

Honoring living legends

In August of 2001, I was honored to serve as the Chairman of the 6th Symposium of the World Artificial Organ, Immunology and Transplantation Society, held in Ottawa, Canada. During this conference, it was my great pleasure to organize a very special session entitled "Living Legends - Lessons Learned and Future Visions".

This session brought together, in the same room, giants in our field who had pioneered organ transplantation, cardiovascular surgery, pacemakers, and artificial hearts among other major contributions. With the assistance of my co-chairman for the session, Dr. Howard Frazier (Texas Heart Institute, USA), a legend in his own right, we presented the first Living Legends Awards. "In recognition of their achievement and excellent contributions to medicine", 12 living scientists, aged 60 and older, who have made major contributions to humanity through invention or discovery, and who had served as mentors to many in our field of endeavor "have been selected as a Living Legend". These Living Legends have contributed greatly to major scientific and technological advances in the 20th Century through their work, teaching, and leadership.

A brief summary of the contributions of each of the Living Legends Award recipients is outlined below in alphabetical order:

Dr. Kazuhiko Atsumi (*Tokyo University, Japan*) led a team that took up the challenge of developing heart assist devices and artificial hearts in Japan. Dr. Atsumi has also been involved in research in the area of laser medicine and served as the President of Suzuka University of Medical Science and Technology.

Dr. Wilfred Bigelow (*Toronto General Hospital, Canada*) discovered how to lower the body's oxygen requirements, through lowering the body's core temperature, allowing open-heart surgery to be performed safely in 1950. Dr. Bigelow also noted that regular electrical pluses restore normal cardiac rhythm leading to the development of the first external pacemaker for continuous clinical use.

Sir Roy Calne (*University of Cambridge, UK*) is a pioneer in organ transplantation, specifically in immunosuppressive agents. Dr. Calne performed Britain's first liver transplant and discovered azathioprine,

which stopped the rejection of new organs in transplant patients.

Dr. Michael DeBakey (*Baylor College of Medicine, USA*) is a pioneer in cardiovascular surgery and research. He has been instrumental in artificial heart development and has been credited with inventing or perfecting numerous devices and procedures including Dacron arteries, arterial bypass operations, heart pumps and heart transplant. Dr. DeBakey has served as an advisor to almost every U.S. President in the past fifty years.

Dr. Naranjan Dhalla (*University of Manitoba, Canada*) has been associated with the University of Manitoba for over 34 years, where he has worked in experimental cardiology. Dr. Dhalla's research focuses on defining the molecular and cellular changes in the heart, as well as the related functional aspects, in experimentally induced heart failure.

Dr. Wilson Greatbatch (*Greatbatch Enterprises Inc, USA*) was a key contributor to the development and use of the implantable pacemaker and pioneer in the development of power sources for implantable medical devices. In 1990, Dr. Greatbatch received the National Medal of Technology from President Bush in recognition of his contributions.

Dr. Roland Hetzer (*German Heart Institute, Germany*) is the Director of Medicine and Head of Coronary Surgery at the German Heart Institute in Berlin. Founder of the largest heart transplant program in Germany, Dr. Hetzer performed the first heart transplant in Hanover. Dr. Hetzer has been involved in the development of a program for heart/lung transplants for one or both lungs.

Dr. Adrian Kantrowitz (*Wayne State University School of Medicine, USA*) has developed a plastic heart valve, a heart-lung machine, an internal pacemaker, and with Dr. Tetsuzo Akutsu, an auxiliary left ventricle. Dr. Kantrowitz performed the first human heart transplant in the United States in 1967. Dr. Kantrowitz is also responsible for the initial clinical studies involving the intra-aortic balloon pump.

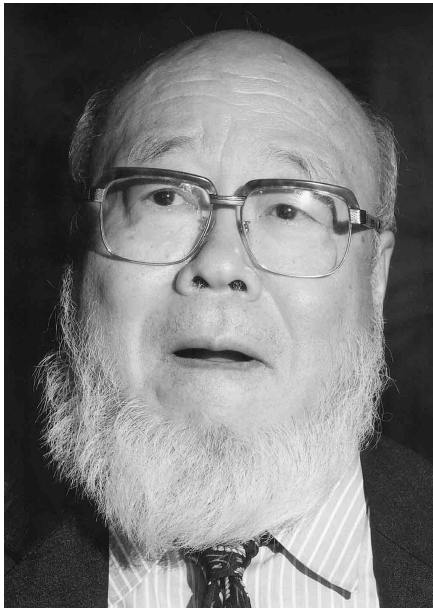
Dr. Wilbert Keon (*University of Ottawa Heart Institute, Canada*) is the Founder and Director General of the world-

renowned University of Ottawa Heart Institute. A pioneer of revascularization in acute heart attacks, he played a key role in the development of parallel hearts and cardiac transplantation. He was also the first Canadian surgeon to implant an artificial heart as a bridge to transplantation.

Dr. Willelm Kolff (*University of Utah, USA*) known as the “Grandfather of Artificial Organs”, is the inventor of

artificial kidney and dialysis techniques. In the 1950s and 1960s Dr. Kolff worked at the Cleveland Clinic where he assisted in the development of the heart and lung machine and the first total artificial heart.

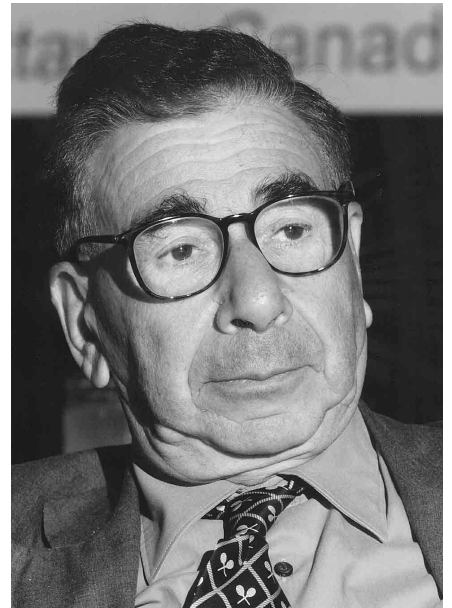
Dr. Juro Wada (*Juro Wada Commemorative Heart and Lung Institute, Japan*) is honorary president of the World Artificial-Organ, Immunology and Transplantation Society.



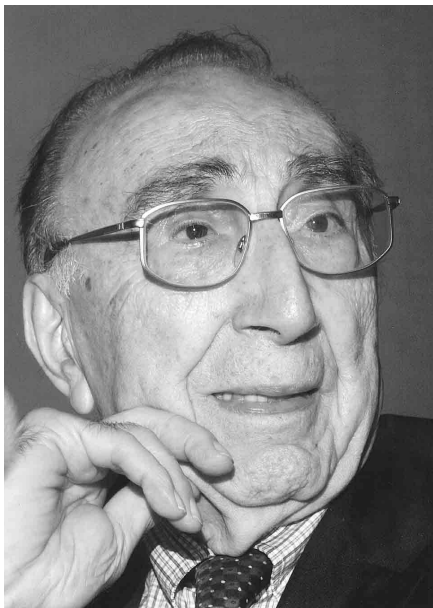
Dr. Kazuhiko Atsumi



Dr. Wilfred Bigelow



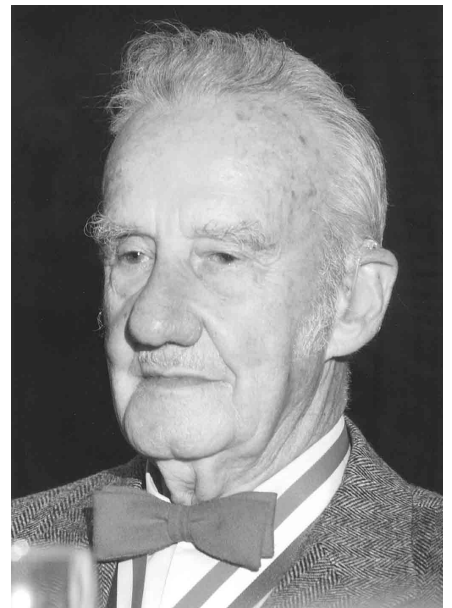
Sir Roy Calne



Dr. Michael DeBakey



Dr. Naranjan Dhalla



Dr. Wilson Greatbatch

Dr. Wada invented Japan's first hyperbaric chamber in 1965 and performed Japan's first heart transplant in 1968.

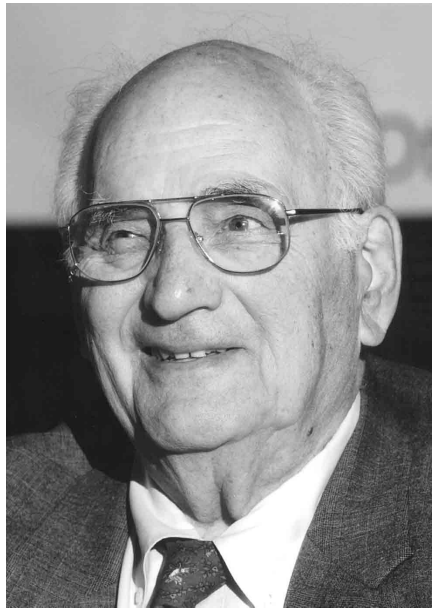
Dr. Magdi Yacoub (*Royal Brompton & Harefield NHS Trust, UK*) is a pioneer heart surgeon, developing new surgical techniques for congenital heart conditions. Dr. Magdi founded the UK branch of the Chain of Hope

charity, an organization dedicated to performing operations on children from developing countries.

The following individuals: **Dr. Denton Cooley** (*Texas Heart Institute, USA*), **Dr. Reiner Koerfer** (*Heart Center North Rhine-Westphalia, Germany*), **Dr. Yukihiro Nosé** (*Baylor College of Medicine, USA*), were also to be honored as Living Legends at the 6th Symposium of the



Dr. Roland Hetzer



Dr. Adrian Kantrowitz



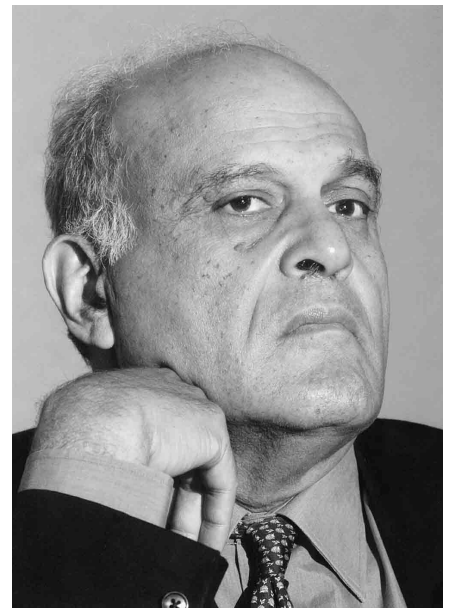
Dr. Wilbert Keon



Dr. Willelm Koff



Dr. Juro Wada



Dr. Magdi Yacoub

World Artificial-Organ, Immunology and Transplantation Society but for a variety of reasons were unable to attend.

To my knowledge, this was the first time that such a prestigious group of leading scientists in our field has been assembled. The "Living Legends" panel provided the audience with an unforgettable opportunity to learn from those who have made such major contributions in shaping the future of medicine. Each of these highly respected individuals shared with us the lessons they have learned along the way, and also provided their views of the future. The ongoing commitment of these individuals in providing important guidance and encouragement to young investigators will be ultimately responsible for a great many more accomplishments in our field. Surely when the historians look back, each of these individuals will have been responsible not only for their own major contributions, but many of their students will undoubtedly also make further contributions to our field.

These individuals are our field's forefathers and should be revered. In addition, we should continue this tradition and listen closely to the lessons learned and the future visions from each of our own Living Legends.

Respectfully,
Tofy Mussivand, FRSC

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