



University of Michigan  
Health System

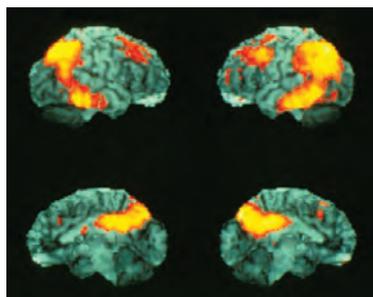


**David E. Kuhl Professorship  
OF NUCLEAR MEDICINE IN RADIOLOGY**

## David E. Kuhl, MD: Pioneer in both Translational and Molecular Imaging

Before Dr. Kuhl began his residency, there was no cross-sectional imaging. While still in postgraduate training, he began an evolution of novel cross-sectional imaging strategies. His imaging devices and image formation algorithms resulted in the first true cross-sectional imaging, realized well before the introduction of X-ray CT scanning. Dr. Kuhl's computerized tomographic scanners were the direct design forerunners of current CT, SPECT and PET devices.

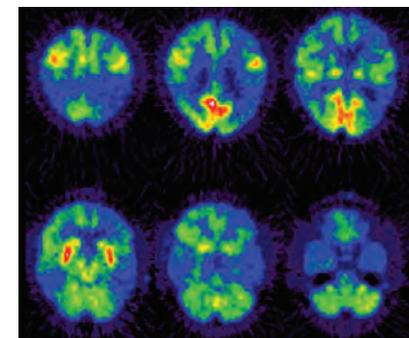
In addition to his imaging technological contributions, Dr. Kuhl pioneered the applications of SPECT and PET imaging to studies of cerebral physiology and pathology. Together with collaborators from NIMH and Brookhaven National Laboratories, he adapted the invasive 2-deoxyglucose metabolism technique in experimental animals to the noninvasive



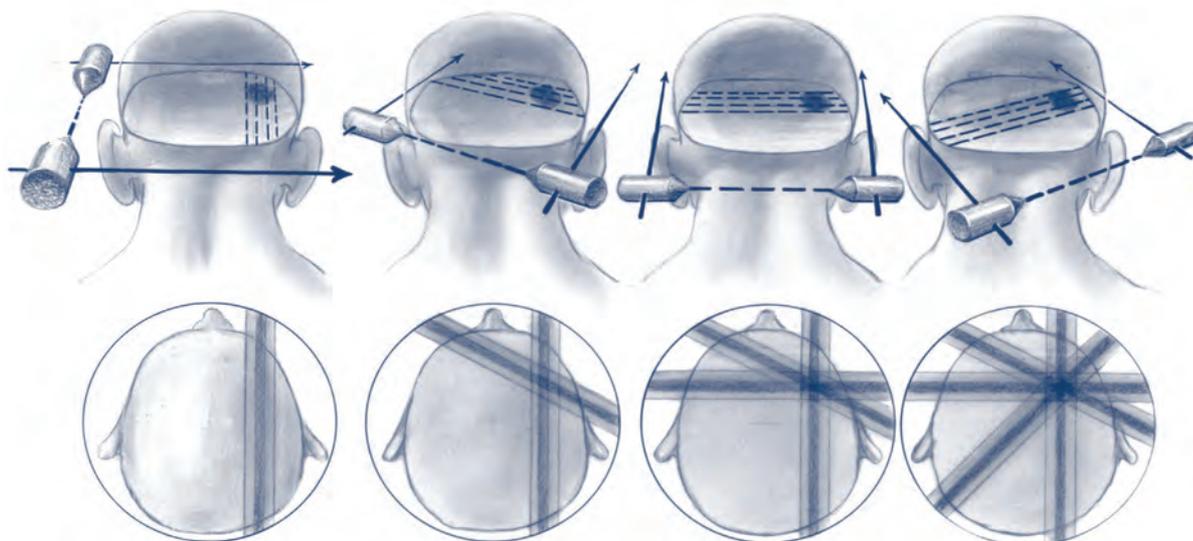
FDG metabolism scanning method in man. His subsequent research was first to demonstrate glucose metabolism abnormalities in refractory epilepsy and in Alzheimer's disease with [<sup>18</sup>F]FDG PET – these methods are now in routine clinical application throughout the world. Dr. Kuhl and his co-investigators at the University of Michigan subsequently developed PET and SPECT methods to study the earliest changes in brain neurochemistry associated with Alzheimer's disease, Parkinson's disease and other neurodegenerations. They designed new radiotracers and analytical strategies to image and quantify novel markers of dopaminergic neurons employing the cerebral vesicular monoamine transporter, and acetylcholine neurons employing the vesicular acetylcholine transporter and acetylcholinesterase activity.

Dr. Kuhl is a world-renowned nuclear medicine clinician and scientist. His numerous contributions to medical imaging include important technical innovations, the discovery of novel

biological principles and his leadership in implementation of state-of-the art clinical translational services. For nearly 20 years at the University of Michigan, Dr. Kuhl served as the Chief of the Division of Nuclear Medicine and Director of the Center for Positron Emission Tomography (PET Center). He was responsible for assembling and leading a world-class scientific faculty that transformed the University's PET Center to a position of international preeminence. Under his guidance, the University of Michigan Hospitals also became one of the first US institutions to offer clinical diagnostic PET services. His discoveries and clinical translations have led directly to the now routine clinical uses of PET in neurology, cardiology and oncology in the US and worldwide.



Over his prolific career, Dr. Kuhl has authored more than 230 original, peer-reviewed scientific manuscripts. Many of his reports involve groundbreaking innovation and first-ever applications of imaging advances to human subjects and patients. He has additionally edited 2 books and authored over 100 book chapters.



*Dr. David Kuhl's emission tomography in the early 1960s ("translate-rotate, back-project") was the forerunner of today's cross sectional imaging.*

# David E. Kuhl, MD

Dr. Kuhl has been recognized for his contributions by numerous professional societies and institutions.

- 1981 Ernst Jung Prize for Medicine  
*Jung Foundation, Hamburg, Germany*
- 1987 Steven C. Beering Award for Advancement of Biomedical Science  
*Indiana University*
- 1989 William C. Menninger Memorial Award for Distinguished Contributions to the Science of Mental Health  
*American College of Physicians*
- 1989 Javits Neuroscience Investigator Award  
*National Institutes of Health*
- 1989 Elected member  
*Institute of Medicine of the National Academy of Sciences*
- 1992 Doctor of Humane Letters, *honoris causa*  
*Loyola University of Chicago*
- 1995 Georg Charles de Hevesy Nuclear Medicine Pioneer Award  
*Society of Nuclear Medicine*
- 1996 Benedict Cassen Prize for Research Leading to a Major Advance in Nuclear Medicine Science  
*Society of Nuclear Medicine*
- 2001 Charles F. Kettering Prize for Outstanding Contribution to the Diagnosis and Treatment of Cancer  
*General Motors Cancer Research Foundation*

# MOLECULAR IMAGING RESEARCH: The University of Michigan Tradition

A cornerstone of translational molecular imaging research, and central to the research program of Dr. Kuhl, is The University of Michigan Center for Positron Emission Tomography, including its state-of-the-art Cyclotron/Radiochemistry Laboratories and its research PET scanners. The research facilities house approximately \$10M in major equipment, and employ over 25 scientists and support staff members. There are presently more than 30 active clinical PET research projects, including NIH and foundation support of \$10M in annual direct costs. These research activities are among the most advanced clinical research protocols at the University, and have great potential to lead to breakthroughs in understanding disease pathophysiology as well as in diagnosis and monitoring of therapy. We are committed to continuing the rich biomedical imaging research heritage at the University of Michigan. Our laboratories and clinical research programs are supported not only by NIH and other competitive extramural sponsors, but also by essential internal sources at Departmental, Medical School and University administrative levels. As the US health care environment evolves, financial pressures that constrain our research enterprise continue to mount.

The David E. Kuhl Professorship of Nuclear Medicine in Radiology will be essential to our faculty research programs, including provision of support for maintaining facilities and equipment and meeting other research expenses not obtainable from public research sponsors. Please help us continue Dr. Kuhl's research legacy with a gift to the David E. Kuhl Professorship of Nuclear Medicine in Radiology.

To learn how you can contribute, please contact the Radiology Development Office.

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