



Tommaso Civitarese

PERSONAL DATA

Date of birth	21/02/1990
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PERSONAL STATEMENT

As a nanotechnology engineer (master's degree) with a bachelor degree in chemical engineering, I have developed skills needed for studying transport phenomena and fluid dynamics (laminar flow regime) in micro-nano systems using computer simulations. Furthermore, I have experience in atomistic simulations using molecular dynamics (classical and quantum approach) and Monte Carlo methods.

TECHNICAL COMPETENCE

- CFD simulation software: Comsol multiphysics (fluid dynamics toolbox) and OpenFoam
 - MatLab
 - Molecular dynamic software: NAMD
 - Molecular modelling and visualization software: VMD
 - Programming language: Fortran (excellent knowledge), Python (quite good knowledge), C++ (basic knowledge), Bash language (good knowledge)
 - Numerical methods for CFD (laminar flow regime); discretization methods for Navier-Stokes equations known: finite volume method and finite element method
 - Use of Monte Carlo methods and Molecular Dynamics (classical and quantum approach) for sampling the phase space of the principal ensemble of statistical thermodynamics (microcanonical, canonical and grand canonical ensemble)
 - Good knowledge in the use and management of Apple MacOSX, Windows and Linux operating systems
 - Microsoft Office suite
 - Latex
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EDUCATION

- **MSc in Nanotechnology Engineering** (Biotechnology address)
Sapienza University of Rome, Italy
26/10/2017 – 110 & lode/110
- **BSc in Chemical Engineering**
Sapienza University of Rome, Italy
18/12/2013
- **High School Diploma**
Scientific High School Alessandro Volta, Ortona, Italy
10/07/2009

LIST OF MAIN EXAMS

EXAMS

BRIEF DESCRIPTION

MACROMOLECULAR STRUCTURES AND PRINCIPLES OF BIOCHEMICAL ENGINEERING	Knowledge of biological macromolecular structures and of the principles of biochemical engineering (enzymatic kinetics, biochemical reactors and principles of dynamical system theory).
ELECTROMAGNETIC FIELDS AND NANOSYSTEMS FOR BIOMEDICAL APPLICATIONS	Study of the interaction of electromagnetic fields with biological tissues for the development of biomedical nanosystems (electroporation, nanocarriers for the controlled release of biomolecules via electromagnetic waves in antitumor therapy).
ATOMISTIC SIMULATIONS AND LABORATORY	Theoretical and mathematical bases of statistical physics for the development of phases sampling programs by using molecular dynamics (classical and quantum approach) and Monte Carlo techniques and their application (laboratory).
NANOCHARACTERIZATION TECHNIQUES AND LABORATORY	Study of the main nanocharacterizing techniques (spectroscopic and microscopic techniques). Using an atomic force microscope (AFM) for teaching purposes.
TRANSPORT PHENOMENA IN MICROSYSTEMS AND MICRO-NANO REACTIVE DEVICES	Mixing protocol analysis inside a time periodic cavity flow through the development of my own program for the velocity field calculation, Kinematic analysis and advection-diffusion analysis.
MICRO-NANO FLUIDICS AND MICRO-NANO FLUIDIC DEVICES	Theoretical and mathematical basics of fluid mechanics, focusing on micro-nano scales.
MICRO-ELECTRICAL MECHANICAL SYSTEMS (MEMS)	Design of a micro-electromechanical system (variable capacitor): electromechanical characterization, realization process (polyMUMPs) and cost analysis.
SURFACE ENGINEERING	Knowledge of the main techniques of thin film making and surface chemistry of liquid and solid interfaces.

LANGUAGES

Language	Listening	Reading	Writing	Speaking
ENGLISH	Advanced User	Advanced User	Advanced User	Advanced User
FRENCH	Elementary User	Elementary User	Elementary User	Elementary User
ITALIAN	Mother Tongue			

WORK EXPERIENCE

2013 - until now	I give private lessons of chemistry, maths, calculus, biochemistry, matlab, fortran, physics to college and high school students. I have an official profile as tutor of the abovementioned subjects on the Italian digital platform Skuola.net .
January, 2016 - December, 2017	In the academic year 2015-2016, thanks to my academic achievements, I got a job as a tutor at Sapienza University of Rome where I had to help students in trouble with their studies (<i>Laurea Tutoring 2</i> project).
June 1 st , 2009 - August 31 st , 2009	I worked as a barman at 'Lido Riccio' beach resort in my hometown, Ortona, Italy.
2005 - 2008	During summer time, I worked as a waiter and then as a barman at 'Halloween pub' restaurant in my hometown, Ortona, Italy.

ADDITIONAL DATA

JOB-RELATED SKILLS	<ul style="list-style-type: none">• An effective team player with excellent interpersonal and communication skills.• Strong leadership and project management skills.• Self motivated, able to meet deadlines and prioritize workloads.
FREE TIME	<ul style="list-style-type: none">• I like reading scientific works, novels (with a particular preference for Russian authors) and newspapers (especially economic and political news).• Sports: jogging, roller and ice skating, sky diving.
DRIVING LICENSES	A, B