

CHIARA VILLA

PhD student ◊ University of St Andrews ◊ Mathematical Biology

Email cv23@st-andrews.ac.uk
Phone +44 7534774146
Website <http://www.mcs.st-and.ac.uk/~cv23/>

EDUCATION

Phd, Mathematics, *University of St Andrews* Sep 2018 - Present
Supervisors: Prof Mark Chaplain, Dr Tommaso Lorenzi
Research topic: Mathematical Modelling of Tumour Growth and Anti-cancer Therapy
Funding awarded by the School of Mathematics and Statistics, University of St Andrews
Scottish Mathematical Sciences Training Center Sep 2018 - Present
Graduate courses in Continuum Mechanics, Numerical Methods, Mathematical Biology and Physiology
MMaths, Applied Mathematics, *University of St Andrews* 2014 - 2018
First Class Honours awarded
Academic Prizes: The Principal's Scholarship for Academic Excellence, Dean's list
Final project: Mathematical Modelling of Tumour-Induced Angiogenesis
Scientific High School, *Istituto Internazionale Edoardo Agnelli*, Torino (IT) 2009 - 2014
Diploma awarded: grade 100/100
Maths and Physics extra-curricular activities: Physics Olympic games, "Festa della matematica", Maths Olympic games and Archimedes' games, Maths summer internship in Bardonecchia
Study abroad, *Epsom Girls Grammar School*, Auckland (NZ) Summer 2011
Award for "Highly commended in Mathematics" during mid-term exams

WORK EXPERIENCE

Bar Staff 2017 - 2018
University of St Andrews Students' Association, St Andrews (UK)
Visiting Days Student Ambassador Spring 2018
School of Mathematics and Statistics, University of St Andrews, St Andrews (UK)
Undergraduate Summer Research Internship Summer 2017
StAMBio group, School of Mathematics and Statistics, University of St Andrews, St Andrews (UK)
Topic: Mathematical modelling of spatio-temporal evolutionary dynamics of cancer cells focusing on the phenotypic landscape of a solid tumor (Numerical simulations in Matlab)
Complex Systems Biology Research Summer 2016
Prof Michele Caselle, Dipartimento di Fisica, Università degli Studi di Torino, Torino (IT)
Topic: Role of ohnolog genes in regulatory networks, with a focus on co-regulation and self-regulation of paralogue pairs (Data analysis in Python)
Au-pair Childcare Summer 2015
Full-time nanny in a family with 3 kids, Genova (IT)
Group Leader in Local Community 2011 - 2014
Volunteer group leader with GiOC, Torino (IT)
Preparation and coordination of group discussions with educational and aggregative purpose, organisation and supervision of all activities in summer camps
ONLUS Volunteer Summer 2013
Volunteer for the ONLUS foundation "Aiutare i Bambini", Araçuaí (BR)
Supervision of the project to support the Assant Centre and the 45 children assigned to it from the juvenile Court, preparation of documents for long-distance adoption
Private Tutor 2010 - 2013
Private tutor in Maths and English to secondary school pupils, Torino (IT)

English Teacher

Summer 2012

Primary school English teacher in a summer camp, Su Zhou (CHN)

English language lessons in three classes with pupils aged 8-9, 9-10, 10-11 respectively, afternoon after-school management and recreational activities for primary and secondary school kids

UNIVERSITY TEACHING AND MARKING

All available student feedback data is included and reported on a scale of 1 (excellent) to 5 (poor) in the categories of Explanation (E), Organisation (O) and Availability (A).

MT2000 Computing Workshop , <i>University of St Andrews</i>	Autumn 2020
Demonstrator in Python Computing Workshop for 2000 level courses	
MT2501 Linear Mathematics , <i>University of St Andrews</i>	Autumn 2019
Tutor of two groups (11 students each) – E=1.44, O=1.33, A=1.33	
MT2000 Computing Workshop , <i>University of St Andrews</i>	Autumn 2019
Demonstrator in Python Computing Workshop for 2000 level courses	
MT2507 Mathematical Modelling , <i>University of St Andrews</i>	Spring 2018
Tutor of two groups (11 students each) – E=1.45, O=1.85, A=1.45	
Demonstrator of three groups (50 students each)	
MT2503 Multivariate Calculus , <i>University of St Andrews</i>	Autumn 2018
Tutor of two groups (10-12 students each) – E=1.17, O=1.5, A=1.17	
MT2504 Combinatorics and Probability , <i>University of St Andrews</i>	Autumn 2018
Computer projects marker	

TALKS

SoftMech Seminar , <i>Online</i>	March 2021
“Mechanical models of pattern and form in biological tissues: the role of stress-strain constitutive equations”	
StAMBio Internal Seminar , <i>Online</i>	July 2020
“Mathematical modelling of early-stages cluster-based vasculogenesis”	
Interplay between Oncology, Mathematics and Numerics , <i>Online</i>	June 2020
“Modelling the emergence of pre-treatment phenotypic heterogeneity in vascularised tumours”	
Postgraduate Interdisciplinary Mathematics Symposium , <i>The Burn House</i>	January 2020
“Pattern formation in linear viscoelastic materials”	
School of Mathematics and Statistics Research Day , <i>University of St Andrews</i>	January 2020
“Pattern formation in linear viscoelastic materials”	
Scottish Mathematical Biology Forum , <i>ICMS</i>	December 2019
“Modelling the emergence of phenotypic heterogeneity in vascularised tumours”	
Visit to Laboratoire Jacques-Louis Lions , <i>Sorbonne University</i>	November 2019
“Modelling the emergence of phenotypic heterogeneity in vascularised tumours”	
EMS Postgraduate Meeting , <i>The Burn House</i>	May 2019
“Models of viscoelasticity and their pattern formation potential”	
StAMBio Internal Seminar , <i>University of St Andrews</i>	April 2019
“Assessing the impact of tissue vascularisation on intratumour heterogeneity using a formal Hamilton-Jacobi approach”	
Postgraduate Interdisciplinary Mathematics Symposium , <i>The Burn House</i>	January 2019
“A snapshot of Mathematical Biology”	
MT234 Research and Party , Outreach event, <i>University of St Andrews</i>	November 2018
“Cancer modelling: towards virtual biopsies”	
Master thesis defence , <i>University of St Andrews</i>	April 2018
“Mathematical modelling of tumour-induced angiogenesis”	
Undergraduate Summer Research Conference , <i>University of St Andrews</i>	November 2017
“Dissecting cancer through mathematics: how the tumour microvasculature and microenvironment	

influence the eco-evolutionary dynamics of cancer cells”

Reading Party, *University of St Andrews*

February 2017

“Mathematical modelling of avascular tumour growth”

CONFERENCES, WORKSHOPS AND FORUMS

Society for Mathematical Biology (Awarded SMBdevBio Poster Prize 1) Online conference	August 2020
Society for Mathematical Biology & European Society for Mathematical and Theoretical Biology (Cancelled due to COVID-19) Mini Symposium invited speaker, LMS ECR Travel Grant awarded (£500)	August 2020
Interplay between Oncology, Mathematics and Numerics (Invited speaker) <i>Sorbonne University (LJLL), Inserm, University of Poitiers</i> , Online conference	June 2020
Postgraduate Interdisciplinary Mathematics Symposium (Organiser) <i>School of Mathematics and Statistics</i> , The Burn House, Edzell	January 2020
School of Mathematics and Statistics Research Day <i>School of Mathematics and Statistics</i> , St Andrews	January 2020
Scottish Mathematical Biology Forum (Invited speaker) <i>Maxwell Institute for Mathematical Sciences</i> , ICMS, Edinburgh	December 2019
Modeling, analysis and simulation <i>Laboratoire Jacques-Louis Lions</i> , Sorbonne University, Paris	November 2019
EMS Postgraduate Meeting <i>Edinburgh Mathematical Society</i> , The Burn House, Edzell	May 2019
Computational Approaches in Mathematical Biology <i>University of Dundee</i> , Dundee	May 2019
Research School: PDEs in Mathematical Biology: Modelling and Analysis <i>London Mathematical Society & Clay Mathematics Institute</i> , ICMS, Edinburgh	May 2019
British Applied Mathematics Colloquium <i>University of Bath</i> , Bath	April 2019
Postgraduate Interdisciplinary Mathematics Symposium <i>School of Mathematics and Statistics</i> , The Burn House, Edzell	January 2019
School of Mathematics and Statistics Research Day <i>School of Mathematics and Statistics</i> , St Andrews	January 2019
Scottish Mathematical Biology Forum <i>Maxwell Institute for Mathematical Sciences</i> , Edinburgh	December 2018
Scottish Mathematical Training Center Symposium <i>SMSTC</i> , Perth	October 2018
Undergraduate Summer Research Conference <i>School of Mathematics and Statistics</i> , St Andrews	November 2017

SKILLS AND ACTIVITIES

Languages

Italian – native speaker

English – advanced (C2): CAE–C1 (03/13) and TOEFL (12/13) certificates

French – intermediate (B2): DELF B1 (08/12) certificate and attendance of several intensive courses in Torino (Alliance Française), Nice (International House) and St Andrews (evening language courses)

Brazilian Portuguese – base (A2): attendance of a course with mother tongue teacher

Programming and Computer Skills

Proficient: MATLAB, Python, LaTeX, Fortran90, COMSOL

Basic: Maple, R, HTML5

Microsoft Office tools (ECDL Full Certificate), video editing (Movie Maker, AVS Video Editor)

Personal interests

Acoustic guitar, singing, photography, travelling, swimming, hip-hop dancing, figure ice-skating, yoga

Outreach activity

Piscopia Society outreach: testimonial to encourage female/non-binary students considering a PhD

PROFESSIONAL RESPONSIBILITIES

School of Mathematics and Statistics, <i>StAMBio online seminars organiser</i>	Sep 2020 - today
School of Mathematics and Statistics, <i>Mentor in Peer Mentoring scheme</i>	Sep 2018 - today
School of Mathematics and Statistics, <i>PGR Rep & PGR Exec Rep</i>	Sep 2018 - Sep 2019
Scottish Mathematical Sciences Training Center, <i>UoSA Student Rep</i>	Sep 2018 - Sep 2019