

Curriculum Vitae  
**Ming Gao**

Indiana University Northwest  
Biology Department  
Marram Hall, Room 310  
Gary, Indiana 46408  
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(219)980-6722

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**CURRENT POSITION**

**Indiana University Northwest, Gary, IN**  
Assistant Professor, Biology Department

*August 2015 – Present*

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**PAST POSITION**

**Murray State University, Murray, KY**

Postdoctoral Scholar, Department of Biological Sciences

*August 2011 – August 2015*

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**EDUCATION**

**Southern Illinois University Carbondale, Carbondale, IL**

Ph.D., Molecular Biology, Microbiology, and Biochemistry

*June 2011*

Dissertation: “Identification and Analysis of Proteins and Genes Responsible for Microbial Anaerobic Nitrate-Dependent Iron Oxidation and Overexpression in *E. coli* of Perchlorate Reductase.”

**Wuhan University, Wuhan, China**

B.S., Biological Sciences

*June 2006*

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**PUBLICATIONS** (Undergraduate students are underscored)

- DeHaan H<sup>1</sup>, McCambridge A<sup>1</sup>, Armstrong B<sup>1</sup>, Cruse C<sup>1</sup>, Solanki D<sup>1</sup>, Trinidad JC, Arkov AL, and **Gao M. (Corresponding Author)** (2017) An in vivo Proteomic Analysis of the Me31B Interactome in *Drosophila* Germ Granules. *FEBS Lett.* PubMed PMID: 28945271. DOI:10.1002/1873-3468.12854

<sup>1</sup>IUN undergraduate students, Biology Department

- Zheng J, **Gao M**, Huynh N, Tindell S J, Hieu DL, Vo W, McDonald H, Arkov AL (2016) In vivo mapping of dynamic ribonucleoprotein granule in early *Drosophila* embryos. *FEBS Open Bio.* DOI: 10.1002/2211-5463.12144
- **Gao M**, Thomson T C, Creed TM, Tu S, Loganathan SN, Jackson CA, McCluskey P, Lin Y, Collier SE, Weng Z, Lasko P, Ohi MD, and Arkov AL. (2015) Glycolytic

Enzymes Localize to Ribonucleoprotein Granules in *Drosophila* Germ Cells, Bind Tudor and Protect from Transposable Elements. *EMBO Reports*. DOI: 10.15252/embr.201439694

- **Gao M, McCluskey P, Loganathan SN, and Arkov AL.** (2014) An *in vivo* Crosslinking Approach to Isolate Protein Complexes from *Drosophila* Embryos. *Journal of Visualized Experiments*. (86), e51387, DOI:10.3791/5.
- **Gao M, and Arkov AL.** (2013) Germ Cell Formation in Posterior of Early *Drosophila* Embryo. *Molecular Reproduction and Development*. DOI: 10.1002/mrd.22194.
- **Gao M, and Arkov AL.** (2013) Next Generation Organelles: Structure and Role of Germ Granules in the Germline. *Molecular Reproduction and Development*. 80(8):610-23, DOI:10.1002/mrd.22115.

#### Under review:

- **McCambridge A<sup>1</sup>, Solanki D<sup>1</sup>, Govani N<sup>1</sup>, Olchawa N<sup>1</sup>, Trinidad JC, and Gao M. (Corresponding Author)** (2019) Comparative Proteomics Reveal Me31B's Interactome Dynamics, Expression Regulation, and Uncanonical Assembly into Germ Granules during *Drosophila* Germline Development. *Scientific Reports*.

<sup>1</sup>IUN undergraduate students, Biology Department

#### Pedagogical research

- Huysken K, Olivey H, McElmurry K, **Gao M**, & Avis P. (2019) Assessing Collaborative, Project-based Learning Models in Introductory Science Courses. *Journal of the Scholarship of Teaching and Learning*, 19(1).  
<https://doi.org/10.14434/josotl.v19i1.26777>

#### GRANTS

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##### External Grants

- National Institute of Health Academic Research Enhancement Award Program (R15)
  - **Impact Score: 10 (perfect score)**
  - **Awarded amount: \$464,973.00** 2018 - 2021
- National Institute of Health Academic Research Enhancement Award Program (R15)
  - Proposed funding amount: \$465,074.00
  - Impact Score: 60 (Not funded) 2017

##### IU Research Grants

- IUN Research Support Fund

- Funded amount: \$19,577.00 2018 – 2019
  - IUN Research Project Initiation Grant
    - Funded amount: \$9,800.00 2016 – 2017
- IU Undergraduate Research Grants (as mentor)**
- IUN Minority Opportunity for Research Experience (MORE) program to *N. Olchawa* and *M. Gao (mentor)* 2019
  - Beta Beta Beta Biological Society Research Grant to *A. McCambridge* and *M. Gao (mentor)*
    - Funded amount: \$800.00 2018 – 2019
  - IUN Undergraduate Research Fund to *D. Solanki* and *M. Gao (mentor)*
    - Funded amount: \$2,500.00 2018 – 2019
  - IUN Undergraduate Research Fund to *A. McCambridge* and *M. Gao (mentor)*
    - Funded amount: \$2,500.00 2018 – 2019
  - IUN IN Louis Stokes Alliances for Minority Participation (LSAMP) Summer Research Scholarship to *N. Olchawa* and *M. Gao (mentor)*
    - Funded amount: \$3,899.00 2018
  - IUN IN Louis Stokes Alliances for Minority Participation (LSAMP) Summer Research Scholarship to *D. Casillas* and *M. Gao (mentor)*
    - Funded amount: \$3,899.00 2018
  - IUN Undergraduate Research Fund to *H. DeHaan* and *M. Gao (mentor)*
    - Funded amount: \$2,020.00 2017 – 2018
  - IUN Undergraduate Research Fund to *B. Armstrong* and *M. Gao (mentor)*
    - Funded amount: \$2,020.00 2017 – 2018

## **AWARDS AND HONORS**

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### **Teaching Award**

- IUN Board of Trustees Teaching Award 2017-2018
  - Awarded amount: \$2,500.00

### **Research Award**

- IUN 2019 Summer Faculty Fellowship for Research
  - Awarded amount: \$11,000.00 2019
- IUN 2018 Summer Faculty Fellowship for Research
  - Awarded amount: \$11,000.00 2018
- IUN 2017 Summer Faculty Fellowship for Research
  - Awarded amount: \$11,000.00 2017

- IUN 2016 Summer Faculty Fellowship for Research
  - Awarded amount: \$11,000.00

2016

## CONFERENCE PRESENTATIONS (since employment at IUN)

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### Peer-Reviewed Conferences (IUN undergraduate students are underscored)

- McCambridge A, Solanki D, Govani N, Olchawa N, Trinidad JC, and **Gao M**. A comparative proteomics study of Me31B interactome reveals its dynamics during *Drosophila* germline development. *60th Annual Drosophila Research Conference, Dallas, TX, March 2019*
- Vo DHL, Tindell S, Hagen M, Umstead C, Zheng J, **Gao M**, and Arkov AL. Structure-function analysis of germ granule nanoparticles in *Drosophila*. *60th Annual Drosophila Research Conference, Dallas, TX, March 2019*
- McCambridge A, Solanki D, Govani N, Olchawa N, Trinidad JC, Arkov AL, and **Gao M**. A Comparative Proteomics Analysis of Me31B-containing Germ Granules Suggests Their Unique Assembly Mechanism. *Germ Cells Meeting at Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 2018*
- DeHaan H, McCambridge A, Armstrong B, Cruse C, Solanki D, Trinidad JC, Arkov AL, and **Gao M**. A Proteomic Analysis of Me31B Interactome in *Drosophila* Germ Granules. *The 59th Annual Drosophila Research Conference, Philadelphia, PA, April 2018*
- **Gao M**, Avis P, Huysken K, McElmurry K and Olivey H. Using a Collaborative Learning Model to Increase Student Performance in Introductory Biology. *Biology Leadership Community Summit, Tucson, AZ, February 2017*
- Arkov AL, **Gao M**, Huynh N, Tindell SJ, Vo H, Zheng J. Analysis of Germ Granule Nanoparticles in *Drosophila*. *Cold Spring Harbor Laboratory Meeting, Germ Cells, CSHL, NY, October 2016*.
- **Gao M** (**Invited speaker**). Proteomics Study of Germ Granules Using Scaffold Protein Tudor. *The Society for Developmental Biology 75th Annual Meeting, Boston, MA, August, 2016*

### IU All-Campus Conferences

- Casillas D and **Gao M** (**mentor**) Analysis of *me31B* Gene's Role in Stabilizing *Drosophila* Germline RNA and Me31B protein's RNA Binding Specificity. *24th Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, November 2018*.
- McCambridge A and **Gao M** (**mentor**) Identifying The Me31B Complex Components In Germ Granules. *24th Indiana University Undergraduate Research*

*Conference, IUPUI campus, Indianapolis, IN, November 2018.*

- Solanki D and **Gao M (mentor)** Analysis of the Interaction Between Drosophila Germline Proteins Me31B and Tudor. *24th Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, November 2018.*
- Neal Govani, **Gao M (mentor)** Analysis of Me31B Protein Localization During Egg Development. *23rd Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, November 2018.*
- McCambridge A, **Gao M (mentor)** Identifying The Me31B Complex Components In Germ Granules. *23rd Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, November 2017.*
- Solanki D, **Gao M (mentor)** Analysis of the Interaction Between Drosophila Germline Proteins Me31B and Tudor. *23rd Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, November 2017.*
- **Gao M (Invited speaker)**. Molecular Mechanisms of Germ Cell Development in Drosophila. *Purdue University Northwest, Hammond, IN, January 2017*
- Kaur A and **Gao M (mentor)** The Investigation of Me31B Protein in Germ Cell Formation. *22nd Indiana University Undergraduate Research Conference, IUPUI campus, Indianapolis, IN, December 2016.*
- **Gao M (Invited speaker)**. Molecular Mechanisms of Germ Cell Development in Drosophila. *Indiana University Northwest School of Medicine, Gary, IN, November 2016*

#### **IU Northwest College of Arts and Sciences Conferences**

- McCambridge A and **Gao M (mentor)** A Comparative Analysis of the Me31B Protein Complexes in Drosophila Ovary and Embryo. *15<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2019*
- Solanki D and **Gao M (mentor)** Studying the effect of Tral and Cup on Me31B's expression in germ cells. *15<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2019*
- Olchawa N and **Gao M (mentor)** Identifying the Role of Me31B in mRNA Regulation in Ovarian Tissue of Drosophila. *15<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2019.*
- Solanki D and **Gao M (mentor)** Analysis of the Interaction Between Drosophila Germline Proteins Me31B and Tudor. *14<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2018*
- DeHaan H and **Gao M (mentor)** Analysis of Me31B Protein Localization During Egg Development Through RNAi. *14<sup>th</sup> Annual College of Arts and Sciences Student*

*Research Conference, IU Northwest, Gary IN April 2018*

- Armstrong B and **Gao M (mentor)** Examining the Effect of vas and tud mutation on the Localization of Me31B protein in Drosophila germ cells. 14<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2018
- McCambridge A and **Gao M (mentor)** Identifying the Me31B Complex Components in Germ Granules. 14<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2018
- Harris K and **Gao M (mentor)** ME31B Gene in Drosophila and It's Role in the Formation of Germ Plasm. 13<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2017.
- Edwards A and **Gao M (mentor)** Site Directed Mutagenesis of Me31B. 13<sup>th</sup> Annual College of Arts and Sciences Student Research Conference, IU Northwest, Gary IN April 2017.

## **TEACHING EXPERIENCE**

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**Indiana University Northwest**, Biology Department, Gary, IN *Aug 2011 to present*

- BIOL L101, Intro to Biological Sciences *Spring and Fall*
- BIOL L311, Genetics *Spring*
- BIOL L331, Human Genetics *Fall*
- BIOL L290, Intro to Biological Research *Spring, Summer, and Fall*
- BIOL L490, Individual Study *Spring, Summer, and Fall*

**Murray State University**, Department of Biological Sciences, Murray, KY

- BIO 533/BIO 633, Molecular Genetics *Spring 2014, 2015*
- BIO 321, Cell Biology: Mechanisms *Fall 2013, 2014*
- BIO 333, Genetics *Spring, 2013*
- BIO 115, Cellular Basis of Life *Fall 2011, 2012, 2013, 2014*

**Southern Illinois University Carbondale**, Carbondale, IL

- MICRO 480, Advanced Microbiology Laboratory *Spring, 2007*
- MICRO 201, Introductory Microbiology Laboratory *Fall, 2006*

## **INSTITUTIONAL SERVICES**

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- IUN Computer Committee *Spring 2019 to present*
- IUN Campus Survey and Curriculum Committee *Fall 2015 to Fall 2018*
- IUN College of Arts and Sciences Curriculum Committee *Fall 2016 to present*
- IUN Biology Adjunct Faculty Reappointment Committee *Spring 2016*
- IUN Undergraduate Research Fund Committee *Spring 2016*
- IUN Calendar Committee *Fall 2015 to Spring 2017*

## **PROFESSIONAL ASSOCIATIONS**

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- Tri-Beta National Biology Honors Society *April 2016 - present*
- Genetics Society of America *March 2013 – Present*
- Society for Developmental Biology *2016 - 2017*