



SEMINAR ANNOUNCEMENT

Date: Monday, July 2, 2012
Time: 14:30 - 15:30
Place: Kemal Zaim Sunel Conference Hall, Faculty of Engineering

Climate Change and Sea-level Rise

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Abstract. Among other adverse effects sea-level rise (SLR) is one of the most damaging impacts of climate change. It is claimed that two processes are the main contributors to SLR: (i) the steric effects (the expansion of water due to increases in temperature); and, (ii) the eustatic effects (the contribution of land-based ice sheet melting). From a physical point of view neither of these components is understood fully for them to be used in predictive analysis reliably. In fact, as reported in the literature, many of the physically based analyses of these two phenomena yield conflicting results for the rate of SLR that is expected over time. In spite of this controversy, the common claim is that SLR is expected to continue over several centuries. Thus, projection of future sea-levels due to climate change has drawn significant attention in the current literature. Aside from developing physical, empirical or statistical models to predict global SLR, an important aspect of SLR analysis is the characterization of its geographical pattern so that threats to local regions can be assessed appropriately. Another important aspect of these studies is the understanding of the effects of anthropogenic factors on SLR, i.e. CO₂ emissions. If that can be achieved, it is anticipated that informed management decisions can be made to reduce the potential adverse impacts of SLR. In this seminar some of the existing modeling studies are reviewed and alternative modeling approaches are discussed which may help answer the lingering questions on SLR.

About the Speaker: Dr. Aral received his BS degree in 1967 from Civil Eng. Dept. at Middle East Tech. Univ. (METU), Ankara, Türkiye, His MS (1969) and PhD. degrees (1971) are from Civil and Env. Eng. Dept. at Georgia Institute of Technology, Atlanta, Georgia, USA. Upon completion of his graduate studies he joined the faculty of Mathematics Dept. at METU as an Assistant Professor. During his tenure at METU he established the Applied Mathematics and Numerical Analysis division at the department; he was the Assistant Chairman of the Department for four years and served as Adjunct faculty at Marine Sciences (Mersin, METU) and Computer Sciences Departments. In 1977 he received his Doçent appointment from the Central University System of Türkiye in the field of Applied Mathematics and was appointed as Associate Professor at the Mathematics Department. In 1979 he was invited back to Georgia Institute of Technology where he still serves as Professor and the Director of MESL Research Center which he established in 1993. During his career Dr. Aral has published eighty technical publications in peer reviewed journals, five books, ten book chapters, over one hundred conference papers and numerous technical reports. He served as the Chair of several International Conferences. Among these the most note worthy activities are the NATO Advanced Study Institute that he organized in Antalya, Türkiye in 1995; Env. Exposure and Health Conf. that was held in Atlanta, GA, USA in 2005; currently he is serving as the Tech. Chair of the ASCE/EWRI IPWE 2013 Int. Conf. to be held in Izmir, Türkiye in January 7-9, 2013. During 2010 he established the International Journal on "Water Quality, Exposure and Health" published by Springer Publishers. He is the Editor-in-Chief of this journal. He is also on the Editorial Board of several technical journals and serves as a consultant and reviewer to FP6, FP7 European Framework program. During his career he received twenty eight honor citations from scientific organizations. Among these the most note worthy national (USA) and international recognitions are: Cuming Award (2000); American Academy of Environmental Engineers Best Env. Health Research Award (2003); CDC Excellence in Applied Env. Health Research (2006); ASCE/EWRI James R. Croes Medal for best technical paper (2011); Dr. Aral is the PhD advisor to 19 students who are now in academic and consulting fields in several countries including Türkiye.