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# KEIICHI FUKUDA

**CV**

PARTICIPANT AT:

## UNSOLVED PROBLEMS IN HEART REPAIR

**November, 28<sup>th</sup>-, 29<sup>th</sup> and 30<sup>th</sup>, 2012, Barcelona**

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**Keiichi Fukuda**, Professor, Department of Regenerative Medicine and Advanced Cardiac Therapeutics, Graduate School of Medicine, Keio University, Japan

Dr. Fukuda treats patients with myocardial infarction, valvular heart disease, arrhythmia and heart failure applying the latest technology as well as uncovers the cause of these diseases at the molecular level. 23 graduate school students are enrolled. About 28 years ago when he became a doctor, the heart as a function of a pump was understood, but the reason of heart disease was still uncovered and elucidating the cause of heart disease at the molecular level was not possible. However, an outstanding progress has been made in the last 20 years, and today, many of the unexplained diseases are now uncovered, and clues to start treatment are now being found. It was his childhood dream to become a scientist, and after joining the School of Medicine, he has always aimed to uncover the cause of a disease and to come up with a new treatment method. The research to regenerate muscles of the heart that he started 16 years ago hoping to save lives of patients with heart failure was just like a fantasy in those days. He started regenerating heart muscles using stem cells obtained from bone marrow, but the development of human embryonic stem cells and discovery of iPS cells have accelerated research towards clinical application. And today, this has developed to become the world's trend. Also, his research on how valvular heart disease is caused and how it develops and findings that during heart failure, the cardiac sympathetic nervous system transdifferentiates into the parasympathetic nervous system have developed to research that surprised the world's cardiologists and researchers. Today, many young people who empathize with his efforts have gathered in his laboratory, and almost 80 people including doctors, graduate students, international students, research assistants and clinical research coordinators work together.

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