

# HALIL AYDIN, Ph.D.

Department of Biochemistry  
University of Colorado Boulder  
JSC Biotechnology Building, 1<sup>st</sup> Floor, Room E134  
3415 Colorado Avenue, Boulder, CO 80303  
Telephone: +1(628) 777-4045  
Email: [halil.aydin@colorado.edu](mailto:halil.aydin@colorado.edu)

---

## **EDUCATION**

- Sep 2011 –*    **DOCTOR OF PHILOSOPHY (Ph.D.)**  
*Nov 2016*    Department of Laboratory Medicine and Pathobiology, Faculty of Medicine,  
University of Toronto, Toronto, Ontario – CANADA  
Supervisor: Dr. Jeffrey E. Lee
- Jan 2010 –*    **MASTERS OF SCIENCE (M.Sc.)**  
*Aug 2011*    Microbiology and Immunology Program  
Department of Biochemistry, Microbiology and Immunology, Faculty of  
Medicine, University of Ottawa, Ottawa, Ontario – CANADA  
Supervisor: Dr. Marc-André Langlois
- Sep 2002 –*    **DOCTOR OF VETERINARY MEDICINE (D.V.M.)**  
*Jun 2007*    Doctor of Veterinary Medicine Program  
Istanbul University, Faculty of Veterinary Medicine, Istanbul – TURKEY  
Supervisor: Dr. Huseyin Yilmaz

## **POSITIONS AND EMPLOYMENT**

- Jan 2021 –*    **ASSISTANT PROFESSOR**  
*Present*      University of Colorado Boulder, Department of Biochemistry  
Boulder, Colorado – UNITED STATES OF AMERICA
- Nov 2016 –*    **POSTDOCTORAL SCHOLAR**  
*Dec 2020*    University of California, San Francisco, Department of Biochemistry and  
Biophysics, San Francisco, California – UNITED STATES OF AMERICA  
Supervisor: Dr. Adam Frost

## **HONORS AND AWARDS**

- 2002** Istanbul Metropolitan Municipality Scholarship  
**2011** Best Poster Presentation by a Graduate Student, University of Ottawa  
**2011** University of Toronto Fellowship  
**2012** Travel Grant, American Crystallographic Association  
**2012** Travel Award, Univ. of Toronto, Dept. of Laboratory Medicine and Pathobiology  
**2013** Poster Presentation Award 1<sup>st</sup> Place (Ph.D. Category), University of Toronto  
**2013** Training Award, Univ. of Toronto, Dept. of Laboratory Medicine and Pathobiology  
**2013** School of Graduate Studies Conference Grant, University of Toronto  
**2014** University of Toronto Fellowship  
**2014** Travel Award, Univ. of Toronto, Dept. of Laboratory Medicine and Pathobiology

- 2015 Ontario Graduate Scholarship (OGS) International
- 2015 Poster Presentation Award 1<sup>st</sup> Place (Ph.D. Category), University of Toronto
- 2015 Travel Award, Univ. of Toronto, Dept. of Laboratory Medicine and Pathobiology
- 2017 Human Frontiers Science Program Postdoctoral Fellowship
- 2017 Stuart Alan Hoffman Prize for best Ph.D. thesis, University of Toronto
- 2018 Keystone Symposia Future of Science Fund Scholarship

## **PUBLICATIONS**

1. \*Manicki, M., \***Aydin, H.**, Abriata, L. A., Overmyer, K. A., Guerra, R. M., Coon, J. J., Dal Peraro, M., Frost, A., Pagliarini, D. J. Structure and functionality of a multimeric human COQ7:COQ9 complex. doi: 10.1101/2021.11.15.468694.  
\* These authors contributed equally.
2. **Aydin, H.**, Sultana, A., Li, S., Thavalingam, A., and J. E. Lee. Molecular architecture of the human sperm IZUMO1 and egg JUNO fertilization complex. **Nature** 2016 Jun 15;534(7608): 562-565. doi: 10.1038/nature18595.

### **Comments**

Structural Biology: When sperm meets egg. **Nature** 2016 June 15;534(7608):484-485. doi: 10.1038/nature18448. (<https://www.nature.com/articles/nature18448>)

Scientists capture most intimate view yet of human conception. **The Globe and Mail** 2016 June 15. (<https://www.theglobeandmail.com/technology/science/scientists-capture-most-intimate-view-yet-of-human-conception/article30466138/>)

Scientists Map Molecular Interactions at Point of Conception. **University of Toronto** 2016 June 15. (<https://medicine.utoronto.ca/news/scientists-map-molecular-interactions-point-conception-0>)

3. \***Aydin, H.**, \*Taylor, M. W., and J. E. Lee. Structure-guided analysis of the human APOBEC3-HIV restrictome. **Structure** 2014 May 06;22(5):668-684. doi: 10.1016/j.str.2014.02.011.  
\* These authors contributed equally.
4. **Aydin, H.**, Al-Khooly, D., and J. E. Lee. Influence of hydrophobic and electrostatic residues on sars-coronavirus S2 protein stability: Insights into mechanisms of general viral fusion and inhibitor design. **Protein Science** 2014 May;23(5):603-617. doi: 10.1002/pro.2442.
5. **Aydin, H.**, Cook, J.D., and J.E. Lee. Crystal structures of beta- and gammaretrovirus fusion proteins reveal a role for electrostatic stapling in viral entry. **Journal of Virology** 2014 Jan;88(1):143-53. doi: 10.1128/JVI.02023-13.
6. **Aydin, H.**, Smrke, B.M., and J.E. Lee. Structural characterization of a fusion glycoprotein from a retrovirus that undergoes a hybrid 2-step entry mechanism. **The FASEB Journal** 2013 Dec;27(12):5059-71. doi: 10.1096/fj.13-232371.
7. \***Aydin, H.**, \*Azimi, F. C., \*Cook, J. D., and J. E. Lee. A Convenient and General Expression Platform for the Production of Secreted Proteins from Human Cells. **The Journal of Visualized Experiments** 2012 Jul 31;(65). pii: 4041. doi: 10.3791/4041.  
\* These authors contributed equally.

8. Rosales Gerpe, M.C., Renner, T.M., Bélanger, K., Lam, C., **Aydin, H.**, and M.-A. Langlois. N-linked glycosylation protects gammaretroviruses against deamination by APOBEC3 proteins. **Journal of Virology** 2015 Feb;89(4):2342-57. doi: 10.1128/JVI.03330-14.
9. Bélanger, K., Savoie, M., **Aydin, H.**, Renner, T.M., Montazeri, Z., and M.-A. Langlois. Deamination intensity profiling of human APOBEC3 protein activity along the near full-length genomes of HIV-1 and MoMLV by hyperHRM analysis. **Virology** 2014 Jan 5;448:168-75. doi: 10.1016/j.virol.2013.10.008.

### **INVITED PRESENTATIONS**

- Oct 2021**      **Carleton College, Department of Biology Seminar:** The Structural Basis of Mitochondrial Coenzyme Q Biosynthesis. Northfield, Minnesota, USA
- Feb 2020**      **University of Virginia, School of Medicine, Department of Molecular Physiology and Biological Physics Seminar:** The Structural Basis of Mitochondrial Coenzyme Q Biosynthesis. Charlottesville, Virginia, USA
- Feb 2020**      **University of Pennsylvania, Perelman School of Medicine, Department of Physiology Seminar:** Mitochondrial form, function and movement. Philadelphia, Pennsylvania, USA
- Feb 2020**      **University of Colorado Boulder, Department of Biochemistry Seminar:** The Structural Basis of Mitochondrial Coenzyme Q Biosynthesis. Boulder, Colorado, USA
- Jan 2020**      **Iowa State University, Roy J. Carver Department of Biochemistry, Biophysics and Molecular Biology Seminar:** The Structural Basis of Mitochondrial Coenzyme Q Biosynthesis. Ames, Iowa, USA
- Nov 2015**      **BHT Structural Biology Symposium:** Molecular architecture of the human sperm IZUMO1 and egg JUNO fertilization complex. Hamilton, Ontario, Canada
- Apr 2014**      **Keystone Symposia, The Ins and Outs of Viral Infection: Entry, Assembly, Exit and Spread Short Talk:** General Structural Features and Determinants Required for the Stabilization of Class I Viral Fusion Glycoproteins. Breckenridge, Colorado, USA

### **RESEARCH SUPERVISION**

#### **Postdoctoral Scholars**

*Jul 2021– Present*      **Kelly Du Pont**

#### **Graduate Students**

*May 2021– Oct 2021*      **Lottie Steward**

### **Professional Research Assistants**

*May 2021– Present*     **Gracie Sapp**

*Jun 2021– Present*     **Jeremy Bennett**

### **Undergraduate/Summer Students**

*Jun 2021– Present*     **Adam Voss**

*May 2021– Present*     **Rebecca Cone** (BSI Scholar in STEM Research)

### **PROFESSIONAL MEMBERSHIPS AND OTHER EXPERIENCES**

*Apr 2012 – Mar 2016*     Member, American Crystallography Association

*Dec 2016 – Present*     Member, American Society for Cell Biology

*Jan 2017 – Present*     Member, Biophysical Society

*Jul 2019 – Present*     Member, American Heart Association

*Nov 2016*     *Ad hoc* reviewer for Science

*Feb 2019*     *Ad hoc* reviewer for PNAS