

DIRECTIONS

WINTER 2005

DIRECTIONS
*is a biannual publication of
the Diabetes Association of
Greater Cleveland's Dietrich
Diabetes Research Institute
(DDRI)*

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DIETRICH DIABETES RESEARCH INSTITUTE

Since 1954, the Diabetes Association of Greater Cleveland (DAGC) has funded over \$5 million in diabetes research in northeast Ohio and has encouraged young researchers to focus their talents on diabetes-related projects.

In 2002, DAGC launched a \$3 million capacity-building campaign, *The Leadership Campaign*, to build its capacity in all areas, especially diabetes research. "With an expanded vision for the future of diabetes research in northeast Ohio, DAGC plays a vital role in our community by acting as a convener and disseminator of the great amount of diabetes research that is being performed right here in Cleveland," says Harriet L. Fader, DAGC's President & CEO.

Through a \$1.3 million gift to *The Leadership Campaign* from Richard and Nancy Dietrich, DAGC established the **Dietrich Diabetes Research Institute (DDRI)** to serve as a diabetes research information clearinghouse and strengthen the diabetes research presence in northeast Ohio.

Chairman of DAGC's Board and *The Leadership Campaign*, Kevin C. Keene, expresses the importance of DDRI: "As the father of a child with diabetes, diabetes research – especially research surrounding finding a cure and reducing the complications – is at the forefront of my mind," Kevin says. "DDRI will enable northeast Ohio to expand its research resources and focus on collaborative research

efforts. I give my heartfelt thanks to the Dietrich family and the entire community for supporting such an initiative."

With a focus on research, DDRI will ultimately enhance the overall quality of clinical care for patients with diabetes in northeast Ohio by making research findings available to both the public and the health care community. DDRI is publishing lay and professional research newsletters, sponsoring conferences for researchers and health care professionals, and creating a research database to collect current diabetes and diabetes-related research being conducted in our area. ■

DIABETES RESEARCH RETREAT

A Groundbreaking Event for Northeast Ohio Diabetes Researchers

The **Diabetes Research Retreat** for northeast Ohio researchers - the first event of its kind – was held on December 3, 2004 at Landerhaven. Presented by the Diabetes Association of Greater Cleveland's Dietrich Diabetes Research Institute in collaboration with Case School of Medicine, this all-day Retreat was a unique professional networking opportunity designed to confront the challenges of diabetes research in the 21st century.

Retreat highlights will be presented in the next newsletter. ■

ROADMAP FOR THE FUTURE

In 2003, about the time that DDRI was established, the National Institutes of Health released “*NIH Roadmap for Medical Research*” to guide the direction of all medical research in the 21st century (<http://nihroadmap.nih.gov>). According to the NIH, new ways to organize and support research teams are required to address the complexity of medical research in an area like diabetes. The NIH plan focuses on three areas in “team science” –

- Biomedical research teams (e.g., biologists and chemists) working to understand the biological processes in living systems at a molecular level;
- Collaborative, interdisciplinary research teams (e.g., engineers,

computer scientists, geneticists, endocrinologists, and others) creating novel partnerships to accelerate discoveries; and

- Clinical research teams developing clinical trial networks that will bring research results into patient settings quicker than before.

With a parallel vision for northeast Ohio, DDRI developed the **Dietrich Diabetes Database (DDD)**. The Dietrich Diabetes Database is an exciting approach to foster the engagement of the northeast Ohio research community in the effort to understand, treat, and someday cure diabetes. ■

FREQUENTLY ASKED RESEARCH QUESTIONS (FAQ)

What are statin drugs and why are they important?

Statins are a group of drugs prescribed to lower cholesterol, protect against damage from coronary-artery disease, and prevent heart attack. Statin drugs have become very popular and we see more and more articles about them in magazines and newspapers.

Statins lower LDL (the level of low-density-lipoprotein or “bad” cholesterol in your blood). Cholesterol is a lipid - a soft, fatlike substance. LDL cholesterol accumulates on the walls of arteries, producing plaque. This plaque can clog the coronary arteries, blocking blood flow and causing coronary artery disease. By inhibiting HMG-CoA reductase (an enzyme in the liver that controls the rate of cholesterol production in the body), statins slow down the production of cholesterol and increase the liver’s ability to remove the LDL-cholesterol already in the blood.

Statins also slightly raise levels of high-density-lipoprotein (HDL or “good”) cholesterol. High HDL is a sign of cardiac health. Statins have antioxidant properties. (An antioxidant

helps to prevent deterioration by the action of oxygen.) By preventing oxidation of LDL cholesterol, statins reduce plaque formation. The anti-inflammatory properties of statins reduce inflammation in plaques, preventing plaques from rupturing and forming clots that can lead to heart attack or stroke. Statins also act on platelets and other clotting factors to reduce clot formation.

You are probably familiar with 5 statins that are currently on the market: Atorvastatin (Lipitor), Fluvastatin (Lescol), Lovastatin (Mevacor), Pravastatin (Pravachol), Rosuvastatin Calcium (Crestor), and Simvastatin (Zocor). These drugs differ in their ability to reduce cholesterol, in how strongly they interact with other drugs, in the frequency of rare side effects, and in how they affect fibrinogen (a protein important in blood clotting and smooth muscle cell growth, which, like inflammation, also may be involved in plaque formation).

For more information about statins and diabetes, see this issue’s **Ask The Expert**.

Have a research topic that you would like to see covered in the FAQ? Let us know! We will cover the most requested topics in the next newsletter.

DIETRICH DIABETES DATABASE (DDD)

Have you ever wondered about what kind of diabetes research is taking place locally? You will find your answers in the **Dietrich Diabetes Database** - an online, searchable collection of diabetes research in northeast Ohio. With the DDD, the public and professionals can view information about who is conducting research in northeast Ohio (principal and secondary investigators), who is sponsoring the project (funding institution), where the project is being conducted (which institutions are involved), what is being investigated, and how the study is being conducted (lay and professional abstracts).

The DDD is particularly important because it is unique – there is no database that collects diabetes research information from the public and private sector, across institutions, across investigator, across disciplines, across funding institution AND focuses on northeast Ohio...until now!

By having the ability to access information, people with diabetes will be more informed and, therefore, better advocates in their own care. Researchers will be able to see who is doing what in the area and can readily contact other researchers to collaborate on projects of mutual interest. The clinical community will have access to research findings that will translate into better care for their patients.

The DDD will also give northeast Ohio a more prominent place in diabetes research in the nation. By showcasing the amount, variety, and quality of diabetes research that is going on, it will be easier to attract more top diabetes investigators to the region. Being known as a center for diabetes research will, in turn, draw more interested medical students, physicians, and basic scientists to the area. All of this translates into more funding for diabetes research. More funding means more research – research that will help you and those you love.

We are very proud to announce that the Dietrich Diabetes Database will “go live” on the Web in late January. You will be able to access research information at www.ddri.org as well as through the DAGC Website, www.dagc.org. ■

WORKING FOR THE GREATER GOOD

An interview with Richard and Nancy Dietrich

"It's easy for us to say we're motivated to fund research for diabetes because our daughter has it. It might be our focus, but it is not *why*," states Dick Dietrich. "We are looking at the bigger picture of the human condition."

Addressing the condition of those with diabetes here in northeast Ohio is exactly what Richard and Nancy Dietrich have accomplished by funding the Dietrich Diabetes Research Institute (DDRI) at DAGC.

Dick, a successful businessman, challenged DAGC to tell them the most productive use of funds that would have a tangible effect on diabetes research leading to a cure with an emphasis on performance measurements and results.

After consultation with the research community, DAGC recommended the creation of DDRI and the Dietrich Diabetes Database. Dick's vision is for "a gathering point and a valuable resource to increase networking and accelerate the research process." "Research is being conducted – it's out there, but there is an enormous gap in information exchange among researchers. The need is for facilitation and collaboration. That's what this is all about," Dick says.

Nancy and Dick recognize that their daughter, Krissy, had the benefit of research advancements that translated into quality care. They also value the knowledge that research brings to the lay community in terms of information. "If diabetes is touching your life, you should know about it. When faced with a crisis like being told that you or someone you love has a chronic disease, you can take control by learning as much

as you can," says Nancy, a Cleveland Heights councilwoman. "The more informed you are, the more knowledge you can pass along to others in discussions."

Keeping informed about diabetes research trends is exciting for Dick. "What excites me most is the promise that stem cell research holds. The notion that you can generate your own cells and not need transplants and immunosuppressive therapy - maybe this is the real answer. We can already transplant islet cells. If you can make your own, it would be a huge, immediate, practical benefit." Nancy agrees that stem cell research is important in the future of diabetes research and emphasizes, "we need leadership who will support it."

Nancy also emphasizes their interest in research to prevent complications. "A person with diabetes can do all the things they are supposed to do – be good caretakers – and still develop complications. We need to know which mechanisms will prevent complications and bring reassurance of a healthy life."

Another source of excitement is the DDRI's Dietrich Diabetes Database – the online, searchable collection of diabetes research in northeast Ohio. According to Dick, "the information exchange and the ability for researchers not to reinvent the wheel" will be a significant advance. "We envision it as a clearinghouse on all levels... and a resource that we can all use."

Dick continues, "Somewhere research is going on that will unlock the puzzle." In funding



Krissy Dietrich Gallagher (diagnosed with type 1 diabetes at age 13) smiles with her parents, Nancy and Dick Dietrich, on her wedding day. Krissy and her husband, Mark, are now the proud parents of 1-year old, Braedan.



DDRI, "our hope is to help our daughter AND millions of other people with diabetes. This was kick-started through self-motivation with our daughter, but has evolved into working for the greater good. That is what makes me feel good about what we have done. It's the right thing to do." ■

DIABETES RESEARCH TIMELINE

Thanks to major technological advances, significant developments in understanding and treating diabetes and its complications have occurred in the last few centuries. Take a look at the Diabetes Research Timeline and see how far we have really come while we are working toward a cure! Go to www.ddri.org/Timeline.asp and track the history of diabetes research from the first century BC to 2003.

WHY IS RESEARCH IMPORTANT TO YOU? . . .

Research Improves Care, Saves Lives, Saves Money, and Brings the Promise of Hope



When we see headlines about 'medical miracles' and read of amazing discoveries, it is easy to forget that these achievements are built on many, many less glamorous research projects conducted over years, sometimes decades. The same holds true for advancements in diabetes research. Monumental changes have occurred in the understanding and treatment of diabetes and its complications - each a result of many detailed studies in very specific areas.

Even when we stop to appreciate these developments, we may still wonder "...but what does that mean for me and my family?" We just need to look around us to see that medical research is an essential activity that impacts all our lives.

"If you think research is expensive, try disease"

This often-quoted statement by Mary Lasker, the first citizen advocate for medical research, couldn't be truer. In 2000, the United States invested \$70 billion (about \$250 per person) on medical research, more than half sponsored by the pharmaceutical companies. The cost of diabetes in the U.S. in 2002 was \$132 billion (\$92 billion in direct medical costs; \$40 billion in indirect costs including disability, work loss, premature death). An investment in research:

- Creates jobs.
- Results in greater job productivity.
- Reduces treatment costs.
 - In 2000, it cost someone with diabetes over \$10,000 a year for health care – 4 times the national average for health care!
- Reduces Medicare costs.
 - Diabetes accounts for 25% of

the Medicare annual budget.

- Reduces the number of hospitalizations and overnight stays.

Various models are employed to try to put a dollar figure on the increased quality of life resulting from research activities.

- Diabetes is the leading cause of blindness. NIH funded research demonstrated that laser treatment saves \$1.6 billion per year by preventing and treating blindness in people with diabetes
- The blood pressure drug, captopril, delays the onset of kidney failure. According to one model, if 85% of people with diabetes had started using the drug in 1995, the direct savings in the U.S. in 2004 would be \$475 million.

Research Improves Care

From crude and sometimes cruel treatment, diabetes management has become a sophisticated science in the last century as a result of research. Research equals improved quality of care and quality of life:

- Blood glucose monitoring allows people with diabetes to check their own blood glucose levels.
- Insulin injection is easier and safer than ever.
- Improved analogue insulins offer faster action, less risk of reactions, and more flexibility for diabetes management.
- Daily injections are being replaced by the development of external insulin pumps.
- Implantable pumps are now an option for some people.
- Researchers are working on an insulin patch and inhaled insulin.
- Four new categories of diabetes medication have been introduced, allowing customized treatment that reduces side effects and improves outcomes.
- Laser treatment for diabetic eye disease reduces the risk of blindness.
- Emphasis is now placed on developing programs for minority and vulnerable populations.
- The importance of self-advocacy has been demonstrated, encouraging patients become better informed

about diabetes, its complications, and self-management.

- High caliber medical professionals are drawn to the area ensuring the best possible care.
- Knowledge applied from various fields like social sciences, behavioral medicine, education, statistics, economics, organizational theory, and health services research results in higher quality care and improved outcomes for diabetes patients.
- Diagnostic procedures are improved.
- Clinical studies are "translated" into better practices and training for health care professionals.
- Landmark clinical trials such as the Diabetes Control and Complications Trial (DCCT) and the United Kingdom Prospective Diabetes Study (UKPDS) demonstrated the importance of intensive blood glucose and blood pressure control.
- The Diabetes Prevention Program (DPP) showed that weight loss, weight maintenance, and increased exercise (as well as treatment with the drug metformin), may delay or prevent the onset of type 2 diabetes in high risk individuals.
- Other studies suggest that cholesterol control and aspirin therapy benefit patients with diabetes.
- Antihypertensive drugs called ACE (angiotensin-converting enzyme) inhibitors appear to prevent or delay kidney failure in people with diabetes.
- Improved approaches to managing diabetes in pregnant women increase the successful outcomes for mother and child.
- For type 2, a new class of medications called insulin sensitizers has recently been released.
 - The sensitizers stimulate a gene to produce more insulin-controlled proteins; these proteins remove glucose from the bloodstream, make insulin more available, and decrease the body's glucose production.

Research Saves Lives

- Deaths due to diabetes complications like cardiovascular disease are declining.
- The NIH-sponsored Diabetes Prevention Program showed that with proper diet and exercise, the

risk of developing type 2 diabetes was reduced by 58%.

- 39,000 lives are improved each year with kidney transplantation and dialysis for people suffering from diabetes-related kidney failure.
- Kidney and pancreas transplants in people whose own kidneys fail because of diabetes are successful.

Research Brings Hope

Where do we go from here? As the financial, medical, and emotional burden of the diabetes epidemic increases, the research community - both nationally and locally - continues to focus on three tasks: preventing diabetes; improving care to prevent and reduce devastating complications; and finding a cure for both type 1 and type 2 diabetes.

- Approximately half of the patients who received transplantation of islet cells in the University of Alberta, Canada study remained insulin-free for up to 1 year (as of June 2003).
- This led to a US nationwide clinical trial to replicate the "Edmonton protocol".
- In this new technique, doctors took corticosteroids out of the anti-rejection drug regimen, used fresh islet cells rather than cells that had been frozen, and increased the number of cells in a transplant.
- Genetic engineering is being used to manipulate cells so they secrete insulin.
- A human insulin gene is inserted into fat or muscle cells; these re-engineered islet cells are then transplanted into people with type 1 diabetes.
- A sensor-computer-pump system that mimics the insulin response of the normal pancreas is being developed to function as an "artificial pancreas".

Many challenges still face us - preventing rejection without immunosuppressive therapies, finding an adequate supply of islet cells, keeping those fragile cells alive - but progress is being made. The promise of dramatic advances in diabetes research has never been greater than it is today - and every research project brings us closer to a cure. ■

DAGC Grants-in-Aid for Diabetes Research

The DAGC Grants-in-Aid for Diabetes Research program provides one to two years of funding for research projects in all aspects of diabetes. DAGC awarded funding for five projects beginning July 1, 2004.

New DAGC Grants-In-Aid:

Gene Expression Profile of White Adipose Tissue During Pregnancy and Diabetes

Sylvie Hauguel-de Mouzon, Ph.D.

Assistant Professor

Director, Molecular Research Division

Department of Reproductive Biology

MetroHealth Medical Center

Dr. Hauguel-de Mouzon will investigate the mechanisms of insulin resistance in pregnant diabetic women by examining the genes in the mothers' fat cells. Comparisons will also be made with the genes expressed in their placenta to identify the metabolic processes that are modified by pregnancy and diabetes. This will allow exploration of why babies of diabetic and obese mothers have an increased risk for obesity at birth as well as for developing diabetes later in life.

NMR Structural Study of Active Insulin Revealed Protein Interaction with Insulin Receptor

Yanwu Yang, Ph.D.

Assistant Professor, Department of

Biochemistry School of Medicine

Case Western Reserve University

Using the new Nuclear Magnetic Resonance (NMR) spectroscopy methods, Dr. Yang's team hopes to determine the three-dimensional structure of an active insulin molecule bound to the insulin receptor (a landmark in the history of diabetes research). The structural comparison between free insulin and active (bound) insulin will provide a footprint of the hormone's receptor-binding surface and may provide new targets for drug treatment of Type I and Type II diabetes.

Applications for 2005 Grants-in-Aid will be available on www.dagc.org in January. Applications will be due on March 31, 2005.

Pathogenesis of Voiding Dysfunction in the Diabetic Bladder

Firouz Daneshgari, M.D.

Director, Center for Pelvic Medicine &

Reconstructive Surgery

Cleveland Clinic Foundation

Recent evidence suggests that bladder complications in patients with diabetes may be caused by damage to the smooth muscle of the bladder due to elevated blood sugar, rather than the result of nerve damage as previously thought. Dr. Daneshgari is investigating the cellular and molecular changes that cause lower urinary tract complications in diabetes, particularly those involving the production and action of protein kinase C.

DAGC Grants-in-Aid funded for a second year include:

Targeted Lentiviral Gene Based Neuroprotection for Diabetic Neuropathy

Nicholas M. Boulis, M.D.

Associate Staff

Department of Neurosurgery

Cleveland Clinic Foundation

Dr. Boulis' research investigates the use of gene therapy to prevent the death of nerve cells caused by high blood sugar levels and examines whether particular gene therapies will help in slowing or eliminating diabetic neuropathy. Viruses used for gene delivery are engineered for enhanced uptake into the nerves that cause diabetic neuropathy.

Effect of Type II Diabetes on Progression of Heart Failure

Margaret P. Chandler, Ph.D.

Assistant Professor

Department of Physiology and Biophysics

Case School of Medicine

Dr. Chandler will continue to investigate how diabetes influences the progression of heart failure in a Type II diabetic model. The research examines whether the progression of heart failure in Type II diabetes can be slowed or reversed using drugs that partially block the heart's use of fatty acids, thereby causing the heart to use more glucose to generate energy and thus, to function more efficiently.



Byron Hoogwerf,
MD, FACP, CDE, FACE

ASK THE EXPERT!

In order to address questions that arise from the recent publicity about statins and individuals with diabetes, we have asked an expert in the field - **Dr. Byron Hoogwerf**, staff physician from the Department of Endocrinology, Diabetes and

Metabolism at the Cleveland Clinic Foundation - to present current research information on the subject. Dr. Hoogwerf is also a member of the Cardiology Prevention Clinic and of the Transplant Center, and Program Director for the Internal Medicine Residency Program. He has been actively involved in several large multi-center clinical trials including

Post CABG, HOPE, HOPE-TOO, ACCORD and DREAM. Widely published in peer-reviewed scientific journals, he has also authored 27 chapters in textbooks related to his specialty interests. In 2000, Dr. Hoogwerf was named to *Who's Who in America* and *Who's Who in the World*. Dr. Hoogwerf is a past President of DAGC.

Cholesterol Trials and Heart Disease Risk in Diabetes Mellitus

Byron Hoogwerf, MD, FACP, CDE, FACE
Endocrinology Diabetes and Metabolism
Cleveland Clinic Foundation

Diabetic patients have a 2 to 5 fold increase in the risk for heart disease. Traditional risk factors for heart disease such as elevated LDL-cholesterol ("bad" cholesterol), high blood pressure and smoking all increase the risk for heart disease in diabetes in the same way as they do in non-diabetic people. There is much interest in understanding the effects of treating blood sugar, blood cholesterol and blood pressure to reduce the risk for heart attacks and strokes. Several studies have looked at the effects of cholesterol lowering and reduction in risk for heart attacks and strokes in patients with diabetes mellitus.

Most of the cholesterol lowering trials performed in the last 10 years have included diabetic subjects including one study performed exclusively in patients with diabetes mellitus. Two types of medications have been used in randomized controlled cholesterol trials that have included diabetic patients. **Statins** (often compared to a placebo or "sugar" or dummy pill) have been used in most of these studies. Statins lower LDL cholesterol. Diabetic patients in the statin trials generally had more heart disease

than their non-diabetic counterparts. Whereas diabetic subjects got comparable (or even greater) *relative* benefit, the diabetic patients on statins still have a greater risk for heart disease than their non-diabetic counterparts. LDL cholesterol lowering not only reduces heart disease but also strokes. **Fibrates** lower triglycerides and raise HDL-cholesterol ("good" cholesterol), but do not lower LDL cholesterol. A fibrate called gemfibrozil (Lopid) was studied in 2 major cholesterol trials (again compared to placebo). Both diabetic and non-diabetic subjects on fibrates in these trials had less heart attacks and strokes compared subjects on placebo. This benefit was not associated with reduced LDL concentrations.

Statin therapy is now the mainstay of cholesterol lowering treatment in patients with and without diabetes mellitus. Clinical trials support the concept that reducing LDL cholesterol to less than 100 mg/dl in most diabetic patients is justified (recent guidelines suggested that less than 70 mg/dl may be appropriate for some people with diabetes mellitus). Both statins and fibrates are often used to treat cholesterol and triglyceride problems in patients with diabetes mellitus. No large studies have been carried out to answer the question about

whether the combination of a statin and a fibrate will improve the results seen with either agent used by itself. A study, called **ACCORD***, funded by the National Institutes of Health (NIH) in 10,000 diabetic patients is currently underway to address this question. Until the results of the ACCORD trial are available, statins will be the mainstay of therapy. Fibrates may be used either alone or in combination in selected diabetic patients. ■

*ACCORD = "Action to Control Cardiovascular Risk in Diabetes" (www.accordtrial.org)

Persons with type 2 diabetes mellitus who wish to be considered for participation in the trial may call: **1-800-320-2833** or go to the ACCORD web site for information.

In order to be considered for participation, subjects must be over the age of 55 years (or age 40 years with heart disease), have HgbA1c over 7.5% and either elevated cholesterol or high blood pressure.

Medical Disclaimer: This information is provided for general medical education purposes only and is not meant to substitute for the independent medical judgment of a physician and/or health care provider relative to diagnostic and treatment options of a specific individual's medical condition. In no event will the Diabetes Association of Greater Cleveland or the Dietrich Diabetes Research Institute be liable for any decision made or action taken in reliance upon the information provided in this newsletter.

Thinking **BIG** for the Future

Interdisciplinary research teams focus on insulin

How does insulin bind to the insulin receptor to regulate blood sugar and other aspects of metabolism? Can new oral drugs be developed that mimic this process to make injections of insulin unnecessary? An interdisciplinary team of investigators at the Case School of Medicine is addressing these important questions with the support of DAGC and the National Institutes of Health.

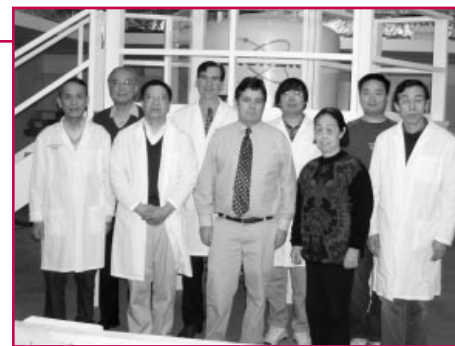
The studies are led (in alphabetical order) by Qing-Xin Hua, Ph.D. (Associate Professor of Biochemistry), Shi-quan Hu, Ph.D. (visiting assistant professor of Biochemistry), Biaoru Li, Ph.D. (Assistant Professor of Biochemistry), Nelson Phillips (Associate Professor of Biochemistry), Michael Weiss, M.D., Ph.D. (Professor and Chairman, Department of Biochemistry), Jonathan Whittaker, M.D. (Associate Professor of Nutrition), and Yanwu Yang, Ph.D. (Assistant Professor of Biochemistry). This team of Case investigators seeks to make three-dimensional pictures of insulin in action - how the hormone "key" unlocks the receptor to communicate a signal across the membrane of target cells in the liver, muscle, fat and other tissues. Such pictures, obtained by new methods of magnetic resonance imaging and X-ray crystallography, promise to depict the shapes of new drugs for the treatment of diabetes.

"Teamwork is a critical feature of modern biomedical research," said Dr. Weiss, a member of the DAGC Board of Trustees and incoming

chair of its Research Committee. "The recent NIH Roadmap encourages doctors and scientists from different specialties to work together to focus on how to develop new approaches to diagnose, prevent and cure diseases." The Case team exemplifies this collaborative approach to utilize sophisticated chemical and physical methods to the fundamental problem of how insulin works. Weiss added, "Diabetes poses a particular challenge because of its complexity in all levels, including genetics, biochemistry, physiology, and possible multi-organ complications. Our work is only one part of the spectrum of diabetes research in Cleveland. We are lucky at Case and within our affiliated hospitals to have a broad group of physicians, surgeons, and basic scientists committed to helping families with diabetes."

"DAGC is playing a key role in bringing together diverse members of the Cleveland community to make possible new collaborations," said Weiss. The Case insulin team in particular has been supported in part by a pilot grant to Dr. Yang and support of a student intern in the laboratory of Dr. Whittaker. The team's goal is representative of the vision of Case President, Edward Hundert, M.D., that students and faculty should "think big" to set goals that would change society.

"The insulin problem has gone unsolved for the past 35 years," noted Weiss. "We think we can solve it right here in Cleveland. These types of projects, if success-



The Case "insulin team" in front of the world's largest magnet for biomedical research. From left, back row: Dr. Hua, Dr. Weiss, Dr. Yang, Kun Huang. Front row, from left: Dr. Hu, Dr. Li, Dr. Whittaker, Shunhua Wang, Dr. Wan. (Not pictured in this photo is Dr. Nelson Phillips.)

ful, have the potential to contribute not only to the well being of patients, but also to the economic vitality of Cleveland by catalyzing new companies in biotechnology."

The Case insulin team will make central use of state-of-the-art core facilities in nuclear magnetic resonance (NMR), to be located next summer at the new West Quad of Case Western Reserve University, formerly Mt. Sinai Hospital. This core will include the world's largest magnet for biomedical research, designated a 900 MHz spectrometer. The purchase and installation of this unique instrument was also made possible by teamwork, joint fundraising by investigators at Case, the Cleveland Clinic Foundation, and the University Hospitals of Cleveland. "The success of this NMR initiative in structural biology provides a paradigm for our institutions working together to enhance the Cleveland community," said Weiss. Grants were received from the Cleveland Foundation, Hayes Investment Fund of the State of Ohio, the Lennon Foundation, and the National Institutes of Health. ■

SUMMER INTERNSHIPS

DAGC will award a limited number of summer research internships to full-time undergraduate, graduate, and medical students during the summer of 2005. A stipend of \$2,500 will be given to successful applicants for ten weeks of sponsored diabetes research in the Greater Cleveland area. Applications are due on February 23, 2005. Applications will be available on www.dagc.org in January 2005.

This is the first issue of Directions, a biannual publication of the Diabetes Association of Greater Cleveland's Dietrich Diabetes Research Institute. If you have questions, comments, or suggestions, please contact Suzanne Johnson, Research Coordinator, at sjohnson@dagc.org or (216) 591-0800.

CLINICAL TRIALS

Did you know that there are clinical trial opportunities for people with both type 1 and type 2 diabetes in northeast Ohio? Research breakthroughs from clinical trials often translate into better health care for people with diabetes.

Choosing to participate in a clinical trial is an important personal decision. Participants in clinical trials can play a more active role in their own health care, gain access to new research treatments before they are widely available, and help others by contributing to medical research.

For information about and links to local clinical trials for people with diabetes, please visit www.dagc.org/clinicaltrials.asp.

SAVE the DATE!

February 2, 2005

DAGC
Annual Meeting
at InterContinental
Hotel

March 16, 2005

Allied Health
Symposium
at Landerhaven

April 8 • 9 • 10, 2005

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