

Taxiarchis Katsinelos

Email: tkatsinelos@auth.gr Contact No: +44 7576246630

Summary

Experienced research scientist with 10+ years' experience in the field of neurodegeneration and Assistant Professor of Pharmacology in the Aristotle University of Thessaloniki. Practical skills in high-content imaging, CRISPR screening approaches, and cell biology including immortalized and iPSC-derived cell models, protein degradation, super resolution fluorescence microscopy and cryo-electron microscopy.

Education

- 2012 – 2018** **Ph.D. in Biology:** Ruprecht-Karls University of Heidelberg, Faculty of Biosciences, German Cancer Research Center (DKFZ), Germany
- 2006 – 2012** **Master of Pharmacy (MPharm):** School of Pharmacy, Aristotle University of Thessaloniki, Greece

Research Experience

- 2026 – present** **Assistant Professor of Pharmacology**
School of Medicine, Aristotle University of Thessaloniki, Greece
Templated seeded aggregation of proteins into disease-relevant amyloid filaments
- 2025 – 2026** **Research Associate**
Functional Genomics Screening Laboratory, University of Cambridge, UK
Supervisors: Dr. Chun Hao Wong and Dr. Ulrike Kunzel
Arrayed CRISPR/Cas9 screening methodologies to uncover the complexity of developmental and disease signatures using human *in vitro* models
- 2021 – 2025** **Postdoctoral researcher – Career Development Fellow:**
MRC Laboratory of Molecular Biology, Cambridge, UK
Supervisors: Dr. Michel Goedert and Dr. Sjors Scheres
Novel Tau seeding biosensor cellular models that faithfully propagate disease-relevant conformations of amyloid structures via cryo-EM analysis
- 2018 – 2021** **Postdoctoral researcher – Research Associate:**
UK Dementia Research Institute, Department of Clinical Neurosciences, University of Cambridge, UK
Supervisor: Dr. William A. McEwan
Development of biopharmaceutical compounds embracing the innate immune response against disease-relevant fibrillar Tau assemblies
- 2012 – 2018** **PhD student:**
German Cancer Research Center (DKFZ), Heidelberg University Biochemistry Center (BZH), Heidelberg, Germany.
Supervisors: Dr. Thomas R. Jahn and Prof. Walter Nickel
Unconventional secretion of Tau mediates its trans-cellular propagation in Alzheimer's disease

Technical skills

Molecular Biology	PCR, molecular cloning, construct design, site-directed mutagenesis, genomic DNA analysis, qRT-PCR, Luminex Multiple Assays, protein and antibody labelling
Cell Biology	Tissue culture, transfection, generation of stable cell lines (lentivirus, retrovirus, baculovirus); generation of modified cell lines with siRNA, human iPSC-derived neurons
Cell based assays	Cellular imaging assays, Flow cytometry (FACS), cytotoxicity assays, cellular signalling assays, reporter-based assays

Structural Biology	cryo-Electron Microscopy (cryo-EM), Transmission Electron Microscopy (TEM), immunogold labelling, negative staining
Biochemistry	Protein expression from prokaryotic (E. coli) and eukaryotic (Sf9) suspension cell systems, protein and antibody purification using the AKTA systems, SDS-PAGE electrophoresis, western blot analysis, ELISA
Microscopy	High-content microscopy, confocal microscopy, immunofluorescence, live cell imaging, TIRF microscopy, super resolution microscopy, single-molecule imaging, automated image analysis
IT skills	ApE (software for DNA analysis), ImageJ (image analysis), GraphPad Prism, RELION (cryo-EM analysis), Adobe Illustrator, Microsoft Word, Excel, and PowerPoint

Early Career Researcher (ECR) contributions and reviewing experience

- Member of the Early Career Researcher Taskforce from the Biochemical Society and the publishing group Portland Press regarding the actions and initiatives promoting early career researchers
- Member of the Early Career Researcher Editorial Board Mentorship Scheme from Portland Press in collaboration with Prof. Anabella Srebrow from the University of Buenos Aires, Argentina (https://portlandpress.com/pages/portland_press_early_career_researcher_editorial_board_mentorship_scheme)
- Reviewer of grant proposals for France Alzheimer & Maladies Apparentées and for Alzheimer's Research UK (ARUK)
- Reviewer of fellowship applications for the Horizon Marie Skłodowska-Curie Postdoctoral Fellowships
- Special Issue Editor for the Advanced in Tau Protein Research special issue of the scientific journal International Journal of Molecular Sciences (https://www.mdpi.com/journal/ijms/special_issues/YBK624W6MW)
- Reviewer of over 90 research articles in various scientific journals (<https://orcid.org/my-orcid?orcid=0000-0001-6951-3216>)

Selected Publications

Katsinelos T., Lövestam S., Qi C., Ryskeldi-Falcon B., Macdonald J.A., Stephenson G., Ghetti B., McKee A., Scheres S.H.W., Goedert M., (2025) Seeding biosensor cell line that reproduces the Alzheimer tau fold. The Journal of biological chemistry

Dimou E.*, **Katsinelos T.***, Meisl G., Tuck B.J., Keeling S., Smith A.E., Hidari E., Lam J.Y.L., Burke M., Lövestam S. Ranasinghe R.T., McEwan W.A., Klenerman D., (2023) Super-resolution imaging unveils the self-replication of tau aggregates upon seeding. Cell Reports, *equal contribution.

Katsinelos T., Zeitler M., Dimou E., Karakatsani A., Müller H.-M., Nachman E., Steringer J.P., Ruiz de Almodovar C., Nickel W., Jahn T.R., (2018) Unconventional Secretion Mediates the Trans-cellular Spreading of Tau. Cell Reports.

Katsinelos T., McEwan W.A., Jahn T.R., Nickel W., (2021) Identification of cis-acting determinants mediating the unconventional secretion of tau. Scientific Reports. 11, 12946.

Katsinelos T., Doulberis M., Polyzos S.A., Papaefthymiou A., Katsinelos P., Kountouras J., (2019) Molecular Links Between Alzheimer's Disease and Gastrointestinal Microbiota: Emphasis on Helicobacter pylori Infection Involvement. Current Molecular Medicine. 20, 3–12.

Katsinelos T., Tuck B.J., Mukadam A.S., McEwan W.A., (2019) The Role of Antibodies and Their Receptors in Protection Against Ordered Protein Assembly in Neurodegeneration. Frontiers in Immunology. 10.

*Full list of publications: https://scholar.google.com/citations?hl=en&user=UxCkh20AAAAJ&view_op=list_works&sortby=pubdate