

## Curriculum Vitae

# ANDREW S. MENDIOLA, PHD.

Assistant Professor  
Department of Pharmacology  
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## EDUCATION & TRAINING

- 2017–2023     **Postdoctoral Training**  
Gladstone Institutes, University of California, San Francisco  
Advisor: Katerina Akassoglou, PhD
- 2013–2017     **Ph.D., Cellular & Molecular Biology**  
The University of Texas at San Antonio  
Advisor: Astrid Cardona, PhD
- 2012–2013     **M.S., Biology**  
The University of Texas at San Antonio
- 2006–2011     **B.S., Biology**  
The University of Texas at San Antonio

## POSITIONS & SCIENTIFIC APPOINTMENTS

- Oct. 2023-     Assistant Professor (tenure track), Department of Pharmacology,  
University of California, San Diego
- 2020-2023     Scientist, Gladstone Institutes, University of California, San Francisco
- 2017-2020     Postdoctoral Fellow, Gladstone Institutes, University of California, San  
Francisco

## RESEARCH FUNDING

- 2022–2027     **NIH Pathway to Independence Award, MOSAIC K99/R00**  
Agency: NIH, NINDS  
Role: Principal Investigator  
Title: Epigenomic regulation of oxidative stress-producing innate  
immunity in neuroinflammation  
Grant#: K99 NS126707  
Award: \$241,728 (K99 phase, \$223,822 Direct Costs)

- 2020–2021 **Berkelhammer Award for Excellence in Neuroscience**  
Agency: Gladstone Institute of Neurological Disease  
Role: Awardee  
Award: \$25,000
- 2018–2021 **Postdoctoral Fellowship**  
Agency: National Multiple Sclerosis Society  
Title: *In vivo imaging and profiling of mechanisms of T-cell recruitment and activation during neuroinflammation*  
Role: Principal Investigator  
Grant #: FG-1708-28925  
Award: \$177,243
- 2017–2018 **UCSF ImmunoX T32 Postdoctoral Fellowship**  
Agency: NIH, NIAID  
Title: Functional profiling of ligand-selective activation of complement receptor 3 in macrophages  
Role: Trainee  
Grant #: AI007334  
Award: \$47,484
- 2013-2017 **Research Training Initiative for Student Enhancement (RISE) Predoctoral Fellowship**  
Agency: NIH, NIGMS; G-RISE UTSA Program  
Role: Trainee  
Award: \$25,000/year

## HONORS & AWARDS

- 2022–2027 Pathway to Independence Award, NIH/NINDS MOSAIC K99/R00
- 2022 Career Transition Award, National Multiple Sclerosis Society (declined due to overlap with K99)
- 2021 Robert and Linda Mahley Career Advancement Award, Gladstone Institutes
- 2021 Dorman Outstanding Postdoctoral Paper Prize (voted by faculty), Gladstone Institutes
- 2021 Science Advisor, National Multiple Sclerosis Society Emerging Leaders Board
- 2020 NMSS Postdoc Fellowship selected for external sponsorship by the Research Rough Riders, Kansas City NS Bike Team
- 2020 Berkelhammer Award for Excellence in Neuroscience, Gladstone Institutes

- 2020 Distinguished Achievement in Science Award for Neurological Disease, Gladstone Institutes
- 2019 Best Poster Presentation, Gladstone Institutes Scientific Retreat
- 2019 Oral Presentation Award, Aegean Conferences 16<sup>th</sup> International Conference on Innate Immunity
- 2019 Invited Speaker, NMSS Leadership Conference
- 2018–2021 Postdoctoral Fellowship, National Multiple Sclerosis Society
- 2017–2018 Postdoctoral Fellowship, NIH/NIAID UCSF Immunology T32
- 2017 Who's Who Among Students in American Universities and Colleges
- 2017 ASNeuro Travel Award, American Society of Neurochemistry
- 2016–2017 Presidential Dissertation Fellowship, UTSA
- 2016 Poster Award, American Association for Immunologist
- 2016 Best Poster Award, SALSI Neuroscience Symposium
- 2016 Best Oral Presentation, UTSA College of Science Conference
- 2015 Travel Award, Research in Vision and Ophthalmology
- 2015 Best Oral Presentation, UTSA College of Science Conference
- 2013–2017 Predoctoral Fellowship, NIH/NIGMS RISE UTSA Program

## **PUBLICATIONS (Total = 20; first = 8; corresponding = 1)**

Online version of publications available at [Google Scholar Profile](#) or [NIH Bibliography](#)

1. **Mendiola AS** and Akassoglou K. Fibrin induces neurotoxic microglia gene programs in neurodegeneration. *Nat Immunol* (2023).
2. **Mendiola AS**, Yan Z, Dixit K, Johnson JR, Bouhaddou M, Meyer-Franke A, Shin MG, Yong Y, Agrawal A, MacDonald E, Muthukumar G, Pearce C, Arun N, Cabriga B, Meza-Acevedo R, Alzamora M, Zamvil S, Pico AR, Ryu JK, Krogan NJ, Akassoglou K. *Defining blood-induced microglia functions in neurodegeneration through multiomic profiling. Nat Immunol* (2023). [[PubMed Link](#)]
3. Church KA, Rodriguez D, **Mendiola AS**, Vanegas D, Gutierrez IL, Tamayo I, Amadu A, Velazquez P, Cardona SM, Gyoneva S, Coteleur AC, Ransohoff R, Kaur T, Cardona AE. *Pharmacological depletion of microglia alleviates neuronal and vascular damage in the diabetic CX3CR1-WT retina but not CX3CR1-KO or hCX3CR1<sup>1249/M280</sup>-expressing retina. Front Immunol* (2023). [[PubMed Link](#)]
4. **Mendiola AS**<sup>\*‡</sup>, Church KA<sup>\*</sup>, Cardona SM, Vanegas D, Garcia SA, Macklin W, Lira SA, Ransohoff RM, Kokovay E, Lin CA, Cardona AE. *Defective fractalkine-CX3CR1 signaling aggravates neuroinflammation and affects recovery from cuprizone-induced demyelination. J Neurochem* (2022) [[PubMed Link](#)] <sup>\*</sup>co-first authorship,

*‡co-corresponding author, Article selected for Issue Cover Image*

5. Borna S, Cardona SM, Church KA, Vanegas D, Velazquez P, Rorex C, Rodriguez D, **Mendiola AS**, Kern TS, Domingo ND, Stephens R, Muzzio IA, Cardona AE. *Defibrinogenation ameliorates retinal microgliosis and inflammation in a CX3CR1-independent manner.* **ASN Neuro** (2022); 14:17590914221131446 [[PubMed Link](#)]
6. **Mendiola AS\***, Tognatta R\*, Yan Z, Akassoglou K. *ApoE and immunity in Alzheimer's disease and related tauopathies: Low-density lipoprotein receptor to the rescue.* **Neuron**, 15, 2363-2365 (2021) [[PubMed Link](#)] *\*co-first authorship*
7. Petersen MA, Tognatta R, Meyer-Franke A, Bushong EA, **Mendiola AS**, Yan Z, Muthusamy A, Merlini M, Meza-Acevedo R, Cabriga B, Zhou Y, Thomas R, Ryu JK, Lassmann H, Ellisman MH, Akassoglou K. *BMP receptor blockade overcomes extrinsic inhibition of remyelination and restores neurovascular homeostasis.* **Brain**, 8, 2291-2301 (2021) [[PubMed Link](#)] *Article selected for Issue Cover Image*
8. Chan J, Merlini M, **Mendiola AS**, Akassoglou K, Rubenstein J, Ryu JK. *Blood coagulation factor fibrinogen in tumor pathogenesis of central nervous system B-cell lymphoma.* **Am J Pathol**, 191, 575-583 (2021) [[PubMed Link](#)]
9. Merlini M, Rafalski V, Ma K, Rios Coronado PE, Kim KY, Bushong EA, Rios Coronado PE, Yan Z, **Mendiola AS**, Sozmen EG, Ryu JK, Haberl MG, Madany M, Sampson DN, Petersen MA, Bardehle S, Tognatta R, Dean T, Meza-Acevedo R, Cabriga B, Thomas R, Coughlin SR, Ellisman MH, Palop JJ, Akassoglou K. *Microglial Gi-dependent dynamics regulate brain network hyperexcitability.* **Nat Neurosci**, 24, 19-23 (2021) [[PubMed Link](#)]
10. **Mendiola AS\***, Ryu JK\*, Bardehle S, Meyer-Franke A, Ang KKH, Wilson C, Baeten KM, Hanspers K, Merlini M, Thomas S, Petersen MA, Williams A, Thomas R, Rafalski VA, Meza-Acevedo R, Tognatta R, Yan Z, Pfaff SJ, Macado MR, Bedard C, Rios Coronado PE, Jiang X, Wang J, Pleiss MA, Green AJ, Zamvil SS, Pico AR, Bruneau BG, Arkin MR, Akassoglou K. *Transcriptional profiling and therapeutic targeting of oxidative stress in neuroinflammation.* **Nat Immunol**, 21, 513-524 (2020) [[PubMed Link](#)] *\*co-first authorship, News & Views*
11. Willis C, Nicaise A, Menoret A, Ryu JK, **Mendiola AS**, Jellison E, Givorgri M, Han D, Bongarzone E, Akassoglou K, Vella A, Crocker SJ. *Extracellular Vesicle Fibrinogen Induces Encephalitogenic CD8+ T cells in a Mouse Model of Multiple Sclerosis.* **Proc Natl Acad Sci U S A**. 116, 10488-10493 (2019) [[PubMed Link](#)]
12. Ryu JK, Rafalski VA, Meyer-Franke A, Adams RA, Poda, SB, Rios Coronado PE, Pedersen LO, Menon V, Baeten KM, Sikorski SL, Bedard C, Bardehle S, **Mendiola AS**, Davalos D, Macado MR, Hanspers K, Chan JP, Plastira I, Petersen MA, Pfaff SJ, Ang KK, Hallenbeck KK, Syme C, Hakoziaki H, Ellisman MH, Swanson RA, Zamvil SS, Arkin MR, Zorn SH, Pico AR, Mucke L, Freedman SB, Stavenhagen JB, Nelson RB, Akassoglou K. *Fibrin-targeting immunotherapy protects against neuroinflammation and neurodegeneration.* **Nat Immunol** 19, 1212-1223 (2018) [[PubMed Link](#)] News & Views

13. Cardona SM, Kim SV, Church KA, Torres VO, Cleary IA, **Mendiola AS**, Saville SP, Watowich S, Parker J, Ospina A, Araque P, Ransohoff RM, Cardona AE. *Role of the fractalkine receptor in CNS autoimmune inflammation: New approach utilizing a mouse model expressing the human CX3CR1I249/M280 variant*. **Front Cell Neurosci** 17, 12-365 (2018) [[PubMed Link](#)]
14. **Mendiola AS**, Cardona AE. *The IL-1 $\beta$  phenomena in neuroinflammatory diseases*. **J Neural Transm**. 125, 781-795 (2018) [[PubMed Link](#)]
15. Petersen MA, Ryu JK, Chang KJ, Etxeberria A, Bardehle S, **Mendiola AS**, Kamau-Devers W, Fancy SPJ, Thor A, Bushong EA, Baeza-Raja B, Syme CA, Wu MD, Rios Coronado PE, Meyer-Franke A, Yahn S, Pous L, Lee JK, Schachtrup C, Lassmann H, Huang EJ, Han MH, Absinta M, Reich DS, Ellisman MH, Rowitch DH, Chan JR, Akassoglou K. *Fibrinogen Activates BMP Signaling in Oligodendrocyte Progenitor Cells and Inhibits Remyelination after Vascular Damage*. **Neuron** 96, 1003-1012.e7 (2017) [[PubMed Link](#)] [News & Views](#)
16. **Mendiola AS**, Garza R, Cardona SM, Mythen SA, Lira SA, Akassoglou K, Cardona AE. *Fractalkine signaling attenuates perivascular clustering of microglia and fibrinogen leakage during systemic inflammation in mouse models of diabetic retinopathy*. **Front Cell Neurosci** 10,10:303 (2017) [[PubMed Link](#)]
17. Betts-Obregon BS, Mondragon AA, **Mendiola AS**, LeBaron RG, Asmis R, Zou T, Gonzalez-Fernandez F, Tsin AT. *TGF $\beta$  induces BIGH3 expression and human retinal pericyte apoptosis: a novel pathway of diabetic retinopathy*. **Eye** 30, 1639-1647 (2016) [[PubMed Link](#)]
18. Hole CR, Leopold Wager CM, **Mendiola AS**, Wozniak KL, Campuzano A, Lin X, Wormley FL Jr. *Antifungal activity of Plasmacytoid dendritic cells against *Cryptococcus neoformans* in vitro requires expression of Dectin-3 (CLEC4D) and reactive oxygen species*. **Infect Immun** 84, 2493-504 (2016) [[PubMed Link](#)]
19. Cardona SM\*, **Mendiola AS**\*, Yang YC, Adkins SL, Torres V, Cardona AE. *Disruption of fractalkine signaling leads to microglial activation and neuronal damage in the diabetic retina*. **ASN Neuro** 7, 5 (2015) [[PubMed Link](#)] \*co-first authorship
20. Grigsby JG, Cardona SM, Pouw CE, Muniz A, **Mendiola AS**, Tsin AT, Allen DM, Cardona AE. *The role of microglia in diabetic retinopathy*. **J Ophthalmol** 2014, 705783 (2014) [[PubMed Link](#)]

## SCIENTIFIC PRESENTATIONS & INVITED TALKS

1. **University of Texas at San Antonio, Department of Microbiology and Immunology 2023 Spring Symposium**, *Invited keynote speaker*, San Antonio, TX (2023)
2. **Duke University, Department of Immunology**, *Invited Talk/Seminar*. Durham, NC. (2023)

3. **Emory University, Department of Cell Biology & Center for Neurodegenerative Disease.** *Invited Talk/Seminar.* Atlanta, GA. (2022).
4. **Gladstone Institutes 2022 Scientific Retreat,** Asilomar, CA. *Talk* (2022)
5. **Keystone Symposia: Neuroimmune Interactions in the Central Nervous System,** Keystone Resort, CO. *Poster Presentation* (2022)
6. **UCSF Bay Area Neurodegeneration Symposium,** San Francisco, CA. *Selected for Flash Talk* (2022)
7. **Gladstone Institute of Neurological Disease: Research in Progress Seminar Series.** San Francisco, CA. *Talk/Seminar* (2022)
8. **Gladstone Institute of Neurological Disease Scientific Advisory Board Meeting.** San Francisco, CA. *Poster Presentation* (2022)
9. **UCSF Department of Neuroscience Scientific Retreat.** *Virtual Talk* (2020)
10. **Gladstone Institute of Neurological Disease: Research in Progress Seminar Series.** San Francisco, CA. *Talk/Seminar* (2019)
11. **Aegean Conferences: 16<sup>th</sup> International Conference on Innate Immunity.** Rhodes, Greece. *Selected for Short Talk* (2019)
12. **Gordon Research Conference: Neuroimmune Communication in Health and Disease.** Ventura, CA. *Poster presentation* (2019)
13. **Gladstone Institute of Neurological Disease 20<sup>th</sup> Anniversary Scientific Advisory Board Symposium.** San Francisco, CA. *Poster Presentation* (2018)
14. **American Society for Neurochemistry Annual Meeting.** Little Rock, AK. *Poster Presentation* (2017)
15. **SALSI Translational Neuroinflammation Symposium.** San Antonio, TX. *Poster Presentation* (2016)
16. **American Association of Immunologist Annual Meeting.** Seattle, WA. *Poster Presentation* (2016)
17. **American Society for Neurochemistry Annual Meeting.** Denver, CO. *Poster Presentation* (2016)
18. **Vaccine Development Center of San Antonio Conference.** San Antonio, TX. *Poster Presentation* (2015)
19. **UTSA College of Science Research Conference.** San Antonio, TX. *Graduate Student Talk* (2015)
20. **Association for Research in Vision and Ophthalmology Annual Meeting.** Denver, CO. *Selected for Short Talk* (2015)
21. **American Society for Neurochemistry Annual Meeting.** Atlanta, GA. *Poster Presentation* (2015)
22. **UTSA College of Science Research Conference.** San Antonio, TX. *Poster Presentation* (2014)

23. **Association for Research in Vision and Ophthalmology Annual Meeting.** Orlando, FL. *Poster Presentation* (2014)
24. **Association for Research in Vision and Ophthalmology Annual Meeting.** Seattle, WA. *Poster Presentation* (2013)
25. **Society for Advancement of Chicanos/Hispanic and Native Americans in Science Annual Meeting.** San Antonio, TX. *Poster Presentation* (2013)
26. **UTSA College of Science Research Conference.** San Antonio, TX. *Poster Presentation* (2013)

### AD HOC REVIEWER

Nature Communications, Journal of Neuroinflammation, Journal of Neuroscience, Journal of Neurochemistry, Glia, Neurotherapeutics, Frontiers in Immunology, Frontiers in Pharmacology

### MENTORING EXPERIENCE

- |             |  |
|-------------|--|
| Summer 2023 | Nikhita Arun, Undergraduate Intern from Case Western, Akassoglou Lab, Gladstone Institutes |
| 2022-2023   | Eilidh MacDonald, Undergraduate Intern, Akassoglou Lab, Gladstone Institutes               |
| Summer 2022 | Kissanet Frezghi, Undergraduate Intern, Akassoglou Lab, Gladstone Institutes               |
| 2021-2023   | Karuna Dixit, PhD., Postdoc Fellow, Akassoglou Lab, Gladstone Institutes                   |
| 2021–2022   | Clairice Pearce, B.S., PostBac, Akassoglou Lab, Gladstone Institutes                       |
| 2020–2021   | Michael Caponegro, Ph.D., Postdoc Fellow, Akassoglou Lab, Gladstone Institutes             |
| 2020-2023   | Zhaoqi Yan, Ph.D., Postdoc Fellow, Akassoglou Lab, Gladstone Institutes                    |
| Summer 2019 | Gayathri Muthukumar, Undergraduate intern, Akassoglou Lab, Gladstone Institutes            |
| 2016–2017   | Borna Sarker, B.S., PhD student, Cardona Lab, UTSA   |
| 2015–2017   | Kaira Church, B.S., Research Technician, Cardona Lab, UTSA                                 |
| 2016–2017   | Shannon Mythen, Undergraduate Student, Cardona Lab, UTSA                                   |
| 2014–2016   | Roland Garza, Undergraduate Honors Student, Cardona Lab, UTSA                              |

## TEACHING EXPERIENCE

- 2013-2014 **Graduate Student Teaching Assistant**  
*Biochemistry Laboratory*, Department of Biology, University of Texas at San Antonio
- Assisted in teaching three upper-division undergraduate courses with 15–20 students per class
  - Enhanced student learning by preparing weekly PowerPoint presentations, quizzes, and holding office hours
  - Mentored junior Teaching Assistants on successful teaching applications
  - Received excellent evaluations each semester

## DIVERSITY, EQUITY, AND INCLUSION CONTRIBUTIONS

- 2023- Committee Member, National Multiple Sclerosis Society workgroup to increase underrepresented scientists in MS research
- 2022- Committee Member, Diversity, Equity, and Inclusion Council, Gladstone Institutes, San Francisco, CA
- 2022 Representative, American Society for Cell Biology (ASCB) MOSAIC Program Diversity, Equity, and Inclusive 2023 Summit. Bethesda, MD.
- 2022 Mentor, Promoting Underrepresented Minority Advancement in the Sciences (PUMAS) Summer Internship Program, Gladstone Institutes, San Francisco, CA.
- 2017– STEM advisor to undergraduate and graduate minority student's, SACNAS
- 2016-2017 Graduate Student Program Manager, Alfred P. Sloan Foundation Program, University of Texas at San Antonio

## SERVICE & OUTREACH

- 2022 Organizing Committee Member, National Multiple Sclerosis Society 2022 Tykesons Fellows Conference, Dallas, TX.
- 2022 Organizing Committee Member (co-lead organizer of poster sessions), Gladstone Scientific Retreat at Asilomar Pacific Grove, CA.
- 2021 Lead MS Ambassador, National Multiple Sclerosis Society, MS Bike, San Francisco, CA.
- 2021– Scientific Advisor, National Multiple Sclerosis Society Emerging Leaders Board, Northern California Chapter
- 2020 Guest speaker and panelist for Q&A with MS patients; Invited guest cyclist, cycled 120 miles. National Multiple Sclerosis Society MS Bike 2019, Kansas City, MO.



2019 Walk to End Alzheimer's, Gladstone Institute of Neurological Disease  
Participant, San Francisco, CA.

## **PRESS & NEWS RELEASE**

### Press release

- Revealing how blood triggers brain disease
- Toxic cell atlas guides new therapies for neurodegeneration

### News release

- Young Scientists Committed to Finding Treatments for Neurodegenerative Diseases
- Meet Gladstone: Andrew Mendiola
- The Hearst Foundations Support Postdocs at Gladstone
- NMSS Momentum Magazine
- MS researcher gets it in gear
- NIH MOSAIC PROFILE