

Claudia Schulz

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Education

Ph.D. in Computing Imperial College London, UK (2012 – present)

Ph.D. Thesis: Developments in Abstract and Assumption-Based Argumentation and their Application in Logic Programming

Supervisors: Prof. Francesca Toni and Prof. Marek Sergot

Funding: 4-year Teaching Scholarship (3 years research + 1 year non-consecutive teaching activities)

Expected date of completion: March 2017

Major Achievements:

- I have 10 peer-reviewed scientific publications, and won both a Best Paper and a Best Student Paper award. I have also (co-) authored 7 magazine articles.
- I co-developed 2 web platforms.
- I won awards for academic excellence (both for papers and talks), outstanding teaching, and professional commitment.
- I gave 4 invited talks.
- I attended 14 discipline-specific conferences and workshops, 5 summer schools and doctoral consortiums, and 8 interdisciplinary workshops including the prestigious Heidelberg Laureate Forum and the Rising Stars in EECS at MIT.
- I taught in 7 courses for undergraduate, M.Sc., and M.Res. students and supervised 5 students (M.Sc., M.Eng., B.Eng., 2nd year).
- I served as the Chair of the Imperial College ACM Student Chapter and have been a Ph.D. representative for 3 consecutive years.
- I was the organiser of various seminars and events and co-organiser of 4 workshops.
- I served as a PC member of 7 international conferences and 4 workshops, and as a reviewer for 6 journals including Artificial Intelligence.

Postgraduate Certificated in University Learning and Teaching (PG Cert ULT) Imperial College London, UK (2013-2015)

Courses: Educational Supervision, Assessment and Feedback, Research and Teaching, Communicating Knowledge, Educational Design, Public Engagement, Introduction to Personal Tutoring, Introduction to Teaching for Learning

M.Sc. in Computing (Artificial Intelligence) Imperial College London, UK (2011-2012)

Degree Classification: Distinction (overall degree mark: 81.4)

M.Sc. Thesis: Argumentation-Based Answer Set Justification

Courses: Knowledge Representation, Automated Reasoning, Ontologies and the Semantic Web, Machine Learning, Intelligent Data and Probabilistic Inference, Multi-Agent Systems, Modal and Temporal Logic, Prolog Programming

B.Sc. in Cognitive Science Osnabrück University, Germany (2008-2011)

Degree Classification: Excellent (A) with Distinction

B.Sc. Thesis: How to deal with Ontologies in an Anchoring Framework

Modules: Artificial Intelligence, Neuroinformatics, Neuroscience, Cognitive Psychology, Computer Science, Computational Linguistics, Mathematics, Philosophy of Mind and Cognition

Research Internships and Work Experience

Consultant for Knowledge Representation and Reasoning Emotech Ltd, UK (since November 2016)

Working on “Olly”, the robot with personality and a 2017 CES Innovation Awards Honouree in 4 categories.

Subject Matter Specialist for Artificial Intelligence and Machine Learning Outsmart Insights Ltd, UK (since June 2016)

Contributor to “Technology Watch” workshops with BAE Systems: *prepare* and *present* cutting-edge research and start-up technology, *discuss* the presented topics and *brainstorm* future developments. Part of a team mapping the Machine Learning landscape.

Department Editor ACM Crossroads Magazine (August 2014 – August 2015)

Responsible for the “Updates” section about ACM Student Chapters around the world, resulting in 5 magazine articles (see Publications [16-20]).

Research Intern National Institute of Informatics (NII), Tokyo, Japan (March – July 2014)

I won a scholarship from NII to visit Prof. Ken Satoh for 3 months, working on logic programming and argumentation approaches to legal reasoning with a focus on classifying and explaining inconsistent information (resulting in a publication [4]). I also collaborated with Prof. Randy Goebel.

Invited Researcher Universidad Politécnica de Madrid, Spain (September 2013)

I was invited by Prof. David Pearce for a 1-week paid research visit to collaborate on the semantic correspondence of Assumption-Based Argumentation, Logic Programming, and Equilibrium Logic.

Research Intern Institute of Molecular Biology and Genetics (IBGM), Valladolid, Spain (September – December 2010)

In the research group of Prof. Carlos Villalobos and Prof. Lucía Núñez, working on neuroprotection for Alzheimer’s disease.

Research Assistant Institute of Cognitive Mathematics, Osnabrück University, Germany (July 2009 – April 2010)

In the research group of Prof. Elmar Cohors-Fresenborg, working on new methods to teach mathematics in primary school.

Publications

Journals

[1] C. Schulz and F. Toni: Justifying Answer Sets using Argumentation. *Theory and Practice of Logic Programming* 16(1): 59-110 (2016)
<http://dx.doi.org/10.1017/S1471068414000702>

Published Conference Proceedings

[2] C. Schulz and D. Dumitrache: The ArgTeach Web-Platform. *COMMA 2016*

[3] C. Schulz and F. Toni: Logic Programming in Assumption-Based Argumentation Revisited - Semantics and Graphical Representation. *AAAI 2015*
<http://www.aaai.org/ocs/index.php/AAAI/AAAI15/paper/view/9827/9434>

[4] C. Schulz, K. Satoh, F. Toni: Characterising and Explaining Inconsistency in Logic Programs. *LPNMR 2015*
http://link.springer.com/chapter/10.1007%2F978-3-319-23264-5_39

[5] J. Dauphin and C. Schulz: ArgTeach – A learning tool for Argumentation Theory. ICAI 2014

<http://ieeexplore.ieee.org/document/6984556/?arnumber=6984556>

Ramamoorthy Best Paper Award and Best Student Paper Award

[6] C. Schulz and F. Toni: Complete Assumption Labellings. COMMA 2014

<http://ebooks.iospress.nl/publication/37809>

[7] C. Schulz and F. Toni: ABA-Based Answer Set Justification. ICLP 2013

Workshops

[8] C. Schulz: On Stable Labellings and Odd-Length Cycles in Abstract Argumentation Frameworks. Cardiff Argumentation Forum 2016

[9] M. Caminada and C. Schulz: On the Equivalence between Assumption-Based Argumentation and Logic Programming. ArgLP 2015

[10] C. Schulz, M. Sergot, F. Toni: Argumentation-Based Answer Set Justification. Commonsense 2013

Published Research Abstracts

[11] C. Schulz: Explaining Answer Set Programming in Argumentative Terms. AAAI 2015 (Doctoral Consortium)

[12] C. Schulz: Graphical Representation of Assumption-Based Argumentation. AAAI 2015 (Student Poster Abstract) **Best Student 3-Minute Presentation**

[13] C. Schulz: Argumentation for Answer Set Programming and other Nonmonotonic Reasoning Systems. ICLP 2013 (Doctoral Consortium) **Best Paper Award** at the Doctoral Consortium

Magazines

[14] C. Schulz and F. Toni: Encoding Logic Programs in Assumption-Based Argumentation. Association for Logic Programming Newsletter, Vol.28, No.3 (2015)

<http://www.cs.nmsu.edu/ALP/2015/09/encoding-logic-programs-in-assumption-based-argumentation/>

[15] M.J. Barrett, B.P. Lim, C. Schulz, G. Sharon: Student Travel Award Recipients for the 2015 AAAI/SIGAI Doctoral Consortium. AI Matters 1(4):36-37 (2015)

[16] C. Schulz: Excellence around the world. ACM Crossroads 22(1): 12-13 (2015)

[17] C. Schulz: A community for learning. ACM Crossroads 21(4): 12-13 (2015)

[18] C. Schulz: ACM-W chapters at home and abroad: An initiative on women, not of women. ACM Crossroads 21(3): 10-11 (2015)

[19] C. Schulz: Staying in touch: How print and digital media can further student chapter outreach. ACM Crossroads 21(2): 10-11 (2014)

[20] C. Schulz: From zero to excellence. ACM Crossroads 21(1): 10 (2014)

(see my website to download the ACM Crossroads articles)

Software

[21] *ArgTeach* (www-argteach.doc.ic.ac.uk) [2]: web platform for learning how to find complete labellings in abstract argumentation, based on the work by Dragos Dumitache (research project)

[22] *LABAS Justification* (labas-justification.herokuapp.com): constructs graphical justifications of answer sets as described in [1], vaguely based on the work by Ivan Podgurskiy (M.Eng. project)

Awards

ACM UPE Student Chapter Scholarship Award (March 2016)

Executive Council of Upsilon Pi Epsilon (UPE) and Association for Computing Machinery (ACM)
(For academic excellence and professional commitment to the computing and information technology field.)

Best Graduate Teaching Assistant Award (May 2015)

Imperial College Student Academic Choice Awards

Google Prize for Excellence, 2nd Runner-up (March 2015)

Google 2015 Poster and Demo Competition, Imperial College London

Best Student 3-Minute Presentation (January 2015) for presenting [14]

29th AAAI Conference on Artificial Intelligence (AAAI 2015)

SIGAI Student Travel Award (January 2015)

ACM Special Interest Group on Artificial Intelligence (SIGAI)

(to attend the 2015 AAAI/SIGAI Doctoral Consortium)

Ramamoorthy Best Paper Award (November 2014) for [7]

26th IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2014)

Best Student Paper Award (November 2014) for [7]

26th IEEE International Conference on Tools with Artificial Intelligence (ICTAI 2014)

AISB Student Travel Award (September 2014)

The Society for the Study of Artificial Intelligence and Simulation of Behaviour

(to attend the Summer School on Argumentation 2014)

Best Paper Award (August 2013) for [15]

Doctoral Consortium of the 29th International Conference on Logic Programming (ICLP 2013)

Winning team of the 20th Prolog Programming Contest (August 2013)

Corporate Partnership Programme Award for Academic Excellence (May 2013)

Department of Computing, Imperial College London

Teaching Scholarship (June 2012)

Department of Computing, Imperial College London

Best Graduate (February 2012)

Institute of Cognitive Science, Osnabrück University

Talks and Presentations

Invited Talks

- **What Argumentation can do for AI** (November 2016)
Student Seminars, Imperial College London ACM Student Chapter, UK
- **Rules & Arguments - Argumentation for Logic Programming** (January 2016)
Computer Science Department, Heinrich-Heine-Universität Düsseldorf, Germany
- **Explaining Answer Sets using Argumentation Theory** (November 2014)
International Center for Computational Logic, TU Dresden, Germany
- **Yes - No - Yes - No - Yes... Is this how Argumentation works?** (October 2013)
Student Seminars, Imperial College London ACM Student Chapter, UK
- **Argumentation-Based Answer Set Justification** (January 2013)
Agents and Intelligent Systems Group, King's College London, UK

Conference Talks

- 13th International Conference on Logic Programming and Non-Monotonic Reasoning (LPNMR), September 2015: presenting [6], **Student Travel Grant**
- 29th AAAI Conference on Artificial Intelligence (AAAI), January 2015: presenting [5]
- 29th AAAI Conference on Artificial Intelligence (AAAI), January 2015: presenting [14], **Best Student 3-Minute Presentation**

- 26th IEEE International Conference on Tools with Artificial Intelligence (ICTAI), November 2014: presenting [7]
- 5th International Conference on Computational Argument (COMMA), September 2014: presenting [8], **Student Travel Grant**
- 29th International Conference on Logic Programming (ICLP), August 2013: presenting [9], **Student Travel Grant**

Workshop Talks

- Cardiff Argumentation Forum (CAF), July 2016: presenting [10]
- 1st International Workshop on Argumentation and Logic Programming (ArgLP), August 2015: presenting [11]
- 2nd Workshop on Logic Reasoning and Computation (LRC), February 2015: Talk on “Explaining Answer Sets in Argumentative Terms”, **Invited Participant** including **Student Travel Grant**
- 11th International Symposium on Logical Formalizations of Commonsense Reasoning (Commonsense), May 2013: presenting [12], **Student Travel Grant**

Talks at Summer Schools & Doctoral Consortiums & Interdisciplinary Workshops

- 20th AAAI/SIGAI Doctoral Consortium, January 2015: presenting [13], **SIGAI Student Travel Grant**
- Summer School on Argumentation, September 2014: Student Talk
- ACM Europe 2nd Chapter Workshop, September 2014: Talk, Co-Representative of the Imperial College London ACM Student Chapter
- 9th ICLP Doctoral Consortium, August 2013: presenting [15]

Poster Presentations & System Demonstrations

- 6th International Conference on Computational Argument (COMMA), September 2016: System Demonstration [4]
- 29th AAAI Conference on Artificial Intelligence (AAAI), January 2015: Poster [14]
- 20th AAAI/SIGAI Doctoral Consortium, January 2015: Poster [13]
- Rising Stars in EECS at MIT, November 2015: Poster, **Selected Participant**
- 1st ACM-W UK Inspire Celebration of Women in Computing, October 2015: Poster
- 3rd Heidelberg Laureate Forum, August 2015: Poster, **Selected Participant**
- ACAI Summer School, July 2013: Poster

Teaching

I became a **Fellow of the Higher Education Academy** (HEA) in August 2015.

I hold a **Postgraduate Certificate in University Teaching and Learning** (PG Cert ULT) from Imperial College London (since July 2015).

I was chosen Imperial College’s **Best Graduate Teaching Assistant** 2014/15.

I was awarded a **Teaching Scholarship** to support my Ph.D. (October 2012 – March 2017).

Taught courses

- **Academic Writing** (M.Res.): course leader, autumn 2015 – spring 2016
- **Logic and AI Programming** (M.Sc.): guest lecturer, autumn 2013/14/15; course support leader, autumn 2013/14/15
- **Argumentation and Multi-Agent Systems** (4th year and M.Sc.): guest lecturer, spring 2014/15; course support leader, spring 2013/14/15

- **Introduction to AI** (2nd year): guest lecturer, spring 2014; course support leader, spring 2013/14/15/16
- **Logic, Discrete Maths, Reasoning about Programs** (1st year): tutorial leader, autumn 2013 – spring 2014
- **Introduction to Prolog** (2nd year): tutorial helper, autumn 2012; course support leader, autumn 2013
(all in the Department of Computing at Imperial College London)

As *guest lecturer* I prepared and held lectures, integrating new material into the existing course.

As *course leader* I organised students' presentations, led discussions, and marked students' essays.

As *course support leader* I organised and revised coursework, and led tutorial helpers and markers.

As *tutorial leader* I ran tutorials for 6-8 students on my own and marked their weekly homework.

Supervision

- Lisa Andreevna Chalaguine (M.Sc. in Computing Science, final project): *Distinguishing "Good" from "Bad" Arguments in Online Debates*. 2016
- Dragos Dumitache (2nd year, 10-week research project (UROP)): developing ArgTeach as a web-platform. 2015
- Ivan Podgurskiy (M.Eng. in Computing, final project): *Online LABAS Justification Builder*. 2015
- M.Sc. Group Project (M.Sc. in Computing Science): *A Human-Like Chess Tutor*. 2015
- Jeong Min Lee (M.Eng. in Computing, final project): *LABAS Justification Builder – A Graph-Tool for Answer Set Justification*. 2014
- Jeremie Dauphin (B.Eng. Mathematics and Computer Science, final project): *ArgTeach – A learning Tool for Argumentation Theory*. 2014

2nd Supervisor/Marker

- Bayan AlArifi (M.Sc. in Computing (Software Engineering), final project): *Collective-Decision Making in Social Networks and its Resistance to Bribery*. 2016
- Giorgos Flourentzos (M.Eng. in Computing, final project): *A Toolkit for Exploring Argumentation Logic*. 2014

Professional Activities

Involvement in Grant Proposals

- Member of the Network of Proposers of the COST Action Proposal OC-2016-1-20488 "DIGital FORensics: evidence Analysis via intelligent Systems and Practices" (2016)
- Member of the Network of Proposers of the COST Action Proposal OC-2016-1-20752 "Collective Decision Making and Computation" (2016)

Leadership & Organisation

- *Judge* of the ACM Student Chapter Excellence Awards, May 2016
- *Co-Chair* of the International Workshop on User-Oriented Logic Programming (IULP), held in August 2015 in Cork, Ireland (co-located with ICLP 2015): I managed to *get sponsorship* from the Logic Programming Associates (LPA) which was spent on printed proceedings for participants.
- *Co-Organiser* of the Logic & AI Seminars at Imperial College London, since October 2014
- *Chair* of the Imperial College London ACM Student Chapter, August 2014 – July 2015
- *Treasurer* in the inaugural committee of the Imperial College London ACM Student Chapter, August 2013 – July 2014: I facilitated the acquisition of £2000 sponsorship.
- *Organiser* of the Student Seminars of the Imperial College London ACM Student Chapter, October 2013 – December 2014
- *Organiser* of an internship event for Ph.D. students in the Department of Computing at Imperial College London, November 2013: I brought in representatives from Google, IBM, Microsoft Research, Thomson Reuters, Entrepreneur First, and ZLemma.

- Part of the *Steering Committee* of the Imperial College Computing Student Workshop (ICCSW) 2013, 2014, 2015
- *Representative* of the 2nd/3rd/4th year Ph.D. students in the Department of Computing at Imperial College London, 2013 – 2014 / 2014 – 2015 / 2015 – 2016
- *Equipment Officer* of the Imperial College London Outdoor Club, August 2013 – July 2014
- *Judge* at the Research Symposium of the Imperial College London Graduate School, July 2013
- *Organiser* of a weekly social for Ph.D. students sponsored by the Department of Computing at Imperial College London, October 2012 – October 2013
- *Representative* of the M.Sc. Computing (Specialism) students in the Department of Computing at Imperial College London, 2011 – 2012

Reviewing for Journals

- Artificial Intelligence
- Journal of Artificial Intelligence Research
- International Journal of Approximate Reasoning
- Argument & Computation
- Journal of Logic and Computation
- Fundamenta Informaticae

Member of Program Committees

- 5th International Conference on Algorithmic Decision Theory (ADT), 2017
- 22nd European Conference on Artificial Intelligence (ECAI), 2016
- 15th International Conference on Principles of Knowledge Representation and Reasoning (KR), 2016
- 6th International Conference on Computational Models of Argument (COMMA), 2016
- 19th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), 2016
- 23rd RCRA International Workshop on Experimental Evaluation of Algorithms for Solving Problems with Combinatorial Explosion, 2016
- Workshop on Cognitive Knowledge Acquisition and Applications (Cognitum), 2016
- Workshop on Trends and Applications of Answer Set Programming (TAASP), 2016
- Workshop on Decision Making in Dynamic Information Environments (DeMaDIE), 2016
- 24th International Joint Conference on Artificial Intelligence (IJCAI), KR Track, 2015
- 18th International Conference on Principles and Practice of Multi-Agent Systems (PRIMA), 2015

Additional Reviewing for Conferences & Workshops

- 14th International Conference on Principles of Knowledge Representation and Reasoning (KR), 2014
- 30th International Conference on Logic Programming (ICLP), 2014
- 29th International Conference on Logic Programming (ICLP), 2013
- 2nd International Workshop on Theory and Applications of Formal Argumentation (TAFA), 2013

Professional Membership

- Association for the Advancement of Artificial Intelligence (AAAI)
- Association for Computing Machinery (ACM)
- The Society for the Study of Artificial Intelligence and Simulation Behaviour (AISB)
- Higher Education Academy (HEA): Fellow
- Imperial College London ACM Student Chapter

Attendance of Conferences and Workshops without presentation

- Workshop on Foundations of the Language of Argumentation, September 2016
- 31st International Conference on Logic Programming (ICLP), September 2015
- International Workshop on User-Oriented Logic Programming (IULP), September 2015: Co-chair
- 5th Imperial College Computing Student Workshop (ICCSW), September 2015: Co-Organiser

- 4th Imperial College Computing Student Workshop (ICCSW), September 2014: Co-Organiser
- Vienna Summer of Logic, July 2014: student volunteer, awarded **Student Travel Grant**
- Summer School on Computational Logic, July 2014: **Student Travel Grant**
- 3rd Imperial College Computing Student Workshop (ICCSW), September 2013: Co-Organiser
- FIE Student Global Leadership Conference, April 2013
- London Argumentation Forum (LAF), July 2012

References

Prof. Francesca Toni (Supervisor)

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Prof. Randy Goebel (Collaborator)

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