europass | Curriculum vitae

PERSONAL INFORMATION | **Christel Sirocchi**

JOB APPLIED FOR | **Research Methods in Science and Technology PhD Program**

WORK EXPERIENCE

August 2016 – August 2020 | **Head of Science Department, IGCSE and A-level Biology Teacher**

Istanbul International School, Istanbul, Turkey

- Analyzed students performance across all sciences using Excel; produced summative reports to offer insights on students performance and make data-driven recommendations.
- Assessed needs of 4 science laboratories, managed purchase orders and kept records.
- Oversaw implementation of Cambridge curriculum and ensured successful transition of students into IGCSE and A-level program.
- Chaired regular meetings of science department and reported to administration.
- Instructed students in grades 9, 10, 11, and 12 in Biology according to Cambridge standards.
- Prepared students for the IGCSE A-level and SAT Biology exams and assisted year 11 and 12 students in university applications.
- Served as advisor for the Cambridge Secondary Science Competition.

June 2018 – July 2018 | **Biology Teacher**

Cambridge International School, Bratislava, Slovakia

- Delivered 20 hours of lectures to grade 7, 8, 9, 11, 12 and 10 hours of laboratory sessions to A-level students.

February 2015 – August 2015 | **IELTS and SAT Tutor**

InfoLang, Istanbul, Turkey

- Instructed SAT Math, English and Subject Tests and English proficiency exams implementing personalized study plans

April 2015 – September 2015 | **Research Assistant in Chemical Engineering**

Boğaziçi University, Istanbul, Turkey

- Performed docking calculations to propose potential binding ligands related to enzymes.
- Optimized protocols for culturing yeast in microfluidic chip.
- Wrote research proposals on use of microchemostat for grant applications.

January 2014 – March 2015 | **Research Assistant in Systems and Synthetic Biology**

University of Edinburgh, Edinburgh, United Kingdom

- Prepared Next-Generation Sequencing (NGS) library and analyzed NGS data using Python (pyCRAC pipeline) for visualization of RNA structures, measurement of RNA secondary structure transcriptome-wide and identification of new RNA thermosensors.
- Optimized new tool based on Hidden-Markov models for prediction of transcriptome-wide RNA structure and benchmarked it against existing methods.
- Performed chemical modification of thermoshocked RNA in vivo and in vitro.
- This research was published in Nature Methods in 2017 [1].

August 2014 - November 2014 | ## Research Intern in Medical Genetics

Burlo Garofolo Pediatric Institute, Trieste, Italy

- Used R, Perl, shell script and genome-wide association tools to perform linkage analysis on genetic data.

April 2012 - September 2012 | ## Research Intern in Neuropathology

Université libre de Bruxelles, Bruxelles, Belgium

- Applied various molecular biology techniques to clone bacterial genes in conditional vectors and express them in eukaryotic cells.

EDUCATION AND TRAINING

2018 - Current (Expected 2021) | ## B.Sc. Applied Informatics   ISCED 6

University of Urbino, Italy

Thesis: "Using crowd-sourced data to estimate the condition of the Italian road network"

Awards: Winner of Learning by Doing Confindustria Marche 2020/2021

Extra-Curricular: UniUrb Lab Entrepeneurship Program, EU Code Week Mentor

- Calculus I and II, Algebra, Logic and Geometry, Algorithms and Data Structures
- Physics, Probability and Statistics, Numeric Simulation, Data Bases
- Procedural Programming, Object-oriented Programming, Logic and Functional Programming
- Computer Architecture, Operating Systems, Software Architecture, Computer networks

2012 - 2015 | ## M.Sc. Functional Genomics   ISCED 7

University of Trieste, Italy

Thesis: "Genome-wide profiling of RNA during bacterial stress adaptation"

Grade: 110 cum laude

Scholarships: Erasmus Traineeship (8 + 4 months)

Extra-Curricular: "Italy united for the correct scientific information" Project Coordinator

- Molecular Diagnostic, Molecular Immunology, Molecular Genetics, Molecular Oncology
- Structural and Comparative Genomics, Proteomics, Gene Expression, Human Genetics
- Pharmacogenomics, Pathophysiology, Stem Cells and Gene Therapy

2009 - 2012 | ## B.Sc. Pharmaceutical Biotechnology   ISCED 6

University of Ferrara, Italy

Thesis: "Cloning of tau isoforms in Tet-Off conditional vector and expression in CHO cells"

Grade: 110 cum laude

Scholarships: Erasmus Traineeship (4 months)

- Morphology, Embryology, Immunology, Neurology, Physiology, Pathology, Pharmacology
- Economics and Bioethics, Environmental Impact of Biotecnologies and Protection
- Chemical, Botanical and Pharmaceutical Biotechnologies, Recombinant DNA Technologies, Biomolecular and Cellular Technologies

OTHER EDUCATION AND TRAINING

2017   **Cambridge International IGCSE & A level Biology Training**

Cambridge International Education, Tarabya British Schools, Istanbul, Turkey

2016   **Certificate in Teaching English to Speakers of Other Languages (CELTA)**

International Training Institute (ITI), Istanbul, Turkey

2015   **Certificate in Teaching English as a Foreign Language 150h (TEFL)**

LearnTEFL

2000 – 2005   **Violin Diploma**

Music Conservatory "G.B. Pergolesi", Fermo, Italy

PERSONAL SKILLS

Mother tongue   Italian

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C1	C1	C1
	IELTS Certificate 8.5				
Turkish	B1	B1	A2	A2	A2

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills   Team Work: I have fostered collaboration in the classroom as a teacher and among teachers as Head of Department, promoting interdisciplinary projects within and between departments. I joined several team projects and competitions, the most recent being the Learning by Doing Competition, which won the regional prize.

Mediating Skills: I served as an advisor for the Science Club, where I mediated group discussions and facilitated multiple groups of students in developing an original research idea.

Intercultural Skills: I have been working in an international environment, first as a researcher (in Belgium, UK, and Turkey) and then as a teacher in a British International School, counting over 50 nationalities in the student and teacher body.

Organisational / managerial skills   After two years as a teacher in one of the most prestigious international schools in Turkey, I was promoted Head of the Science Department and responsible for supervising six teachers and four laboratories.

o   While volunteering at the refugee camps in Serbia and France, I managed the warehouse and coordinated 20 volunteers.

o   In group projects, I frequently held the role of project manager due to my planning and task managing skills, as well as problem-solving and data-driven forecasting abilities.

Digital competences	SELF-ASSESSMENT				
	Information Processing	Communication	Content creation	Safety	Problem solving
	Proficient user	Proficient user	Proficient user	Proficient user	Proficient user

Digital competences - Self-assessment grid

Computer skills
- LINUX OS /Bash Script
- MS Office Packages
- C
- C / .NET
- R/Bioconductor
- Python (Pandas and Machine Learning libraries)
- SQL / MySQL
- Java / NetBeans
- Prolog, Haskell
- UI / UX (Adobe XD, Figma)

Other skills Data Analysis and Visualization: I am passionate about science education and communication to various audiences (young children, students, citizens). I advocate for open data, which I analyze to gain insights into multiple aspects of society. I synthesize and represent complex information through graphs and infographics using Python libraries, Tableau, Adobe Illustrator.

Interdisciplinary skills: I embrace a holistic approach to science, and I have systematically sought research opportunities in interdisciplinary fields of science. I have gained a good background in most scientific disciplines and the ability to explore content and solve a problem by integrating knowledge from multiple domains. I am particularly interested in mathematical and computational modeling of complex systems in nature, which motivated my choice to specialize in both biology and computer science.

Driving licence B

PUBLICATIONS

[1] Alina Selega, **Christel Sirocchi**, Ira Iosub, Sander Granneman, and Guido Sanguinetti. "Robust statistical modeling improves sensitivity of high-throughput RNA structure probing experiments". In: *Nature methods* 14.1 (2017), pp. 83-89.