

Postdoctoral Associate - Mechanisms, Functions, and Evolution of Avian Coloration

The Toomey Lab in the Department of Integrative Biology at Michigan State University seeks a postdoctoral scholar to join a collaborative research program investigating the molecular, biochemical, and physiological bases of avian plumage coloration.

Bright plumage colors are among the most striking features of birds. These colors often play important roles in mate choice, competition, and social signaling by providing information about an individual's condition. However, the mechanisms linking ornament expression to physiology and condition remain incompletely understood. Our aim is to decipher these connections through a combination of molecular biology, biochemistry, pigment analysis, functional assays, genomics, and comparative or organismal approaches. Specifically, research activities may include:

- Biochemical and molecular analysis of pigment-metabolism pathways.
- Heterologous expression or functional characterization of candidate genes.
- Pigment extraction and analysis using chromatography.
- Development and optimization of experimental assays.
- Comparative genomic or transcriptomic analyses.
- Characterization of gene expression or protein localization.
- Integration of molecular and biochemical data with organismal and evolutionary questions.
- Collaboration with undergraduate students, graduate students, and researchers at MSU and partner institutions.

Training Environment

The Toomey Lab takes an integrative approach to biology and we value curiosity, responsibility, independence, and collaboration. The postdoctoral associate will receive training and support in a range of approaches relevant to the project, potentially including molecular biology, biochemical assays, pigment analysis, chromatography, comparative genomics, transcriptomics, data analysis, manuscript preparation, mentoring, and grant development.

The position will provide opportunities to:

- Lead manuscripts from the funded project.
- Develop complementary independent research directions.
- Present work at national and international scientific meetings.
- Mentor undergraduate researchers.
- Collaborate with researchers at MSU and other institutions.
- Gain experience in project leadership and lab management.
- Participate in MSU postdoctoral professional-development programs.

Michigan State University provides a broad postdoctoral training environment through the Office of Postdoctoral Affairs, the MSU Postdoctoral Association, the Graduate School, teaching-

development programs, mentoring resources, career-development workshops, and related campus programs.

Desired Qualifications

A Ph.D. in biology, biochemistry, molecular biology, cell biology, evolutionary biology, physiology, genomics, ecology, or a related field is required by the start date. We are especially interested in applicants who are excited to synthesize across evolutionary, organismal, biochemical, cellular, and molecular levels of biology. Prior experience in molecular biology or biochemistry is helpful but not required. The Toomey Lab is happy to train motivated individuals who are interested in our research questions and eager to add new skills to their portfolio.

Appointment

This is a full-time, fixed-term postdoctoral research associate position in the Department of Integrative Biology at Michigan State University. The initial appointment will be for one year, with a minimum starting salary is \$55k per year and renewal for a second-year dependent on performance.

Application Materials

Applicants should submit:

1. A cover letter describing research interests & professional goals, relevant experience, and fit with the Toomey Lab.
2. A curriculum vitae including contact information for three references.

Contact

Applications and questions about the position can be directed to:

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