DIANA FILIPA DE PINHO COSTA
Department of Computer Science
University College London
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ACADEMIC POSITIONS

Research Associate University College London, UK   10/2018 – present
CS Department – Programming Principles, Logic and Verification Group

EDUCATION

University of Aveiro, PT   2009 – 2012
Graduation in Mathematics, *Cum Laude*
University of Aveiro, PT   2012 – 2014
M.Sc. in Mathematics and Applications
Universities of Aveiro, Porto & Minho, PT   2014 – 2019
Ph.D. in Applied Mathematics; FCT scholarship
Thesis: "Hybrid logics with paraconsistency", advised by M.A. Martins

MOOCs [Coursera], SUMMER SCHOOLS & RESEARCH STAYS

MOOCs
– The Arduino Platform and C Programming (University of California, Irvine)
– Interfacing with the Arduino (University of California, Irvine)
– Learning How to Learn: Powerful mental tools to help you master tough subjects (UC San Diego)
– Game Theory (Stanford University & University of British Columbia)
– Game Theory II: Advanced Applications (Stanford University & University of British Columbia)
– Digital Systems: From Logic Gates to Processors (Universitat Autònoma de Barcelona)
– System Validation: Automata and behavioural equivalences (EIT Digital)
– System Validation (2): Model process behaviour (EIT Digital)
– System Validation (3): Requirements by modal formulas (EIT Digital)
– System Validation (4): Modelling Software, Protocols, and other behaviour (EIT Digital)
– Quantitative Model Checking (EIT Digital)
– Python Programming: A Concise Introduction (Wesleyan University)
– Machine Learning (Stanford University)

Summer Schools
– Hilbert-Bernays Summer School on Logic and Computation   07/2016
University of Göttingen, Germany
– European Summer School on Logic, Language, and Information   08/2016
University of Bozen/Bolzano, Italy
– Fourth Lucia PhD School on Artificial Intelligence and Robotics   09/2017
Instituto Superior Técnico, Lisbon, Portugal
– North American Summer School on Logic, Language, and Information   06/2018
Carnegie Mellon University, Pittsburgh, USA

Research Stays
– Federal University of Rio Grande do Norte (UFRN), Natal, Brazil   10/2013 – 03/2014
Under the Supervision of J. Marcos
– University of Salamanca, Salamanca, Spain   03/2018 – 07/2018
Under the Supervision of M. Manzano

PUBLICATIONS

1. D. Costa, M.A. Martins. Paraconsistency in hybrid logic, Journal of Logic and Computation, Volume 27, Issue 6, September 2017, pp. 1825–1852. `doi:10.1093/logcom/exw027`
2. D. Costa, M.A. Martins. Inconsistencies in health care knowledge, in Proceedings of the 1st International Workshop on Reliability of eHealth Information Systems IEEE HEALTHCOM 2014, IEEE Computer Society Press, pp. 37–42, 2014. `doi:10.1109/HealthCom.2014. 7001810`
3. D. Costa, C. Fuentes, P. Fuentes, M.A. Martins. Classical principles in molecular logic, in Proceedings of ICNAAM, AIP conf. Proc. 1648, 710005, 2015. `doi:10.1063/1.4912929`
4. D. Costa, M.A. Martins. A Tableau System for Quasi-Hybrid Logic, Proceedings of the International Joint Conference on Automated Reasoning IJCAR2016, Springer International Publishing, pp. 435–451. `doi:10.1007/978-3-319-40229-1_30`
5. D. Costa, M.A. Martins. Intelligent-Based Robot to Deal with Contradictions, International Conference on Autonomous Robot Systems and Competitions (ICARSC), Bragança, Portugal, pp. 199-204. `doi:10.1109/ICARSC.2016.48`
6. D. Costa, M.A. Martins. Measuring inconsistent diagnoses, IEEE 20th International Conference on e-Health Networking, Applications and Services (Healthcom), Czech Republic. `doi:10.1109/healthcom.2018.8531146`
7. D. Costa, M.A. Martins, J. Marcos. On Herbrand's Theorem for Hybrid Logic, Journal of Applied Logics - IfCoLog Journal of Logics and their Applications, Volume 6, number 2 (IsraLog17 special issue)
8. J. Brotherston, D. Costa; A. Hobor; J. Wickerson. Reasoning over Permissions Regions in Concurrent Separation Logic, in S. Lahiri, C. Wang (eds) Computer Aided Verification. CAV 2020. Lecture Notes in Computer Science, vol 12225. Springer, Cham. `doi.org/10. 1007/978-3-030-53291-8_13`
9. D. Costa, M. A. Martins. Non-dual modal operators as a basis for 4-valued accessibility relations in Hybrid logic, *to appear in the Journal of Logical and Algebraic Methods in Programming*
10. D. Costa. 4DL: a four-valued dynamic logic and its proof-theory, *submitted to the Journal of Logic and Computation*

BOOK CHAPTERS

1. D. Costa, M.A. Martins (2018) Inconsistency Measures in Hybrid Logics, in John Grant & Maria Vanina Martinez (Eds.), *Measuring Inconsistency in Information*, pp. 169–194, College Publications
2. D. Costa, M.A. Martins (2020) A Four-Valued Hybrid Logic with Non-dual Modal Operators, in L. Soares Barbosa & A. Baltag (Eds.), *Dynamic Logic. New Trends and Applications.* Lecture Notes in Computer Science, vol 12005. Springer, Cham
3. D. Costa, M.A. Martins (2020) A Roadmap of Paraconsistent Hybrid Logics, in A. Costa-Leite (Ed.), *Abstract Consequence and Logics, Essays in Honor of Edelcio G. de Souza*, College Publications.

TALKS

1. D. Costa, M. A. Martins. Quasi-classical and hybrid logic, Days in Logic 2014, University of Minho, Portugal, January 2014
2. D. Costa, M. A. Martins. Quasi-Hybrid Logic, 10th Conference on Advances in Modal Logic (AiML'14), Groningen, Netherlands, August 2014
3. D. Costa, M. A. Martins. Paraconsistency in hybrid logic, IT Symposium (INFÓRUM 2014), University of Porto, Portugal, September 2014

4. D. Costa, M. A. Martins. Quasi-hybrid logic: Semantics and Proof Theory, 5th World Congress on Universal Logic, UNILOG 2015, Istanbul, Turkey, June 2015
5. D. Costa, M. A. Martins, J. Marcos. Herbrand's Theorem for Hybrid Logic, Workshop on Compositional Meaning in Logic (GeTFun 4.0), Coimbra, Portugal, July 2016
6. D. Costa, M. A. Martins, J. Marcos. An Inconsistent Accessibility Relation in Hybrid Logic, Logic Colloquium, Leeds, United Kingdom, August 2016
7. D. Costa, M. A. Martins, J. Marcos. Towards a Herbrand's Theorem for Hybrid Logic, 11th Conference on Advances in Modal Logic (AiML'16) at Budapest, Hungary, August 2016
8. D. Costa, E. Duarte. Checkers Game in Deontic Logic, DaLí - Dynamic Logic: new trends and applications, Workshop co-located with TABLEAUX, FROCOS and ITP 2017, Brasília, Brazil, September 2017
9. D. Costa, M. A. Martins, J. Marcos. An Inconsistent Accessibility Relation in Hybrid Logic, Research Workshop on Hybrid Intensional Logic, University of Salamanca, Spain, November 2017
10. D. Costa, M. A. Martins, J. Marcos. A Herbrand-like theorem for hybrid logic, Days in Logic 2018, University of Aveiro, Portugal, January 2018
11. D. Costa. Paraconsistency and Hybrid Logic, Encuentro de alunos de doctorado, University of Salamanca, Spain, May 2018
12. D. Costa, M. A. Martins. How to Compose Programs in Belnapian Dynamic Logic, 6th World Congress on Universal Logic, UNILOG 2018, Vichy, France, June 2018
13. D. Costa, M. A. Martins. A fuzzy-paraconsistent version of basic hybrid logic, Logic, Algebra and Truth, LATD 2018, University of Bern, Switzerland, August 2018
14. D. Costa. A (separation-like) logic for graphs with half edges, IRIS Day O'Science, University College London, UK, March 2019
15. J. Brotherston, D. Costa, A. Hobor, J. Wickerson. Reasoning over Permissions Regions in Concurrent Separation Logic, Days in Logic 2020, University of Lisbon, Portugal, January 2020

PROJECTS & AWARDS

University of Aveiro Award - Mathematics   12/2012
University of Aveiro (€1000.00)
Research grant   10/2013 − 03/2014
NASONI: Heterogeneous software coordination: Foundations, methods, tools
Funded by the Portuguese Foundation of Science and Technology
Reference FCOMP-01-0124- FEDER-028923
Research Stimulus Award 2015   11/2015
Calouste Gulbenkian Foundation (€12500.00)
Project member   07/2016 − 06/2019
DaLí – Dynamic Logics for cyber-physical systems: towards contract based design
Funded by the Portuguese Foundation of Science and Technology
Reference POCI-01-0145-FEDER-016692
Project member   01/2018 − 12/2019
Lógica intensional unificadora: Lógica, Lenguaje y Filosofía
Funded by the Spanish Ministry for Economy, Industry and Competitivity
Reference FFI2017-82554-P
Research contract   10/2018 − 09/2020
IRIS: Interface reasoning for interacting systems
Funded by the British Engineering and Physical Sciences Research Council
Reference EP/R006865/1
Research contract   10/2020 − present
ReLiC: A Coalgebraic Framework for Reductive Logic and Proof-Search
Funded by the British Engineering and Physical Sciences Research Council
Reference EP/S013008/1

TEACHING

Invited Lecturer, University of Aveiro   09/2015 – 07/2018
Mathematics for Life Sciences, Calculus II, Elements of Logic
Teaching Assistant, University College London   10/2018 – present
TA for Discrete Mathematics and Directed Reading

SERVICE

Referee
– DaLí - Dynamic Logic: new trends and applications 2017
– Computer Science Logic 2020

Reviewer
– Mathematical Reviews, AMS
– Logical Methods in Computer Science
– Journal of Logical and Algebraic Methods in Programming

Organization of Events
– Joint International Meeting of the AMS, the European Mathematical Society and the
Portuguese Mathematical Society (volunteer)
– Days in Logic 2018, University of Aveiro
– 2nd IRIS Day of Science, University College London