## Dr. Ricardo L. Colasanti


CONTACT INFORMATION

*Home:*
Flat 4
69 Redbrink Cresent
Barry Island
Vale of Glamorgan CF625TU
Wales, UK

*Voice:* 07731 825945
*Skype:* riccolasanti
*E-mail:* ric.colasanti@gmail.com
*WWW:* http://rcolasanti.github.io/CV/index.html/Home

*Work :*
Department of Computer Science
Swansea University
Bay Campus
Swansea
SA1 8EN
Wales, UK


PROFILE

I am a proficient and committed scientific researcher with extensive international expertise in scientific computing, in particular, scientific data analysis and 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

EPAs 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)

The Cyberlife Scholarship Evolutionary and Adaptive Systems MSc at the School of Cognitive Science, University of Sussex (1996)

British Council travel award AgResearch Palmerston North, New Zealand (1993)

## Employment

**Department of Computer Science,Swansea University**, Swansea, Wales, UK
*Research Officer* **2016 -**

**Healthcare Diagnostic Solutions** , Cardiff, Wales UK
*part time Chief Programmer* **2014 - 2015**

**Computation Institute, University of Chicago** , Chicago, Illinois USA
*Post doctoral Researcher* **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**

**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** , Gilford, Surry UK
*Research Associate* **1984 - 1987**

## Recent Publications

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.

J.G. Jeffryes1, R. L.Colasanti, M. Elbadawi-Sidhu, T. Kind, T.D. Niehaus, L. J. Broadbelt, A D. 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.

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.

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.

Arkin, A. P., Stevens, R. L., Cottingham, R. W., Maslov, S., Henry, C. S., etal (2016). The DOE Systems Biology Knowledgebase (KBase). bioRxiv, 096354.

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 Colasanti1, 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.1-16 359 Citations

Colasanti RL. Grime JP. 1993. Resource dynamics and vegetation processes: A deterministic model using two dimensional cellular automata. Functional Ecology 7: 169-177. 116 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, 55 Citations

Colasanti RL. 1992. Discussions of the possible use of neural network algorithms in ecological modelling. Binary 3: 13-15 . 45 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. 38 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. 34 Citations

Colasanti RL. 1992. Cellular automata models of microbial colonies. Binary 24: 19-22. 24 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 20 Citations

Colasanti RL, Hunt R, Watrud L. 2007 A simple cellular automaton model for high-level vegetation dynamics Ecological modelling 203, 363-374. 20 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

## Computer Skills

Current frequent use:

- Languages: Java, Python, Javascript .
- Data mining libraries: WEKA, Mahout (Apache) scikit-learn.
- Agent Based Model IDE: NetLogo, Repast
- Database: MySql,SqLite,MongoDB
- Statistical/Mathematical Packages: IPython notebook (matplotlib, numpy,pandas).
- VC: Git
- Web Framework: Flask, Spark
- Web full stack HTML,Javascript(libraries AngularJS, JQuery, NodeJS, D3), SVG
- Build automation tool: Gradle, Ant

Previous frequent use:

- Statistical/Mathamatical Packages: R, Jump, Octave(Matlab).
- Languages: C,C++, C # , Fortran,Prolog,Python,Visual Basic

Operating Systems: Unix/Linux, OSX,Windows.