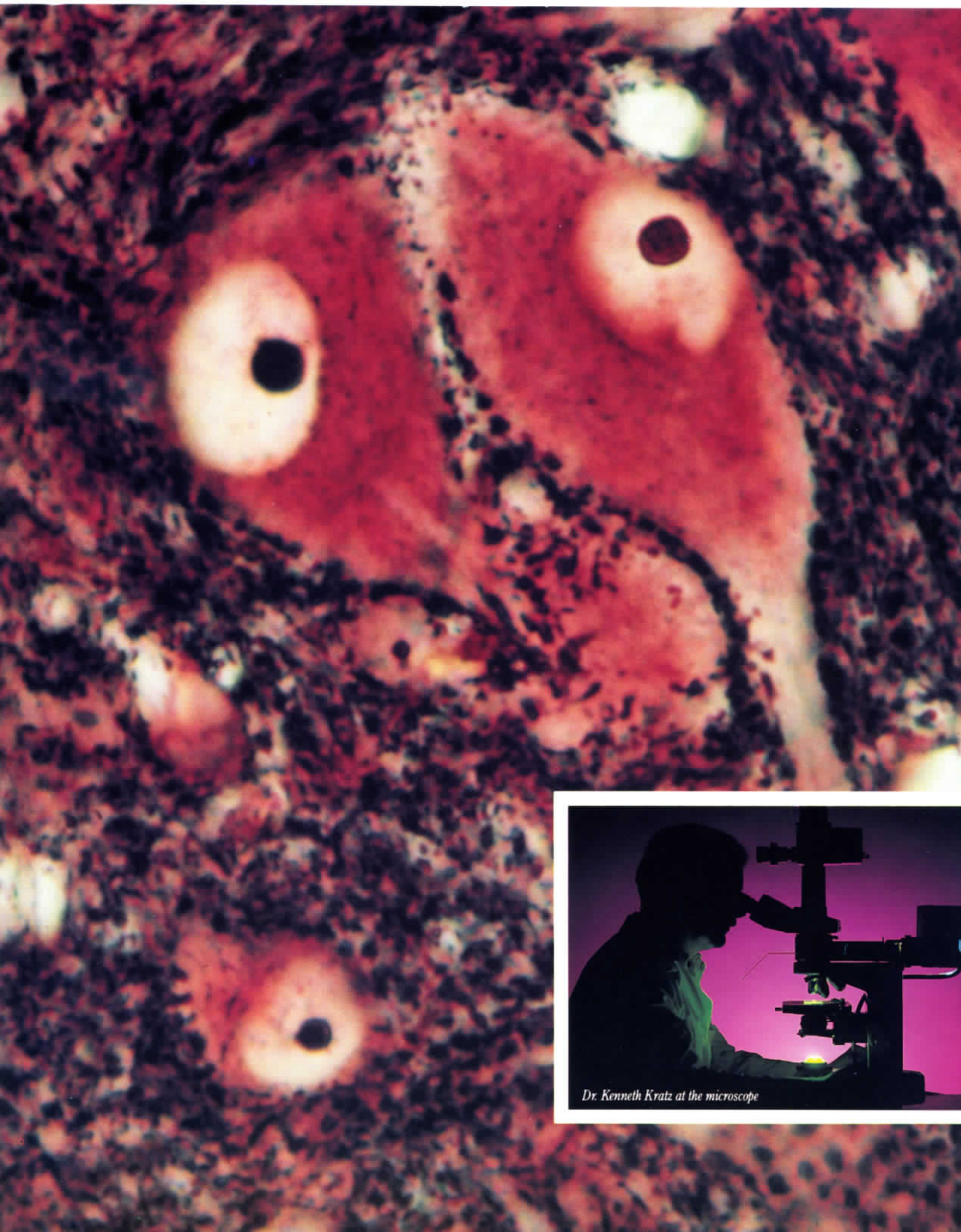
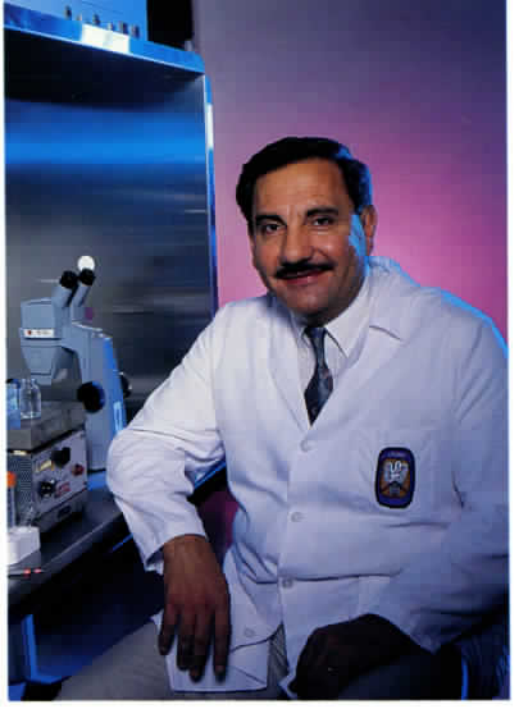
LSU NEUROSCIENCE

CENTER OF EXCELLENCE



Dr. Kenneth Kratz at the microscope



Center of Excellence for Neuroscience

Thousands of Louisianans lose their lives or livelihoods each year to brain diseases such as stroke, epilepsy, Alzheimer's, alcohol and drug addiction, and accidental brain or spinal cord injury. Unlocking the mysteries of such human suffering is one of the greatest challenges of our time. The LSU Neuroscience Center of Excellence was created to meet this challenge. A comprehensive unit with advanced diagnostic capabilities, clinical assessment and patient care, the LSU Neuroscience Center will conduct pioneering basic and clinical research to improve treatment of these conditions. Through outreach programs, the LSU Neuroscience Center will also provide education, rehabilitation and community services.

With links to industry, relationships with biotechnology and pharmaceutical companies, and increased federal support, the LSU Neuroscience Center will become a powerful force for economic growth and development in the region.

The neurosciences are the last frontier of medicine. The LSU Neuroscience Center aims to become the premier institution in the southern United States for research into and treatment of Alzheimer's disease, stroke, brain and spinal cord injury, epilepsy, neurodegenerative disorders, Parkinson's disease, mental depression, alcohol and drug addiction, mental retardation, brain damage in the newborn, hearing, speech, and other cognitive disorders. The Center's multidisciplinary research strengths and unique opportunities for testing potential new therapies will offer the best possible hope of treatment and rehabilitation for these disorders.

Nicolas G. Bazan

Nicolas G. Bazan, MD, PhD
Director
LSU Neuroscience Center

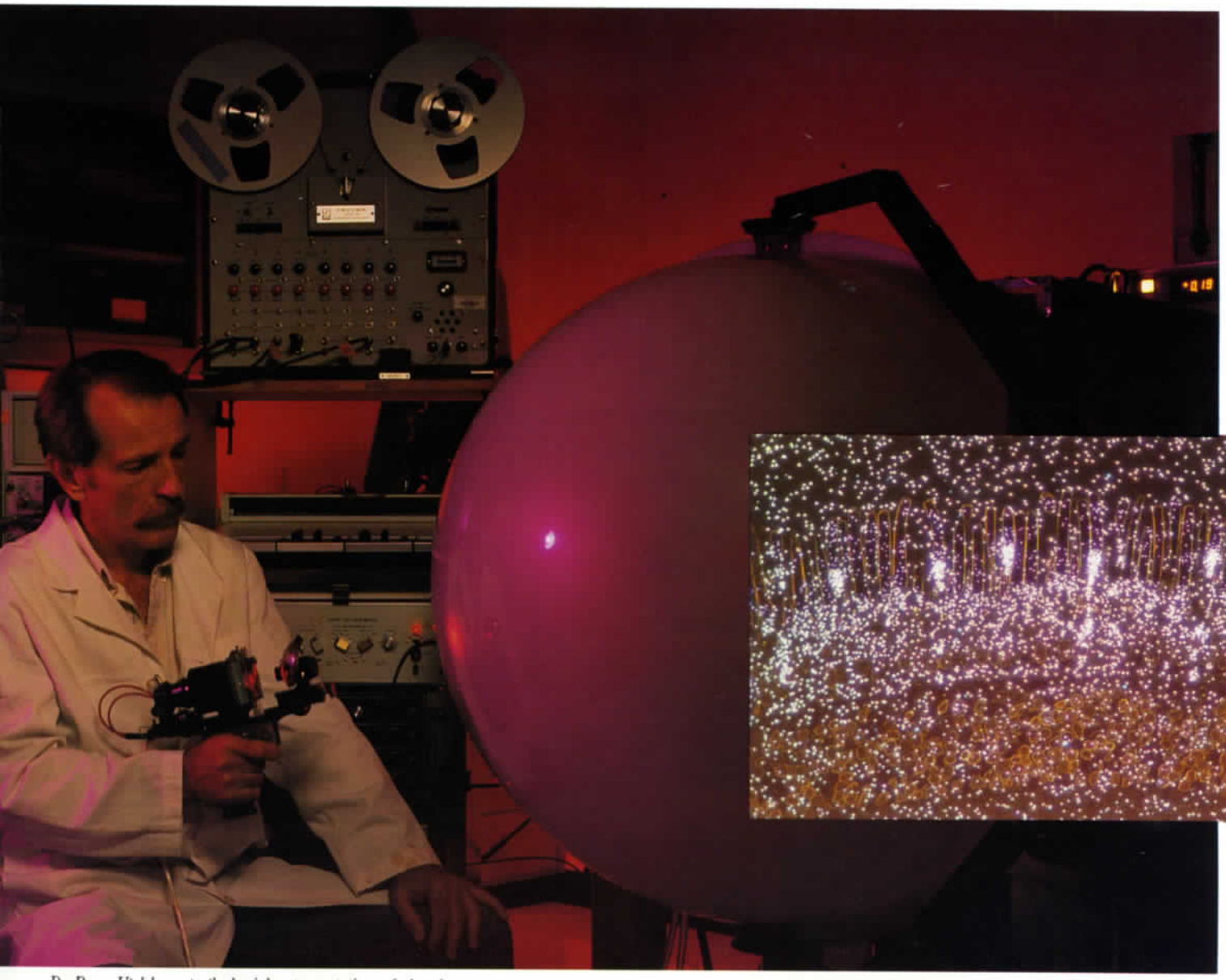
Dr. Prescott Deininger and graduate student Richard Shen study a DNA sequence from human genes.

Programs in Progress

- A brain bank for studies of human neurologic and psychiatric disorders (first of its kind in the South)
- Faculty recruitment, in a program of cooperation among various departments of the LSU School of Medicine, to focus efforts on:
  - Alzheimer's disease and age-related dementias
  - Stroke and other cerebrovascular disease
- Incentive grant program (interdisciplinary) for neuroscientists throughout the statewide LSU System
- Equipment purchase (DNA sequencer, image analysis system and other equipment for interdisciplinary research)
- Ph.D. in Neuroscience graduate program
- Continuation and enhancement of ongoing seminar series
- Fourth annual retreat and scientific workshops
- Development efforts to promote the Neuroscience Center, the potential of its investigators and its benefits to the community

Incentive Fund to Foster Multidisciplinary Collaborations within the LSU System

This program is an incentive to foster interdisciplinary research among basic and clinical neuroscientists in the LSU System. Research proposals will be competitively assessed according to criteria of excellence, interdisciplinary interaction and likelihood of obtaining subsequent funding from out-of-state agencies. At least one scientist is expected to be from the LSU School of Medicine, New Orleans. Collaborators from the LSU School of Medicine, Shreveport, the University of New Orleans, LSU Baton Rouge and others may participate. The first competition attracted 35 proposals by 80 neuroscientists.



Dr. Bruce Updyke maps the brain's representations of what the eye sees.

Governance

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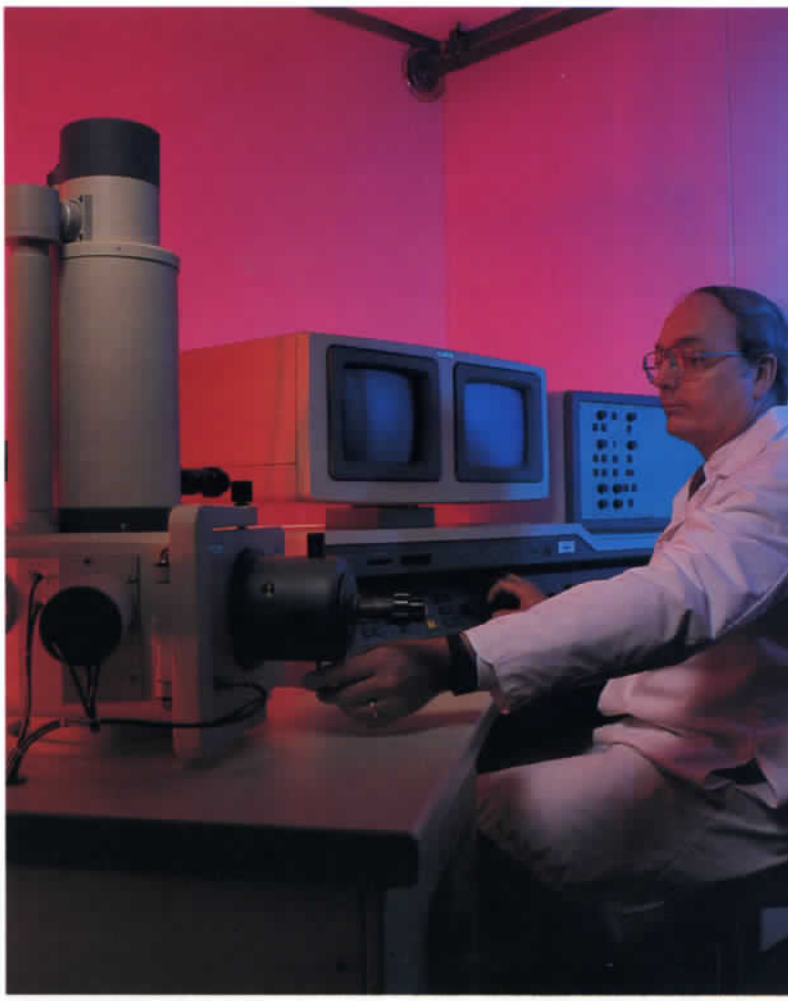
Cheryl Weill, Ph.D.
Associate Professor of Neurology

Drs. Bruce Fisch and Allan Trupin analyze data from epileptic patients.



Dr. Roger Beuerman studies nerves of the eye's surface with the scanning electron microscope.

Front cover (upper insert) Dr. Gary Clark studies live brain synapses using patch clamping.

Inside front cover (insert): Dr. Kenneth Kratz at the microscope

Outside cover background: Synaptoneurosomal fraction as an isolated synapse from brain (Drs. Victor L. Marcheselli and Nicolas G. Bazan)

Inside cover background: Cells of the spinal cord displaying synaptic terminals (Dr. Diane Smith)

***A.** Coronal section of the brain showing areas that are affected in Parkinson's disease (Dr. Diane Smith)*

***B.** Intercellular compartments surrounding visual and neuronal cells of the retina (from Drs. E.B. Rodriguez de Turco, W.C. Gordon and N.G. Bazan, Journal of Neuroscience 11:3667-3678, 1991)*

***C.** Brain stem cells experimentally filled with an enzyme so that neuroscientists may study their circuitry (Dr. Diane Smith)*

***D.** Labelled essential fatty acids from the diet that are necessary for sight in visual cells (Drs. W.C. Gordon and N.G. Bazan, Journal of Neuroscience 10:2190-2204, 1990)*

***E.** Human cortex neuron in culture (Drs. Randy Moses and John W. Haycock)*

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