

SOUTHWESTERN NEWS

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UT SOUTHWESTERN COLLEAGUES, FRIENDS ENDOW CHAIR FOR DR. JOHN DENIS McGARRY, RENOWNED BIOCHEMIST

DALLAS – Nov. 12, 2001 – Colleagues and friends have endowed a research chair at UT Southwestern Medical Center at Dallas to honor Dr. John Denis McGarry, a UT Southwestern biochemist who has revolutionized research in diabetes and fatty-acid metabolism.

“Denis McGarry is *the* jewel in the crown of diabetes researchers throughout the world,” said Dr. Joseph Goldstein, a Nobel laureate and chairman of molecular genetics at UT Southwestern. “His discoveries sparkle with creative brilliance and have opened new doors for scientists to learn how malonyl-CoA controls ketogenesis and how triglyceride accumulation in cells produces insulin resistance.”

McGarry’s research at UT Southwestern won him the American Diabetes Association’s highest honor, the Banting Medal for Scientific Achievement. The John Denis McGarry, Ph.D., Chair in Diabetes and Metabolic Research will support work in his field of diabetes and metabolic medicine.

“He was a bacterial biochemist in the United Kingdom, but was led to mammalian biochemistry when he came to UT Southwestern in 1968,” said Dr. Daniel Foster, chairman of internal medicine, McGarry’s early mentor and longtime collaborator. “Although he had no prior experience in human metabolism, Denis quickly became a world expert in the field.”

McGarry’s research findings played a key role in altering the prevailing glucose-centered view of scientists that diabetes was caused by the body’s failure to produce and/or use insulin efficiently to metabolize glucose, or blood sugar, for use as energy or tissue growth.

Instead, his focus on metabolism of fatty acids prompted hundreds of scientists worldwide to examine obesity’s role in causing diabetes, particularly the non-insulin-dependent type 2 diabetes, and to consider the glucose-insulin disorder to be more of a result than a cause, said Dr. Roger Unger, co-director of the Touchstone Center for Diabetes Research.

“Denis’ groundbreaking findings are now being translated into practical drugs for

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diabetes treatment, particularly for type 2, and into other studies that may, theoretically, advance the treatment of obesity,” Unger said.

“Denis has always been a great teacher, with those beautiful lectures in his Cary Grant-smooth accent,” Unger added.

Dr. Michael Brown, Nobel laureate and director of the Erik Jonsson Center for Research in Molecular Genetics and Human Disease, said, “For more than 30 years Denis McGarry has been an intellectual pillar of UT Southwestern. During this period our school achieved considerable acclaim for revolutionary work on the metabolism of fatty substances (fatty acids, triglycerides and cholesterol). Denis McGarry has been at the creative heart of this entire effort. He was of enormous help to Joe Goldstein and me when we entered this field as novices in the early 1970s.”

McGarry and Foster’s first key discovery was identifying – from among hundreds of possible compounds – malonyl-CoA as the enzyme regulating oxidation of fatty acids.

McGarry then theorized that excessive fat deposits in muscle cells interfere with insulin secretion and action in the cells, leading to insulin resistance and leaving excess glucose in the blood. Uncontrolled, the disorder leads to diabetes-induced ailments, including low immunity, loss of limbs and eyesight, heart disease and ultimately death.

It revolutionized scientific thought about diabetes worldwide.

Dr. Steven McKnight, chairman of biochemistry, said, “Denis added another major focus, examining the cell’s improper utilization of fatty acids. He kept UT Southwestern at the forefront of metabolic research at a time when molecular biology was overshadowing it almost everywhere and when it may have fallen by the wayside.”

McGarry, a professor of biochemistry and internal medicine, also altered conventional science on how the liver synthesizes and stores glucose overnight and then delivers it to cells as the body awakens. He discovered an indirect pathway, one that malfunctions with diabetes and one that can be blocked by drugs to offset the diabetes impact.

Dr. Christopher Newgard, a graduate student under McGarry and now co-director of the

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Touchstone Center for Diabetes Research, called McGarry “the consummate mentor.”

“He taught his students all the skills that are required for success in science, including careful experimental design, rigorous technique at the bench, clarity in writing and the art of presenting your work at a scientific seminar,” Newgard said. “But more than that, Denis exemplified the concept of grace – the idea that working quietly, professionally and with passion will earn the respect of colleagues without the need to call attention to oneself in any other way.”

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