Linnéa Christin Franssen

Contact Information

Mathematical Institute, University of St. Andrews, North Haugh, KY16 9SS, UK
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Education

2016-present PhD in Mathematics, University of St. Andrews

Thesis title: Modelling cancer invasion using an individual-based game-theoretic approach.
(Supervisors: Prof Mark Chaplain and Prof Thomas Neukirch.)
Teaching: Tutorials in MT1002, a first year course in Mathematics.

2008-2013 MSci in Mathematics, University of Glasgow (1st Class Degree)
Masters project: Windkessel and structured tree models for cardiovascular haemodynamics.
(Supervisor: Prof Nicholas A. Hill; graded 21/22.)
Honours project: The theory of Adaptive Dynamics and its application to the mutualism-parasitism continuum Lotka–Volterra system

$$\begin{aligned}
\frac{dH}{dt} &= f(a)H\left(1 - \frac{H}{K + \gamma P}\right) - aHP \\
\frac{dP}{dt} &= bHP - dP\left(1 + eP\right)
\end{aligned}$$

which involves some trade-off $f(a) = a$.
(Supervisor: Dr Christina Cobbold; graded 22/22.)
Other projects: "Calculus of Variations and the Brachistochrone"; "Recursive Algorithms".
Level 5 courses: PDEs; Fluid Mechanics; Biological and Physiological Fluid Mechanics; Advanced Methods in Applied Mathematics (SMSTC); Solitons;
Level 4 courses: Mathematical Biology; Probability; Numerical Analysis; Differential Geometry; Numerical Solutions of Partial Differential Equations; Discrete Mathematics; Algebraic Topology;
Level 3 courses: Mathematical Ecology; Mathematical Methods (ODEs, PDEs); Algebra; Analysis; Complex Analysis; Geometry and Topology; LATEX, Mathematica and presentation skills course.
Other pre-honours subjects: Economics, Accounting, Spanish.
Awards: *Matthew A Muir Bursary* (twice) and *Dougall Prize* (twice) in Mathematics; Merit Certificate in Economics.

1999-2008 Kieler Gelehrtenschule (Kiel, Germany)
Allgemeine Hochschulreife (highest German school diploma);
GPA of 1.1 (1 is the highest, 6 the lowest grade);
Intensive courses in Mathematics, English, Economics and Politics.
Awards: Federal prizes in Mathematical Olympiad and in state-run English competition, German Sports Badge in Silver, Gold Swimming Badge, 3rd and 7th team prize in national hockey competition.

2005-2006 Madras College (St Andrews, Scotland)
Exchange Student

WORK EXPERIENCE	**2014-2015** **Secondary school teacher** (Friedrich-Engels-Gymnasium)

WORK EXPERIENCE

2014-2015 **Secondary school teacher** (Friedrich-Engels-Gymnasium)
– Taught students aged 15 to 19 mathematics and economics;
– Drafted and marked exams according to own marking schemes;
– Supervised projects and prepared students for final exams;
– Attended 10 hours/week of teacher's training.

2014 **Actuary** (Provianzial NordWest life insurance)
– Acquired basic knowledge of stochastic modelling and life insurance;
– Calculated participation features.

2007-12 **Translator German ↔ English** (freelance)

2009-10 **Associate Trainer** (National Union of Students Scotland)
– Prepared and delivered course representative training to HE students;
– Carried out administrative duties related to the training provision.

2008-09 **'Buddy' for new overseas students** (University of Glasgow)
– Organised and led tours and networking events;
– Gave advice regarding university related issues.

2004-08 **Secondary school tutor** (Kieler Gelehrtenschule & freelance)
– Taught Mathematics, English, German, Latin and the piano;
– Tasks included homework assistance and preparation for exams.

INTERNSHIPS

Towers Watson Risk Consulting and Software, Cologne (06/11–07/11)
– Derived insurance market trends using Excel and VBA;
– Analysed trends in statutory health insurance premiums;
– Researched for and developed presentations using Power Point;

INTERCOPE Development division HSM for Windows, Hamburg (06/10–07/10)
– Acquired basic C++ knowledge;
– Took part in High Level and Graphical User Interface Design;
– Set up a test system.

Stadtwerke Kiel AG Service Office, Kiel (06/09–08/09)
– Undertook computer-aided resource planning and maintained files;
– Ran the service office by myself for a week.

VOLUNTARY POSITIONS

- Currently postgraduate representative on the School Safety Committee of the School of Mathematics and Statistics, University of St. Andrews;
- Regularly volunteer for St. Andrews Environmental Network's projects;
- Student representative during four years at the University of Glasgow;
- Year prefect during the last two years of high school as well as class representative and active member of the student board of my high school for many years beforehand;
- Assistant carer in nursing home St Nicolai, Kiel.

LANGUAGE SKILLS

- Proficient in English and German; basic knowledge of Spanish;
- Latin; ancient Greek.

Computing skills

- Proficient in MatLab, LaTeX and MS Office;
- Basic knowledge of C++ and Mathematica.

Personal Interests

- Enjoy cycling, hiking, gardening, and yoga;
- Fond of listening to and playing music, discovering foreign cultures and travelling.