



**Research & Publications****Learning curves and geometry-driven phase transition in an adaptive 'deinforcement' learning algorithm**

Joseph Rushton Wakeling, Damien Challet & Matteo Marsili. In preparation.

**"Neuronal avalanche" model for spontaneous cortical activity**

Joseph Rushton Wakeling, Maya Paczuski, Dante R. Chialvo and Dietmar Plenz. In preparation.

**More intelligent systems in the context of surrounding environment: 'neuroeconomics' and adaptive learning**

Joseph Rushton Wakeling. In preparation.

**'Synfire chains' and 'neuronal avalanches' governed by power laws in balanced cortical networks**

Dietmar Plenz, Craig V. Stewart, Joseph R. Wakeling, Dante R. Chialvo and David S. Greenberg, *Soc. Neurosci. Abstr.* **970.2** (2004).

**Adaptivity and 'Per learning'**

Joseph Rushton Wakeling, *Physica A* **340**, 766-773 (2004). [Per Bak memorial issue.]

**The Interactive Minority Game: a Web-based investigation of human market interactions**

Paolo Laureti, Peter Ruch, Joseph Wakeling & Yi-Cheng Zhang. *Physica A* **331**, 651-659 (2004).

**Order-disorder transition in the Chialvo-Bak 'minibrain' controlled by network geometry**

Joseph Wakeling, *Physica A* **325**, 561-569 (2003).

**The Interactive Minority Game: Instructions for Experts**

Peter Ruch, Joseph Wakeling & Yi-Cheng Zhang. Working paper, *arXiv.org preprint cond-mat/0208310*.

**Intelligent systems in the context of surrounding environment**

Joseph Wakeling & Per Bak, *Physical Review E* **64**, 051920 (2001).

## Experience

July-September 2000 Haringey NHS Trust, St Ann's Hospital

**Admin Team Member, Child & Adolescent Mental Health Department**

- Established IT protocols & template designs for official documents
- Often required to communicate with & assist distressed individuals
- Frequently entrusted with responsibility by health professionals

Part-time, various 1992-2001 Toucan Systems Ltd

**Various responsibilities, including:**

- Design, implementation & maintenance of company website from 1999-2001
- Organised company stores & stores database
- Assisted in manufacture of bespoke electronic equipment

July 1994 Welsh Water PLC Education Scheme

- Scheme based on Welsh Water Management Training
- Focus on teamwork, brainstorming & creative skills, presentation skills, and the creation & promotion of viable business proposals
- Project involved the design of a garden area for the school, working to a strict budget, and involved a business-style presentation made to the school governors

## Personal Skills

### Languages

- French (near fluent); Italian (some).

### Web Design

- Skilled in use of HTML and Cascading Style Sheets
- Attended professional training courses in Flash 4.0 and Dreamweaver/Fireworks 3.0 web design software
- Responsible for design, implementation & maintenance of Toucan Systems website from 1999-2001.

### Programming Skills

- High A-grade in ANSI C-based Scientific Computation course at university
- Studied *Mathematica* mathematical programming language
- Experienced in use of MATLAB

### Presentation Skills

- Trained in making formal presentations as part of Welsh Water PLC Education Scheme (see above)
- High marks for formal presentations on university project work

### General IT Skills

- Wide range of basic IT experience
- Working knowledge of Windows 95/98/NT/2000/XP and Linux operating systems
- Working knowledge of latest versions of MS Office software

## Voluntary Experience

September 1999 & September 2000

Vale of Glamorgan Music Festival

### Festival Volunteer

- Responsible for artist liaison
- Oversaw visit to London by Latvian chamber orchestra Rigas Kammermusiki (1999)
- Assisted in technical work, including setting up and operating lighting equipment and overseeing stage management for an orchestral concert

## Interests & Activities

### Music

- Grade 8 Clarinet, plus further study with top professionals
- Winner of Gwent Foundation Prizes for Best Original Composition (1996, 1997) and Best Chamber Music Performance (1996)
- 1<sup>st</sup> Clarinet & Bass Clarinet in Gwent County Youth Orchestra and Lead 2<sup>nd</sup> Clarinet, Bass & Alto Clarinet in Gwent County Wind Band
- Attended Aberystwyth MusicFest courses in Composition (1996, 1997, 1998) and Jazz Performance (1998)
- Attended classes in electroacoustic music at the Royal College of Music
- 1<sup>st</sup> Clarinet in 'La Landwehr', official band of the Canton of Fribourg (2002-3)
- 3<sup>rd</sup> Clarinet in the Orchestre d'Harmonie de Fribourg (2005)

### Drama

- Lead role in Dario Fo's *The Accidental Death of an Anarchist*
- Major roles in *Dirk* (stage play based on Douglas Adams' *Dirk Gently's Holistic Detective Agency*) and *Clue* (by Jonathan Lynn & John Landis, based on the board game *Cluedo*)
- Publicity Officer (2000-2001) for Imperial College Drama Society

### Martial Arts

- Studied Wing Chun Kung Fu with Imperial College Wing Chun society and Sifu Andrew Sofos Tao of Wing Chun Kung Fu Academy
- Studied Chi Kung meditation techniques with Sifu Andrew Sofos
- Attended classes in Jeet Kune Do at the Bob Breen Academy