The Guest Editors are inviting submissions for a Special Issue of Energies on "Alternative Fuels and Their Application for Transport - Recent Research and Challenges". Greenhouse gas emission and other air pollution from transport are propelling to transition to new alternative fuels. New alternative fuels with reduced carbon footprint and reduced fossil fuels depletion will be crucial. Very promising alternative fuel is hydrogen. Topics of this Special Issue include, but not limited to: assessment of various alternative fuels application in transport with the life cycle approach, various aspects of fuel use, including economic, social and environmental aspects and the importance of alternative fuels for sustainable development. This Special Issue invites papers on original research and reviews focused on Application of Alternative Fuels in Transport, advanced propulsion systems, and alternative fuels, which can offer environmental and economic advantages in transport.