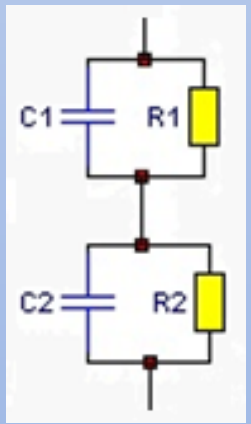
Centro Studi e Documentazione sulla Sensoristica

Nell'ambito degli "Incontri sulla sensoristica" venerdì 27 maggio 2016 alle ore 11.00 presso l'aula Leonardo (Facoltà di Ingegneria - Università "Tor Vergata", Edificio Aule Didattiche, piano della Presidenza) avrà luogo il seminario:

Electrical Characterisation of Ceramics in Bulk and in Films

The effect of microstructure for electrical ceramics is presented in brief. The main configurations for conductivity measurement, e.g. parallel plate, bar, four probe in-line and Van der Pauw are described. Parasitic effects or conductance and capacitance are described and the different configurations are examined with respect to their sensitivity to these effects. The results are illustrated with the help of electrical circuit simulations and with examples from the literature on ceria and zirconia solid electrolyte films.

Nikos Bonanos is a Materials Scientist. From 1993 to 2015 he worked at the Risø Fuel Cells group, now DTU Energy Conversion. Nikos has participated in projects including Advanced Ceramics for Protonics (sponsored by NEDO, Japan), Next Gene-ration Fuel Cell Materials (N–INNER), and Innovative Dual Membrane Fuel Cell (IDEAL CELL). His research has focussed on materials for protonic ceramic fuel cells and H_2-permeation membranes, and on techniques for the electrical characterisation of complex materials.



Input parameters typical for a solid electrolyte sample.

G_{gi} = 2 µS

G_{gb} = 10 µS

C_{gi} = 10 pF

C_{gb} = 1000 pF

C_{stray} = variable