

Akshay Hira, Ph.D.

Postdoctoral Researcher

Biochemistry and Molecular Biology Department, Wright State University
Diggs Laboratory 125, 3640 Colonel Glenn Hwy, Dayton, OH 45435-0001
Cell Phone: (917) 442-1083

E-mail: hira.2@wright.edu Website: <https://people.wright.edu/hira.2>

Address: 1498 Sanzon Dr, Fairborn OH 45324

EDUCATION

- 2024** **Ph.D. in Biomedical Sciences** (Advisor: Madhavi Kadakia, Ph.D.)
College of Science and Mathematics
Wright State University, Dayton, Ohio
GPA 3.8/4.0
- 2019** **M.S. in Biochemistry and Molecular Biology**
College of Science and Mathematics
Wright State University, Dayton, Ohio
GPA 4.0/4.0
- 2014** **B. Technology in Biotechnology**
Amity Institute of Biotechnology
Amity University, Uttar Pradesh, India
3.0/4.0

WORK EXPERIENCE

- May 2024- Present** **Postdoctoral Researcher, Wright State University, Dayton, OH**
Deciphering the signaling pathways regulated by $\Delta Np63\alpha$ and its role in squamous cell carcinoma cancer
- Aug 2019 - April 2024** **Graduate Research Assistant, Wright State University, Dayton, OH**
Actively investigating TIP60 regulation of $\Delta Np63\alpha$ and its association with cisplatin resistance
TIP60 upregulates transcriptional activity of $\Delta Np63\alpha$ and alters the functional contribution of $\Delta Np63\alpha$ to DNA damage response and subsequent cisplatin resistance
- Oct 2017- July 2019** **Graduate Research Assistant, Wright State University, Dayton, OH**
Worked on a PHITE project funded by DoD MURI grant
The project studied the differential microRNA biomarker expression in response to moderate and high-intensity exercise regimens using Next Generation Sequencing
- Sept 2016- June 2017** **Molecular Genetics Technician, DNAXperts Private Limited, Delhi, India**
Single handedly managed the inventory list for the entire laboratory
Trained several new employees and established procedures and assisted in the maintenance, preparation and review of operating policies
Optimized experimental setups for all molecular diagnostic tests
- May 2015- Nov 2015** **Research Lab Volunteer, Department of Pediatrics, Case Western Reserve University, Cleveland, OH**
Contributed to a project on lung hyper reactivity in neonatal lung airway using mice model
Performed immunostaining using mice lung tissues as part of the project focused on developmental pulmonology
- 2014** **Research Intern, Oncquest Laboratories Limited, Delhi, India**
Worked on a project titled -Thiopurine methyl transferase genotyping in childhood acute lymphoblastic leukemia (ALL) patients using PCR
Focused on majorly occurring single nucleotide polymorphism (SNP's) in TPMT gene

- 2013** **Intern, Sir Ganga Ram Hospital, Delhi, India**
Worked on a project titled -Molecular techniques for Analysis of Genetic disorder Cystic Fibrosis with Δ f508 gene deletion mutation
- 2012** **Summer Intern, Sri Balaji Action Medical Institute, Delhi, India**
Developed expertise with microbiology techniques and biochemical assays to identify and characterize pathogenic microbes and their link with human disease and infections in diagnostic setting

TEACHING EXPERIENCE

- Fall 2022** **Research Perspectives (BMB 4020/6020), Wright State University, Dayton, OH**
- Fall 2021** Lecture/reading course to acquaint students with the research being carried out by the faculty in the Biochemistry and Molecular Biology program
- Fall 2020** **Teaching Assistantship, Biochemistry lab (BMB 3850), Wright State University, Dayton, OH**
- Fall 2018** Provided brief overview of the lab experiments; explained the purpose and demonstrated techniques imperative to perform the lab
Developed material for all the labs and kept records of supply used or needed. Assisted in final grading for each student based on performance and quality of work
- Spring 2019** **Teaching Assistantship, Biochemistry and Molecular Biology II (BMB 4230)**
Wright State University, Dayton, OH
Executed grading of problem sets, facilitated review sessions and assisted with exam proctoring

SCIENTIFIC/TECHNICAL SKILLS

Cell Culturing	DNA/RNA isolation	Immunoblot	Cloning
Cell Transfection	RNA Inference	Immunoprecipitation	Next Generation sequencing
Purifying Protein	PCR/q-RTPCR	Bacterial Transformation	Plasmid Isolation

HONORS/AWARDS

- 2023** **Nominated for Data blitz, CoSM Wright State University, Dayton, OH**
- 2023-2024** **President, Biomedical Sciences Student Association (BMSSA)**
- 2023** **Travel Scholarship for Career Development, AAISCR**
- 2023** **Graduate Student Award, American Society for Biochemistry and Molecular Biology (ASBMB)**
- 2022-23** **Treasurer, Biomedical Sciences Student Association (BMSSA)**
- 2022** **Travel Award, American Society for Biochemistry and Molecular Biology (ASBMB)**
- 2018** **Merit based Tuition Scholarship, Wright State University, Dayton, OH**
- 2017** **Merit based Tuition Scholarship, Wright State University, Dayton, OH**
- 2006** **Award for Social service, National Cancer Control Programme, Cancer Aid Society India**

SCIENTIFIC TALK/SEMINARS

- 2024** Poster Presentation, AACR Annual meeting, *San Diego, CA*
- 2024** Brown Bag Oral presentation, Wright State University, *Dayton, OH*
- 2023** Data Blitz Session and Poster Presentation, Celebration of Undergraduate & Graduate Research, Scholarship and Creative Activities, Wright State University, Dayton, OH
- 2023** Poster Presentation, AACR Annual meeting, *Orlando, FL*
- 2023** Poster Presentation, DiscoverBMB ASBMB Annual meeting, *Seattle, WA*

- 2023** Brown Bag Oral presentation, Wright State University, *Dayton, OH*
- 2022** Biomedical Sciences PhD program Student seminar, Wright State University, *Dayton, OH*
- 2022** Poster Presentation, Experimental Biology Annual meeting, *Philadelphia, PA*
- 2022** Brown Bag Oral presentation, Wright State University, *Dayton, OH*
- 2021** Biomedical Sciences PhD program Student seminar, Wright State University, *Dayton, OH*
- 2021** Guest Lecture, Sir Ganga Ram Hospital Dept. of Research, *Delhi, India*
- 2021** Brown Bag Oral presentation, Wright State University, *Dayton, OH*
- 2020** Poster Presentation, Symposium for Student Research, Scholarship and Creative Activities
Wright State University, *Dayton, OH*
- 2020** Brown Bag Oral presentation, Wright State University, *Dayton, OH*
- 2019** Poster Presentation, BSOM Central Research Forum, Wright State University, *Dayton, OH*
- 2019** Poster Presentation, Ohio Physiological Society Annual Meeting,
Wright State University, *Dayton, OH*
- 2019** Brown bag Oral presentation, Wright State University, *Dayton, OH*
- 2019** Poster Presentation, CoSM Festival of Research, Wright State University, *Dayton, OH*
- 2018** Brown bag Oral presentation, Wright State University, *Dayton, OH*
- 2011** INCYTE, Second Annual National Biotechnology Extravaganza
Amity University, *Uttar Pradesh, India*

PROFESSIONAL SOCIETY MEMBERSHIP

- 2021- Present** Member, American Society for Biochemistry and Molecular Biology (ASBMB)
- 2022-Present** Associate member, American Association for Cancer Research (AACR)
- 2022** Member, American Association of Indian Scientist in Cancer Research (AAISCR)

PUBLICATIONS

1. Hira, A. (2024). *TIP60 Mediated Acetylation of $\Delta Np63\alpha$ Promotes Cisplatin Resistance* [Doctoral dissertation, Wright State University].
2. Aljagthmi, A.A., Hira, A., Zhang, J. *et al.* $\Delta Np63\alpha$ inhibits Rac1 activation and cancer cell invasion through suppression of *PREX1*. *Cell Death Discovery*. **10**, 13 (2024).
3. Hira, A., Stacy, A. J., Craig, M., Zhang, J., & Kadakia, M. (2022). TIP60 mediated regulation of $\Delta Np63\alpha$ is associated with Cisplatin resistance. *The FASEB Journal*, **36**.
4. Hira, A. (2019). *TIP60 regulation of $\Delta Np63\alpha$ is associated with cisplatin resistance* (Master dissertation, Wright State University).
5. Stacy, A. J., Zhang, J., Craig, M. P., Hira, A., Dole, N., & Kadakia, M. P. (2019). TIP60 up-regulates $\Delta Np63\alpha$ to promote cellular proliferation. *Journal of Biological Chemistry*, **294**(45), 17007-17016.