CURRICULUM VITAE
Erick MARTINS RATAMERO
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I enjoy solving problems, getting deep into the detail of things and understanding systems. I have worked across multiple disciplines, cultures and environments and have always shown the ability to adapt and deliver results in a variety of situations.

Professional Experience

2017-present: AMR Early Career Fellowship, University of Warwick
Project: "Developing a 21st century alternative to penicillin: a one-drug- dual-target strategy"

- Developed code to run protein rigidity analysis and simulations
- Automated tasks related to input and output using Python, decreasing the time necessary for analysing proteins and creating a simple solution that does not require manual input from the user
- Interfaced with experimentalists to identify areas of interest in proteins and generated visualisations for the simulation results
- Introduced a virtual reality solution for viewing proteins structures in three dimensions

2013-2017: Marie Curie Early Stage Researcher, University of Warwick
PhD research title: "Bacterial inner membrane remodelling by force generation of FtsZ fibres"

- Developed a model of mechanical force generation inside dividing bacterial cells based on statistical mechanics
- Constructed simulations using C with a variety of commonly used scientific libraries (GSL, GMP, BLAS), some niche ones (Barvinok, ISL) and custom code, making use of MPI for parallelization
- Performed data cleaning, analysis and visualization using Python with Pandas and Matplotlib
- Developed and performed a series of molecular biology experiments for a period of 6 months as a visiting scholar at Duke University (USA), from designing and cloning bacterial mutants to production, purification and activity assays of proteins

2008-2011: Junior Engineer, Chemtech Ltda (Brazil)

- Delivered detailed engineering project design for telecommunications infrastructure in two oil refineries
- Led a small team working on automating the production of design documents using AutoLisp and engineering calculations using Processing
- Collaborated as part of a 200-strong team from all engineering areas to achieve a coherent project without overlaps

2008: Intern, Harman/Becker GmbH (Germany)

- Developed a new suite of testing tools for speech recognition systems using C with audio processing libraries
- Constructed new data sets by parsing old data files with Perl and by rebuilding and merging audio files with C
- Worked inside a multi-cultural, multi-national department focused on state-of-the-art industrial research

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Education and Training

September 2013 - Present

Ph.D. in Analytical Science, University of Warwick (United Kingdom)

October 2011 - August 2013

Erasmus Mundus Master in Complex Systems Science – École Polytechnique (France) and Chalmers University of Technology (Sweden)

Developed new models for sports science, innovation theory and game theory.

April 2004 - December 2009

B.Eng. Telecommunications Engineering – Universidade Federal Fluminense (Brazil) Graduated top of the class with two "Student of the Year" Awards. Specialized in computer networking, electronics and signal processing

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Skills

- Academic production and development of innovative models and simulations in biophysics, sports science, game theory
- Proficiency in a wide range of programming languages and environments such as C, Python, MATLAB, R and Fortran
- Interpersonal skills from a variety of sources:
    - Postgraduate Certificate in Transferable Skills during my Ph.D.
    - Organizing the Physics Postgraduate Seminar Series at the University of Warwick for 2 years
    - Representing the theoretical physics group at the Postgraduate Student-Staff Liaison Committee for 1 year
    - Voluntary teaching for undergraduates and high-school students at Universidade Federal Fluminense during my B.Eng.
- Experience working in different cultural environments in both academia and industry, with different expectations, challenges and deliverables
- Fluent Portuguese and English, advanced French, basic German, Italian and Spanish
- Long track record in adapting to and assimilating new research and working at the boundaries between different scientific areas, having moved between engineering, applied mathematics, physics and biology

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Other Interests

- Keen interest in playing and watching most sports, in particular cycling, tennis and football
- Video game design, leading to participation in game jams (short community prototyping challenges)
- Cooking healthy food, reading about philosophy of science and drinking good beer