



TinnitusFree Foundation Funds International Research to Develop an Objective Test for Tinnitus

New international study uses AI and brainwave data to identify an objective biomarker for tinnitus, a breakthrough that could revolutionize diagnosis and treatment.

Amsterdam, 31 October 2025

The **TinnitusFree Foundation** has announced funding for a pioneering international research project aimed at identifying the world's first *objective diagnostic marker for tinnitus* - a major step toward transforming how this common yet often misunderstood condition is diagnosed and treated.

Tinnitus, the perception of sound such as ringing or buzzing in the absence of an external source, affects 740 million people worldwide, with 20% suffering from life-altering symptoms.

Yet despite its prevalence, there is still no objective way to diagnose the condition or measure its severity. This gap is holding back innovation and treatment development.

Unlike current diagnostic methods that rely on patients' subjective reports, this research aims to establish a measurable brain-based biomarker for tinnitus, a breakthrough comparable to how blood pressure readings revolutionized the diagnosis of hypertension.

The study, led by Professor Dirk de Ridder, will analyze brainwave data (EEG) to identify a unique "brain signature" associated with tinnitus. Researchers aim to develop a model that can:

- **Detect tinnitus objectively,**
- **Estimate its loudness (1–10), and**
- **Measure the level of tinnitus-related distress (1–10).**

To achieve this, the study will utilize various artificial intelligence (AI) methods to an extensive EEG database with more than 3000 brain scans with clinical data collected by Prof Jae-Sin Song in Seoul, Korea, and smaller databases from Belgium and Germany.

ACCELERATING RESEARCH AND INNOVATION

Finding an objective diagnostic marker would mark a major breakthrough for both tinnitus research and clinical practice. It would establish the foundation for evidence-based diagnoses, standardized outcome measures, and faster, data-driven development of effective therapies, bringing hope to millions affected by tinnitus.

KEY ADVANTAGES OF AN OBJECTIVE TINNITUS MARKER

Finding an objective tinnitus marker would revolutionize both clinical research and patient care through reliable, standardized measurement. Key benefits include:

- **Subtyping** – Classifying tinnitus into specific subtypes for personalized treatment.
- **Severity Quantification** – Objectively assessing intensity, distress, and loudness independent of subjective reporting.
- **Treatment Monitoring** – Tracking real-time effects of therapeutic interventions.
- **Clinical Validation** – Providing standardized outcome measures for drug and device approvals.
- **Adaptive Therapies** – Enabling AI-driven, closed-loop neuromodulation systems.
- **Insurance Support** – Strengthening the medical basis for treatment reimbursement.

ABOUT THE RESEARCH COLLABORATION

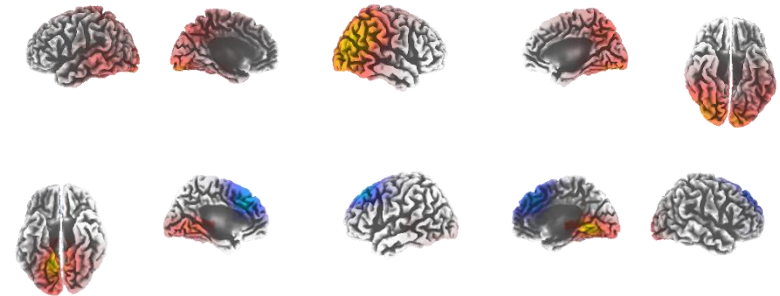
This international project brings together leading experts in neuroscience, artificial intelligence, and clinical audiology from Korea, Belgium and New Zealand.

ABOUT THE TINNITUSFREE FOUNDATION

The TinnitusFree Foundation aims to accelerate research into a cure for tinnitus. We raise money for groundbreaking medical research focused on finding real, lasting solutions. Through strategic funding of medical research, we support scientists working on solutions to reduce and, ideally, eliminate tinnitus noise.

Earlier this year, TinnitusFree funded the purchase of a **NeuroOptics® NPi®-300 pupillometer** for the University of Otago. This high-quality pupillometer is a portable, automated measuring device that accurately and objectively measures patients' pupil size, symmetry, and light response. The pupillometer is used in clinical studies to measure the effect of neuromodulation.

AN EXAMPLE OF TINNITUS ACTIVITY IN THE BRAIN



TINNITUSFREE PARTNERS

TinnitusFree has JBL, TMI Investments, Stichting S.T.A.P. and the Immunis Foundation as partners.

The TinnitusFree Foundation welcomes additional funding partners to help accelerate groundbreaking research. To learn more about partnership opportunities, contact:

TINNITUSFREE FOUNDATION

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