Andrea Cadeddu

Full-Stack Developer and Material Scientist

Northwestern University
NERC: Non-Equilibrium Research Center
Grzybowski Group
TECH K231
2145 Sheridan RD
Evanston, IL 60208 USA
Date of Birth: October 21, 1982
Citizenship: Italy
Status: J1/J2

Mobile: +1 787 210 5525
Work Email: andrea.cadeddu@northwestern.edu
Personal Email: cadedduan@gmail.com
*Other Languages: (*CEFR *)*
Spanish C1, English C2, French C1, Catalan A2.

Current Position

Chematica Lead Software Engineer and Post Doctoral Fellow , Northwestern University, Non Equilibrium Research Center, Evanston IL, USA. Since February 8 2013.

Education

Ph.D. Physical Chemistry, Institut de Science et d'Ingénierie Supramoléculaires (ISIS), Université de Strasbourg , 17 December 2012.

Thesis: *Supramolecular Scaffolding at the Nanoscale: Functional Architectures for Organic Electronics*

Grant: *FP7 - Marie Curie Initial Training Network (ITN) SUPERIOR - SUPramolEculaR functional nanoscale archItectures for Organic electronics: a multi-site initial tRaining action*

Secondment in APE RESEARCH Trieste Italy, February 2010

Setup, test and development of a Scanning Differential Tunneling Microscope

M.Sc Material Science, University of Cagliari , 2008.

Thesis: *Nanocrystals Colloidal Synthesis for IR Optoelectronics*

Honors: *Summa Cum Laude*

Erasmus exchange: Universitat Autònoma de Barcelona (UAB), fall 2007

B.Sc Material Science University of Milan Bicocca, 2006.

Thesis: *Hybrid Organic-Inorganic materials for Multiphotonics*

Skills

Computer Skills: Angular.js Node.js, Javascript/CoffeScript, Backbone.js, MongoDB, JQuery, Python, Java, ZMQ, C, C++, Fortran, LaTeX, HTML, *nix, Babel, CHARMM, Gwyddion, IGOR Pro, Matlab, Spartan10, Illustrator, Photoshop, Indesign, ...
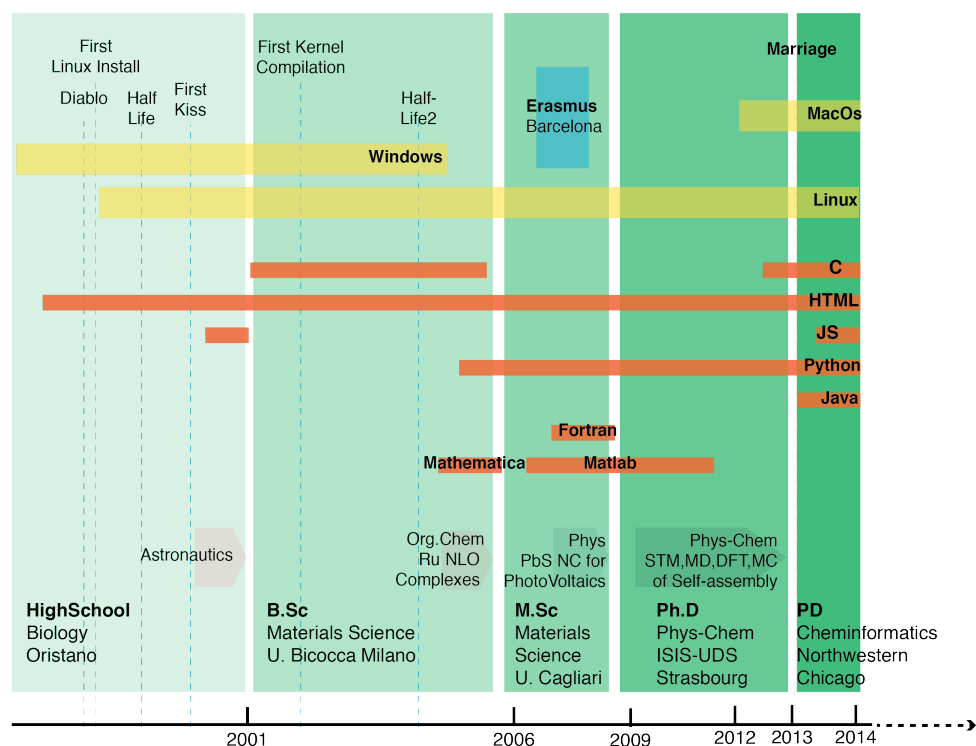

Figure 1: Timeline summary

Research Fields

Machine Learning, Chemical Networks, Nanochemistry, Scanning Tunneling Microscopy, Physical Chemistry, 2D Covalent Organic Frameworks, Scanning Differential Tunneling Microscopy, Molecular Dynamics;

Research

Chemistry as a Natural Language.

Machine-Learning Retrosynthesis.

Professional Activities

Domtree.net - hackaton 2013 - graph rapresentation of DOM structure of URLs

Messa in opera di un apparato per la sintesi di nanocristalli colloidali, in particolare di quelli a base di Solfuro di Piombo, Seed Projects - INFM Call for Young Research. INFM:CNR Cagliari University may-october 2009.

Publications:

Concentration Dependent Supramolecular Engineering of H-bonded Nanostructures at Surfaces: Predicting Self-assembly in 2D. Journal of the American Chemical Society 2013. doi:10.1021/ja4002025.

Modulating the self-assembly of rigid clicked dendrimers at the solid-liquid interface, Chemical Communications, 2011, 47, 10578-10580.

Self-templating 2D supramolecular networks: a new avenue to reach control over a bilayer formation, Nanoscale, 2011, 3, 4125-4129.

Rotatable arms in simple tripods: conformers, dipole and self-assembly - submitted.

band-gap size dependence in nanocrystalline graphene - scanning differential tunneling microscopy reveals - in preparation

Last updated: January 17, 2014