



Center for
Molecular Medicine
& Genetics

Advances



Dear Colleagues:

Many exciting things are happening at the Center for Molecular Medicine and Genetics at the Wayne State University School of Medicine. This brief letter will bring you up-to-date on our progress toward our ongoing goal of making fundamental discoveries in molecular medicine and genetics so that we may profoundly impact the diagnosis, treatment, and prevention of human disease.

Research by Center faculty members is making a real difference

Research by several Center faculty members is breaking new ground in the understanding of molecular medicine and genetics and how it can impact human disease and reproduction. Some recent successes include:

- Healthy twin girls were born to parents in New York who each were carriers for sickle cell anemia, thanks to a genetic diagnosis procedure developed by **Mark Hughes**, MD, PhD. This report, co-authored by physicians at the Weill Medical College of Cornell University, was printed as the lead article in the May 12 issue of the *Journal of the American Medical Association (JAMA)*. The parents underwent standard in vitro fertilization. Before the embryos were returned to the mother's womb, Dr. Hughes performed genetic testing using preimplantation genetic diagnosis (PGD).

Only unaffected embryos were implanted. Wayne State University is the only site in Michigan and one of only four centers in the country routinely using PGD, which can currently also be used to test for selected other genetic diseases, including cystic fibrosis, hemophilia, Down syndrome, Duchenne muscular dystrophy, and Huntington disease.

- In an article in the December 1998 issue of *Development*, **Stephen Krawetz**, PhD, associate professor in obstetrics and gynecology, reported on the discovery of the mechanism responsible for reprogramming cells, which could make gene therapy an even more immediate reality. This insight begins to unravel the mechanism that is responsible for the direction each cell takes in its development from the generic cells of the embryo to the specific cells of each tissue.

- **Leon Carlock**, PhD, associate professor, and **Robert Skoff**, PhD, professor of anatomy and cell biology, are investigating one of the causes of the symptoms of multiple sclerosis (MS), thanks to a major four-year grant from the National Institutes of Health. Their work looks at the mechanisms underlying the role of proteolipid proteins (PLPs) in oligodendrocyte death. Oligodendrocytes, vital to all vertebrates, are the supporting cells that ensheath the axons of nerves. Without these cells, axons do not conduct electrical impulses properly, and this causes the symptoms of MS.

Center mission moves forward with five-year charter renewal

The Center for Molecular Medicine and Genetics has received a five-year renewal of its charter by Wayne State University. This support from the University is not just an administrative rubber stamp. It is further demonstration of the excellent progress and high

standards the Center has set since it was created just five years ago.

During this time, the Center has supported and nurtured a wide range of activities in molecular medicine and genetics at Wayne State — through the basic and translational research conducted by our own faculty members and the support by the Center as a whole for cutting-edge molecular medicine and genetics research and facilities throughout the campus. We plan to continue in this direction.

This charter renewal comes at a critical time, as the Wayne State University School of Medicine continues its growth and development. The State of Michigan is developing a Life Sciences corridor which will include the vast resources and skills already in place at Wayne State. On a more global basis, researchers around the world are unraveling the human genome at such great speed that identification and sequencing of all genes is expected to be complete in just three years. The Center is well positioned to be a part of this surge — to use this unfolding information and to conduct the novel research that may bring cures and better health to people worldwide.

We will keep you informed about our continued progress and change. I welcome your input and involvement as we move forward. Please feel free to call me at (313) 993-7385.



Sincerely,
George Grunberger, MD
Henry L. Brasza Professor
Director, Center for Molecular
Medicine and Genetics

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This newsletter is edited by

Anne E. Greb, M.S.

313-577-6298

agreb@cmb.biosci.wayne.edu

David D. Womble, Ph.D.

313-577-2374

dwomble@cmb.biosci.wayne.edu

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