



Annelise E. Barron

Associate Professor of Bioengineering

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Annelise E. Barron is the W.M. Keck Associate Professor of Bioengineering at Stanford University.

The broad theme of the Barron lab is the study, biomimicry, and upregulation of natural human host defense peptides (antimicrobial peptides), a key element of our bodies' innate immune defense against pathogens. We study the molecular biophysics, anti-infective, and immunomodulatory mechanisms of LL-37—a centrally important human host defense peptide—and its role(s) in preventing Alzheimer's & Parkinson's diseases. Alzheimer's & Parkinson's dementia can be caused by (or at least, accompanied by) polymicrobial neurological and cerebral infections, a phenomenon receiving keen attention now, given recent discoveries. LL-37 is important in this context because (1) it is a broad-spectrum anti-infective; (2) helps regulate the immune system; and (3) also drives autophagy. Most importantly, (4) LL-37 binds to the Alzheimer's-associated ABeta amyloid peptide preventing fibril formation, and binds to alpha-Synuclein (which accumulates in Parkinson's Disease), again blocking amyloid formation. LL-37's important roles are compromised by its degradation and alteration by pathogen-associated virulence factors. We are therefore, in addition to studying infectious mechanisms of neurological disease, also working to develop biostable peptoid mimics of LL-37 as therapeutics that can combat antibiotic-resistant infections. We are especially interested in neurological infections, eye / ear infections, and sinus / lung infections. In the past, we also have created effective, biostable mimics of human lung surfactant proteins to facilitate delivery of therapeutics to the lungs, treat bacterial and viral pneumonia, or prevent or prevent ventilator-associated lung injury.

We became interested in the pathogenic mechanisms of Covid-19 as relates to dysregulation of innate immunity, especially as regards understanding why certain populations (diabetics in particular, and populations that tend to have lower Vitamin D3 levels or poor metabolic health) seem to be more strongly affected by Covid-19 infections. We aim to develop safe therapeutic and prophylactic approaches to preventing and treating viral and we hope in the future, complex bacterial / fungal / viral co-infections, which are a likely cause of many idiopathic 'autoimmune' diseases, including cognitive impairment and loss, often in the context of poor metabolic health and mitochondrial dysfunction.

Dr. Barron is a chemical and biological engineer with a keen interest in systems-level analyses of the mechanisms of complex human diseases. She was trained in chemical engineering at the University of Washington (B.S., 1990) and U.C. Berkeley (Ph.D., 1995, mentored by Prof. Harvey W. Blanch), and was a Pharmaceutical Chemistry postdoc with Prof. Ken A. Dill (UCSF) and Dr. Ronald N. Zuckermann (Chiron Corp.). She has served on the faculty at Stanford since 2007, and prior to that, worked on the Chemical & Biological Engineering faculty of Northwestern University in Evanston, IL for 10 years (1997-2007). Dr. Barron has been awarded the NIH Pioneer Award via the NIH National Institute on Aging (2020), the Oskar Fischer Award (2022), the Presidential Early Career Award for Scientists & Engineers (PECASE) through NIH / NHGRI (1999), the Beckman Young Investigator Award (1999), and

the Camille Dreyfus Teacher-Scholar Award (1998), among other awards. Dr. Barron was the youngest scientist ever to serve on the Scientific Advisory Committee to the Director of the NIH, under Dr. Elias Zerhouni. She has more than 177 publications and a current H-index of 61 (Web of Science, All Databases, Barron Annelise E), and is a co-founder and serves on the advisory boards of a number of biotechnology companies. She is proud to be 1/4 Quechua (the Native American people of Bolivia), 1/4 Spanish, 1/4 Swedish, 1/4 English, and 100% American.

ACADEMIC APPOINTMENTS

- Associate Professor, Bioengineering
- Member, Bio-X
- Member, SPARK at Stanford
- Member, Wu Tsai Human Performance Alliance
- Member, Stanford Cancer Institute
- Member, Wu Tsai Neurosciences Institute

HONORS AND AWARDS

- Invited lecture, Dept. of Clinical Microbiology & Immunology, Karolinska Institutet, Karolinska Institutet, Stockholm, Sweden (November 10, 2025)
- Keynote lecture, Gothenburg University, Symposium on Antimicrobial Therapeutics, Gothenburg, Sweden (November 7, 2025)
- Invited Lecturer, Viktor Mutt Symposium, held at the Nobel Forum in Stockholm, Sweden, Karolinska Institutet (September 26-27, 2024)
- The Oskar Fischer Prize, University of Texas, San Antonio and The James J. Truchard Foundation (July 2022)
- NIH Director's Pioneer Award—Title: Role of Innate Immune Dysregulation in the Etiology of Dementia, National Institutes of Health, Office of the Director (October 2020)
- Scientific Advisory Board member, DOE National Nanoscience Science Research Centers (NSRCs) (2020-2021)
- Chair, User Executive Committee, Department of Energy, The Molecular Foundry (Berkeley, CA) (2019-2021)
- Invited Kornis Family Lecturer in Medicinal Chemistry, University of New South Wales, Department of Chemistry, Sydney, Australia (2019)
- Invited Lecturer, Molecular Foundry, Lawrence Berkeley National Laboratory (2018)
- Invited Participant, Nobel Symposium: Amyloid: A multifaceted player in human health and disease, Stockholm, Sweden (2015)
- Nanobio Scholar, Virginia Tech (2011)
- W.M. Keck Associate Professor of Bioengineering, Stanford University (2007-present)
- Thiele Lecturer in Chemical Engineering, University of Notre Dame (2005)
- Camille Dreyfus Teacher-Scholar Award, Camille and Henry Dreyfus Foundation (2002)
- DuPont Young Professor Award, DuPont, Inc. (2002)
- Presidential Early Career Award for Scientists and Engineers, NIH/NHGRI (1999)
- Beckman Young Investigator Award, Arnold & Mabel Beckman Foundation (1998-99)
- NIH National Research Service Award (Postdoctoral Fellowship #1 F32 GM 18112), National Institutes of Health (1996)
- Dow Excellence in Teaching Award, 1994, U.C. Berkeley Department of Chemical Engineering, U.C. Berkeley (1994)
- Matheson Fellowship in Chemical Engineering, U.C. Berkeley (1994)
- University of California Minority Dissertation Year Fellowship, U.C. Berkeley (1994)
- Outstanding Graduate Student Instructor Award, U.C. Berkeley Dept. of Chemical Engineering, U.C. Berkeley (1993)
- U.C. Berkeley Provost's Research Fund Grant, U.C. Berkeley (1993)
- 1990-1993 U.C. Berkeley Chancellor's Minority Pre-doctoral Fellowship, U.C. Berkeley (1990-1993)
- H.K. Benson Chemical Engineering Tuition Scholarship, Univ. of Washington, Seattle (1989)
- University of Washington Undergraduate Merit Scholarship (two consecutive years), Univ. of Washington, Seattle (1988, 1989)

- 1986-1990 National Merit Scholar and Recipient of Associated Four-Year Scholarship, National Merit Scholarship Corporation (1986-1990)
- National Hispanic Scholar, Univ. of Washington, Seattle (1986)
- Tektronix Foundation Merit Scholarship, Univ. of Washington, Seattle (1986)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Associate Editor, *Frontiers in Aging Neuroscience* (2021 - present)
- Associate Editor, *Nature Scientific Reports* (2018 - present)

PROFESSIONAL EDUCATION

- Postdoc, UCSF/Chiron Corporation , Biomimetic & Bioorganic Chemistry (1997)
- Postdoc, Soane BioSciences/ACLARA Biosciences Inc. , Molecular Biotechnology (1996)
- Ph.D., Univ. of California, Berkeley , Chemical Engineering (1995)
- B.S., Univ. of Washington, Seattle , Chemical Engineering (1990)

LINKS

- Barron Lab for Innate Immune Optimization web page: <https://barronlabd10.sites.stanford.edu>
- Annelise Barron LinkedIn profile page: <https://www.linkedin.com/in/annelise-e-barron-a152547/>

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

According to our recent findings and those of others, innate immune responses in humans and other mammals involving infection-, injury-, or stress-related dynamic imbalances between particular, immunomodulatory host defense peptides we study, and pro-amyloid / fibrillogenic peptides including ABeta and IAPP, may play a role in the poorly understood etiology of chronic / progressive plaque diseases, including diabetes type II mellitus, atherosclerosis and Alzheimers dementia. All of these diseases involve dysbiosis, senescent/dystrophic cells, inflammation, and "proteopathies" or plaque accumulation; and can be complicated by infection by a variety of pathogens—bacterial, viral, and fungal.

The latter disease, Alzheimers dementia, is in need of a major breakthrough in fundamental understanding, more than almost any human disease currently under study. Of a total of 450+ clinical trials initiated by Pharma towards the development of Alzheimer's treatments over the past 16+ years, almost all of these trials have failed (save two recently: Biogen's Aduhelm, and Eisai's Leqembi, which can only slow the rate of cognitive decline by 25-30% at best, and which have significant side effects). There is no current effective pharmaceutical treatment to fully halt or reverse the development of dementia. Obviously, the most fundamental ideas for what drives Alzheimers must be flawed or incomplete.

Until recently Alzheimers disease was believed to be the sixth leading cause of death in the United States, according to the Centers for Disease Control and Prevention (CDC). But in March 2014, new research published in *Neurology* suggested that Alzheimers may actually be responsible for as many deaths each year as heart disease or cancer—the two leading causes of death in the U.S.—due to issues, in hospitals, of improper prior determinations of underlying causes of death in the elderly.

My lab is developing and testing novel mechanistic hypotheses of Alzheimers etiology, based on recent, unique molecular biophysical observations of pro-amyloid and innate immune peptides. We are also studying linkages to certain chronic infections and innate immune dysregulation.

Increasing numbers of epidemiological and co-morbidity studies indicate that multiple, progressive degenerative diseases, all involving plaque deposition in various body compartments, are linked. For instance, some researchers have begun to refer to Alzheimers Disease as "Diabetes Mellitus Type III".

We seek, with current research projects, to sleuth out the shared molecular biophysical and physiological bases for these emerging linkages, so that these conditions may be prevented.

(Note: Succinct, exemplary summaries of these fascinating epidemiological / comorbidity linkages are found, for instance, in the following papers:

"The 'psoriatic march': a concept of how severe psoriasis may drive cardiovascular comorbidity", *Experimental Dermatology* (2011) 20, 303–307;

"Circle of Willis atherosclerosis: association with Alzheimer's disease, neuritic plaques and neurofibrillary tangles", *Acta Neuropathol* (2007) 113:13–21;

"Increased prevalence of the metabolic syndrome in patients with moderate to severe psoriasis", *Arch Dermatol Res* (2006) 298: 321–328; "Association of Alzheimer disease pathology with abnormal lipid metabolism", *Neurology* (2011) 77;1068).

Teaching

COURSES

2024-25

- Advances in Biotechnology: BIOE 450, CHEMENG 450 (Spr)
- Bioengineering Innate Immunity: BIOE 236 (Win)

2022-23

- Advances in Biotechnology: BIOE 450, CHEMENG 450 (Spr)
- Bioengineering Innate Immunity: BIOE 236 (Win)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Kelli Ann Lynch

Postdoctoral Faculty Sponsor

Seraphine Kamayirese

Doctoral (Program)

Nayla Abney, Aidan Cabral, Zhengxi Gu, Claudia Phillips, Nico van Donk

GRADUATE AND FELLOWSHIP PROGRAM AFFILIATIONS

- Bioengineering (Phd Program)
- Biophysics (Phd Program)
- Medicine (Masters Program)

Publications

PUBLICATIONS

- **Human cathelicidin peptide LL-37 compacts nucleic acids and alters neutrophil extracellular trap structure.** *Scientific reports*
Zielke, C., Rad, B., Nielsen, J. E., Li, J., Pimcharoen, S., Sawant, M., Kamayirese, S., Lin, J. S., Thiam, H. R., Barron, A. E.
2026
- **Peptoid-based antimicrobial strategies against polymyxin-resistant Gram-negative bacteria.** *Journal of applied microbiology*
Mishra, S. K., Shen, J., Akter, T., Tigabu, A., Urmi, U. L., Dantie, M. A., Mekonen, E. S., Kuppasamy, R., Sørensen, K., Lin, J. S., Wong, E. H., Hui, A., Barron, et al
2026
- **Investigation of Regulation and Binding Patterns of the Human Cathelicidin Peptide LL-37 in Complexation with Nucleic Acids, and its Impact on Neutrophil Extracellular Traps.** *bioRxiv : the preprint server for biology*

- Zielke, C., Rad, B., Nielsen, J. E., Li, J., Pimcharoen, S., Sawant, M., Lin, J. S., Thiam, H. R., Barron, A. E.
2026
- **Identification of gingipains in glioblastoma tumors and evidence that *P. gingivalis* infection drives IL-6 and PD-L1 expression in glioma cells** *BioRxiv*
Moore, E. M., Bekale, L. A., Tun, Z. M., Chen, J., Ryder, M. I., Ermini, F., Dominy, S. S., Barron, A. E.
2026
 - **The dysregulation of innate immunity by *Porphyromonas gingivalis* in the etiology of Alzheimer's disease.** *Journal of internal medicine*
Barron, A. E., Lin, J. S., Ryder, M. I., Bergman, P.
2025
 - **Antiparasitic effect of peptoids against *Cryptosporidium parvum*.** *Microbiology (Reading, England)*
Lamont, B., Russell, B. M., Suwanarusk, R., Nielsen, J. E., Sørensen, K., Yung, D., Barron, A. E., Pletzer, D., Muhsin-Sharafaldine, M. R.
2025; 171 (10)
 - **Local enhancement of cationic charge density via polyamine side chain incorporation improves the selectivity of antimicrobial peptoids.** *European journal of medicinal chemistry*
Oh, J., Choi, S. M., Yun, Y., Choi, J., Barron, A. E., Park, K. H., Seo, J.
2025; 297: 117920
 - **Evaluation of the Synergistic Activity of Antimicrobial Peptidomimetics or Colistin Sulphate with Conventional Antifungals Against Yeasts of Medical Importance.** *Journal of fungi (Basel, Switzerland)*
Mishra, S. K., Kuppusamy, R., Nguyen, C., Doeur, J., Atwal, H., Attard, S., Sørensen, K., Lin, J. S., Wong, E. H., Hui, A., Barron, A. E., Kumar, N., Willcox, et al
2025; 11 (5)
 - **Novel Antifungal Strategies for Airway Mycosis**
Cohen, C., Barron, A., Kirshenbaum, K., Knight, J., Otukoya, E., Vali, S., Corry, D.
AMER THORACIC SOC.2025
 - **Antimicrobial activity of peptoids against Metallo- β -lactamase-producing *Klebsiella pneumoniae*, *Acinetobacter baumannii*, *Pseudomonas aeruginosa*, and other WHO priority pathogens, including *Candida auris*.** *Journal of applied microbiology*
Mishra, S. K., Yasir, M., Kuppusamy, R., Wong, E. H., Hui, A., Sørensen, K., Lin, J. S., Jenssen, H., Barron, A. E., Willcox, M.
2025
 - **A biofilm-targeting lipo-peptoid to treat *Pseudomonas aeruginosa* and *Staphylococcus aureus* co-infections** *Biofilm*
Wardell, S. J., Yung, D. B., Nielsen, J. E., Lamichhane, R., Sørensen, K., Molchanova, N., Herlan, C., Lin, J. S., Bräse, S., Wise, L. M., Barron, A. E., Pletzer, D.
2025; 9: 13
 - **Time-resolved phenotyping at subcellular resolution reveals shared principles and key trade-offs across antimicrobial peptide activities** *Time-resolved phenotyping at subcellular resolution reveals shared principles and key trade-offs across antimicrobial peptide activities*
Fragasso, A., Schlechtweg, T., Lin, W., Barron, A. E., Jacobs-Wagner, C.
2025; In revision
 - **The Effect of Immobilisation Strategies on the Ability of Peptoids to Reduce the Adhesion of *P. aeruginosa* strains to Contact Lenses.** *Experimental eye research*
Sara, M., Chakraborty, S., Chen, R., Palms, D., Katsifis, G., Li, Z., Farajikhah, S., Masedupally, V., Hui, A., Wong, E. H., Kumar, N., Vasilev, K., Mackenzie, et al
2024: 110149
 - **From Global to Nano: A Geographical Perspective of *Aggregatibacter actinomycetemcomitans*.** *Pathogens (Basel, Switzerland)*
Ryder, M. I., Fine, D. H., Barron, A. E.
2024; 13 (10)
 - **Ethylene oxide graft copolymers reduce the immunogenicity of lipid nanoparticles.** *RSC advances*
Qi, Y., Han, H., Liu, A., Zhao, S., Lawanprasert, A., Nielsen, J. E., Choudhary, H., Liang, D., Barron, A. E., Murthy, N.
2024; 14 (41): 30071-30076
 - **Acid-degradable lipid nanoparticles enhance the delivery of mRNA.** *Nature nanotechnology*

- Zhao, S., Gao, K., Han, H., Stenzel, M., Yin, B., Song, H., Lawanprasert, A., Nielsen, J. E., Sharma, R., Arogundade, O. H., Pimcharoen, S., Chen, Y. J., Paul, et al
2024
- **Peptide-mimetic treatment of *Pseudomonas aeruginosa* in a mouse model of respiratory infection.** *Communications biology*
Moule, M. G., Benjamin, A. B., Buger, M. L., Herlan, C., Lebedev, M., Lin, J. S., Koster, K. J., Wavare, N., Adams, L. G., Brase, S., Munoz-Medina, R., Cannon, C. L., Barron, et al
2024; 7 (1): 1033
 - **Pf bacteriophages hinder sputum antibiotic diffusion via electrostatic binding.** *Science advances*
Chen, Q., Cai, P., Chang, T. H., Burgener, E., Kratochvil, M. J., Gupta, A., Hargill, A., Secor, P. R., Nielsen, J. E., Barron, A. E., Milla, C., Heilshorn, S. C., Spakowitz, et al
2024; 10 (22): ead15576
 - **Antiviral Effect of Antimicrobial Peptoid TM9 and Murine Model of Respiratory Coronavirus Infection.** *Pharmaceutics*
Lebedev, M., Benjamin, A. B., Kumar, S., Molchanova, N., Lin, J. S., Koster, K. J., Leibowitz, J. L., Barron, A. E., Cirillo, J. D.
2024; 16 (4)
 - **The activity of antimicrobial peptoids against multidrug-resistant ocular pathogens.** *Contact lens & anterior eye : the journal of the British Contact Lens Association*
Sara, M., Yasir, M., Kalaiselvan, P., Hui, A., Kuppusamy, R., Kumar, N., Chakraborty, S., Yu, T. T., Wong, E. H., Molchanova, N., Jenssen, H., Lin, J. S., Barron, et al
2024: 102124
 - **Antiviral effect of peptoids on hepatitis B virus infection in cell culture.** *Antiviral research*
Murayama, A., Hitomi, I., Yamada, N., Aly, H. H., Molchanova, N., Lin, J. S., Nishitsuji, H., Shimotohno, K., Muramatsu, M., Barron, A. E., Kato, T.
2024: 105821
 - **Supramolecular Peptoid Structure Strengthens Complexation with Polyacrylic Acid Microgels.** *Biomacromolecules*
Zhao, W., Lin, J. S., Nielsen, J. E., Sørensen, K., Wadurkar, A. S., Ji, J., Barron, A. E., Nangia, S., Libera, M. R.
2024
 - **Identification of gingipains in glioblastoma tumors and evidence that *P. gingivalis* infection drives IL-6 and PD-L1 expression in glioma cells** *BioRxiv*
Moore, E. M., Bekale, L. A., Tun, Z. M., Chen, J., Ryder, M. I., Ermini, F., Dominy, S. S., Barron, A. E.
2024; Nov. 14, 2025
 - **Between Good and Evil: Complexation of the Human Cathelicidin LL-37 and Nucleic Acids.** *Biophysical journal*
Zielke, C., Nielsen, J. E., Lin, J. S., Barron, A. E.
2023
 - **Peptidomimetic Oligomers Targeting Membrane Phosphatidylserine Exhibit Broad Antiviral Activity.** *ACS infectious diseases*
Tate, P. M., Mastrodomenico, V., Cunha, C., McClure, J., Barron, A. E., Diamond, G., Mounce, B. C., Kirshenbaum, K.
2023
 - **Real-Time Monitoring of Multitarget Antimicrobial Mechanisms of Peptoids Using Label-Free Imaging with Optical Diffraction Tomography.** *Advanced science (Weinheim, Baden-Wurttemberg, Germany)*
Kim, M., Cheon, Y., Shin, D., Choi, J., Nielsen, J. E., Jeong, M. S., Nam, H. Y., Kim, S. H., Lund, R., Jenssen, H., Barron, A. E., Lee, S., Seo, et al
2023: e2302483
 - **The anti-inflammatory effects of photobiomodulation are mediated by cytokines: Evidence from a mouse model of inflammation.** *Frontiers in neuroscience*
Shamloo, S., Defensor, E., Ciari, P., Ogawa, G., Vidano, L., Lin, J. S., Fortkort, J. A., Shamloo, M., Barron, A. E.
2023; 17: 1150156
 - **Membrane-acting biomimetic peptoids against visceral leishmaniasis.** *FEBS open bio*
Kumar, V., Lin, J. S., Molchanova, N., Fortkort, J. A., Reckmann, C., Brase, S., Jenssen, H., Barron, A. E., Chugh, A.
2023
 - **Peptoid-Loaded Microgels Self-Defensively Inhibit Staphylococcal Colonization of Titanium in a Model of Operating-Room Contamination** *ADVANCED MATERIALS INTERFACES*

Zhao, W., Wang, H., Xiao, X., De Stefano, L., Katz, J., Lin, J. S., Barron, A. E., Schaer, T. P., Wang, H., Libera, M.
2022

- **Anti-persister and Anti-biofilm Activity of Self-Assembled Antimicrobial Peptoid Ellipsoidal Micelles.** *ACS infectious diseases*
Lin, J. S., Bekale, L. A., Molchanova, N., Nielsen, J. E., Wright, M., Bacacao, B., Diamond, G., Jenssen, H., Santa Maria, P. L., Barron, A. E.
2022
- **Broad-spectrum CRISPR-mediated inhibition of SARS-CoV-2 variants and endemic coronaviruses in vitro.** *Nature communications*
Zeng, L., Liu, Y., Nguyenla, X. H., Abbott, T. R., Han, M., Zhu, Y., Chemparathy, A., Lin, X., Chen, X., Wang, H., Rane, D. A., Spatz, J. M., Jain, et al
2022; 13 (1): 2766
- **Efficacy of Cathelicidin-Mimetic Antimicrobial Peptoids against Staphylococcus aureus.** *Microbiology spectrum*
Benjamin, A. B., Moule, M. G., Didwania, M. K., Hardy, J., Saenkham-Huntsinger, P., Sule, P., Nielsen, J. E., Lin, J. S., Contag, C. H., Barron, A. E., Cirillo, J. D.
2022: e0053422
- **Self-Assembly of Antimicrobial Peptoids Impacts Their Biological Effects on ESKAPE Bacterial Pathogens.** *ACS infectious diseases*
Nielsen, J. E., Alford, M. A., Yung, D. B., Molchanova, N., Fortkort, J. A., Lin, J. S., Diamond, G., Hancock, R. E., Jenssen, H., Pletzer, D., Lund, R., Barron, A. E.
2022
- **Upregulating Human Cathelicidin Antimicrobial Peptide LL-37 Expression May Prevent Severe COVID-19 Inflammatory Responses and Reduce Microthrombosis** *Frontiers in Immunology*
Aloul, K. M., Nielsen, J. E., Defensor, E. B., Lin, J. S., Fortkort, J. A., Shamloo, M., Cirillo, J. D., Gombart, A. F., Barron, A. E.
2022; 13: 1-16
- **Hyperactivation of monocytes and macrophages in MCI patients contributes to the progression of Alzheimer's disease.** *Immunity & ageing : I & A*
Munawara, U., Catanzaro, M., Xu, W., Tan, C., Hirokawa, K., Bosco, N., Dumoulin, D., Khalil, A., Larbi, A., Levesque, S., Ramassamy, C., Barron, A. E., Cunnane, et al
2021; 18 (1): 29
- **Potent Antiviral Activity against HSV-1 and SARS-CoV-2 by Antimicrobial Peptoids** *Pharmaceuticals*
Diamond, G., Molchanova, N., Herlan, C., Fortkort, J. A., Lin, J. S., Figgins, E., Bopp, N., Ryan, L. K., Chung, D., Adcock, R. S., Sherman, M., Barron, A. E.
2021; 14 (4): 304
- **Targeting Impaired Antimicrobial Immunity in the Brain for the Treatment of Alzheimer's Disease** *NEUROPSYCHIATRIC DISEASE AND TREATMENT*
Fulop, T., Tripathi, S., Rodrigues, S., Desroches, M., Bunt, T., Eiser, A., Bernier, F., Beauregard, P. B., Barron, A. E., Khalil, A., Plotka, A., Hirokawa, K., Larbi, et al
2021; 17: 1311–39
- **The human cathelicidin LL-37 is a nanomolar inhibitor of amyloid self-assembly of islet amyloid polypeptide (IAPP).** *Angewandte Chemie (International ed. in English)*
Armiento, V., Hille, K., Naltsas, D., Lin, J. S., Barron, A. E., Kapurniotu, A.
2020
- **Optimizing Exogenous Surfactant as a Pulmonary Delivery Vehicle for Chicken Cathelicidin-2.** *Scientific reports*
Baer, B. n., Veldhuizen, E. J., Molchanova, N. n., Jekhmane, S. n., Weingarh, M. n., Jenssen, H. n., Lin, J. S., Barron, A. E., Yamashita, C. n., Veldhuizen, R. n.
2020; 10 (1): 9392
- **Halogenation as a tool to tune antimicrobial activity of peptoids.** *Scientific reports*
Molchanova, N. n., Nielsen, J. E., Sørensen, K. B., Prabhala, B. K., Hansen, P. R., Lund, R. n., Barron, A. E., Jenssen, H. n.
2020; 10 (1): 14805
- **Targeting Infectious Agents as a Therapeutic Strategy in Alzheimer's Disease** *CNS Drugs*
Fülöp, T., Munawara, U., Larbi, A., Desroches, M., Rodrigues, S., Catanzaro, M., Guidolin, A., Khalil, A., Bernier, F., Barron, A. E., Hirokawa, K., Beauregard, P. B., Dumoulin, et al
2020: 23

- **Surface Tension Reduction by Peptoid-Based Exogenous Surfactants**
Veldhuizen, R., Xu, W., Molchanova, N., Baer, B., Lin, J., McCaig, L., Barron, A.
AMER THORACIC SOC.2020
- **Helical side chain chemistry of a peptoid-based SP-C analogue: Balancing structural rigidity and biomimicry** *BIOPOLYMERS*
Brown, N. J., Lin, J. S., Barron, A. E.
2019; 110 (6)
- **Helical side chain chemistry of a peptoid-based SP-C analogue: Balancing structural rigidity and biomimicry.** *Biopolymers*
Brown, N. J., Lin, J. S., Barron, A. E.
2019: e23277
- **Role of Microbes in the Development of Alzheimer's Disease: State of the Art - An International Symposium Presented at the 2017 IAGG Congress in San Francisco** *FRONTIERS IN GENETICS*
Fulop, T., Itzhaki, R. F., Balin, B. J., Miklossy, J., Barron, A. E.
2018; 9
- **Periprosthetic Bacterial Biofilm and Quorum Sensing** *JOURNAL OF ORTHOPAEDIC RESEARCH*
Mooney, J. A., Pridgen, E. M., Manasherob, R., Suh, G., Blackwell, H. E., Barron, A. E., Bollyky, P. L., Goodman, S. B., Amanatullah, D. F.
2018; 36 (9): 2331–39
- **Effective in vivo treatment of acute lung injury with helical, amphipathic peptoid mimics of pulmonary surfactant proteins** *SCIENTIFIC REPORTS*
Czyzewski, A. M., McCaig, L. M., Dohm, M. T., Broering, L. A., Yao, L., Brown, N. J., Didwania, M. K., Lin, J. S., Lewis, J. F., Veldhuizen, R., Barron, A. E.
2018; 8: 6795
- **Evidence that the Human Innate Immune Peptide LL-37 May Be a Binding Partner of A β and Inhibitor of Fibril Assembly**
De Lorenzi, E., Chiari, M., Colombo, R., Cretich, M., Sola, L., Vanna, R., Gagni, P., Bisceglia, F., Morasso, C., Lin, J. S., Lee, M., McGeer, P. L., Barron, et al
CELL PRESS.2018: 393A
- **Effect of side chain hydrophobicity and cationic charge on antimicrobial activity and cytotoxicity of helical peptoids.** *Bioorganic & medicinal chemistry letters*
Lee, J. n., Kang, D. n., Choi, J. n., Huang, W. n., Wadman, M. n., Barron, A. E., Seo, J. n.
2018; 28 (2): 170–73
- **Implant-Associated Bacterial Biofilm and Quorum Sensing in Periprosthetic Joint Infections.** *Journal of orthopaedic research : official publication of the Orthopaedic Research Society*
Mooney, J. A., Pridgen, E. M., Manasherob, R. n., Suh, G. n., Blackwell, H. E., Barron, A. E., Bollyky, P. L., Goodman, S. B., Amanatullah, D. F.
2018
- **Intracellular biomass flocculation as a key mechanism of rapid bacterial killing by cationic, amphipathic antimicrobial peptides and peptoids.** *Scientific reports*
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