Hong Chen, Madhuri Kango-Singh, and Amit Singh

Presenting author: Prajakta Deshpande

University of Dayton

10:00 AM, The Role of Glial Peroxisome in Neuron-Glia Communication in Drosophila

Maggie Sodders

Presenting author: Maggie Sodders

Iowa State University

10:15 AM, Spatial and Temporal Control of Circadian Clock System

Swathi Yadlapalli, Yangbo Xiao, and Ye Yuan

Presenting author: Swathi Yadlapalli

University of Michigan

10:30 AM – 11:15 Socializing/Networking Opportunities

11:15 AM – 12:30 PM Session 2: Development and Gametogenesis (Moderator: Lynn Bostrom)

11:15 AM, Basement membrane protein secretion is directed to a basal region of the basolateral membrane in epithelial cells by kinesin-3 and kinesin-1 motors

Allison Zajac and Sally Horne-Badovinac

Presenting author: Allison Zajac

University of Chicago

11:30 AM, **Lipid droplets regulate actin remodeling via prostaglandin signaling during *Drosophila* oogenesis**

Michelle Giedt, Jonathon Thomalla, Matthew Johnson, Zon Weng Lai, and Tina Tootle

Presenting author: Michelle Giedt

University of Iowa Dept of Anatomy and Cell Biology

11:45 AM, **Role of M1BP, a transcriptional pausing transcription factor in JNK-mediated cell death during eye development**

Hannah Darnell, Anuradha Chimata, and Amit Singh

Presenting author: Hannah Darnell

University of Dayton

12:00 PM, **Temporal-specific requirement of Bruno1 in *Drosophila* flight muscle to support myofibril assembly, growth and maturation**

Maria Spletter, Elena Nikonova, Marc Canela Grimau, and Tobias Straub

Presenting author: Maria Spletter

Ludwig-Maximilians-University Munich

12:15 PM **Nuclear actin is a critical regulator of *Drosophila* germline stem cell maintenance**

Nicole Green and Tina Tootle

Presenting author: Nicole Green

Carver College of Medicine, University of Iowa

12:30-12:45 PM Break

12:45 PM-1:45 PM Poster Session 1 (Odd Numbers)

1:45 PM-2:45 PM Poster Session 2 (Even Numbers)

2:45 PM-3:00 PM Wrap Up Day 1 (Alysia Vrailas-Mortimer)

Sunday, October 24th, 2021

9:00 AM – 9:15 AM Opening Remarks Day 2 (Alysia Vrailas-Mortimer)

**9:15 AM – 10:30 AM Session 3: Metabolism
(Moderator: Rebecca Palu)**

9:15 AM, **SIN3 isoforms differentially regulate energy metabolism and cell survival**

Anindita Mitra and Lori Pile

Presenting author: Anindita Mitra

Wayne State University

9:30 AM, **Genome wide association study of sugar-based compensatory feeding in *Drosophila***

Mubaraq Opoola, Makayla Wright, Sarayu Alli, Nicholas Wright, and Dae-Sung Hwangbo

Presenting author: Mubaraq Opoola

University of Louisville

9:45 AM, **Mitophagy receptor function in *Drosophila* neurons is mediated by kenny, homolog of mammalian optineurin**

Ryan Insolera, Lynsey Randolph, and Catherine Collins
Presenting author: Ryan Insolera
Wayne State University

10:00 AM, **CG33143 Regulates Exercise Performance and Adaptations in *Drosophila***
Tyler Cobb, Myungjin Kim, Jun Hee Lee, and Robert Wessells
Presenting author: Tyler Cobb
Wayne State University

10:15 AM, **Investigating Flock House virus-mediated changes in bioenergetics in aged *Drosophila melanogaster***
Dean Bunnell, Eli Hagedorn, Beate Henschel, Daniel L. Smith, Stephanie Dickinson, Andrew Brown, Maria DeLuca, Ashley Turner, and Stanislava Chtarbanova
Presenting author: Dean Bunnell
University of Alabama

10:30 AM – 11:15 Socializing/Networking Opportunities

11:15 AM – 12:45 PM Session 4: Resources, Education, and Cell Biology (Moderators: Doug Brusich and Amelia Lindsey)

11:15 AM, **Update from the BDSC**
Cale Whitworth, Collections Manager and Scientific Staff
Bloomington *Drosophila* Stock Center
Indiana University

11:25 AM, **Update from the DGRC**
Daniel Mariyappa, Associate Director
Drosophila Genomics Resource Center
Indiana University

11:35 AM, **Update from FlyBase**
Brian Calvi, Director
Indiana University

11:45 AM, **Fly-CURE enables students to participate in mapping of *Drosophila* mutants and increases their science self-efficacy and sense of belonging both before and during the COVID-19 pandemic**
Jacob Kagey, Kayla Bieser, Joyce Stamm, and Alysia Vrailas-Mortimer
Presenting author: Jacob Kagey
University of Detroit Mercy

12:00 PM, **Acyl-coA binding proteins alter cell death in a model of retinal degeneration**
Maxwell Jenkins and Rebecca Palu
Presenting author: Maxwell Jenkins
Indiana Tech

12:15 PM **Examining roles for the Mi-2 chromatin remodeler in cell cycle exit**
Elli Buchert, Yiqin Ma, and Laura Buttitta
Presenting author: Elli Buchert
University of Michigan - Ann Arbor

12:30 PM **Suppression of muscle dysfunction caused by mutant lamins**

Jose Rios-Monterrosa, Gary Coombs, Ashley Goll, Margaret Ketterer, Maria Valdes, and Lori Wallrath
Presenting author: Jose Rios-Monterrosa
University of Iowa

12:45-1:00 PM Break

1:00 PM-2:00 PM Poster Session 1 (Odd Numbers)

2:00 PM-3:00 PM Poster Session 2 (Even Numbers)

3:00 PM-3:30 PM Awards and Business Meeting (Jennifer Mierisch)

Posters

[1] Disentangling siRNA, epigenetic modifications, and X chromosome recognition

Sudeshna Biswas

Presenting Author: Sudeshna Biswas

Wayne State University

[2] The ubiquitin-binding site 1 of ataxin-3 mitigates toxicity in a Drosophila model of Spinocerebellar Ataxia Type 3

Matthew Prifti, Kozeta Libohova, and Sokol Todi

Presenting Author: Matthew Prifti

Wayne State University School of Medicine Department of Pharmacology

[3] The Thanos Requirement in Transdetermination Leads to an End Game on Wing Cell Fates as Ectopic Eyes Develop

Alison Smith and Justin Kumar

Presenting Author: Alison Smith

Indiana University Bloomington

[4] Defining the roles of PLIN2 during border cell migration

Jocelyn Olivera-Martinez, Michelle Giedt, and Tina Tootle

Presenting Author: Jocelyn Olivera-Martinez

University of Iowa

[5] Evaluation of a behavioral model of post-traumatic epilepsy in fruit flies

Douglas Brusich, Tori Krcmarik, Ashley Willes, A Yang, and Sydney Weber

Presenting Author: Douglas Brusich

UW - Green Bay

[6] Genetic modifiers of hyperglycemia in a Sirt1 loss-of-function model of diabetes

Rebecca Palu and Katie Owings

Presenting Author: Rebecca Palu

Purdue University-Fort Wayne

[7] Investigating the immune role of amyloid beta peptide in Alzheimer's disease pathogenesis

Nguyen Le, Ashley Waring, Emma Hartness, and Nathan Mortimer

Presenting Author: Nguyen Le

Illinois State University

[8] Structure function analysis of Defective proventriculus (Dve) in Drosophila melanogaster eye growth and development

Anuradha Chimata, Madhuri Kango-Singh, and Amit Singh
Presenting Author: Anuradha Chimata
University of Dayton

[9] Drosophila PhLP3/CG4511 is Required for Spermatogenesis

Christopher Petit, Claire Chaikin, and Jennifer Jemc Mierisch
Presenting Author: Christopher Petit
Loyola University Chicago

[10] Ras oncogenic allele-dependent clonal expansion and regression

Takuya Akiyama and Matthew Gibson
Presenting Author: Takuya Akiyama
Stowers Institute for Medical Research

[11] Studying the essential transcription factor GAGA factor to determine the functional significance of non-uniform protein distribution in the nucleus

Hao-Yu Huang, Marissa Gaskill, Katherine Vietor, and Melissa Harrison
Presenting Author: Hao-Yu Huang
University of Wisconsin-Madison

[12] Mechanical activation of mitochondrial energy metabolism during cell differentiation

Zong-Heng Wang, Christian Combs, Jay Knutson, Yongshun Lin, Jizhong Zou, Mary Lilly, and Hong Xu
Presenting Author: Zong-Heng Wang
National Heart, Lung, and Blood Institute

[13] Prostaglandins restrict nuclear actin to limit nucleolar activity

Bailey Vormezelee, Danielle Talbot, Dylane Wineland, Garret Kimble, Daniel Kelpsch, and Tina Tootle
Presenting Author: Bailey Vormezelee
University of Iowa, Carver College of Medicine

[14] Role of microRNAs (miRs) in Drosophila aging antiviral immunity

Amber Thibeaux, Lakbira Sheffield, and Stanislava Chtarbanova
Presenting Author: Amber Thibeaux
University of Alabama

[15] Parkinson's disease genes interact with ATP7 to regulate copper distribution and availability in Drosophila melanogaster

Brooke Allen and Alysia Vrailas-Mortimer
Presenting Author: Brooke Allen
Illinois State University

[16] The role of Drosophila Stat92E signaling in response to repeated alcohol exposures

Alexandria Wilson, Erica Periandri, and Emily Petruccelli
Presenting Author: Alexandria Wilson
Southern Illinois University Edwardsville

[17] Drosophila Matrix Metalloproteinase 2 cleaves and destabilizes Dally-like protein to attenuate Wg distribution

Indrayani Waghmare and Andrea Page-McCaw
Presenting Author: Indrayani Waghmare
Indrayani Waghmare

[18] The Role of Copper in Parkinson's Disease

Jessica Burkhart

Presenting Author: Jessica Burkhart

Illinois State University

[19] Functional analysis of human Deleted in AZoospermia (DAZ) gene family using Drosophila spermatogenesis as a model

Eugene Xu, Liping Cheng, and Tianheng Xiao

Presenting Author: Eugene Xu

Northwestern University

[20] Impact of genetic variation on obesity in an AKHR loss-of-function model

John Garces, Audrey Nicol, Sophia Petrov, Malaika Ahmed, Chelsea Fischer, Nay Maung, Shana Newcomb, and Rebecca Palu

Presenting Author: John Garces

Purdue University-Fort Wayne

[21] Analysis of the cardiogenic roles of the zinc-finger transcription factor-encoding genes spalt major, spalt-related, and no ocelli.

Amy Kaur, Abbigayle Gamble, Alishba Rizwan, Andrew Kump, Manoj Panta, Kristopher Schwab, and Shaad Ahmad

Presenting Author: Amy Kaur

Indiana State University

[22] Scraps, an anilin, and Nebbish, a kinesin, are integral components of a Fox transcription factor-regulated subnetwork that mediates specific cardiac progenitor cell divisions.

Andrew Kump, Manoj Panta, Kristopher Schwab, Mark Inlow, and Shaad Ahmad

Presenting Author: Andrew Kump

Indiana State University

[23] Novel split-GAL4 drivers for the identification of enteroendocrine cells in the Drosophila midgut

Jessica Holsopple, Kevin Cook, and Ellen Popodi

Presenting Author: Jessica Holsopple

Indiana University/Bloomington Drosophila Stock Center

[24] Twin roles of the zinc-finger transcription factor Castor: specification of cardiac cell subtypes and regulation of cardiac progenitor cell division

Rajnandani Katariya, M. Rezaul Hasan, Melisa Spognardi, Andrew Kump, Manoj Panta, Shaad and Ahmad

Presenting Author: Rajnandani Katariya

Indiana State University

[25] Prostaglandins regulate nuclear architecture during collective cell migration

Ashley Goll, Emily Fox, and Tina Tootle

Presenting Author: Ashley Goll

University of Iowa

[26] The Endocycle in Development and Cancer

Hunter Herriage, Yi-Ting Huang, Savanna Brown, and Brian Calvi

Presenting Author: Hunter Herriage

Indiana University

[27] Overexpression of Ribbon Causes Defects in Oogenesis

Savannah Ryan, Pauline Sulit, Shannon McDonnell, Manuel Alvarez, Sana Moqheet, Usama Khan, and Jennifer Jemc Mierisch

Presenting Author: Savannah Ryan

Loyola University Chicago

[28] Understanding the role of miRNA-277 in the growth and survival

Esther Labya, Amit Singh, and Prajakta Deshpande

Presenting Author: Esther Labya

University of Dayton

[29] Drosophila Eye Model to Study the Role of NAT 9 in Alzheimer, A's Disease Related Dementia (ADRD)

Emily Snider, Prajakta Deshpande, and Amit Singh

Presenting Author: Emily Snider

University of Dayton

[30] Characterization of the Role of Notch in Drosophila Testes

Christine Severude, Adriana Soriano, and Jennifer Jemc Mierisch

Presenting Author: Christine Severude

Loyola University of Chicago

[31] E2F/Dp inactivation in fat body cells triggers systemic metabolic changes

Maria Paula Zappia, Ana Guarner, Nadia Kellie-Smith, Alice Rogers, Robert Morris, Brandon Nicolay, Myriam Boukhali, Wilhelm Haas, Nicholas Dyson, and Maxim Frolov

Presenting Author: Maria Paula Zappia

University of Illinois at Chicago

[32] Circular RNAs interacting protein, Hsp60C, is essential for sperm maturation in Drosophila

Eugene Xu, Tianheng Xiao, LiPing Cheng, and XiaoYu Yang

Presenting Author: Eugene Xu

Northwestern University

[33] Analysis of the Drosophila border cell gene expression profile reveals stage-specific changes during migration.

Emily Burghardt, Jessica Rakijas, Antariksh Tyagi, Pralay Majumder, Bradley J.S.C. Olson, and Jocelyn A. McDonald

Presenting Author: Emily Burghardt

Kansas State University Division of Biology

[34] Defining the role of cPGES in collective cell migration

Anna Ramsey, Sam Mellentine, and Tina Tootle

Presenting Author: Anna Ramsey

University of Iowa

[35] Drosophila models of SNRNP200-retinitis pigmentosa exhibit photoreceptor cell death and loss of head development.

Sara Mayer, Arlene Drack, and Lori Wallrath

Presenting Author: Sara Mayer

University of Iowa

[36] Not quite FedEx: How are venom proteins packaged for delivery by the parasitoid wasp Ganaspis hookeri?

Nicholas Bretz, Nathan Mortimer, and Chris Lark

Presenting Author: Nicholas Bretz
Illinois State University

[37] Characterizing the mRNA components of the oosome in the wasp *Nasonia vitripennis*

Allie Kempf and Jeremy Lynch
Presenting Author: Allie Kempf
University of Illinois at Chicago

[38] Circadian Rhythms and Gut Microbes of *Drosophila melanogaster*

Alder Yu, Teja Bhimavarapu, Caleb Fitzmaurice, Travis Leuzinger, Shianne Stacy, and Paul Schweiger
Presenting Author: Alder Yu
University of Wisconsin - La Crosse

[39] Mechanisms of transcriptional repression by the conserved CtBP corepressor

Ana-Maria Raicu and David Arnosti
Presenting Author: Ana-Maria Raicu
Cell and Molecular Biology Program, Michigan State University

[40] Identifying the role of Myc in tissue regeneration

Ting-Yu (Felicity) Hsu and Rachel Smith-Bolton
Presenting Author: Ting-Yu (Felicity) Hsu
University of Illinois at Urbana-Champaign

[41] Effects of Circadian Rhythm Disruption on DNA Double Strand Break Repair Pathway Choice

Alder Yu, Lydia Bergerson, Caleb Fitzmaurice, Tyler Jeschke, and Halle McCormick
Presenting Author: Alder Yu
University of Wisconsin - La Crosse

[42] Elucidating The Roles of Zelda and Taranis During Late Regeneration in *Drosophila* Wing Imaginal Discs.

Anish Bose, Keaton Schuster, and Rachel Smith-Bolton
Presenting Author: Anish Bose
University of Illinois at Urbana Champaign

[43] Investigating the role of short stop (shot) in eye development and oogenesis

McKenzie Young, McKenzie Young, Kayla Bieser, David Puthoff, Joyce Stamm, Alysia Vrailas-Mortimer, Jacob Kagey, and Julie Merkle
Presenting Author: McKenzie Young
University of Evansville

[44] Control of Crag localization and activity in the polarized deposition of basement membrane proteins in epithelial cells.

Hemin Shah, Alex Hoover, Megan Gladwin, Trudi Schupbach, and Olivier Devergne
Presenting Author: Hemin Shah
Northern Illinois University

[45] A prioritized screen to identify downstream targets of the Forkhead/Fox transcription factor Jumeau that mediate cardiac progenitor cell divisions.

Evelyn McGuire, Andrew Kump, Dr. Shaad Ahmad, and Dr. Mark Inlow
Presenting Author: Evelyn McGuire
Indiana State University

[46] Genomic insertion of repetitive DNA can trigger conversion of euchromatin to heterochromatin

Safiyo Aden, Derrick Carper, Heidi Pipkin, and Andrew Arsham
Presenting Author: Safiyo Aden
Bemidji State University

[47] Validation of candidate genes influencing egg size in cold-adapted *Drosophila melanogaster*

Allison Hoefakker, Intisar Koch, Rachel Flynn, Rosanna Beraldi, and Cecelia Miles
Presenting Author: Allison Hoefakker
Augustana University

[48] Divergent regulation of target genes by Cut homeodomain transcription factor

Isabella Holland, Carlos Nazario Figueroa, Daniel Eberl, and Albert Erives
Presenting Author: Isabella Holland
University of Iowa

[49] Sar1, a GTPase involved in COPII vesicle trafficking, is important for oocyte fate in *Drosophila*

Makayla Gomperts and Julie Merkle
Presenting Author: Makayla Gomperts
University of Evansville

[50] High-resolution imaging method with standardized conditions: facilitates reproducible spatial, quantitative data

Heidi Pipkin, Adam Smiley, and Andrew Arsham
Presenting Author: Heidi Pipkin
Bemidji State University

[51] Ectopic heterochromatin triggered by insertion of repetitive DNA is temperature-sensitive

Melissa Sawyer, Ashlyn Anderson, Solomon Aviles, Rhianna Coffey, Nathan Dupre, Max Her, Tetiana Khotko, Hunter Lindsay, Heidi J.J. Pipkin, Anthony Ruiz, and Andrew M. Arsham
Presenting Author: Melissa Sawyer
Bemidji State University

[52] COMPASS-like complex members Ptip and Trr regulate proper embryonic cardiac cell division in the *Drosophila melanogaster* dorsal vessel

AJ Sawyer, Manoj Panta, Andrew Kump, Shaad Ahmad, and Kristopher Schwab
Presenting Author: AJ Sawyer
Indiana State University

[53] A Kinesin-like Gene Controls Border Cell Migration in *Drosophila* oogenesis

Leif Verace, Lauren Anllo, Vivian Qin, Trudi Schupbach, and Olivier Devergne
Presenting Author: Leif Verace
Northern Illinois University

[54] The role of SIN3 in metabolism sensing and gene expression

Imad Soukar, and Lori Pile
Presenting Author: Imad Soukar
Wayne State University

[55] Characterization of the Role of Trc in Glial Development

Lucy Deane, Nicole Saylor, Andrea Kirincic, Taylor Wendt, Luselena Perez, and Jennifer Jemc Mierisch
Presenting Author: Lucy Deane

Loyola University Chicago

[56] Silencing and position-effect variegation in a dual-reporter transposition mutagenesis screen

Nathan Dupre, Melissa Sawyer, Ashlyn Anderson, Solomon Aviles, Derrick Carper, Rhianna Coffey, Christina Yang, Hunter Lindsay, Heidi Pipkin, and Andrew Arsham

Presenting Author: Nathan Dupre
Bemidji State University

[57] Effects of manganese on larval development and survival in *Drosophila melanogaster*

S. Lynn Bostrom

Presenting Author: S. Lynn Bostrom
Marietta College

[58] The function of innate immune pathway and oxidative stress in acoustic trauma

Hunter Brown, Kevin Christie, and Daniel Eberl
University of Iowa

[59] The Inhibitor of Apoptosis Protein(IAP) Deterin counters the proteolytic cleavage of Atxn7

Rituparna Goswami, Ryan Mohan, and Joseph Bean

Presenting Author: Rituparna Goswami
UMKC School of Biological and Chemical Sciences

[60] Role of Wingless and Yorker in a Tumor specific network in *Drosophila*.

Arushi Rai, Indrayani Waghmare, Amit Singh, and Madhuri Kango-Singh

Presenting Author: Arushi Rai
University of Dayton

[61] A Flp/FRT eye screen on chromosome 2L identifies enhancers and suppressors of the mosaic AIF phenotype

Jacob Kagey, Brooke Garland, Ayyat Khan, Stephanie Korte, Makalah McDougal, Jacob Kagey, and Joyce Stamm

Presenting Author: Jacob Kagey
University of Detroit-Mercy

[62] Shining Light on Calcium-Mediated Morphogenesis: Forward Engineering Calcium Signaling with Optogenetics

Mayesha Sahir Mim and Jeremiah Zartman

Presenting Author: Mayesha Sahir Mim
University of Notre Dame

[63] Investigating the origin and evolution of CG17359, rapid-evolving, essential ZAD-ZNF gene in multiple *Drosophila* species

Madeline Gruys, Andrew Arsham, Safiyo Aden, Jack Jurmu, Tetiana Khotko, Ashlyn Andreson, Heidi J. J. Pipkin, Hunter Lindsay, Christina Yang, Solomon Aviles, Derrick Carper, and Andrew Arsham

Presenting Author: Madeline Gruys
Bemidji State University

[64] A targeted RNAi screen identifies conserved brain cancer related adhesion genes that regulate collective cell migration

Nirupama Kotian, Katie Troike, Kristen Curran, Justin Lathia, and Jocelyn McDonald,

Presenting Author: Nirupama Kotian
Kansas State University

[66] **Beneficial Wolbachia infections modulate fly metabolism**

Amelia Lindsey

Presenting Author: Amelia Lindsey

University of Minnesota

[67] **trithorax is essential for Hox gene expression and posterior dorsal vessel identity within the *Drosophila melanogaster* embryo**

Adam Farmer, Shaad Ahmad, and Kristopher Schwab

Presenting Author: Adam Farmer

Indiana State University