## Dr. Ricardo L. Colasanti


CONTACT INFORMATION

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PROFILE

I am a proficient and committed scientific researcher with extensive expertise in scientific computing, in particular, agent based and cellular automata modelling of biological systems. I have a real passion for programming and research driven data analysis. I have worked on many research projects, all of which have contributed to my skills and provided intellectual challenge.

EDUCATION

**University of Sheffield**, Sheffield,UK

Ph.D. 2001

- Dissertation Topic: "Individual based models in plant ecology"

**University of Cardiff**, Cardiff,UK

M.Sc.,Computing, Distinction, 2012

- Dissertation Topic: "A naive Bayesian classifier of bacterial Gram stain phenotypes from enzyme functional role"

**University of Sussex**, Brighton, Sussex, UK

M.Sc., Evolutionary and Adaptive Systems (Computing), 1997

**University of Cardiff**, Cardiff,UK

Postgraduate Certificate in Education (PGCE) Post-Compulsory Education and Training (PCET, Level 7), Merit, 2015

**Queen Elizabeth College**, University of London, London UK

B.Sc., Microbiology

HONOURS AND AWARDS

EPA's Science and Technology Achievement Award (STAA) for the paper 'Changes in constructed Brassica communities treated with glyphosate drift' (2012)

USA National Research Council Research Associateship Award (2003-2005)

British Council Award AgResearch Palmerston North, New Zealand (1993)

## Employment

**Bournemouth University**, Bournemouth, UK *Snr Postdoctoral Researcher* **2020**

**Department of Computer Science,Hull University** , Hull, UK
*Snr Research Officer* **2019 - 2020**

**Department of Computer Science,Swansea University** , Swansea, Wales, UK
*Research Officer* Data visualisation **2015 - 2019**

**Computation Institute, University of Chicago**, Chicago, Illinois USA
*Sr. Computational Biology Research Assistant* **2012 - 2014**

**Dept Surgery, University of Chicago**, Chicago, Illinois USA
*Post doctoral Researcher* **2010 - 2011**

**Dept Surgery, Northwestern University**, Chicago, Illinois USA
*Post doctoral Researcher* **2009 - 2010**

**Dept Mathematics, QUT**, Brisbane, Queensland Australia
*Post doctoral Researcher* **2007 - 2009**

**CSIRO**, Brisbane, Queensland Australia
*Post doctoral Researcher* **2005 - 2007**

**Environmental Protection Agency**, Corvallis, Oregon USA
*NRC Research fellow* **2003 - 2005**

**University of South Wales**, Cardiff,UK
*Post doctoral Researcher* **2001 - 2003**

**Momentum Healthcare** , Cardiff,UK
*Senior software engineer* **1998 - 2001**

**MHA Productions**, London UK
*Multimedia Programmer* **1996 - 1998**

**UCPE, University of Sheffield** , Sheffield UK
*Research Associate* **1991 - 1996**

**UKAEA**, Harwell UK
*Research Associate* **1987 - 1991**

**Dept Microbiology, University of Surrey**, Guildford, Surry UK
*Research Associate* **1984 - 1987**

## Recent Publications


Hunt, Roderick, and Ric L. Colasanti. "Real communities of virtual plants explain biodiversity on just three assumptions." in silico Plants (2021).

R Colasanti, R Borgo,M Jones 2019 Emoji and Chernoff-A Fine Balancing Act or are we Biased?. 2019 IEEE Pacific Visualization Symposium (PacificVis). IEEE, 2019.

E Williams, R Colasanti, K Wolffs, P Thomas, B Hope-Gill 2018. Classification of Tidal Breathing Airflow Profiles Using Statistical Hierarchal Cluster Analysis in Idiopathic Pulmonary Fibrosis. Medical Sciences.

Adam P Arkin et.al 2018. The United States department of energy systems biology knowledgebase. Nature biotechnology.

Christopher Henry; Claudia Lerma-Ortiz; Svetlana Gerdes; Ric Colasanti; Jeffrey Mullen; Aleksey Zhukov; Oceane Frelin; Jennifer Thiaville; Remi Zallot; Ghulam Hasnain; Thomas Niehaus; Neal Conrad; Andrew Hanson; Valerie de Crecy-Lagard 2016 in press. Systematic identification and analysis of frequent gene fusion events in metabolic pathways. Genome Biology.

K.L. Olukogbon1, P. Thomas, R.L. Colasanti, B. Hope-Gill and E. M. Williams 2016. Breathing patterns and breathlessness in Idiopathic Pulmonary Fibrosis: An observational study. Respirology.

J.G. Jeffryes1, R. L.Colasanti, M. Elbadawi-Sidhu, T. Kind, T.D. Niehaus, L. J. Broadbelt, A D.Arkin, A. P., Stevens, R. L., Cottingham, R. W., Maslov, S., Henry, C. S., etal (2015). MINEs: open access databases of computationally predicted enzyme promiscuity products for untargeted

metabolomics. Journal of cheminformatics, 7(1), 44.
Hanson, O. Fiehn, K. E. J. Tyo1, C.S. Henry 2015. MINEs: Open access databases of computationally predicted enzyme promiscuity products for untargeted metabolomics. Journal of Cheminformatics.
Ric Colasanti, Janaka N. Edirisinghe, Tahmineh Khazaei, Jos P. Faria, Sam Seaver, Fangfang Xia and Christopher Henry 2014. Tapping the Wealth of Microbial Data in High-Throughput Metabolic Model Reconstruction.. Metabolic Flux Analysis, Methods in Molecular Biology Volume 1191, 2014, pp 19-45.
Williams, E. M., Powell, T., Eriksen, M., Neill, P., Colasanti, R. 2014. A pilot study quantifying the shape of tidal breathing waveforms using centroids in health and COPD. Journal of clinical monitoring and computing, 28(1), 67-74.
Ricardo L Colasanti, Janaka N Edirisinghe, Christopher S Henry 2013 A Naive Bayesian Classifier of Gram Stain Phenotypes From Genotype Functional Roles. In Proceedings of the AIChE

## Most cited Publications

Wimpenny JWT, Colasanti RL. 1997 A unifying hypothesis for the structure of microbial biofilms based on cellular automaton models FEMS Microbiology Ecology, 1997, Vol.22, No.1, pp.1-16 **488** Citations
J.G. Jeffryes1, R. L.Colasanti, M. Elbadawi-Sidhu, T. Kind, T.D. Niehaus, L. J. Broadbelt, A D.Arkin, A. P., Stevens, R. L., Cottingham, R. W., Maslov, S., Henry, C. S., etal (2015). MINEs: open access databases of computationally predicted enzyme promiscuity products for untargeted metabolomics. Journal of cheminformatics, 7(1), 44. **146** Citations
Colasanti RL. Grime JP. 1993. Resource dynamics and vegetation processes: A deterministic model using two dimensional cellular automata. Functional Ecology 7: 169-177. **135** Citations
RL Colasanti, MAD Collins, JR Shaw, 2004,Method and system for interpreting and validating experimental data with automated reasoning,US Patent 6,813,615, **82** Citations
Colasanti RL. 1992. Discussions of the possible use of neural network algorithms in ecological modelling. Binary 3: 13-15 . **85** Citations
Colasanti RL, Hunt R. 1997. Resource dynamics and plant growth: a self-assembling model for individuals, populations and communities. Functional Ecology 11:133-145. **40** Citations
Watrud,L.S,King,G.,Londo,J.P, Colasanti,R.L.,Smith,B.S, Waschmann,R.S, and Henry Lee H.E, 2011.Changes in constructed Brassica communities treated with glyphosate drift Ecological Applications 21:2, 525-538 359 citations **40** Citations
Colasanti RL, Hunt R. and Askew A.P. 2001 A self-assembling model of resource dynamics and plant growth incorporating plant functional types. Functional Ecology 15: 676-687. **35** Citations
Colasanti RL. 1992. Cellular automata models of microbial colonies. Binary 24: 19-22. **30** Citations
Colasanti RL, Hunt R, Watrud L. 2007 A simple cellular automaton model for high-level vegetation dynamics Ecological modelling 203, 363-374. **25** Citations

## Patents

Patent Application, Serial No. 09/656,372 (Sept 6, 2000), USA - Method and system for interpreting and validating experimental data with automated reasoning. Case number 00.693. Inventors: Ricardo L Colasanti, Mark A D Collins, John R Shaw
Patent Application, Serial No. 09/655,677 (Sept 6, 2000), USA - Method and system for obtaining knowledge based recommendations. Case number 00.692. Inventors: Mark A D Collins, John R Shaw, Ricardo L Colasanti
Patent Application, Serial No. 09/656,400 (Sept 6, 2000), USA - Method and system for creating and using knowledge patterns. Case number 00694. Inventors: Mark A D Collins, Ricardo L Colasanti