Stanford

Kenzo Ichimura

Postdoctoral Scholar, Pulmonary and Critical Care Medicine

Curriculum Vitae available Online

Bio

BIO

My long-term goal as a physician-scientist is to develop therapeutic strategies for right heart failure by elucidating its pathophysiology.

I graduated from Kyushu University, School of Medicine in Fukuoka, Japan in 2008. Following a residency program at Aso Iizuka Hospital, I finished fellowship in Emergency Medicine (1 year) and Cardiovascular Medicine (2 years). My clinical expertise is general cardiology, cardiac catheterization, echocardiography, and cardiac critical care.

After my clinical training, I started my research career working towards a Ph.D. under the mentorship of Dr. Kensuke Egashira. During my Ph.D., I published two papers focusing on the development of novel therapeutics for acute myocardial infarction and pulmonary arterial hypertension. Through this research experience, I developed skills in modeling and assessing cardiovascular disease in both small (rodents) and large animals (pigs)

In 2017, I was appointed as an Assistant Professor and attending physician in the Department of Emergency and Critical Care Medicine at Kyushu University Hospital. During this period, I learned that right heart failure was one of the most devastating conditions with no treatment options in patients with pulmonary hypertension, congenital heart disease, and patients on long-term mechanical ventricular assist devices. I also continued my research with a research grant funded by the Japanese Society for the Promotion of Science.

In 2019, I decided to further expand my research field into right heart failure and joined Dr. Edda Spiekerkoetter's lab at Stanford University as a postdoctoral fellow. I am currently focusing on the role of BMPR2 in the cardiomyocytes, the structural changes in the right ventricle under pressure overload, and the development of right ventricle-targeting therapy in pulmonary hypertension.

HONORS AND AWARDS

- Cournand & Comroe Early Career Investigator Prize, Finalist, American Heart Association, Council on 3CPR (Nov. 2022)
- Poster Award at the Stanford-Cornell Cardiovascular Research Symposium, Stanford Cardiovascular Institute (Nov. 2022)
- American Thoracic Society Abstract Scholarship, ATS Assembly on Pulmonary Circulation (May 2022)
- Postdoctoral Fellowship, American Heart Association (Jan. 2022 - Dec. 2024)
- CVI Travel Award, Stanford Cardiovascular Institute (Sept. 2021)
- Grant-in-Aid for Young Scientists, Japan Society for the Promotion of Science (Apr. 2018 - Mar. 2020)
- Young Investigator Award, Clinical Research, Japanese Association of Cardiovascular Intervention and Therapeutics (July 2017)
- Research Grant, Kowa Life Science Foundation (Jan. 2017 - Dec. 2017)

- Young Investigator Award, Basic Science, European Society of Cardiology (Aug. 2016)
- Young Investigator Award, Clinical Research, Japanese Association of Cardiovascular Intervention and Therapeutics (Aug. 2016)
- Young Researcher Award, ESC, Working Group on Pulmonary Circulation and Right Ventricular Function (Aug. 2016)
- Top Score Poster Award, European Society of Cardiology (Aug. 2014)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Fellow, Japanese Society of Internal Medicine (2018 - present)

PROFESSIONAL EDUCATION

- Board Certification, Japanese Association of Acute Medicine , Emergency Medicine (2020)
- Board Certification, Japanese Society of Intensive Care Medicine , Intensive Care Medicine (2020)
- Doctor of Philosophy, Kyushu University (2018)
- Board Certification, Japanese Society of Echocardiography , Echocardiography for Structural Heart Disease (2018)
- Board Certification, Japanese Circulation Society , Cardiology (2017)
- Board Certification, Japanese Society of Cardiovascular Anesthesiologists , Perioperative Transesophageal Echocardiography (2016)
- Clinical Fellow, Aso Iizuka Hospital , Cardiovascular Medicine (2013)
- Board Certification, Japanese Society of Internal Medicine , Internal Medicine (2012)
- Clinical Fellow, Aso Iizuka Hospital , Emergency Medicine (2011)
- Residency, Aso Iizuka Hospital (2010)
- Doctor of Medicine, Kyushu University (2008)

LINKS

- Linkdin: https://www.linkedin.com/in/kenzo-ichimura-0086a4182

Research & Scholarship

LAB AFFILIATIONS

- Edda Spiekerkoetter (4/1/2019)

Publications

PUBLICATIONS

- **Novel left ventricular mechanical index in pulmonary arterial hypertension.** *Pulmonary circulation*
  Ichimura, K., Santana, E. J., Kuznetsova, T., Cauwenberghs, N., Sabov#ik, F., Chun, L., Francisco, N. L., Kheyfets, V. O., Salerno, M., Zamanian, R. T., Spiekerkoetter, E., Haddad, F.
  2023; 13 (2): e12216

- **Intrinsic Atrial Myopathy Precedes Left Ventricular Dysfunction and Predicts Atrial Fibrillation in Lamin A/C Cardiomyopathy.** *Circulation. Genomic and precision medicine*
  Tremblay-Gravel, M., Ichimura, K., Picard, K., Kawano, Y., Dries, A. M., Haddad, F., Lakdawala, N. K., Wheeler, M. T., Parikh, V. N.
  2022: e003480

- **Clinical picture of the duration of venoarterial extracorporeal membrane oxygenation: analysis from JROAD-DPC** *HEART AND VESSELS*
  Sakamoto, K., Matoba, T., Nakai, M., Tahara, Y., Nakashima, T., Hosoda, H., Miyamoto, Y., Nishimura, K., Sumita, Y., Yagi, T., Ichimura, K., Yonemoto, N., Tachibana, et al
  2022

- **Hyperoxemia is Associated With Poor Neurological Outcomes in Patients With Out-of-Hospital Cardiac Arrest Rescued by Extracorporeal Cardiopulmonary Resuscitation: Insight From the Nationwide Multicenter Observational JAAM-OHCA (Japan Association for Acute Medicine) Registry.** *The Journal of emergency medicine*

Nishihara, M., Hiasa, K. I., Enzan, N., Ichimura, K., Iyonaga, T., Shono, Y., Kashiura, M., Moriya, T., Kitazono, T., Tsutsui, H.
2022

- **Cardiac Fibrosis in the Pressure Overloaded Left and Right Ventricle as a Therapeutic Target.** *Frontiers in cardiovascular medicine*
  Schimmel, K., Ichimura, K., Reddy, S., Haddad, F., Spiekerkoetter, E.
  2022; 9: 886553

- **Shunt-type plexiform lesions identified in the Sugen5416/Hypoxia rat model of pulmonary arterial hypertension using SPCT.** *The European respiratory journal*
  van der Have, O., Westoo, C., Ahrne, F., Tian, X., Ichimura, K., Dreier, T., Norvik, C., Kumar, M. E., Spiekerkoetter, E., Tran-Lundmark, K.
  2022

- **Delayed administration of epinephrine is associated with worse neurological outcomes in patients with out-of-hospital cardiac arrest and initial pulseless electrical activity: insight from the nationwide multicentre observational JAAM-OHCA (Japan Association for Acute Medicine) registry.** *European heart journal. Acute cardiovascular care*
  Enzan, N., Hiasa, K., Ichimura, K., Nishihara, M., Iyonaga, T., Shono, Y., Tohyama, T., Funakoshi, K., Kitazono, T., Tsutsui, H.
  2022

- **Flexible method for generating needle-shaped beams and its application in optical coherence tomography** *Optica*
  Zhao, J., Winetraub, Y., Du, L., Vleck, A. V., Ichimura, K., Huang, C., Aasi, S. Z., Sarin, K. Y., de la Zerda, A.
  2022; 9 (8): 859-867

- **Institutional Characteristics and Prognosis of Acute Myocardial Infarction With Cardiogenic Shock in Japan - Analysis From the JROAD/JROAD-DPC Database -** *CIRCULATION JOURNAL*
  Matoba, T., Sakamoto, K., Nakai, M., Ichimura, K., Mohri, M., Tsujita, Y., Yamasaki, M., Ueki, Y., Tanaka, N., Hokama, Y., Fukutomi, M., Hashiba, K., Fukuhara, et al
  2021; 85 (10): 1797-1805

- **Pulmonary arterial banding in mice may be a suitable model for studies on ventricular mechanics in pediatric pulmonary arterial hypertension.** *Journal of cardiovascular magnetic resonance : official journal of the Society for Cardiovascular Magnetic Resonance*
  Dufva, M. J., Boehm, M., Ichimura, K., Truong, U., Qin, X., Tabakh, J., Hunter, K. S., Ivy, D., Spiekerkoetter, E., Kheyfets, V. O.
  2021; 23 (1): 66

- **Improving Right Ventricular Function by Increasing BMP Signaling with FK506.** *American journal of respiratory cell and molecular biology*
  Boehm, M., Tian, X., Ali, M. K., Mao, Y., Ichimura, K., Zhao, M., Kuramoto, K., Dannewitz Prosseda, S., Fajardo, G., Dufva, M. J., Qin, X., Kheyfets, V. O., Bernstein, et al
  2021

- **Promising therapeutic approaches in pulmonary arterial hypertension.** *Current opinion in pharmacology*
  Ali, M. K., Ichimura, K., Spiekerkoetter, E.
  2021; 59: 127-139

- **Delineating the molecular and histological events that govern right ventricular recovery using a novel mouse model of PA de-banding.** *Cardiovascular research*
  Boehm, M., Tian, X., Mao, Y., Ichimura, K., Dufva, M. J., Ali, K., Prosseda, S. D., Shi, Y., Kuramoto, K., Reddy, S., Kheyfets, V. O., Metzger, R. J., Spiekerkoetter, et al
  2019

- **Nanoparticle-Mediated Targeting of Pitavastatin to Small Pulmonary Arteries and Leukocytes by Intravenous Administration Attenuates the Progression of Monocrotaline-Induced Established Pulmonary Arterial Hypertension in Rats.** *International heart journal*
  Ichimura, K., Matoba, T., Koga, J. I., Nakano, K., Funamoto, D., Tsutsui, H., Egashira, K.
  2018; 59 (6): 1432-1444

- **A Translational Study of a New Therapeutic Approach for Acute Myocardial Infarction: Nanoparticle-Mediated Delivery of Pitavastatin into Reperfused Myocardium Reduces Ischemia-Reperfusion Injury in a Preclinical Porcine Model.** *PloS one*
  Ichimura, K., Matoba, T., Nakano, K., Tokutome, M., Honda, K., Koga, J., Egashira, K.
  2016; 11 (9): e0162425

PRESENTATIONS

- Three-Dimensional Deep-Tissue Imaging of the Right Ventricle Reveals the Complex Remodeling of the Microvascular Network in Right Heart Failure. - American Heart Association Scientific Session 2022 (October 2022)

- Three-dimensional Deep-tissue Imaging of the Right Ventricle Reveals Adaptive Reconstruction of the Capillary Network in Right Heart Failure. - American Thoracic Society International Conference 2022 (May 2022)
- Three-Dimensional Deep-Tissue Imaging of the Right Ventricle Reveals Decreased Capillary-Cardiomyocyte Contact Surface in Decompensated Right Heart Failure. - American Heart Association Scientific Session 2021 (October 2021)
- Nanoparticle-Mediated Targeting of Pitavastatin into Small Pulmonary Arteries by Intravenous Administration Attenuates the Progression of Monocrotaline-induced Established PAH in Rats. - European Society of Cardiology Congress (2016)
- Nanoparticle-Mediated Delivery of Pitavastatin into Small Pulmonary Arteies by Intravenous Administration Attenuated the Progression of Already Established Monocrotaline-induced PAH in Rats. - American Heart Association Scientific Session (2014)
- Nanoparticle-Mediated Targeting of Pitavastatin into Reperfused Myocardium Reduces Ischemia-Reperfusion Injury in a Preclinical Pig Model. - American Heart Association Scientific Session (2013)
- Nanoparticle-Mediated Targeting of Pitavastatin into Reperfused Myocardium Reduces Ischemia-Reperfusion Injury in a Preclinical Porcine Model. - European Society of Cardiology Congress (2014)