

Learn about the Assault on Alzheimer's initiative

Arthur S. Levine, MD <gad3@pitt.edu>

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To:Lake, Janice <JWL66@pitt.edu>

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The Assault on Alzheimer's initiative at the University of Pittsburgh supports discovery in basic neuroscience that could lead to breakthroughs in the prevention and treatment of Alzheimer's and dementia disorders. The hard work of basic science to uncover the root causes of Alzheimer's and other neurological diseases is an investment that promises life-changing dividends.

In fact, the exceptional work of our 150+ neuroscientists across campus is being widely recognized by the Blue Ridge Institute for Medical Research, which ranked Pitt no. 3 in the country for National Institutes of Health grants in neurosciences. You can learn more about the research initiatives currently underway at Pitt, which are detailed in a recent Pitt Med magazine article: "[The Grayest of Gray Matters](#)."



In this recurring newsletter, we'll keep you informed about the latest Alzheimer's research and recent accomplishments at Pitt. As always, please contact us at gad3@pitt.edu with any questions or concerns! And check out our new website at AssaultOnAlzheimers.org to learn more about ongoing research initiatives.



Researcher Spotlight: Tharick Pascoal, MD, PhD

[Associate Professor of Psychiatry and Neurology Dr. Tharick Pascoal's research](#) centers on the identification and validation of biomarkers that signal pathological processes in the human brain to both better understand these biochemical interactions and develop novel therapeutic targets for neurodegenerative diseases. A clinical neurologist, Dr. Pascoal is interested in quantifying brain protein aggregates as well as studying functional and structural changes in patients with neurodegenerative conditions. He received his medical degree from Federal University of Pelotas, Brazil, and his doctorate from McGill University, Montreal, Canada.

Read on to learn more about Dr. Pascoal's groundbreaking research currently in progress.

Finding Ways to Diagnose Alzheimer's Earlier— and Explain Some of its Symptoms

Dr. Pascoal is part of an international research team that recently studied a new blood test for certain alterations in the protein tau known as phosphorylated tau or p-tau. According to last month's issue of JAMA Neurology, the test accurately predicted Alzheimer's disease (AD) pathology, which could make it a powerful screening tool that might allow for earlier diagnosis and treatment of Alzheimer's.

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Research Shows Brain Inflammation Results in Neuropsychiatric Problems for AD Patients

Led by Dr. Pascoal, a research team is exploring the role of brain inflammation in Alzheimer's disease. In November, his lab published a study in the medical journal [JAMA Network Open](#) that showed the sleep disturbances, agitation and other neuropsychiatric problems that occur in AD are the result of inflammation—not the amyloid plaques or tau tangles that characterize the disease.

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Last year, Dr. Pascoal and his team found that among cognitively normal people, only those who had both beta-amyloid brain plaques and blood biomarkers of abnormal reactivity of astrocytes (i.e., a type of brain cell) later developed AD. [The findings](#), published in the research journal Nature Medicine, could help predict who is at risk—and make it possible to give drugs like **donanemab** (learn more below) at the most effective time.

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Urgent Need for Effective Alzheimer's Treatments

Last summer, a team led by Eli Lilly and Company researchers shared trial results of [donanemab](#), which revealed that the experimental drug could modestly slow progression in some patients if given early in the disease's progression. Donanemab, which the FDA is expected to approve later this year, reduces the amount of amyloid plaques in the brain. [Leqembi](#), made by Eisai and Biogen, has already been approved by the FDA for treatment of AD. Biogen recently decided to stop making and selling Aduhelm. Two trials of an experimental drug called gantenerumab reduced amyloid plaque burden but had no impact on symptoms in early Alzheimer's.

These drugs are far from perfect—in addition to being incredibly costly, they also increase the risk for dangerous brain bleeds and have little impact on the forgetfulness and confusion that are the most devastating AD symptoms. Fundamental research that reveals how AD starts and progresses is imperative if we are to change the future for Alzheimer's patients and their families.

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