

## Curriculum Vitæ: Cezar Ionescu



### 0. General information:

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<i>Date of birth:</i>	1968-12-21
<i>Place of birth:</i>	Bucharest, Romania
<i>Current address:</i>	Östlicher Stadtgraben 37, 94469 Deggendorf, Germany
<i>Nationality:</i>	German and Romanian
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### 1. Higher education degree:

1988–1993: Politehnica University of Bucharest, Faculty of Control Engineering and Computer Science, specialisation Bioinformatics. Thesis on *Hardware Implementation of Neural Networks*, awarded the highest grade, 10.

### 2. Doctoral degree:

2009: PhD from the Fachbereich Informatik and Mathematik of the Freie Universität Berlin with the thesis *Vulnerability Modelling and Monadic Dynamical Systems* (summa cum laude). Advisor: Prof. Rupert Klein.

Deggendorf, 3.07.2020



### 3. Current Employment:

- Since October 2019: Professor of Artificial Intelligence, Technische Hochschule Deggendorf.

### 4. Previous Employment:

- 2013–2015: Associate Professor of Data Science, Department for Continuing Education, University of Oxford.
- 2013–2015: Postdoc at Chalmers (functional programming, type theory, and sustainability science).
- 2009–2013: Postdoc position at PIK, within the project *Model Specification and Program Development*. (using dependently-typed programming for specifying, developing, testing, extending and re-factoring implementations of economic and multi-agent models)
- 2006–2009: Scientific position at PIK.
- 1999–2006: IT position at the Potsdam Institute for Climate Impact Research (PIK), project Modenv (*Modelling Environment*).
- 1993–1999: Systems analyst at the Informatics Research Institute (ICI) in Bucharest, Artificial Intelligence laboratory.

### 5. Interruptions in research:

I have taken six months of parental leave during 2007–2008.

### 6. Supervised PhD:

Currenty co-supervising Dan Shiebler, part-time DPhil at Continuing Education, University of Oxford (main supervisor: Prof. Jeremy Gibbons, Department for Computer Science, Univ. of Oxford).

I have acted as co-supervisor of the following PhD students:

- Sarah Wolf (main supervisor Rupert Klein). PhD in mathematics, Freie Universität Berlin, 2010. Thesis: *From Vulnerability Formalisation to Finitely Additive Probability Monads*.
- Daniel Lincke (main supervisor Sibylle Schupp). PhD in computer science, Technische Universität Hamburg-Harburg, 2012. Thesis: *A transformational approach to generic software development based on higher-order, typed functional signatures*.

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## 7. Research Grants:

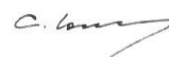
- participated in the successful proposal Math+, Berlin Mathematics Research Center, funded seven years starting January 2019.
- co-author for the proposal *Centre of Excellence for Global Systems Science (COEGSS)*, Horizon 2020 call H2020-EINFRA-2015-1. Ran from 2015-10-01 to 2018-09-31.
- Co-author of the proposal *GRACeFUL - Global systems Rapid Assessment tools through Constraint FUnctional Languages*, Horizon 2020 call FETPROACT1-2014. Ran from 2014-02-01 to 2017-01-31.
- Co-author of the proposal for the Coordinated Action *Global Systems Dynamics and Policy* (2010–2012).
- Co-author of the proposal for the *Adaptation and Mitigation* EU Project (2006–2009), specifically the proposal to formalise the cluster of notions related to “vulnerability to climate change”. This was responsible for 50% of the funding of my position and for four other PhD positions and one senior scientist.

## 8. Teaching:

University courses:

- *Grundlagen der Informatik*, 2019, Technische Hochschule Deggendorf
- *Computational Logic*, 2019, Technische Hochschule Deggendorf
- *Software Engineering*, 2019, Technische Hochschule Deggendorf
- various modules within the *Kellogg Artificial Intelligence Programme*, 2018-19.
- Machine Learning, Trinity Term 2019, Department for Continuing Education, Univ. of Oxford.
- *Domain-Specific Languages of Mathematics*, Chalmers, 2016-2019.
- *Category Theory for Functional Programming*, winter semester 2014-2015, Chalmers. Graduate course.
- *Introduction to Programming using Java*, 2013-2015, University of Göteborg. First-year course.
- *Advanced Functional Programming*, summer semester 2012-2013, Freie Universität Berlin. Masters level course.

Deggendorf, 3.07.2020



Graduate seminars:

- Co-organiser of the Oberwolfach Seminar *Mathematics for Scientific Programming*, November 2013.
- Co-founder of the *Cartesian Seminar*, a weekly scientific seminar held at PIK (2000–2012), and since 2012 at the Potsdam University, with the aim of creating a common understanding of scientific issues in an interdisciplinary (but mathematically inclined) audience, based on close reading of essential texts and congenial dialog. This is one of the longest running scientific seminars in Germany, and since its move to the Potsdam University has become part of the curriculum (students can receive grades based on their ability to analyse and present scientific texts).
- *Algebra of Programming: 2002–2005* I organised a bi-weekly (sometimes weekly) graduate level seminar at PIK on category theory and functional programming, based on *The Algebra of Programming*, Bird and de Moor, 1997.

## 9. Invited presentations:

- *Reinforcement Learning for Functional Programmers*. Meeting of IFIP Working Group 2.1 on Algorithmic Languages and Calculi, July 1-6 2018, Brandenburg (Germany).
- *Calculating scientific programs?*. Meeting of IFIP Working Group 2.1 on Algorithmic Languages and Calculi, March 24-28 2014, Zeegse (the Netherlands).
- *Increasingly Correct Scientific Programming*. CICM 2012, July 8-13 2012, Bremen.
- *Calculation and Communication*. Meeting of IFIP Working Group 2.1 on Algorithmic Languages and Calculi, February 6-10 2012, Rome.
- *Economic Equilibria in Type Theory*. Domain Specific Languages for Economical and Environmental Modelling (DSL4EE). June 16-17, 2011, Gothenburg, Sweden.
- *Types and Specifications*. Workshop on Type Theory and Sustainability Modelling, Potsdam, Germany, October 28, 2009.
- *Type Theory for Sustainability Modelling*. European Climate Forum Council Meeting, October 8 2009, Potsdam.
- *Using Types to Specify Programs*. Workshop on System Dynamic Models of Coupled Natural-Social Systems, June 22-26 2009, Bekkjarvik, Norway.

Deggendorf, 3.07.2020



- *Modelling versus Formalisation*. Dahlem conference *Is There a Mathematics of Social Entities?*, December 14-19, Berlin, 2008.
- *Functional programming in climate impact research*. Software Technology Seminar, Chalmers University of Technology, November 6, 2008.
- *Relation-based algorithms in a Haskell-based BSP model*. Formal Methods Group Meeting, Chalmers University of Technology, February 9, 2007.
- *Haskell at PIK*. Haskell in Leipzig, Tuesday, December 5, 2006.

## 10. Conference talks:

- *Domain Specific Languages of Mathematics*. DTP 2014, July 13 2014, Vienna.
- *Dependently-typed Programming in Scientific Computing*. IFL 2012, August 30 - September 1 2012, Oxford. The lecture was recorded on video.
- *Economic Equilibria in Type Theory*. Types 11, September 12-15 2011, Bergen.
- *Dependently-typed Programming in Economic Modelling*. DTP11, August 27 2011, Nijmegen.
- *Proving versus testing in climate impact research*. Types 10, October 13-16 2010, Warsaw.
- *Using dependent types in models of climate change impacts*. DTP10, July 9-10 2010, Edinburgh.

## 11. Other:

- Since 2018, Member of the IFIP Working Group 2.1 *Algorithmic Languages and Calculi*
- Served on the program committee for the *Programming Languages for Mechanised Mathematics Systems* (PLMMS) workshop 2013, Bath, UK.
- Chairman at the Dahlem conference *New Approaches in Economics after the Financial Crisis* (August 28 to 31, 2010).
- Rapporteur for Group 4 *Models, Metaphors, and Visualisation* at the Dahlem conference *Is There a Mathematics of Social Entities?* (December 14 to 19, 2008).

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