

### Promoting Cardiovascular Education, Research and Patient Care

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### **EDITORIAL OFFICE:**

Institute of Cardiovascular Sciences, St. Boniface General Hospital Research Centre, Faculty of Medicine, University of Manitoba, 3006 - 351 Taché Avenue, Winnipeg, Manitoba R2H 2A6 Canada Tel: (204) 228-3193, Fax: (204) 233-6723 E-mail the Editor: ivan@mts.net Academy web site: www.heartacademy.org On behalf of President Stephen Vatner, the Academy is honoured to announce our recipients for 2007 of the Academy's highest honour **The Medal of Merit for Outstanding Achievements in Cardiovascular Education & Research** for:

- Dr. Lou Ignarro
- Sen. Wilbert Keon
- Prof. Jutta Schaper

Details of the distinguished careers follow:

# Louis J. Ignarro, Ph.D.



Louis J. Ignarro was born in 1941 in Brooklyn, New York and grew up in Long beach, New York. He received a B.Sc. degree in Pharmacy/Chemistry from Columbia University in 1962, and a Ph.D. degree in Pharmacology/Physiology from the University of Minnesota in 1966. He did a postdoctoral fellowship at the N.I.H. in the Laboratory of Chemical Pharmacology from 1966 to 1968. Dr. Ignarro's first research position after training was with the CIBA-Geigy Pharmaceutical Company and in 1973 took on his first academic position at Tulane Medical Center in the Department of Pharmacology. In 1985, he accepted the position of Professor of Pharmacology at the UCLA School of Medicine, where he remains today. His current endowed position is the Jerome J. Belzer, MD, Distinguished Professor of Pharmacology. Dr. Ignarro has received many Awards but

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perhaps the most notable are: The Basic Research Prize of the American Heart Association, Election into the National Academy of Sciences, Election into the Academy of Arts and Sciences, and the 1998 Nobel Prize in Physiology and Medicine

Louis J. Ignarro and two other researchers received the 1998 Nobel Prize in Medicine for their three major discoveries involving nitric oxide as a unique signaling molecule in the cardiovascular system. In 1972, Dr. Ignarro discovered nitric oxide causes vasodilation - a widening of the blood vessels - and inhibition of thrombosis, which leads to improved blood flow to the arteries and veins.

In 1986, Dr. Ignarro confirmed his suspicion that blood vessels can make nitric oxide, the active ingredient in nitroglycerin, a common drug used to treat heart conditions. Experiments in 1990 led to the discovery that nitric oxide is the neurotransmitter responsible for penile erection. The discovery made it possible for a drug company to develop and market Viagra, the first oral medication for the effective treatment of erectile dysfunction.

Dr. Ignarro's discoveries created an explosion of research involving nitric oxide. In 1986, there were a dozen papers published on nitric oxide and just 10 years later, there were about 7,600 papers published on nitric oxide. His observations with nitric oxide have made it possible for medical professionals to understand what protects the cardiovascular system against pathological conditions such as hypertension, stroke, coronary artery disease and other forms of atherosclerosis, gastrointestinal ulcers and vascular complications of diabetes.

Dr. Ignarro's laboratory at the David Geffen School of Medicine at UCLA has never been larger than eight or nine people. Throughout his career, funding for the lab has come from the National Institutes of Health (NIH) and local heart associations. In 2000, Ignarro testified before Congress on the importance of NIH funding for basic science research. In his testimony, he said that only in America could the son of an uneducated carpenter receive the Nobel Prize in Medicine.

# Wilbert J. Keon, O.C., M.D.



Dr. Keon was born and raised in Sheenboro; Quebec received his primary and secondary education locally and his M.D. from the University of Ottawa. His post-graduate education was from McGill, Toronto and Harvard Universities. After his medical and scientific training, Dr. Keon moved to Ottawa in 1969 to found the University of Ottawa Heart Institute. Dr. Keon was the Chief Executive Officer until April 2004 and his vision and leadership build the University of Ottawa Heart Institute to an international centre of excellence for cardiac care, research and education, an enterprise budget exceeding \$190 million per year.

During his tenure at the University of Ottawa Heart Institute, Dr. Keon established international standards in clinical program delivery, cardiac facilities design, public and professional education programs and research and technology development. A passionate spokesman for the rights of Canadians to quality cardiac care, and to the local community benefits of leading-edge research, he communicated his message as a relentless fundraiser to garner millions of dollars for the Ottawa Heart Institute.

Innovation has been a hallmark of Dr. Keon's career, having drawn research grants totalling 66 million dollars during his career. His clinical innovations are numerous, but most notable include the pioneering of surgical reperfusion in acute heart attacks during the early 1970s, the first car-

diac transplant in Ottawa in 1983, the first use of Jarvik 7-70 artificial heart in Canada in 1986, and in 1989, the first Canadian infant heart transplant.

Dr. Keon's academic leadership is evidenced by over 475 presentations, over 200 publications including authorship or contributions to 22 books, and 16 visiting professorships. He was a member of 72 national and international societies. He developed Canada's largest research and clinical artificial heart development program that spun-out into World Heart Corporation in 1996. He led early demonstration projects and advocacy for telehealth. These innovations also required new approaches to industrial collaboration, while maintaining scientific leadership through peer-reviewed grants.

Dr. Keon has received numerous medical scientific awards as well as many civic awards, including the Order of Ontario, the Order of Canada, membership in the Order of St. Gregory the Great, from Pope John Paul II, and appointment to the Senate of Canada in 1990. In this latter capacity, he has participated in numerous major health and science related reports.

Dr. Keon remains active in health and economic policy through participation on Scientific and Clinical Advisory Boards, membership on several Boards of Directors and as a consultant to public and private sector clients.

# Jutta Schaper, M.D., Ph.D.

Jutta Schaper was born in Berlin, Germany and received her M.D. in 1961 in Düsseldorf, Germany. In 1958 she married Wolfgang Schaper, M.D., Ph.D. with whom she has 3 children. In 1961 Jutta Schaper started to work at Janssen Pharmaceutica, Beerse, Belgium where she trained in the newly developing art of electron microscopy and later became head of the Department of Morphological Studies. In 1972, the family moved to Bad Nauheim, Germany and both Schapers were employed at the Max Planck Institute for Physiological and Clinical Research. Jutta Schaper has an affiliation with the Pathology Department at the University of Giessen where she obtained her Ph.D. in 1981. She was Head of the Department of Cardiovascular Cell Biology in the Max Planck Institute until 2004 when she retired. Up to the present time, Jutta Schaper is still professionally active as honorary consultant for the "Core Group for Confocal Studies" at the Max Planck Institute in Bad Nauheim.

Jutta Schaper's work has been based on morphological techniques, electron microscopy and confocal laser microscopy and structural studies of the normal and pathological heart and of blood vessels were the themes of her work. Jutta Schaper, in life-long



collaboration with her husband Wolfgang, studied the morphology of collateral blood vessels under various conditions producing numerous joint publications and 4 books on this topic.

Another subject starting in 1976 was the protection of ischemic myocardium during open-heart surgery. After many trials of numerous protection methods, the Bretschneider cardioplegic solution was found to provide optimal protection under experimental conditions and in the human heart during surgery. This work has been publicized in many scientific periodicals.

The main issue of Jutta Schaper's work, however, was the investigation of the morphology of the failing human heart. She was the first to describe the structural impairment of the failing heart and she defined structure-function relationships in both, patients with dilated cardiomyopathy and patients with pressure overload due to aortic valve stenosis. The origin of fibrosis with its different components, disappearance of the contractile filaments and functional disturbance of specialized proteins such as the connexins or the cytoskeleton, loss of cardiomyocytes due to different types of cell death, were found to be significant factors in causing heart failure. The contribution of these structural changes to diastolic and systolic dysfunction were carefully identified and described in numerous publications.

Jutta Schaper attended , mostly upon invitation to give oral presentations, innumerable national and international scientific meetings and was invited to Universities to lecture on the failing myo-

cardium mostly in Germany, the US and Canada, and in Japan, but also in most of the other European countries and in Israel. Jutta Schaper has been active as officer in the International Society for Heart Research (ISHR), first for 9 years as Secretary General of the European Section and from 1992-1995 as President of the ISHR worldwide. Her aim was to promote the knowledge of cardiaovas cular pathophysiology on a world-wide basis through publications and congresses.

Jutta Schaper has received many awards and medals from various organizations.

Dr. Schaper feels very honored to be allowed to join the group of famous colleagues who already received the Medal of Merit and she would like to thank the colleagues of the Academy for this recognition of her lifetime achievements.

## PEOPLE AND PLACES

Dr. Naranjan Dhalla has asked me firstly to extend our most sincere best wishes for the holiday season and for an excellent 2008 for you and your family.

We also want to report that as we complete the 11th year of the Academy we are greatly enthused about the expansion of established initiatives and the developing concepts for new efforts. Our President Stepehen Vatner is honoured to announce our recipients for 2007 of the Academy's highest honour the Medal of Merit for Dr. Lou Ignarro, Sen. Wilbert Keon and Prof. Jutta Schapper. Plans for meetings in 2008 are underway in Turkey, Czech Republic, India, Japan, Brazil, Jordan and China as well as for our 3rd Congress in Serbia in 2009. We are particularly encouraged by having been approached to develop alliances with such as the World Health Organization, Canadian Heart Research Centre, International Society for Holter and Noninvasive Electrocardiology, Heartbeat International and our President-Elect Sir Magdi Yacoub's Chain of Hope. We have established development initiatives for promoting cardiovascular education and research in new areas of Africa and South-East Asia. We have expanded our use of electronic communication and will be focusing on the modern technologies as we did in creating our CV NETWORK ONLINE and the DVD's of "Future of Heart Health" Symposium. Such success has encouraged us to plan the 2nd "Future of Heart Health" Symposium on Sept. 20, 2008



Ivan Berkowitz

in Winnipeg which will honour Dr. Michael DeBakey's 100th Birthday. We welcome Drs. Alan Menkis and Andrew Morris as cochairs. We are delighted that Dr. Nilanjana Maulik, Farmington USA has accepted our invitation to become the Academy's Director of Research.

We will need to mobilize all possible talent so I ask everyone to send me a short E-mail to ivan@mts.net to indicate your areas of specific interest to be involved in future activities.

For those Fellows who do not wish to be actively involved in the programs of the Academy, we are planning to recommend their appointment as Fellows Emeritus. In this regard, please send me your request before Jan. 15, 2008.

Sincerely

Ivan Berkowitz MBA Director of Development

# $\mathrm{TIME}$ 'S TOP 10 SCIENTIFIC DISCOVERIES OF 2007 #5. Building a Human Heart Valve



Academy President-Elect Sir Magdi Yacoub and Director of Patient Care Dr. Alan Menkis in Winnipeg last year

The World Heath Organization estimates that some 600,000 people around the world will need replacement heart valves within the next three years. British scientists delivered those patients some hopeful news: A team of researchers led by Dr. Magdi Yacoub of the Imperial College of London saw 10 years of work come to fruition this spring, when they grew bone marrow stem cells into functioning human heartvalve tissue. Yacoub hopes that the tissue can be grown into the shape of a heart valve using a special collagen scaffolding. Yacoub's advancements build on the ongoing efforts of scientists around the world to grow new heart valves and other body parts. If Yacoub's tissue holds up in animal trials, he estimates it could be used in human heart-valve transplant patients within 3 to 5 years.

#### Ρ $(\mathbf{O})$ Ρ Ε $\Delta$ N D Ρ Α C ES



DECEMBER 4, 2007

Ken Bowman Research Award Dr. Mark Entman, Houston, Texas with Mr. Stuart Murray



ung Investigator A Dr. Delphine Baetz, Lyon, France with Dr. Lorrie Kirshenbaum and Dr. Albert Frieser



Sr. Jacqueline St-Yves Av Mr. James Shaw, Winnipeg, Manitoba with Dr. Lorrie Kirshenbaum and Dr. Pawan Singal



Brad Ander, Sacramento, California with Dr. Albert Frieser



Mr. Matthew Lytwyn, Winnipeg, Manitoba with Debbie Brown, Heart & Stroke (MB)

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**Winnipeg Free Press** 

Community Profile Free Press 9th Annual CS Awards was there!

Symposium



International members of the world's cardiovascular research community and some young members from Winnipeg were recently honoured by the Institute of Cardiovascular Sciences. The annual event recognizes leadership and success in promoting cardiovascular research and education, lifetime achievements in research, and young scientists who are in the early stage of their academic life.

Dr. Victor Dzau Chancellor for Health Affairs, President and CEO Duke University Health System Durham, North Carolina

Mr. Stuart Murray President and CEO St. Boniface Hospital & Research Foundation

The Robert Beamish Leadership Award For excellence in a leadership role in promotina cardiovascular sciences and education



"We are pleased and very proud of the slate of high quality recipients this year," says Dr. Pawan Singal, Awards Committee Chair and Director of the Institute of Cardiovascular Sciences.

Widely regarded as one of the preeminent basic cardiovascular research programs in the world, the Institute of Cardiovascular Sciences is a partnership between the University of Manitoba and St. Boniface General Hospital, and is a leading force in the fight against heart disease at the cellular and molecular levels. This multidisciplinary program includes over 80 researchers investigating cardiac pathophysiology, electrophysiology, cellular and molecular biology. The Institute is also home to the Canadian Journal of Physiology and Pharmacology, the journal of Molecular and Cellular Biochemistry, the International Academy of Cardiovascular Sciences and its Journal Experimental & Clinical Cardiology.

The institute's awards program was produced in collaboration and cooperation with St. Boniface Hospital and Research Foundation, Merck Frosst Canada, Medicure Incorporated and the Heart & Stroke Foundation of Manitoba. Full award descriptions and information on award winners is available at:

### www.sbrc.ca/ics





hed Lecture Aw Washington, ı with Dr. Naranian Dhalla



ack Litvack Exemplary Service Award Mr. Bill Peters, Winnipeg, Manitoba with Dr. Pawan Singa



Mr. Danijel Juric, Winnipeg, Manitob with Debbie Brown, Heart & Stroke (MB)



Dr. Ren-ke Li, Toronto, Ontario with Dr. Naranjan Dhalla



Dr. T. Edward Cuddy Re Mr. Justin Deniset, Winnipeg, Manitob with Debbie Brown, Heart & Stroke (MB)

## World Heart Federation Statement to the Commonwealth Heads of Government Meeting, 23-25 November 2007, Kampala, Uganda

The World Heart Federation, an international non-governmental organization that collaborates closely with the World Health Organization in the prevention and control of cardiovascular disease, commends the Heads of Governments of the Caribbean Community (CARICOM) for having adopted the "Port-of-Spain Declaration". This Declaration details a regional commitment to strategies for combating chronic noncommunicable diseases (hereafter referred to as chronic diseases) and their determinants.

On the occasion of the Commonwealth Heads of Government Meeting 2007, and greatly concerned by the rising global burden of chronic diseases, the World Heart Federation applauds the "Port-of-Spain Declaration" as a significant initiative taken by a regional group of member countries of the Commonwealth. It urges the wider Commonwealth community to acknowledge the global threat of chronic diseases and to take action now. It requests the Heads of Government to consider the "Port-of-Spain Declaration" as a model for the Commonwealth in its entirety.

Cardiovascular and other chronic diseases are indeed the leading cause of death worldwide. According to a recent publication of the World Health Organization, total global deaths in 2005 amounted to 58 million, of which 35 million were as a result of chronic diseases. Chronic diseases thus accounted for 6 of 10 deaths, 80% of which occurred in low- and middle-income countries. Cardiovascular disease, with a mortality rate of 17.5 million, is the leading cause of death globally and causes 3.3 times more deaths than HIV/AIDS, tuberculosis and malaria combined.

Chronic diseases are the number one killer in every part of the world, with the exception of the lowest-income countries, the majority of which are in sub-Saharan Africa. Yet, even the low-income countries (where an estimated 14 million die from infectious disease) face over 12 million deaths from chronic diseases and the burden is projected to rise. In addition, the chronic disease burden impacts the population in low- and middle-income countries at a younger age than in developed countries, which portends a clear negative impact on economic growth. As an example, mortality from cardiovascular disease among working-age people in India, South Africa and Brazil has been found to be 1.5 to 2 times as high as that of the United States. In South Africa, 41% of all deaths from heart disease during 2000 to 2003 occurred in people 35 to 63 years of age, with a similar figure (35%) in India.

In spite of the increasing body of evidence documenting the dramatic rise in the burden of chronic diseases in low- and middleincome countries, these diseases have been excluded from the health goals of the Millennium Development Goals, thereby remaining severely under-recognized and underfunded.

However, the burden of chronic diseases can be reduced by comprehensive and integrated preventive and control strategies at the individual, family, community, national, regional and Commonwealth and global levels. Strong health systems are key to improving health outcomes; these should be strengthened to manage chronic disease.

The World Heart Federation, which has a membership of 195 societies of cardiology and heart foundations in over 100 countries, and continental members covering all regions of the globe, calls upon the Heads of Governments of Commonwealth countries to mobilize their efforts to curtail the chronic disease epidemic.

Geneva, 21st November 2007

Smlign & Shall '

Dr. Shahryar Sheikh President

Dr. Trevor Hassell Vice-President

World Heart Federation 5 Avenue du Mail 1205 Geneva, Switzerland Tel. +41 228070320 Fax. +41 228070339

## The 8<sup>th</sup> Annual Meeting of IACS Japan Section will be held in Tokyo, Japan, July 12 and 13, 2008

Chairman: Prof. Satoshi KURIHARA, MD, PhD Rector Jikei University School of Medicine Minato-ku, Nishishinbashi 3-25-8, Tokyo 105-8461 / Japan e-mail: kurihara@jikei.ac.jp

## CHALLENGES AND OPPORTUNITIES

**Editor's note:** Prior to A H A in Orlando, Shanthi Mendis, Senior Adviser, Cardiovascular Diseases, WHO Geneva, suggested we utilize the Academy booth to help to introduce this new Prevention program. Buoyed by interest, we have agreed to work with Dr. Mendis to develop a program for training sessions in Africa and other areas targeted by the WHO with this initiative.



### Shanthi Mendis

# New WHO pocket-charts will save lives by predicting heart attack and stroke

**12 SEPTEMBER 2007 | GENEVA** – A new book of pocket-charts that will help health workers to identify people at risk of heart attacks and strokes and save lives by prescribing the most appropriate treatment is published today by the World Health Organization (WHO). The charts can be adapted for use in any setting, in any country, with any patient.

The "Pocket Guidelines for Assessment and Management of Cardiovascular Risk" can be carried and used by any health care worker and is available in six languages. The guide contains easy-to-use charts that can predict the risk of a heart attack or a stroke and could help health workers to save and improve the lives of people in all countries.

"This is a real breakthrough. Now, health care workers everywhere - whether they are in a hightech medical center in a big city, or riding a bicycle to visit patients in the countryside - can use a simple assessment and treatment tool to prevent heart attacks and strokes," said the WHO Director-

General, Dr Margaret Chan. "Primary health care workers now have a new tool to assess and manage people at risk of heart attacks and strokes. This brings cardiovascular care to the places and people who need it most."

This is the first cardiovascular disease risk-prediction system that can be used worldwide and is also specially designed for use with people everywhere, including in low-resource settings. It is an important innovation that will help health workers to target limited health care resources at people who are at higher risk of developing heart attacks and strokes.



These guidelines will be distributed to health workers in the form of pocket guides that have been produced for each of the WHO regions (risk profiles are different for different parts of the world).

"We are never prepared for the sudden death of a family member or a friend from a heart attack or stroke", said Dr Catherine Le Galès-Camus, WHO Assistant Director-General for Noncommunicable Diseases and Mental Health. "Cardiovascular diseases are increasing towards epidemic proportions in developing countries - they already account for one-third of global deaths, and almost 10 percent of the global burden of disease, and are likely to become the developing world's leading cause of death in 2010. There is reason for hope, however, given that huge potential exists to control this emerging epidemic. These risk charts are a major new tool for providing the best health care to all the world's people".

To ensure that the pocket guide gets into the hands of the health care workers who should use it, WHO will be collaborating with national Ministries of Health and health-focused nongovernmental organizations to organize 'training of trainers' workshops and distribution of the pocket guide.

The risk-prediction charts integrate the following risk factors when predicting the risk of a heart attack or stroke in the 10 year period following the patient assessment:

- age
- sex
- tobacco use
- blood pressure
- diabetes status
- blood cholesterol.

The pocket guide also incorporates management recommendations, based on the risk of developing heart attacks and strokes, in the following areas:

physical activity

lipid-lowering drugs

revascularization surgery

- smoking cessation
- alcohol intake
- antiplatelet drugs
- antiplatelet drugs
- dietary changes
- antihypertensive drugs
- anticoagulant treatment

- weight control
  - hypoglycaemic drugs
  - drugs that are not recommended.

### BACKGROUND

Cardiovascular disease (CVD) is the number one cause of death globally, causing one third of all deaths. In 2005, 11.8 million people died of heart attacks and other heart diseases, and 5.7 million died of stroke. Around 80% of these deaths were in low- and middle-income countries. By 2015, an estimated 20 million people will die from CVD annually, mainly from heart attacks and strokes. Socio-economic costs of premature deaths and disability, and escalating costs of medical care make it all the more urgent to take measures to prevent and control this burgeoning epidemic in low- and middle-income countries where health care resources are limited.

Urbanization and globalization promote tobacco use, unhealthy diet and physical inactivity. These risk factors result in increased risk of people developing heart attacks and strokes because the result is raised levels of blood pressure, blood glucose, blood cholesterol and body weight. These, in addition to increasing age, are major risk factors that determine an individual's chances of having a heart attack or stroke. This is known as the cardiovascular risk. Until now, individuals have often been assessed and treated based on a single cardiovascular risk factor such as high blood pressure, high blood lipids or diabetes. This approach can result in committing a patient who has only a small cardiovascular risk to many years of drug therapy or, conversely, neglecting to treat those with an overall higher cardiovascular risk. Most importantly, the single risk factor approach is not cost effective and is not affordable for many low-income and middle-income countries.

For successful prevention and control of the CVD epidemic, the combination of population-based and individual-based strategies are needed to lower the cardiovascular risk of populations and individuals. Population-wide strategies such as tobacco control and promotion of a healthy diet and physical activity are very cost effective in all countries. Cost effective interventions are also available to treat those who have survived heart attacks and strokes. However, treating risk factors such as high blood pressure and blood lipids is cost effective for low-income and middle-income countries only if interventions are targeted at high risk individuals.

In many low-income and middle-income countries, national and state health care budgets and per capita health expenditures are suboptimal. It is imperative, therefore, to use the limited resources that are available as effectively and efficiently as possible. This requires the prioritization of cost-effective approaches and the targeting of those patients who are most likely to benefit from interventions. In any population, those people who are most likely to benefit from cost-effective CVD interventions are the people with the highest cardiovascular risk.

The World Health Organization, in collaboration with the International Society of Hypertension (ISH), has developed cardiovascular risk prediction charts that enable cardiovascular risk assessment and prediction in non-western populations.

Many health care systems in low-income countries do not have the basic infrastructure facilities to support resource intensive risk prediction tools, particularly in primary health care. The WHO/ISH charts use easily measurable indicators of risk to quantify the 10-year risk of developing heart attacks and strokes. These indicators of risk include gender, age, systolic blood pressure, smoking status, diabetes and total blood cholesterol. For use in low-resource settings, where blood cholesterol measurement is not routinely available, alternative charts have been developed that predict risk without blood cholesterol. Also, in many low-resource settings, urine sugar levels may be used as a surrogate marker for diabetes.

Although the risk-prediction charts and pocket guides are simple to use, short training sessions will be required to introduce the charts into regular health care practice. The charts are ready for use now, and will be updated over time. Like all risk-prediction tools, the accuracy of this tool for specific populations can be improved over the long term by making minor adaptations as data are collated for individual populations. Technical assistance will be provided, through the WHO-ISH collaboration, to compare this new tool with other risk prediction methods, to further improve accuracy, and to adapt the CVD risk-prediction charts to suit very specific country contexts.

For further information, please contact: Shanthi Mendis, Senior Adviser, Cardiovascular diseases Chronic Disease and Health Promotion, WHO Geneva,

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## Dr. Edmund H. Sonnenblick



Dr. Edmund H. Sonnenblick, a cardiologist whose research formed a basis for the modern treatment of heart failure, which has extended the lives of millions of people, died September 22, 2007, at his home in Darien, Conn. He was 74.

Dr. Sonnenblick was born Dec. 7, 1932, in New Haven. After graduating from Wesleyan University in 1954 and Harvard Medical School in 1958, he trained in internal medicine at Presbyterian Hospital in Manhattan and began his research at Presbyterian. It continued at the National Heart, Lung and Blood Institute in Bethesda, Md.; Harvard; and the Albert Einstein College of Medicine of Yeshiva University in the Bronx, where he became a Distinguished University Professor of Medicine. In 1975, Dr. Sonnenblick became Chief of the Division of Cardiology at the Albert Einstein College of Medicine, a position he kept until 1996.

Dr. Eugene Braunwald, who worked with Dr. Sonnenblick at Harvard and at the Heart Institute, likened his basic research work to "what a brilliant mathematician or theoretical physicist does that ultimately allows you to go into space. For providing a framework for understanding normal and abnormal heart function, "Ed Sonnenblick occupies an honored place in the pantheon of the greatest heart and blood vessel physiologists of the 20th century," said Dr. Braunwald.

In his research, Dr. Sonnenblick applied principles that other scientists had learned from studying skeletal muscle. His findings about the structure and function of heart muscle cells and how the heart muscle contracts and relaxes contributed to the development by others of a new class of lifesaving drugs, called ACE inhibitors. He and other researchers also adapted beta blockers for use in heart failure. In the 1960s, doctors knew that a healthy heart could adjust to pump more blood when less flowed into it — after severe bleeding, for example — and to pump less after transfusions. But doctors did not understand the best ways to treat a failing heart that was unable to make such adjustments.

Dr. Sonnenblick is credited as the first to use the powerful new electron mi-

croscope to image heart muscle under scientifically controlled conditions, accomplishing the feat in 1963 at Columbia, where he correlated measurements of heart muscle structure and the force of its contractions. He showed his electron micrographs at what was then the most prestigious scientific meeting in biomedical research: the plenary session of the American Society for Clinical Investigation, held in Atlantic City. "A hush fell over the audience," Dr. Braunwald said, as Dr. Sonnenblick showed how heart muscle contractions were dependent on the alignment of certain molecules in the cells.

With Dr. William Frishman at Einstein, Dr. Sonnenblick was a pioneer in bringing beta blockers into widespread use for heart failure. Until then, doctors used beta blockers to lower high blood pressure but considered them too dangerous for treating heart failure.

Dr. Sonnenblick trained more than 300 cardiologists and researchers and received the Distinguished Scientist Award from the American College of Cardiology in 1985. This year, the American Heart Association named him the recipient of one of its highest prizes, the Research Achievement Award, which is to be given at its annual meeting in November.

Academy President Stephen Vatner remembered his mentor "I cannot add much to any article commemorating the life and career of Ed Sonnenblick. Everyone agrees that if you had to name 5 Cardiovascular Scientists in the last century, he would be on that list. When I was a post-doctoral fellow I was in awe of the work he was doing and the combination of novelty and professionalism with his publications and presentations. I can't say whether I began to smoke a pipe at that time because that was what Ed Sonnenblick did. When I visited the Brigham and Harvard for the first time, just before I started on the faculty there in 1972, Ed was already an established figure in Department of Medicine and Division of Cardiology. Not everyone knows that he was a superb clinician and teacher as well as an outstanding scientist. During that first trip to the Brigham Ed took the time to drive me to Southboro, MA, to visit the New England Primate Research Center, where I subsequently set up a lab and spent 25 years. If Ed had not introduced me to that facility, it would not have been possible for me to do my work at Harvard, I couldn't have remained there. This was all done by him with nothing personal to gain, but my esteem and friendship."

Dr. Sonnenblick is survived by his wife of 52 years, Linda Bland Sonnenblick; two daughters, Dr. Emily Sonnenblick of Manhattan and Charlotte Van Doren of Manhattan; and five grandchildren.

Dr. Naranjan Dhalla, Executive Director, will always remember Dr. Sonnenblick with great fondness, not only as a superior scholar and scientist but as a great philosopher. In particular for his famous quote **"This world is like a beautiful rose garden** and a person has an opportunity to pass through it once ... so smell as many flowers as you can"

http://www.medicine.ankara.edu.tr/nato\_nrarw/heart2008

12-16 MAY 2008 ISTANBUL TURKEY



# NATO-NRARW TRANSLATIONAL KNOWLEDGE FOR HEART HEALTH





### NATO country co-director.

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### SPEAKERS

Arinc E (Turkey), Avkiran M (UK), Casis O (Spain), Coetzee W (USA), Davidoff A (USA), Dhalla NS (Can), Djuric D (Serbia), Ferdinandy P (Hungary), Fichmeister R (France), Kolar F (Chezh Rep), Lopaschuk G (Can), Magyar J (Hungary), Nilius B (Belgium), Ostadal B (Chezh Rep), Oto A (Turkey), Pierce G (Can), Ravingerova T (Slovak Rep), Schulz R (Can), Saks V (Estonia), Vassort G (France), Werdan K (Germany), Zaza A (Italy)



This workshopThe NATO Science for Peaceis supported by:and Security Programme

## SPONSORED by INTERNATIONAL ACADEMY of CARDIOVASCULAR SCIENCES

## CHALLENGES AND OPPORTUNITIES

**EDITOR'S NOTE:** Following meetings at A H A in Orlando last month with Dr. Dhalla and I, Benedict S. Maniscalco, MD, Chairman/CEO of Heartbeat International, Inc. accommodated my request to summarize our understandings with the following addressed to "Distinguished Fellows of the International Academy of Cardiovascular Sciences"

## PACEMAKERS as PEACEMAKERS



Arturo Segura had his pacemaker implanted when he was three. He now is 7 years old and in grade school in a small town in Mexico between Guadalajara and Aguascalientes. He is a very bright child and wants to be a doctor so he can help other disadvantaged people. His dad sells tacos from a portable stand. His family even contacted Dr. Maniscalco over the holidays to wish a Merry Christmas and Happy New Year.

On the occasion of the 10th anniversary of the academy, Dr. Ismail Sallam addressed the gathering in Winnipeg and painted his vision of how Health could and should be used to promote Peace and Security. He has proposed that governments should promote Health Diplomacy to better the condition and alleviate suffering amongst the peoples of the world. He sites the work of the Red Cross, Medicines sans Frontiers, the center for peace studies at McMaster University, and the Partners initiative at Harvard University as examples of health initiatives which promote Health Diplomacy.

I would like to discuss with you Heartbeat International, a global 501(c)3 charity, which has carried out its mission of "Making Poor Hearts Beat Better" for almost a quarter of a century. HBI was founded by Henry Deane McIntosh, former Chairman of the Department of Medicine at Baylor School of Medicine and former President of the American College of Cardiology. Dr. McIntosh is the first recipient of the Colleges' Humanitarian Award.

Despite its quarter century of operations, HBI remains relatively unknown. Yet, HBI has provided life saving and life altering pacing devices to over nine thousand (9000) patients world wide. These devices include simple single chamber pacemakers, dual chamber pacemakers, AICDs and BiV devices. Let me tell you how it all works.

The uninsured and economically challenged people of the world are often not able to access the latest technological advances in

medicine whether it be surgical procedures or devices. Often they are left to die of progressive disease or live extremely limited functional lives. With respect to the need for pacing devices the number is daunting and conservatively estimated at somewhere between one and three million annually. This number exceeds most of the human lives lost in all of Natures' catastrophes. Solving such a problem is an enormous task and can only occur if both prevention and therapy programs are employed.

When a patient is identified whose cardiac problem is that a pacing device must be implanted, but whose economic status simply cannot bear the cost, HBI provides the device! How?

We have established a distribution system which we call Pacemaker Banks. Currently we are located in thirty(30) countries and approximately forty five (45) cities across the globe. Each bank is operated by a Board of Directors, comprised of medical professionals, a physician medical director, hospitals, members of Rotary Clubs, private citizens and volunteers. In some cases, the board also is represented with members of the pacemaker industry and government and social agencies. An example is Heartbeat International of Mexico, headquartered in Guadalajara, Mexico. From this location, an additional eight (8) implant centers strategically located throughout the country are providing service to those patients in need. The Board oversees the operation and reports to Heartbeat International in Tampa, Florida.

The Board of Directors of Heartbeat International is comprised of Physicians, concerned private citizens, members of Rotary International, representatives of pacemaker manufactures, and members of the International community from the countries we serve.



We receive and inventory all devices and ship to our "Banks" as needed and requested. We are able to track all implants and respond to any recall or other manufactures issues. This board is also responsible to provide continuous education to all Pacemaker Bank personnel. This is done through local, regional, and international workshops and seminars.

When the patient is qualified as "needy", the physician implants the appropriate device in the patient in the participating hospital. All professional and hospital services are free and life time follow-up is provided free of charge! If a battery change or new different device is needed in the future, the patient is re-qualified and receives the device; again free of charge.

### **Heartbeat International and Health Diplomacy**

Heartbeat International was recognized by President Ronald Regan in a Rose Garden ceremony as an outstanding example of public and private partnerships to improve international relations and the human understanding among various people and cultures. Today, we continue to stress that Pacemakers as Peace-makers are contributing to the understanding that we are ONE human family with shared hopes, dreams, aspirations and challenges. Together much can be accomplished and lives can be restored and extended as we take care to minister to all elements of a population. Heartbeat International will continue to provide aid to those in need in other countries than our own (no devices are implanted in the United States of America). In the future, we hope to provide other cardiac devices.

We are aware that the number one disease in emerging countries is cardiovascular. Thus, the problem of patients in need of pacing and other cardiac devices will be grow exponentially. Thus the imperative is to Prevent and Educate. This is where I believe that Heartbeat International and the International Academy of Cardiovascular Sciences can strategically align to provide the application of research findings to Educate the populous and the professionals and Prevent disease. We must do so without regard to politics, religion, cultural or social barriers. Such an alliance would certainly create one small but significant response to Dr. Ismail Sallam's exhortation to use Health Diplomacy as a formidable tool to create Peace and Security in the world.



## FUTURE OF HEART HEALTH

# IACS Directors Visit Academic Institution in South America\_\_\_\_\_\_by Da

by David Brasil, Belo Horizonte, Brazil



Frontline from left to right: Mrs. Marlene Caldas (Chief, Human Resources); Mr. Flavio Amaral (Administrative & Financial Director, Lucas Machado Educational Foundation); Mr. Ivan Berkowitz (IACS); Dr. Maria de Mello (General Coordinator, Division of Distance Education); Dr. David Brasil (FCMMG-CPG Coordinator for Academic Planning & International Affairs); Dr. Cirenio Barbosa (General Coordinator, FCMMG Center of Research & Post-graduation), Dr. Naranjan Dhalla (IACS's CEO); Mr. José Mauricio Ramos (President's Senior Adviser, Lucas Machado Educational Foundation); Mrs. Kely Vieira (Pedagogic Coordinator, Division of Distance Education).

Backline from left to right: Mrs. Rosangela Caldeira (Administrative Coordinator, Center of Research & Post-graduation); Mrs. Miriam Camargo (Public Relationship); Dr. Helder Yankous (Director, Sao José University Hospital); Dr. Ricardo Simoes (FCMMG-CPG Coordinator for Research); Dr. Leonardo Brescia (General Director, Sao José University Hospital).

The Faculdade de Ciências Médicas de Minas Gerais (FCMMG) is a most prestigious health academic institution in Belo Horizonte, Brazil. Founded in 1950, its Medical School is the second oldest in the State of Minas Gerais and several generations of foremost health care professionals were graduates of that School.

The FCMMG Center of Research & Post-Graduation - CPG - acts on the supervision of residents and fellows in two university hospitals. Pursuing to innovate, the Center has recently created an educational scientific program named R&E-MED - -International Interdisciplinary Symposium of Medical Residency, Specialization & Post-Graduation. The R&E-MED is an initiative that aims to enrich training of residents and fellows with up-to-date information in evidence-based medical practice, also providing health care professionals with an extraordinary environment for the debate of experiences and viewpoints with regards to health education. The first edition of R&E-MED took place during last October and the sound success of the conference is enhancing contacts with academic institutions/organizations overseas.

In the last November FCMMG welcomed the visit of Dr. Naranjan Dhalla, Academy's C.E.O., and Mr. Ivan Berkowitz, Academy's Director of Development. In the course of that visit FCMMG faculties and leading members of the administrative board briefly portrayed the future plans for the institution. Subsequently, both international guests summarized a glimpse on the Academy's achievements since its inception in 1996. FCMMG is truly grateful to Dr. Dhalla and Mr. Berkowitz for their thoughtful visit and hopes to be able to align missions and collaborate with the Academy in the near future.

Recently, Dr. Maria de Mello wrote to Dr. Dhalla about an idea in developing distance courses in cardiology. She suggested they could be in some specific fields (like cardiopediatrics, cardiogeriatrics, and so on). The courses could be offered in Portuguese, English and Spanish. The Professors could be anywhere in the world. Ivan Berkowitz has requested a more detailed plan for development and pursuit of funding.

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**TRANSPORTATION** Transfer from Prague to Castle Liblice and back will be provided (45 km)

**DATE** September 24 – 27, 2008

**LANGUAGE** English

**ACCOMMODATION** Castle Libilice (limited number of rooms)

Hotel Ludmila - town of Mûlník (4 km shuttle bus service provided)







## PEOPLE AND PLACES



# HUMANITARIAN ENDEAVORS IDEALISTIC DREAMS WITH CHUTZPA

Dr. Parag Patel is driven by idealism despite corruption, poverty, war, illness and crime to bring up the medical infrastructure in his birthplace Kenya so that they will have the basics.

### BY JANICE ROSENBERG

he books were overwhelming – more than 1,000 in all. With only three days left before Parag V. Patel and his family flew to Nairobi, Kenya, how would he get them all packed and shipped?

Patel, Director of Cardiac Intensive Care at Advocate Lutheran General Hospital in Park Ridge, IL, hadn't expected this kind of response when he asked fellow doctors to donate their out-of-date medical books. Challenges like this were to become everyday events for Patel, but in 1995 the task seemed insurmountable.

"Ever since I visited Kenya as a first year medical student in 1989, I had wanted to do something meaningful for the country," Patel said. "I said to myself, you've seen it. Now you really are going to do something about it."

What he'd seen was a country of more than 33 million people where fathers watched their daughters die of rheumatic heart disease and families went hungry because parents with heart conditions could not work. Where the biggest public hospital, Kenyatta National in Nairobi, had 1,600 beds for 3,000 patients and medical students shared stethoscopes.

To Patel, it just didn't seem right.

### **Family Matters**

Patel was born in Kenya in 1966 to Indian parents. In 1969 Patel's father left Kenya for the United States. Patel and his mother followed in 1970. Patel's maternal relations remained in Kenya, part of the Nairobi Indian community that has dwindled from its peak of 100,000 in the 1970s to about 50,000 today.

When Patel was a child he and his parents made several visits to Kenya. As a sopho-

30

## HUMANITARIAN ENDEAVORS

more in high school, he visited on his own for a couple of months. But it was on a visit in 1989 that the differences between life in Kenya and life in the United States came into sharp focus.

Patel had finished his first year at Des Moines University College of Osteopathic Medicine in Iowa. During his visit to Kenya,

he worked with a family friend, a doctor on staff at a private Nairobi hospital.

Everywhere Patel looked, he saw severe shortages of the most basic items - from gauze to splints, tape to antibiotics. Most shocking was 10-to-15 seeing medical students sharing one stethoscope, a tool he'd seen handed out like chewing gum to medical students back in the States.

"That's when the framework was laid for the work I'm now doing," Patel said. "I was raised in the United States, but there is an emotional bond that drew me to Kenya."

### **Determination Pays Off**

Six years later Patel and his wife, Rupa V. Desai, a native of India and a family physician at Evanston Northwestern Healthcare in Evanston, IL, spent hours wrapping a sea of donated books. The strain must have shown at work because a nurse asked Patel what was wrong.

"When I explained the problem, she said it was just the kind of thing her father would want to do," Patel said. "I could hardly believe it when he volunteered to pick up all the books, hand wrap them and put them into boxes. That's when I realized there are people out there who want to help."

That year Patel, his wife and their children took 20 boxes of books with a numstethoscopes, more books and 20 pacemakers donated by technology companies such as Medtronic, Guidant and St. Jude Medical.

"I just asked them," Patel said, sounding amazed at his own chutzpa. "As I'd gone through training I'd realized the power of the people I knew. As I grew in my career,

"Dr. Patel volunteers his time in Kenya, teaches and does procedures there for free," said Mike Raslau, supervisor of biomedical engineering at Advocate Lutheran. "I think he's a great guy, very smart, capable and down to earth, too."

As an interventional cardiologist. Patel also has the skills to implant pacemakers. In Ke-

hospital.

nya, patients who

need pacemakers

must pay for them

who can't afford

Those



ber of stethoscopes thrown in for good measure - a mere 70 pounds per box - to Kenya as carry-on baggage. Patel had convinced Lufthansa to wave shipping charges.

Things were easier at the other end of the journey. Patel's grandfather and uncle in Kenya are in the medical equipment business, a coincidental tie-in with his own efforts. Relatives met Patel at the Nairobi airport with trucks and advice on how to get through customs. The trip left Patel and his wife exhausted, but triumphant.

In 1998 Patel went back, this time with about 50 my ability to ask people to step up also grew exponentially."

Advocate Lutheran also has helped Patel by donating the hospital's older equipment. Valued at nearly two million dollars so far, the donations

### On

his recent visit to Kenya, Dr. Patel placed a biventricular pacemaker in a female patient, the first-ever such surgery in East Africa. The surgery was done in Nairobi Hospital, a private hospital. He also trained doctors there to do the procedure.

have included defibrillators and incubators for infants.

devices, do the without. " Many times a person with a heart condition that would respond to a pacemaker can't walk

or work in the fields," Patel said. "It's devastating to their families. In Kenya there is no social net, no disability benefits. Each time I visit there are people

who've been in the hospital for months. Their families are doing fundraisers to collect money for the pacemaker and the fee to implant it."

To counter such situations, Patel now is building a

pacemaker bank within his uncle's company. Patients apply for the devices. They are distributed to those in greatest need for a small processing fee, one-tenth to one-twentieth of the actual cost.

In January 2006 Patel made a 13-day visit to Kenya with biomedical technician Arvinder (Raju) Bharaj. Bharaj, born in Jalandur in the state of Punjab, In-



Equipment donated by Advocate Lutheran General Hospital and taken to Nairobi by Dr. Patel in January 2006:

- 18 Incubators
- 12 Infant warmers
- 20 Defibrillators for babies
- 30 Heart monitors
- 3 Electrocardiogram (ECG) machines
- 2 Respiratory monitors for babies or adults
- 3 Ventilators for babies or adults
- 15 Scales for babies that can be put into incubators
- 10-15 Infusion pumps
- Unit from nuclear medicine used to measure the activities of various organs based on nuclear radiation
- 1 An echocardiogram machine

dia, met Patel while working in Kenya as an engineer for Fuji Kenya, a company that supplies medical equipment. Today Bharaj runs Ecotech, a Toronto company that he founded to supply medical technology equipment to clients in East Africa and Zambia.

In Kenya with Patel, Bharaj installed machines including ICU monitors, defibrillators, infant warmers, incubators and ultrasound scanners, converted the machines to local voltage and made sure they were in working order. He helped Patel train hospital staff members to use the machines, and trained local technicians on how to maintain the machines.

"I am uniquely suited to this job because I have extensive contacts within the medical fraternity in Kenya who

can advise us on where the need is greatest," Bharaj said. "I know local regulations for shipping and clearing, and local engineers and technicians who will be able to provide technical support in the long run. And I speak Swahili, which is the commonly used local language."

### Global FICS

Patel's efforts come at a cost. Each item he sends to Ke-

### **Beneficiary Organizations**

- Kenyatta National Hospital
- Mater Hospital
- Pumwani Hospital
- · Various District, Missionary and Charitable Hospitals
- Individual Patients from the above hospitals as well as from the Nairobi Hospital, Mombasa Hospital & the Aga Khan Hospital

As the equipment arrive in Nairobi, it's been easiest to distribute them in Nairobi. Dr. Patel hopes to place equipment in the rural areas at a later date.

nya must be shrink-wrapped, placed in a shipping container and sent on a five-to-six week truck, train and ship trek around the world. Each container costs \$4,000-to-\$5,000. Until recently news of "What I started has taken of a life of its own," Patel said "I've always been an idealistidreamer and it's hard for me to believe that my little successes have led to this. My goal is to bring up the infrastructure in Kenya over the next decade so that they have the basics. My idealism is driving me despite corruption, poverty, war, illness and crime. I still believe that the region is rich in people and that it is a resource worth saving."

Janice Rosenberg is a freelance writer based in Chicago, IL

### How the equipment are distributed:

- Once the goods reach Kenya a unit of Vanguard Group of Companies clears them from custom and documents them
- Next, the equipment are brought into a workshop, where engineers unpack the goods following the instructions from Raju Bharaj
- Engineers convert the equipment to suit Kenyan power ratings and check all units to ensure that nothing has been damaged during shipment
- 0 Volunteers of FICS regularly assess the needs of the community and Government hospitals and make a list

MOOD INDICO, SPRING 2006

- FICS then distributes the refurbished unites based upon the severity of the needs
- In case of direct donations to the patients, like the pacemakers, doctors refer the needy patients to FICS

ed ing, educating and providin the infrastructure to foster th development of the healthcar system in Kenya. He hopes th a NGO will help create buzz fo e- his work.

Patel's work and his need fo

support has spread by word

of-mouth. One U.S. patien

feeling grateful after receivin

a pacemaker, paid for the shir

ment of two equipment-beau

ued to grow, Patel realized h

needed a structure in whic

to raise funds for it. In 200

he founded an NGO, Glob;

FICS (Foundation for Interna

tional Cardiovascular Servic

cs), with the mission of train

As the project contin

ing containers.

## PEOPLE AND PLACES

# The Academy Brings People Together\_\_\_\_by Ivan Berkowitz, Winnipeg, Canada



Her project is "Identification of novel biomarkers for detection of coronary artery disease"

Dr. B. Burmaa, a cardiologist at Health Science University of Mongolia, found me on the internet and we were able, at the very last minute, to get her a Visa and have her attend our World Congress in 2001. Since then we have kept in touch and she spent a month with our Fellow Dr. Hideaki Kawaguchi in Sapporo. Dr. Burmaa had made arrangements to attend our 2006 Global Conference with her daughter who is in Medical School, but for their own reasons, the Canadian government official refused to grant visas. I contacted our Fellows in Germany and now she is in Freiburg, Germany where she is working at the Dr.Andreas Zirlik's lab for 3 months.

Atherosclorosis and its clinical complications represent a leading cause of morbidity and mortality in industrialized countries. Treatment has been revolutionized by novel noninvasive and invasive tools over the past decades. However, detection of patients at risk for clinical atherosclorosis manifestations such as coronary artery disease (CAD) still falls behind expectations due to the lack of suitable biomarkers. Currently available non-invasive screening methods are restricted by limitations in specificity, sensitivity, availability and cost. In many cases, only coronary angiography allows for the confident diagnosis or exclusion of CAD. Plasma markers identifying the presence of CAD such as troponin and CRP have been investigated over recent years. Although a multi-marker approach represents a promising strategy, no reliable, clinically applicable pattern of plasma-based markers has been established that detects the presence or absence of CAD, let alone allows for identification of the vulnerable patient likely to experience clinical complications such as unstable angina and myocardial infarction. Therefore there is a need for investigating novel biomarkers.

### Purpose of survey:

The present research proposal will investigate the potential new markers fragment I and III of collagen α1, the spleen tyrosin kinase (SYK), and CC chemokine ligand 18 (CCL 18) for Mongolian coronary artery disease patients

### Goal:

- 1. To investigate the potential new markers fragment I and III of collagen  $\alpha 1$
- 2. To investigate the spleen tyrosin kinase (SYK)
- 3. To investigate CC chemokine ligand 18 (CCL 18)
- 4. The expression levels will be correlated with the patient groups "no coronary artery disease", "stable CAD", and "acute coronary syndrome" as well as with traditional cardiovascular risk factors and established biomarkers.

#### **Brief methodology:**

Collagen fragments will be assayed in serum and urine samples by ELISA. SYK and CCL 18 expression will be quantified by real-time PCR in total blood RNA. CCL 18 will be additionally measured in serum by ELISA.

We were able to identify proteins involved in Atherosclorosis by analyzing plasma and urine samples of patients with CAD. Specimens were analyzed by capillary electrophoresis and coupled to mass spectrometry (CE-MS). CAD status of all patients will determined by coronary angiogram and either assigned to a CAD or non CAD group.

SYK is an intracellular signaling molecule than belongs to the tyrosin kinase family. Upon activation the B cell, T cell, and FC cell receptor SYK is recruited to immunoreceptor tyrosin-based activation motifs (ITAMs) on receptor-associated transmembrane proteins and activates downstream kinases such as mitogen-activated protein kinases (MAPKs), phospholipase A, C, proteinkinase C, phosphatidylinositol 3kinase and small GTPases. Besides, SYK mediates integrin signaling on a variety of cell types. Thus SYK has a pivotal functional role in immunomodulation and inflammation. Atherosclorosis is a chronic inflammatory disease. Both, T cell receptor and Fc receptor (macrophage) signaling promotes atherogenesis in mice. Since SYK mediates important functions of these receptors, SYK itself represents a potential marker for atherosclorosis.

CCL 18 is a chemokine mainly expressed by leukocytes, particularly by monocytic cells. A solid body of evidence implicates CCL 18 in the chemotaxis of native T cells, B cells, immature dendritic cells, and monocytes to sites of injury and inflammation.



Another internet connection for the 2001 World Congress was Delfin Rodriguez Leyva from Holguin, Cuba. We found he was a cardiologist and, fortunately, I found Floribeth Aguilar in I C S to help Delfin with his English. He was inspired to learn so he accepted invitations to attend two Young Investigators Forums and the 2006 Global Conference on Heart Health & Disease. We cooperated on Delfin's initiative to bring more than 120 delegates from Canada, USA, Turkey, Costa Rica, Mexico, El Salvador and Spain to join a dynamic group of clinicians, scientists and students for the immensely successful International Symposium on Cardiovascular Research at an exceptional resort near Holguin.

As his English has become superb, so has Delfin's thirst for knowledge. Delfin was successful in his application for a highly competitive Visiting Scientist Award from the Heart and Stroke Foundation of Canada to spend a year working in the laboratory of Dr. Grant Pierce at the St. Boniface Hospital Research Centre in Winnipeg. He arrived in Canada in December to work on a clinical research program to investigate the effect of consumption of Flax on patients with peripheral artery disease.

Negotiations continue to establish a long-term affiliation between the St. Boniface Hospital Research Centre and the Holguin Teaching Hospital.



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PETRA