
CURRICULUM VITAE

Sophie Calabretto

PERSONAL INFORMATION

Sophie Alexandra Walter CALABRETTO

Citizenship Australian, French

Languages spoken English (native), French (fluent)

Contact details

Work

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EDUCATION

Tertiary

- 2015 PhD in Engineering Science, University of Auckland
Instability and transition in unsteady rotating flows
- 2012 – 2013 PhD candidate in Mathematical & Computer Science, University of Adelaide
(candidature transferred to the University of Auckland following the appointment of my principal supervisor to the Department of Engineering Science)
Flow in an annulus
- 2011 Bachelor of Mathematical Sciences (Hons.) - First Class Honours, University of Adelaide
Mathematical models of neuron firing
- 2006 – 2009 Bachelor of Arts/Bachelor of Science, University of Adelaide
(Majors: French, Applied Mathematics, Physics, Theoretical Physics)

Secondary

- 2005 South Australian Certificate of Education (SACE) awarded – Stage 2 subjects completed:
Chemistry, French (continuers), Mathematical Studies, Physics, Specialist Mathematics
(A - Very High Achievement received for all subjects)
English Studies (B - High Achievement) – 2004
- 2004 – 2005 Unley High School, Netherby, South Australia
- Sept 2003 – Jan 2004 Lycée Thomas Masaryk, Vouziers, France
– exchange programme partially funded by Southern Cross Cultural Exchange
- 2001 – August 2003 Unley High School, Netherby, South Australia

ACADEMIC ACHIEVEMENTS, PRIZES AND DISTINCTIONS

Feb 2014	'Honourable mention' for being judged in the top 5 (of 96) student presentations, Australia and New Zealand Industrial and Applied Mathematics (ANZIAM) Conference, Rotorua, New Zealand
2013 – Present	Member of Golden Key International Honour Society
2013 – 2015	Recipient of University of Auckland Doctoral Scholarship, University of Auckland
2012 – 2013	Recipient of Australian Postgraduate Award (APA), University of Adelaide
Dec 2008 – Feb 2009	Adelaide Summer Research Scholarship, Optics group, School of Chemistry and Physics, University of Adelaide
Dec 2008 – Feb 2009	High Achiever Research Vacation Scholarship, School of Mathematics and Statistics, University of South Australia
May 2005	Youth Leadership Grant - \$500 (to attend Canada-Wide Science Fair), Office for Youth, Department for Families and Communities, Government of South Australia
2005	Le Prix la Pérouse Lauréate, L'Alliance Française d'Adélaïde Verna McCarthy Award, Unley High School Academic Excellence in French, Unley High School Academic Excellence in Physics, Unley High School Distinction, University of New South Wales Maths Competition Outstanding School Service – Extracurricular, Unley High School
2004	Academic Excellence in Chemistry, Unley High School Academic Excellence in French, Unley High School Outstanding Commitment to Achieve in Maths B, Unley High School Outstanding Commitment to Achieve in Maths C, Unley High School Outstanding Commitment to Achieve in Physics, Unley High School
2003 – 2004	School Service Award, Unley High School
June 2002	Runner-up in The Advertiser Young Writers' Award – Prose Section Year 9/10
April 2002	Drawing published in "Life" a youth initiative of the Mitcham Council
2001 – 2005	School academic merit list, Unley High School (all 4 terms each year)

EMPLOYMENT EXPERIENCE

July 2015 – Present	Postdoctoral Fellow, Chair in Nonlinear Dynamics, Institute for Mechanical Systems, ETH Zürich
Mar 2015 – July 2015	Research Assistant, Department of Engineering Science, University of Auckland
Jan 2013 – Dec 2014	Teaching Assistant (for Mathematical Modelling II and Mathematical Modelling III), Department of Engineering Science, University of Auckland
Jan – Dec 2012	First Year Computer Prac. Demonstrator (for Mathematics IA, Mathematics IM, Mathematics IB), School of Mathematical Sciences, University of Adelaide
Jan – Dec 2012	First Year Tutor (for Mathematics IA and Mathematics IB), School of Mathematical Sciences, University of Adelaide

Jul – Dec 2011	First Year Mathematics Consultant (for Mathematics IA, Mathematics IB, Applications of Quantitative Methods in Finance, Mathematics for Information Technology), School of Mathematical Sciences, University of Adelaide
Nov 2010 – Jul 2011	Private tutoring for primary school and high school students – subjects include mathematics, French, and physics
Nov 2010 – Jun 2011	Web content officer and metadata support, Royal Institution of Australia (RiAus), Adelaide
Dec 2008 – Feb 2009	Visiting Researcher, School of Mathematics and Statistics, University of South Australia
Jan 2009	Enrolment Buddy, Faculty of Science, University of Adelaide
Jun 2008 – Feb 2009	Research Team Member, Optics group, School of Chemistry and Physics, University of Adelaide
May, Oct & Nov 2008	Pharmacy Assessment Actor for client simulations, School of Pharmacy and Medical Sciences, University of South Australia
Jan 2006	Student staff member, National Youth Science Forum, Canberra
2003	Laboratory Assistant to Paul Shepherd, Laboratory Manager, School of Nursing and Midwifery, University of South Australia (Work Experience)
2002	Clerical Assistant to Christine Davis, Christine Davis Consulting

PUBLICATIONS AND PRESENTATIONS

Refereed journal articles

Calabretto SAW, Denier JP, Mattner TW 2015 The flow within a rotating annulus (pre-print).

Calabretto SAW, Denier JP, Mattner TW 2015 The flow external to a rotating torus. *Theoretical and Computational Fluid Dynamics*, 1–18 (DOI: 10.1007/s00162-015-0380-7).

Calabretto SAW, Levy B, Denier JP, Mattner TW 2015 The unsteady flow due to an impulsively rotated sphere. *Proceedings of the Royal Society A* **471**, 20150299.

Calabretto SAW, Mattner TW, Denier JP 2015 The effect of seam imperfections on the unsteady flow within a fluid-filled torus. *Journal of Fluid Mechanics* **767**, 240–253.

Refereed conference abstracts

Calabretto SAW, Denier JP, Mattner TW, Clarke RJ 2014 *The complex unsteady flow within a fluid-filled annulus and its transitions to turbulence*. Refereed abstract with paper presented to the *Australia and New Zealand Industrial and Applied Mathematics (ANZIAM) Conference*, February 2 – 6 2014, Rotorua, New Zealand

Calabretto SAW, Denier JP, Mattner TW 2013 *The complex unsteady flow within a fluid-filled annulus and its transitions to turbulence*. Refereed abstract with paper presented to the *14th European Turbulence Conference*, September 1 – 4 2013, Lyon, France

Non-refereed publications

Calabretto SAW 2013 The complex unsteady flow within a fluid-filled annulus and its transition to turbulence *Centre for eResearch*, University of Auckland
Case study available online at www.eresearch.auckland.ac.nz/en/centre-for-eresearch/research-outcome/2013case-studies/the-complex-unsteady-flow-within-a-fluid-filled-annulus-and-its-transition-to-turbulence.html

Unpublished conference and seminar presentations

Calabretto S 2014 *The complex unsteady flow within a fluid-filled annulus and its transitions to turbulence* – Provisional review seminar, Department of Engineering Science, University of Auckland, March 5

Calabretto S 2014 *The complex unsteady flow within a fluid-filled annulus and its transitions to turbulence* – Fluids in New Zealand (FINZ) Workshop, University of Auckland, January 29 – 31

Calabretto S 2012 *Turbulent flows, Semtex, and rainbows* – Postgraduate seminar, School of Mathematical Sciences, University of Adelaide, October 8

Calabretto S 2011 *A squid, a barnacle and a duck walk into a ~~bar~~ brain: Mathematical models of neuron firing* – Honours presentation, School of Mathematical Sciences, University of Adelaide, September 29

Other

Calabretto S 2011 *Mathematical models of neuron firing*. Honours Thesis, University of Adelaide, (58 pages)

RESEARCH SUPPORT

Research/Travel Grants

NZ Branch of ANZIAM Inc. Student Travel Grant 2014

CSIRO-ANZIAM Student Support Scheme 2014

LEADERSHIP

Jul 2013, 2014	Department of Engineering Science student representative, Enginuity Day, Faculty of Engineering, University of Auckland (Enginuity Day is a day dedicated to encouraging girls to study STEM subjects at university)
May 2013	Invited to chaperone the Australian team at the Canada-Wide Science Fair (on behalf of the National Youth Science Forum), University of Lethbridge, Alberta, Canada – unable to take this up due to study commitments
Aug 2012	School of Mathematical Sciences Open Day volunteer, University of Adelaide
2012	Postgraduate representative, Outreach Committee, School of Mathematical Sciences, University of Adelaide
Jul 2011	School of Mathematical Sciences representative and group activity coordinator, Young Women in Technology Challenge, Faculty of Engineering, Computer and Mathematical Sciences, University of Adelaide
Apr 2011	Student presenter, Women and Mathematics Workshop, School of Mathematical Sciences, University of Adelaide
Jan/Feb 2011	Student helper, 47th ANZIAM Conference, held in Glenelg, South Australia
2008 – 2009	Committee Member, National Youth Science Forum Committee for Rotary 9520 – responsible for organising the National Youth Science Forum District Selections for Rotary District 9520 as well as coordinating the group skills activity for the applicants
July 2008, 2009	Group Skills Activity Coordinator, National Youth Science Forum District Selections for Rotary District 9520

Nov/Dec 2008	Student helper, Australian Institute of Physics (AIP) 18th National Congress 2008, held at the University of Adelaide
Jan 2007	Invited to be a senior staff member at the National Youth Science Forum, Canberra (ANU) – unable to attend due to Prix la Pérouse commitments
Jul 2006, 2007	Panel member (as a National Youth Science Forum staff representative), National Youth Science Forum District Selections for Rotary District 9520
Nov 2007	Invited guest speaker at the Alliance Française d'Adélaïde's Prize-Giving Night as past Prix la Pérouse lauréate
Jun 2006	Invited guest speaker for the Southern Cross Cultural Exchange Orientation for outgoing South Australian students
Apr 2006	Represented South Australia in New Caledonia as part of the Alliance Française's Prix la Pérouse (as state winner) Invited to run the staff training session for incoming student staff for the National Youth Science Forum, Canberra – unable to attend due to Prix la Pérouse commitments
Mar 2006	Staff representative, National Youth Science Forum University seminars (University of New South Wales & University of Sydney)
Jan 2006	Student staff member, National Youth Science Forum, Canberra (ANU & University of Canberra)
Jul 2005	Panel member (as a National Youth Science Forum staff representative), National Youth Science Forum District Selections for Rotary District 9520
Jun 2005	Guest speaker, Meeting of the Rotary Club of Mitcham. <i>Canada-Wide Science Fair 2005</i>
May 2005	Australian representative (on behalf of the National Youth Science Forum), Canada-Wide Science Fair, Vancouver, Canada (University of British Columbia)
Apr 2005	Attended staff training session for the National Youth Science Forum, Melbourne (La Trobe University)
Jan 2005	Student representative for Rotary District 9520, National Youth Science Forum, Canberra (ANU & University of Canberra)
2005	Treasurer of the Prefect Executive, Unley High School Member of the Prefect body, Unley High School Prefect representative – Curriculum Committee, Unley High School Prefect representative – Finance Committee, Unley High School Doorknocked for the Salvation Army Red Shield Appeal
2004 - 2005	Editor for the "Unleytiser" (Unley High School Student Newspaper)
2003 - 2005	Senior member of the Unley High School Amnesty International Group