

Alberto Calloni – Curriculum Vitae 2017

Assistant professor at Politecnico di Milano, Department of Physics,
Italy

ResearcherID: [O-3997-2017](#)

ORCID: [0000-0002-7389-2703](#)



Career

AC graduated in Physical Engineering at Politecnico di Milano in 2006. He received his Ph.D. in Physics in 2010, discussing his work on the characterization of defects in semiconductors and porous materials by means of positron spectroscopy. From 2010 to 2016 he worked as a post-doc appointee at Politecnico di Milano and since 2016 he holds there a position as Assistant Professor.

Research activity

His scientific interests regard the properties of ultrathin films of either organic (small molecules, polymers or blends) or inorganic nature (pure metals, multilayer structures, oxides). His research focuses on their magnetic and electronic structure, the chemical stability of their surfaces/interfaces (redox reactions, intermixing, phase segregation, etc.) and the coupling with the substrate (charge transfer, band bending). His research mainly provides insights into the physical properties of model systems, with applications ranging from microelectronics/spintronics, energy production and catalysis.

Since 2010, he has been working on the fabrication of such materials by means of molecular beam epitaxy (MBE) and in their *in-situ* characterization by means of angle- and spin- resolved photoemission and inverse photoemission spectroscopy (PES and IPES, respectively). This research has been accomplished either *in-house* or at large scale facilities such as the Elettra synchrotron light source in Trieste exploiting peculiar techniques such as X-ray magnetic circular dichroism (XMCD) or near edge X-ray absorption fine structure spectroscopy (NEXAFS). Collaboration is acknowledged with the Center for Nano Science and Technology of the Istituto Italiano di Tecnologia in Milan, focusing on the characterization of solution-processable novel materials for organic electronics and organic solar cells.

Teaching activity

He is currently teaching the course "Experimental physics" (Bachelor degree in Engineering Management). Since 2009 he is working as a tutor for the exercise sessions in several physics courses at Politecnico di Milano. He is currently supervising a Ph.D student and has supervised, or co-supervised, another Ph.D student, 4 Master thesis and more than 20 Bachelor thesis students.

Publication record

He has published a total of 46 works: 38 ISI-Web of Science (WoS) papers (in different journals including Physical Review B, Journal of Physical Chemistry, Langmuir, Applied Physics Letters, Energy and Environmental Science) and 8 conference proceedings. The total number of citations is 353 and the Hirsch-index is 11. He is author of more than 15 orals and posters presented at conferences. He attended 2 schools, in Bristol (United Kingdom) and in Varenna (Italy). He delivered an invited talk at the International Conference "SPIE 2015" on Optics and Photonics, held in San Diego, United States and chaired a session on "Organic molecules on solid surfaces" at the European Conference on Surface Science "ECOSS33", held in Szeged, Hungary, in 2017. Finally, he is working as a referee for scientific journals (Elsevier, American Institute of Physics, Nature energy)