

Editorial

Honoring living legends II

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BACKGROUND

In 2001, the Medical Devices Centre at the University of Ottawa Heart Institute established the "Living Legends" awards. These awards recognize achievement and outstanding contributions to medicine made by living scientists aged 60 and older who are selected for this honor by their peers. My philosophy behind the "Living Legend" awards recognized that science through the peer review process for grants, publications and appointments often creates a somewhat negative environment. This environment is vital, however, to self-regulate scientific endeavors and to ensure that strong standards of conduct are maintained. As such, critiquing our peers has become almost second nature, and unfortunately we have often failed to celebrate their excellence and achievements until it was far too late. Thus the "Living Legend" award recipients are identified and selected by their peers and contemporaries, individuals who are much more prone to critique than to celebrate. This approach results in perhaps the greatest honor one can receive (i.e. recognition from one's peers), and follows in the fine tradition of *festschrift* in honoring great individuals who have taught us so much and shaped the future of science.

The first series of these awards were presented at the 6th Symposium of the World Artificial-Organ, Immunology and Transplantation Society, held in Ottawa, Canada August 17-20, 2001 (1). The "Living Legends" honored at that time included: Dr. Kazuhiko Atsumi, Dr. Wilfred Bigelow, Sir Roy Calne, Dr. Michael DeBakey, Dr. Naranjan Dhalla, Dr. Wilson Greatbatch, Dr. Roland Hetzer, Dr. Adrian Kantrowitz, Dr. Wilbert Keon, Dr. Wilhelm Kolff, Dr. Juro Wada, and Sir Magdi Yacoub.

In 2006, our group was honored to serve as the host for the 16th World Congress of the World Society of Cardio-Thoracic Surgeons. This Congress, entitled "A Multi-Disciplinary Congress in Cardio-Thoracic Healthcare", provided the ideal opportunity to induct the next series of "Living Legends". The 2006 "Living Legend" inductees

were thus honored at the World Congress Gala Evening held at Canada's National Arts Centre on Saturday August 19, 2006. This evening was a truly unforgettable event, as over 500 international scientists, researchers and clinicians came out to honor these new "Living Legends" who have contributed so greatly to major scientific and technological advances through their work, teaching, and leadership. The 2006 "Living Legend" inductees included: Dr. Donald Beanlands, Dr. Denton Cooley, Dr. Adolfo de Bold, Dr. Joel D. Cooper, Dr. O. Howard Frazier, Dr. Valentin Fuster, Mr. Leon Katz, Dr. Terry Kavanaugh, Dr. Ernst McCulloch, Dr. Donald Olsen, Mr. Manny Villafañá, Dr. John Watson, Dr. James T. Willerson, and Dr. Earl Wynands (Fig. 1).



Fig. 1 - Living Legend Inductees and Surprise Award Recipients with the Congress Officials at the Gala Evening. Front Row (left to right): Dr. Wilbert Keon (Surprise Award Recipient), Mrs. Anne Keon (Surprise Award Recipient), Dr. Earl Wynands, Dr. Terry Kavanaugh, Dr. Juro Wada (Society Chancellor), Dr. Joel D. Cooper. Middle Row (left to right): Mr. Michael O'Byrne (Master of Ceremonies), Mr. Leon Katz, Dr. Donald Beanlands, Dr. Denton Cooley, Mr. Manny Villafañá, Dr. O. Howard Frazier. Back Row (left to right): Dr. Donald Olsen, Dr. Roy Masters (Local Organizing Committee Chair), Dr. Tofy Mussivand (Society President), Dr. Thierry Mesana (Program Committee Chair), Dr. Adolfo de Bold. Absent from photo: Dr. Valentin Fuster, Dr. Ernst McCulloch, Dr. John Watson, and Dr. James T. Willerson.

THE 2006 LIVING LEGEND INDUCTEES

Brief summaries of each of the 2006 “Living Legend” inductees are provided below in alphabetical order:

Dr. Donald Beanlands

Dr. Beanlands (Fig. 2) graduated from Dalhousie University as a gold medalist and completed his postgraduate medical training at Dalhousie University and the University of Toronto. He was appointed to the Faculty of Medicine at the University of Toronto in 1962 and became Chief of Cardiology at the Toronto Western Hospital. In 1977, he initiated the development of the Cardiology Division at the University of Ottawa Heart Institute. He was Chief of Cardiology for 19 years and Professor of Medicine at the University of Ottawa.

Known internationally for his teaching, Dr. Beanlands has led national and international training programs and has received many awards for them, including, on two occasions, the Excellence in Clinical Teaching Award for postgraduate training at the Faculty of Medicine. Dr. Beanlands is recognized as one of Canada’s top specialists in Cardiology and has been an investigator in more than 50 research studies, publishing more than 100 articles. He has chaired numerous committees at both the University of Ottawa and the Heart Institute. He served as Chairman of Cardiology for the Ontario Medical Association, and as the Governor for Ontario for both the American College of Cardiology and the American Heart Association. He has been an Internal and External Reviewer for both the Heart and Stroke Foundation of Ontario and Canada, the American College of Cardiology, the Medical Research Council of Canada, and the American Heart Association. He has been active in the development of national guidelines for clinical practice and was a member of the Cardiac Care Network of Ontario from 1990 to 1997. In 1997, he was appointed to the Ottawa-Carleton District Health Council, now known as the Champlain District Health Council. Dr. Beanlands’ research interest focused on methods of treatment of non-reperusable intractable angina.

Dr. Denton Cooley

Dr. Cooley (Fig. 3), a son of a Houston dentist, was born in 1920. He attended Johns Hopkins University School of Medicine in Baltimore, where he graduated in 1944 with highest honors and Alpha Omega Alpha. Upon completing his surgical residency, he joined Brompton

Fig. 2 - Dr. Donald Beanlands.



Fig. 3 - Dr. Denton Cooley.



Hospital in London, England, where he was Senior Surgical Registrar. Upon completing his training, he became a full-time member of the medical faculty of Baylor College of Medicine, serving there from 1951 to 1969, when he resigned to become Chief Surgeon at the Texas Heart Institute. Dr. Cooley is a member or honorary member of over 50 professional societies around the world and a dozen fraternities and clubs.

Among his more than 120 honors and awards are the



Fig. 4 - Dr. Adolfo de Bold.

pioneering surgical treatment of cardiac anomalies of infants and children. Dr. Cooley and his team have performed over 100,000 open heart operations at his hospital. Dr. Cooley believes his major accomplishment has been the creation of the Texas Heart Institute and the development of a school of surgery. More than 800 surgeons are members of the Cooley Surgical Society.

Dr. Adolfo de Bold

Born in Argentina, Dr. de Bold (Fig. 4) completed his university training at the Faculty of Chemical Sciences at the National University of Córdoba, where he obtained a professional degree in Clinical Biochemistry. He obtained his M.Sc. and Ph.D. degrees in Experimental Pathology from Queen's University in Kingston, Canada, where he was appointed to academic staff in 1973. In 1986 he established the University of Ottawa Heart Institute Research Centre and became the first director. At present, Dr. de Bold is Professor of Pathology and Laboratory Medicine and of Cellular and Molecular Medicine in the Faculty of Medicine in the University of Ottawa, and is Director of the Cardiovascular Endocrinology Laboratory at the University of Ottawa Heart Institute.

In 1981 Dr. de Bold discovered, isolated and sequenced the cardiac polypeptide hormone named Atrial Natriuretic Factor (ANF), thus establishing that the heart has an endocrine function. His work on ANF has been recognized through numerous distinctions and awards. He has also received numerous distinctions in his native country of Argentina. The multiple properties of ANF have provided many new avenues of research in cardiovascular physiology as well as in very important clinical entities such as hypertension and heart failure. More than 15,000 scientific papers published to date attest to the importance of the ANF discovery. Dr. de Bold has placed ANF within integrative physiology with several important contributions in prestigious journals. The discovery of ANF has made Dr. de Bold one of the most cited Canadian scientists. He has given more than 150 invited lectures worldwide on his field of interest. His work on ANF was declared the first of the top ten research accomplishments funded by the Ontario Heart and Stroke Foundation in the past 50 years.

Dr. O. Howard Frazier

Dr. Frazier (Fig. 5) is Chief of Cardiopulmonary Transplantation at the Texas Heart Institute, co-director of



Fig. 5 - Dr. O. Howard Frazier.

Grand Hamdan International Award for Medical Science presented in Dubai in November 2000, and the National Medal of Technology presented by President Clinton in 1999. He has been named Distinguished Alumnus by both the University of Texas and Johns Hopkins University. He has received honorary degrees from five American universities and three foreign institutions. He has contributed to the techniques for repair and replacement of diseased heart valves and is widely known for his

the Institute's Cardiovascular Research Laboratories and director of Surgery Research. He is also Chief of the Transplant Service at St. Luke's Episcopal Hospital. His academic appointments include professor of Surgery at the University of Texas Health Science Center in Houston, clinical associate professor of Surgery at the University of Texas M.D. Anderson Cancer Center, and tenured professor at Baylor College of Medicine in Houston. For more than 25 years, Dr. Frazier has been a pioneer in the treatment of severe heart failure and in the fields of heart transplantation and artificial devices that may be used either to substitute for or to assist the pumping action of the human heart.

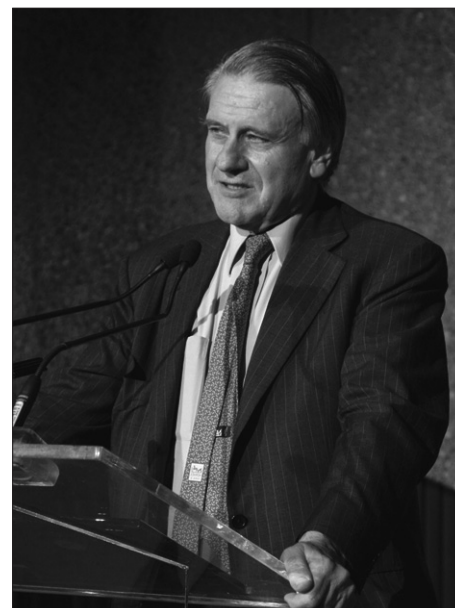
During his more than 20 years as director of cardiopulmonary transplantation, Dr. Frazier has guided the service into one of the top transplantation programs in the world. He has performed 1,000 heart transplants and implanted more than 661 left ventricular assist devices, more than any other surgeon in the world. He serves on the editorial boards of several distinguished medical journals, including *Circulation*, the premier journal of the American Heart Association. He has authored or co-authored more than 1,000 scientific publications, presented over 700 lectures around the world, and written or edited numerous books in the field of cardiovascular medicine. He is a former chairman of the Federal Affairs Committee for the American Society for Artificial Internal Organs and has served on other prominent committees, including the Education Committee of the American Society of Transplant Surgeons and the Advisory Board of the National Heart, Lung, and Blood Institute. In 2001, he was elected president of the American Society for Artificial Internal Organs.

Dr. Valentin Fuster

Dr. Fuster (Fig. 6) serves Mount Sinai Medical Center in New York as Director of both the Zena and Michael A. Wiener Cardiovascular Institute and the Marie-Josée and Henry R. Kravis Center for Cardiovascular Health. He is the Richard Gorlin, MD/Heart Research Foundation Professor of Cardiology. Currently, Dr. Fuster is also the President of the Scientific Advisory and External Evaluation Committee at the Fundacion Centro Nacional de Investigaciones Cardiovasculares Carlos III (CNIC) in Madrid, Spain.

He has published more than 400 articles on the subjects of coronary artery disease, atherosclerosis and thrombosis, and he has become the lead Editor of two major textbooks on cardiology, *The Heart* and

Fig. 6 - Dr. Valentin Fuster.



Atherothrombosis and Coronary Artery Disease. He contributed first hand to the launching of the new Forum for Young Investigators of the American Heart Association. Thirteen distinguished universities throughout the world have granted him *honoris causa*. He has also received numerous national and international awards, such as the Andreas Gruntzig Scientific Award of the European Society of Cardiology, the Lewis A. Conner Memorial Award for scientific accomplishments from the American Heart Association, and the Distinguished Scientist Award from the American College of Cardiology. Following an exhaustive search, Dr. Fuster has been appointed Editor-in-Chief of a new Nature journal that focuses on cardiovascular medicine. In 2006, Dr. Fuster was awarded "The Distinguished Researcher Award" by the Interamerican Society of Cardiology in recognition of his contribution to cardiology.

Mr. Leon Katz

Leon Katz (B. Eng., McGill University, 1950) (Fig. 7) has contributed significantly to both Canadian and worldwide healthcare communities through his ground-breaking research, development, and clinical and regulatory work, conducted in four hospitals in Montreal and at the Federal Department of Health and Welfare, Bureau of Medical Devices in Ottawa from 1950 to 1988.

Katz's career is marked with "firsts" that include outstanding contributions in neurosurgery with Dr. Wilder Penfield and Les. A. Geddes: thyroid diagnosis and treatment using radioactive



Fig. 7 - Mr. Leon Katz.

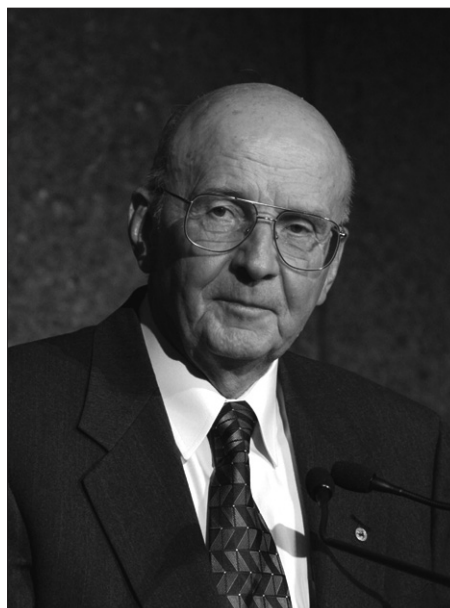


Fig. 9 - Dr. Donald Olsen.



Fig. 8 - Dr. Terry Kavanagh.

iodine; open heart bypass surgery with Dr. Edouard Gagnon and Dr. Arthur Vineberg; cardiac catheterization with Dr. Osman Gialloreto; whole-body by-pass perfusion during more than 1500 heart operations; vestibular disease; fetal cardiometry; arteriography and lymphangiography; preparation and management of human arterial grafts; modernization and instrumentation of major hospitals; world standards for medical devices; legislative and regulatory control of medical devices; widespread publication of device-related hazards, accidents, and problems, particularly accidental misconnections; and discovery of the

backflow and infection hazards from non-sterile evacuated blood collection tubes. Leon Katz is the author of many publications in international medical journals, and Member Emeritus of the Canadian Medical and Biological Engineering Society.

Dr. Terry Kavanagh

Dr. Kavanagh (Fig. 8) has achieved an international reputation as a pioneer, clinician, researcher, teacher, and advocate in cardiac rehabilitation, a field that has been largely structured as we know it today by his contributions. In 1968, as Medical Director of the Toronto Rehabilitation Centre, he introduced the cardiac rehabilitation program, which eventually became the largest in North America, and out of which came the first post-myocardial infarction patients to enter and complete the Boston Marathon. His contributions to the awareness of exercise as a protective and preventive measure for coronary heart disease are numerous, with more than 100 scientific publications as well as four editions of his best-selling book to help the lay reader attain heart health.

He is a Founding Member of the Canadian Association of Cardiac Rehabilitation, the American Association of Cardiovascular and Pulmonary Rehabilitation, and the World Council of Cardiovascular Rehabilitation. Currently he is an Associate Professor in the Faculty of Medicine, and Professor in the Graduate Program in Exercise Science on the Faculty of Physical Education and Health at the University of Toronto.



Fig. 10 - Mr. Manny Villafaña.

Dr. Donald Olsen

During 50 years of very hard work in medical research closely related to veterinary medicine, Dr. Olsen (Fig. 9) has implanted total artificial hearts (TAHs) with cardiopulmonary bypass in thousands of calves and sheep, ventricular assist pumps (VADs) in many animals, including pigs, and has even recently done experimental cardiac surgery on alligators. He has about 300 peer-reviewed publications, 10 chapters in books, and numerous national and international awards.

The positions that he has occupied include working at the University of Nevada Department of Agriculture and as part-time Extension Veterinarian from 1963 to 1972, consultant to Dr. W.J. Kolff at the University of Utah Artificial Heart Lab from 1967 to 1972, and NIH Post-Doctoral Fellowship at University of Colorado School of Medicine from 1968 to 1972. From 1972 to 2000 he had a full-time position with the Department of Surgery at the University of Utah, working on the total artificial heart (TAH) project, subsequently being granted full tenure and later being named Professor Emeritus. Dr. Olsen was one of 3 surgeons to implant the TAH in Dr. Barney Clark in December 1982. From 2000 to the present, he has been the President and Principle Investigator at the Utah Artificial Heart Institute. The ventricular assist device research is funded by NIH grants (6 million dollars over the next 5 years). NIH records place Dr Olsen above the 95th percentile of the distribution of (extramural) NIH grants over the last 25 years.

Mr. Manny Villafaña

A leader in the cardiovascular industry, Manny Villafaña (Fig. 10) has founded or co-founded companies that are behind some of the most well-known heart valves today. In 1972, Villafaña founded Cardiac Pacemakers Inc., which later became Guidant Corp.. There, he helped create the first long-life pacemaker. In 1976 he founded St. Jude Medical Inc. where he helped invent the first St. Jude heart valve. From there, he went on to co-found GV Medical Inc. in 1982, and ATS Medical Inc. in 1987. At ATS, Villafaña co-invented the first open-pivot heart valve, a mechanical valve made of pyrolytic carbon. Villafaña's latest project is a start-up company in the field of cardiovascular surgery. He founded CABG Medical Inc. in 1999 and is currently working on new ways of performing cardiac surgery.

In addition to being a sought-after guest lecturer and having been named National Master Entrepreneur of the Year in 1990, Villafaña also stays involved in the community. He volunteers his time to the Boys and Girls Club of Minneapolis, the Basilica of St. Mary's, and other charitable organizations in the Twin Cities.

Dr. John Watson

Dr. Watson is the Associate Director of the William von Liebig Center for Entrepreneurism and Technology Advancement and Professor and Vice-Chair of Bioengineering at the University of California, San Diego. For the Center, he works to improve the efficiency of commercializing UCSD Jacobs School inventions. As Professor, his research interests include combination heart failure therapy using bioengineering assisted circulation and adjunct agents. He also conducts research leading to public policy that decreases the timeline from conception to clinical use of new medical innovations.

Dr. Watson attended the University of Cincinnati and later received his M.S.M.E from Southern Methodist University while working as a Systems Engineer on the Ling-Temco-Vought XC-142 Vertical Takeoff Transport. He contributed to the design of the hydraulic system that controlled vertical and horizontal flight. To his surprise, the XC-142 was mentioned as a key advance in history celebrating the Wright Brothers and worldwide aviation. He received his Ph.D. in Physiology from the University of Texas Southwestern Medical School in 1972. At Southwestern, Dr. Watson served as an Assistant Professor in the Departments of Surgery and Physiology and Chairman of the Graduate Studies Program in



Fig. 11 - Dr. James T. Willerson.

2003, overseeing 60 major clinical trials, and programs on genomics and proteomics, tissue engineering and regeneration, computational biology and informatics, and adult and pediatric circulatory support. Dr. Watson was the first NIH scientist/engineer elected to the National Academy of Engineering (NAE) and was an invited member of the nominating committee for the Japanese Kyoto Prize and the NAE Draper Prize.

Dr. James T. Willerson

Dr. Willerson (Fig. 11) is a native of Lampasas, Texas, the son of two physicians. He attended the University of Texas on a swimming scholarship and lettered his sophomore, junior and senior years. He graduated Phi Beta Kappa and received the UT Academic Award as the athlete with the highest scholastic average. In 1989, Dr. Willerson came to Houston as Chair of the Department of Internal Medicine at the UT Medical School. During this tenure, he led the way in creating what is now known as the Brown Foundation Institute of Molecular Medicine for the Prevention of Human Diseases. Dr. Willerson has set new fundraising records for the UT Health Science Center through the New Frontiers campaign, which has raised nearly \$200 million for the new Fayez S. Sarofim Research Building for the IMM and for the recruitment of the “world’s best” scientists in several disciplines.

Today, Dr. Willerson remains an active clinician, researcher, and educator in addition to his role as president. Holder of the Edward Randall III Chair in Internal Medicine and the Alkek/Williams Distinguished Professorship, Dr. Willerson is a prolific writer who has edited or co-edited 19 textbooks and published over 750 scientific articles. He served as Editor-in-Chief of *Circulation*, the American Heart Association’s largest scientific journal, from 1993 to 2004. Earlier this year, Dr. Willerson received the American Heart Association’s Gold Heart Award, the organization’s highest honor for volunteers who have provided distinguished service.

His current research interests include the use of stem cells to improve severely damaged heart tissue. Dr. Willerson and his colleagues at the Texas Heart Institute now lead one of the first FDA-approved clinical trials to treat patients with end-stage heart disease using their own bone marrow-derived stem cells.

Dr. Earl Wynands

Dr Earl Wynands (Fig. 12) graduated from McGill University in 1954, where he obtained his specialist



Fig. 12 - Dr. Earl Wynands.

Biomedical Engineering. In 1976, he joined the National Heart, Lung, and Blood Institute (NHLBI) of the National Institutes of Health as Chief of the Devices and Technology Branch. There, he oversaw research and development of cardiovascular imaging systems such as MRI, ultra-fast CT, PET and Ultrasound; implantable materials used in current cardiovascular implants and devices; ventricular assist systems and the total artificial heart. He then served as Acting NHLBI Deputy Director and Director of Clinical and Molecular Medicine until

anesthesia training in 1959. He was Professor of Anesthesia and Surgery at McGill until 1988. He was then appointed Professor and Chairman of Anesthesia at the University of Ottawa and continued his cardiac anesthesia work at the Ottawa Heart Institute until his “retirement” in 1996. Dr Wynands pioneered the anesthesia management of patients undergoing myocardial revascularization surgery, with or without cardiopulmonary bypass.

Dr. Wynands research detailed important factors that decrease perioperative surgical morbidity and mortality. His publications and lectures covered a wide range of topics, which have included monitoring techniques and pharmacological interventions for the diagnosis, prevention, and treatment of intra- and postoperative myocardial ischemia; systolic and diastolic heart failure; and oxygen transport in the critically ill. He has lectured in Canada, the United States, Mexico, Europe, and Japan. He is a Past President of the Canadian Anesthesiologists’ Society, the Society of Cardiovascular Anesthesiologists, and the Founding President of the Cardiovascular and Thoracic Section of the Canadian Anesthesiologists’ Society. He has received many awards, including the Order of Canada, the Gold Medal of the Canadian Anesthesiologists’ Society, the Distinguished Service Award of the Society of Cardiovascular Anesthesiologists, and the Wilbert J. Keon Award for Achievement in Cardiovascular Medicine. He has an Honorary Doctorate from the University of Montreal, Faculty of Medicine.

Dr. Ernst McCulloch (University of Toronto) was also to be honored as a “Living Legend”, but was unfortunately unable to attend the World Congress. Dr. E.A. McCulloch was educated at Upper Canada College and the University of Toronto, where he received his MD degree in 1948. He then spent a year at the Lister Institute in London, England, where he began his education in research. His major work has been concentrated on normal and malignant blood formation. With his colleague Dr. Till, he devised the first functional assay (the spleen colony assay) for primitive blood cell precursors (pluripotent stem cells or CFU-S). The discovery of the spleen colony assay for stem cells and its exploitation were major stimuli for the development of the field of experimental hematology. Since 1970, he has concentrated on the malignant cells characteristic of acute leukemia in man.

Fig. 13 - Dr. Joel D. Cooper.



He has been an invited symposium or seminar speaker in many countries in North America, Europe, the Middle East and Asia, and in collaboration with his colleagues and students has reported his findings in over 275 published papers. He served as the Head of the Division of Molecular and Cellular Biology at the Ontario Cancer Institute, a post he held until his 65th birthday. After that time he continued his research in leukemia as a Senior Scientist Emeritus. From 1991 to 1993, Dr. McCulloch was a Visiting Professor of Laboratory Medicine and Pathology at the University of Texas, MD Anderson Cancer Center.

Dr. McCulloch has served on a number of provincial, national and international medical and scientific bodies, including as President of the Academy of Science in the Royal Society of Canada, and he was an Editor of the *Journal of Cellular Physiology* for over 20 years. Dr. McCulloch’s work has been recognized by numerous prestigious awards and honors, including the Annual Gairdner Award, the Eadie Medal of the Royal Society of Canada (both with J. E. Till) and the Stratton Lectureship of the American Society of Hematology. In 1999 he was elected a fellow of the Royal Society of London, and in 2004 he was inducted into the Canadian Medical Hall of Fame.

SURPRISE AWARDS

Following the “Living Legends” ceremony, three surprise awards were also announced. In the first



Fig. 14 - Dr. Wilbert J. Keon.

Bristol, England as a Senior registrar, and a research fellowship in pulmonary physiology with Dr. John West at the Hammersmith Hospital in London. After serving as head of Thoracic Surgery for ten years as a member of the faculty of the University of Toronto, Canada, Dr. Cooper joined the faculty of Washington University as head of General Thoracic Surgery in 1988, and became Chief of Cardiothoracic Surgery in 1997 before moving to his current position in 2005.

In 1983, the team headed by Dr. Cooper in Toronto performed the world's first successful lung transplant. In 1986, the same team performed the world's first successful double lung transplant. In 1993, Dr. Cooper and colleagues presented their results on a new operation known as lung volume reduction surgery, designed to improve the breathing capacity of a patient suffering from severe emphysema. In 1996, Dr. Cooper received the Jacobson Innovation Award from the American College of Surgeons in recognition of his innovations in the field of lung transplantation and emphysema surgery. In 2003-2004, Dr. Cooper served as the President of the American Association for Thoracic Surgery.

The 2nd surprise award was presented to **Dr. Wilbert J. Keon** (Fig. 14), in recognition of his contributions to humanity. This award was presented on the occasion of the 30th Anniversary of his founding of the World Congress Host Organization, the University of Ottawa Heart Institute. Dr. Keon had previously been awarded the "Living Legends" award in 2001. The final surprise award was to **Mrs. Ann Keon** (Fig. 15) in recognition of her contributions to humanity related to her vital and under-recognized role in the development of the University of Ottawa Heart Institute into a world class healthcare and research institution.



Fig. 15 - Mrs. Ann Keon.

surprise award, **Dr. Joel D. Cooper**, a Chair of the 16th World Congress was also inducted as a "Living Legend". Dr. Cooper (Fig. 13) is the Chief, Division of Thoracic Surgery, University of Pennsylvania Health System; he performed the world's first successful lung transplant in 1983, and the first successful double-lung transplant in 1988.

A *summa cum laude* graduate of Harvard, Dr. Cooper graduated with honors from Harvard Medical School and completed his chief residency at the Massachusetts General Hospital in 1972. His training included the Southwest Regional Thoracic Unit in

CONCLUSIONS

The opportunity to participate in a gathering of such prestigious scientists is truly an inspiring experience. Through their work, this group of "Living Legends" has essentially shaped the future of healthcare. While each of these individuals has certainly displayed a common thirst for knowledge and a relentless drive, they have also undoubtedly endured major personal sacrifice to advance the science and art of medicine. These are not just great scientists, they are also true humanitarians. It was,

therefore, my great honor to organize this event, one that will undoubtedly provide me with a constant source of motivation into the future. Since these awards have now become a permanent event to celebrate and pay homage to great achievement and even greater individuals in our field, I also look forward to the next series of “Living Legends”.

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Photo Credit - Mike Pinder Photography.

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