Dr. Ricardo L. Colasanti

CONTACT INFORMATION

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Work (a):
University of Chicago
Searle Chemistry Laboratory
5735 South Ellis Avenue
Chicago
Illinois 60637 USA

Work (b):
Argonne National Laboratory
Building 240
9700 South Cass Avenue
Argonne
Illinois 60439 USA

PROFILE

I am a proficient and committed scientific researcher with expertise in mathematical modelling and a strong background in computational evolutionary and adaptive systems (ALife), in particular cellular automata, agent based models and data mining. I have successfully completed a number of research projects, to which I bring creativity and a high level of application.

EDUCATION

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 Sheffield, Sheffield,UK

Ph.D. 2001

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

University of Sussex, Brighton, Sussex UK

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

Queen Elizabeth College, University of London, London UK

B.Sc., Microbiology

HONOURS AND AWARDS

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

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

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**

Publications

Colasanti RL. 2013 A naive Bayesian classifier of bacterial Gram stain phenotypes from enzyme functional roles,A dissertation submitted in partial fulfilment of the requirements for Cardiff University Master of Science Degree in Computing

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

Colasanti, Ricardo, and Gary An. "The abstracted biological computational unit: Introduction of a recursive descriptor for multiscale computational modeling of biological systems." Journal of Critical Care 24.3 (2009): e35-e36.

Graeme J. Pettet, Colin P. Please, Ricardo L.Colasanti, Rebecca and A. Dawson. 2008 A cellular automata simulation of calcium driven tissue dierentiation in human skin equivalent models Automata-2008.Theory and Applications of Cellular Automata. Luniver Press.

Van Klinken, R. D., R. Colasanti, and Y. M. Buckleyzr. "seed predation?." In Proceedings of the Twelfth International Symposium on Biological Control of Weeds, p. 52. CABI, 2008.

Colasanti, Ric, Rieks D. van Klinken, Shaun Coutts, and Yvonne Buckley. "The dynamics of invasion as a function of landscape connectivity." In Proceedings of the 16th Australian Weeds Conference, Cairns Convention Centre, North Queensland, Australia, 18-22 May, 2008., pp. 130-132. Queensland Weed Society, 2008.

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

Hunt R, Colasanti RL 2007 Self-assembling Plants and Integration across Ecological Scales. Annals of Botany 99: 10231034.

Wimpenny J, Colasanti RL 2005 A simple cellular automaton model for coaggregation. Biofilms, 1: 369-375

Colasanti RL , Morris MJ, Madgwick RG, Sutton L and Williams M. 2004 Analysis of tidal breathing profiles in cystic fibrosis and COPD. Chest;125:901-8.

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.

Wimpenny JWT, Colasanti R 1997 A more unifying hypothesis for biofilm structures - a reply FEMS microbiology ecology, 1997, Vol.24, No.2, pp.185-186

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

Colasanti RL, Hunt R. 1997. Real Botany with Artificial Plants: A Dynamic, Self-Assembling, Plant Model for Individuals and Populations. In: Husbands P, Harvey D, eds. Fourth European Conference on Artificial Life. MIT Press.
Colasanti RL, Hunt R. 1997. Resource dynamics and plant growth: a self-assembling model for individuals, populations and communities. Functional Ecology 11:133-145.
Hodgson JG, Montserrat G, Alberto F, Garcia-Ruiz JM, Guerrero J, Colasanti RL. 1994. A comparison of the functional characteristics of plants from sedimenting and eroded areas with particular reference to the gypsum hills of the Ebro Depression. In: Arniez J,Garcia-Ruiz JM, Gomez V, eds. Geomorfologia en Espana. Sociedad Espanola de Geomorfologa, Lograono, 239-251.
Hodgson JG, Colasanti R, Phillipson P, Leach S, Montgomery S, Hunt R. 1994. A simple method for monitoring grassland vegetation. In: Haggar RJ, Peel S, eds. Grassland Management and Nature Conservation. Reading: BGS Occasional Symposium No 28: 286-288.
Hodgson JG, Colasanti RL, Alberto F, Montserrat G, Romo A. 1993. Plant strategies and other functional attributes of vegetation from the arid lands: Monegros. Zaragoza: Instituto Pirenaico de Ecologa.
Colasanti RL. Grime JP. 1993. Resource dynamics and vegetation processes: A deterministic model using two dimensional cellular automata. Functional Ecology 7: 169-177. Colasanti RL. 1992. Cellular automata models of microbial colonies. Binary 24: 19-22.
Colasanti RL. 1992. Discussions of the possible use of neural network algorithms in ecological modelling. Binary 3: 13-15 .
Colasanti RL, Rosever A, Coutts D, Pugh SYR. 1991. The Microbiology program for UK Nirex. Experientia 47: 560-572 .
Colasanti RL. 1988. Modular simulation of a microbial ecosystem with Turbo PROLOG. Binary 13: 24-27 .

Computer Skills

Current frequent use:

- Languages: Java, Perl, Javascript (libraries AngularJS, JQuery, NodeJS).
- Data mining libraries: WEKA, Mahout (Apachie).

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.