

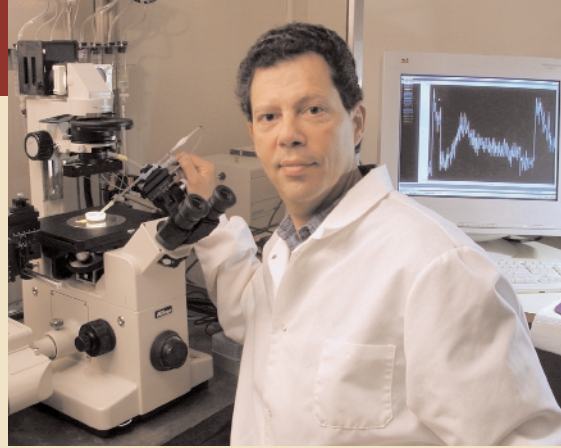
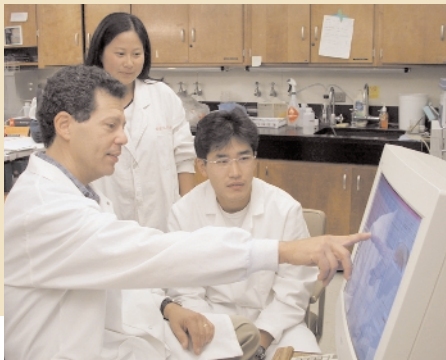
## ROOTS OF AUTISM

# CENTER CREATED TO CARRY OUT CHILDREN'S HEALTH STUDIES

A faculty team representing many scientific and health disciplines at UC Davis has founded the Center for Children's Environmental Health and Disease Prevention in order to discover the root causes of autism.

Investigators hope the findings of their studies will lead to new strategies for treatment and prevention of autism, a neurological syndrome defined by deficits in social interaction, lack of communication skills and exhibition of unusual repetitive behaviors.

The center is the first to specifically look at social behavior as a casualty of exposures to pesticides, polychlorinated biphenyls (PCBs) and mercury in the environment. It has been established by a five-year, \$5 million grant from the National Institute of Environmental Health Sciences to begin identifying the many



Isaac Pessah, professor of molecular biology at the School of Veterinary Medicine, directs the new Center for Children's Environmental Health and Disease Prevention. Several studies are underway to discover root causes of autism.

genetic factors and environmental exposures that have an impact on the development of autistic disorders. Additional funding includes \$3.7 million from the M.I.N.D. (Medical Investigation of Neurodevelopmental Disorders) Institute and \$350,000 from UC Davis for a total budget of \$9 million.

Three major projects—the epidemiology of autism, experiments in social behavior, and laboratory studies in molecular biology—are incorporated in the center:

- Researchers will conduct a case-control study of 2,000 children ages 2–5 to review how genetic factors and exposure to chemicals such as PCBs, certain pesticides, and metals (including mercury compounds used in some vaccines) might work in concert to influence the development of autism.
- Investigators will assess whether prenatal and/or postnatal exposure to toxic chemicals will decrease normal social be-

havior; and if changes in social behavior are associated with alterations of brain regions linked with social behavior (e.g., the amygdala region). Researchers will develop models of autism in mice and non-human primates to observe and evaluate responses to maternal separation, newcomers, new objects, aggression, noises, sleep patterns, nesting behavior and related responses.

■ In the laboratory, center team members will measure toxic compounds present in the blood of autistic and non-autistic children and investigate how chemicals affect a child's nervous system while the brain is still developing its signaling pathways and new cells.

Center participants include UC Davis faculty and staff members under the following administrations: School of Veterinary Medicine, School of Medicine, The M.I.N.D. Institute and College of Agriculture and Environmental Sciences.

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