

Citation: Manabu Kanda for the 2014 Luke Howard Award

It is with great pleasure for IAUC to recognize Professor Manabu Kanda of the Tokyo Institute of Technology as the recipient of the 2014 Luke Howard Award. Professor Kanda has an enviable record of research contributions including (a) wide ranging, significant, insightful and high impact studies dealing primarily on the fundamental nature of urban climatology and climate processes, (b) exemplary science leadership, engagements in international collaborations and mentoring of students who now are highly successful and contributors to the field, and (c) his active service to the IAUC and related communities.

On climate and urban sciences, he is highly regarded for his pioneering experimental field studies and innovative measurement techniques. He established one of the first urban flux towers “the Kugahara Project” in Tokyo to measure meteorological and CO₂ exchanges over a city. Professor Kanda provided initiative and leadership in the consortium project called COSMOS, an ambitious and unique experimental facility comprised of multiple of synthetic outdoor physical scale models that used concrete cubes to represent idealized urban morphological structures. He was one of the first to study flows and turbulence in urban environments employing scintillometry, particle image velocimetry (PIV) and thermal image velocimetry methodologies in his experimental programs makes him one of the most innovative experimental researchers in the urban climate community. His modeling studies include using LES for detailed investigations of a range of fundamental climate processes including airflow, energetics, and turbulence over cities, providing insights into the spatial nature of turbulence over rough urban surfaces and helped to reveal large organized flow structures that are involved in controlling exchanges between urban canopy surfaces and the overlying atmosphere. Moreover, he has led in the early development of formulations for advanced urban canopy parameterizations. Particularly impressive is Professor Kanda’s ability to seamlessly bridge gaps between modeling and experimental sciences thus providing an important basis for improved urban parameterizations. His studies of momentum, heat and trace gas exchanges have provided important insights on the applicability of similarity theory to urban surfaces. His students, Drs Moriwaki, Nakayoshi, Inagaki and Oda, among others, are also making important contributions in their own right. He has engaged in numerous collaborative investigations involving internationally renowned scientists. He has numerous, highly regarded journal publications (110) in Japanese and English (more than 40 of those in English), 1 book and 7 book chapters, and 180 Conference papers providing evidence of the high quality, productivity and wide impact of his research. Between 1991 and 2013, 37 of his articles have almost 25 citations on average per article giving him an impressive h-factor of 16. He is the recipient of several prestigious awards including the 2014 American Meteorological Society’s Landsberg award, the Fujino Prize in 2008, the Tsuboi Prize in 2008, the JSHWR Academic Award in 2003 as well as four (4) best paper (for young researchers) awards over the period 1992-2002.

Professor Kanda has served the IAUC as an elected Board Member from 2006 to 2010; he chaired the 2007-2008 Awards Committee and was Chair of the organizing committee of the highly successful and stimulating 7th International Conference on Urban Climate, ICUC7 in Yokohama, Japan in 2009.

IAUC Awards Committee

See also: <http://urban-climate.org/newsletters/IAUC056.pdf>