

## Nigel Johnson - CURRICULUM VITAE (summary)

- 1. Personal Details:** Name **JOHNSON, Nigel Michael**  
Position **Professor of Interactive Arts**  
Department **Visual Research Centre, Dundee Contemporary Arts**
- 2. Education:** 1975 - 76 Foundation Course, Perceval Whitely, Halifax  
1976 - 79 B.A. (Honours), class 1st, Fine Art, Liverpool Polytechnic  
1979 - 81 Higher Diploma in Fine Art, Slade School of Fine Art, University College London
- 3. Experience:** 1983 - 1987 Lecturer in Fine Art (Sculpture), Grays School of Art, The Robert Gordon University, Aberdeen  
1987 - 1995 Lecturer in Computer Imaging and Animation, School of Television and Imaging, Duncan of Jordanstone College of Art  
1993 - 1994 Acting Course Director Post Graduate Diploma, Electronic Imaging  
1993 - 2000 Depute Head of School of Television and Imaging  
1995 - 2000 Senior Lecturer, School of Television and Imaging  
2000 - Reader in Interactive Media  
2004 - Appointed Faculty<sup>i</sup> Research Studies Co-ordinator, Duncan of Jordanstone College of Art & Design  
2007 - Personal Chair of Interactive Arts  
2008 - Acting Dean of Research (January - October 2008)

### Statement:

The three areas of my professional activities, research, teaching and practice are integrated and interdependent, all of them being equal manifestations of personal creative processes.

My individual research and practice continues to be focused within the domain of interactive media and the development and production of computer-controlled, two and three dimensional, "real-time" interactive installations and digital artworks. The core of this work engages research questions and concerns that are grounded in the micro - macro nature of the world, whilst attempting to bring clarity, insight and new understanding where the art - science boundaries meet and overlap. For example previous projects "Fire-Fly I & II" (*Pteroptyx Malaccae*) are real-time, interactive computer installations based on research investigating the flash codes of the American Fire-Fly. "A-Life" is another large-scale project, recently premiered at the Visual Research Centre (VRC), DCA, Dundee's international centre for contemporary arts from 31st November to 15th December 2006 and then touring to other U.K. and European venues. This large-scale, real-time, interactive computer installation is based on research which makes retrospective homage to the early work of John Conway's "Game of Life",

---

<sup>i</sup> N.B. older references in this document to the Faculty can be read within the context of recent changes as the School of Television and Imaging and the College of Art & Design, Architecture, Engineering & Physical Sciences (ADAEPS).

incorporating elements of artificial intelligence, cellular automata, artificial life and gaming. The work also follows constantly recurring themes of some of my earlier research developed in the nineteen eighties, such as the computer simulation A-life programmes and installations "Walk I & II" and "Eco" shown at the ICA, London.

Closely allied to these issues are questions concerning the nature of artificial intelligence, the role of human interaction and intervention and how these can impact upon the development, evolution and outcomes of digital artefacts. This enquiry is being actively pursued through both small scale and large-scale, multi-disciplinary research projects and artworks. Another relevant example is "G-Vision", a vision based gesture and motion recognition software toolset for real-time analysis within interactive installation and performance scenarios. I was principal investigator on this twelve month, funded interdisciplinary project, in collaboration with my colleague Dr Stephen McKenna, of Applied Computing, Faculty of Engineering & Physical Sciences. G-Vision has been developed on the back of Max/MSP/Jitter. I presented a paper in September 2006 on this research at (re)Actor: The First International Conference on Digital Live Art, 11 September - 15 September 2006, Queen Mary College, University of London. Again the results of this work were presented at the Visual Research Centre (VRC), DCA, in December 2006 and the software tools will become available following user trials and further development in 2007-08. Recent applications of these tools have been shown as interactive installations at Radiance: Glasgow's International Festival of Light, November 2007.

Within the School of Media Arts and Imaging I foster and promote the Interactive Arts research grouping. This research cluster acts as a general platform for researchers with common and overlapping interests within the general domain of 'interactive participatory experiences', particularly where artistic exploration, new technologies and the sciences overlap.

See <http://imaging.dundee.ac.uk/research/index.html> interactive arts for further details.

Artists in the widest sense have usually been at the forefront and early adopters of new interfaces, techniques and technologies for developing user interactivity and this is being actively pursued through some of this group's research activities. From a theoretical and practical base the range of creative projects span areas and applications as diverse as: developing computer software toolsets and hardware interfaces for performance and dance; computer vision systems for interactive installation scenarios; interactive, computer based three-dimensional modelling and animation; web-based visual narrative experiences, and prototype sound objects as interfaces for mediating the real world.

#### **4. Research & Practice :**

Fundamentally my research derives from my practice as an artist and the core of this work engages research questions and concerns that are grounded in the micro - macro nature of the world, whilst attempting to bring clarity, insight and new understanding where the art - science

boundaries meet and overlap. In parallel with these concerns my research activities within the sphere of new media and time based art have centred on ways of expressing and communicating ideas centred on the notions of "interactivity" and communication between "art object" and viewer, utilising computers and software as a creative medium.

For example :-

- within three dimensional artworks and installations as control and interactive information gathering systems
- as simulation artworks - 2D and 3D
- computer animation, commercial & non-commercial
- within interactive "real-time" installations
- development of new techniques and methodologies for art practice and commercial work
- development of software applications and toolsets for creative practitioners and the creative industries

Current work involves further development of the G-Vision Project utilising the latest developments in "cognitive" software as well as interactive installations based on RSS data. The sample outputs I have included below are indicative of the range and scope of past and ongoing research activities with which I am involved.

**Research cont. Title:** "Observer, Observed"

**Description:** Installation – Unique, computer controlled, artificially intelligent artwork and interactive installation related to the Narcissistic myth, updated to the technological age and engaging our fascination for the reflected "self-image". As well as engaging our concerns with the "self", the piece has subversive undertones reflected in contemporary "surveillance-society" culture. All software programming, hardware and installation design authored by Nigel Johnson.

**Media:** The structure contains a number of liquid crystal, colour displays, a miniature servo controlled ccd colour camera, ultra-sonic sensors, servo-motors and embedded micro-computer together with video distribution amplifiers and secondary electronics.

**Location and Dates:** European Media Art Festival<sup>ii</sup> in Osnabrüch, Germany. Dominikanerkirche 7-25 September 1994. Media Circus, Cooper Gallery, 7-23 March 1996.

**Dimensions:** Main structure approx. 2m x 1m x 1m, overall installation 5m x 2.5m x 3m.

**Catalogue/ISBN/ISSN/URL:** ISBN 3-926501-13-8 p.212-215 (Peer reviewed). ISSN: 1 899837 12 4.

**Commissioning body:** EMAF and School of Television & Imaging

**Process of commission:** Competition.

---

<sup>ii</sup> **European Media Art Festival (EMAF)** provides a cross section of a variety of innovative and experimental, media art. Productions by internationally renowned artists are shown as well as works by younger artists. Works from Europe, North and South America, Asia and Australia are submitted to the peer reviewed sections of the festival.

**Title:** "Fire-Fly I & II" (Pteroptyx Malacca)\*

**Description:** Real-time, interactive computer installation - new research and investigation into the flash codes of the American Fire-Fly and the development of an interactive, computer-controlled installation based on this research together with the development of a "dynamic" and interactive sound system.

**Media:** Three purpose-built computers, interface systems and software, surround-sound system, infra-red sensing system, light emitting diodes, suspension cables. All software programming and electronics development authored by Nigel Johnson.

**Location and dates:** Version I - European Media Art Festival (EMAF), Osnabrück, Germany. Dominikanerkirche May 7 - 25 1998  
World Wide Video Festival<sup>iii</sup>, Amsterdam. Melkweg in association with the Stedelijk Museum. September 17 - October 11 1998. Art in Output, Eindhoven, Netherlands. Studium Generale November 2 - 23 2000.  
Glasgows Radiance Festival, November 2007.

**Dimensions:** Approximately 8.5m x 2.5m x 5m.

**Catalogue/ISBN/ISSN/URL:** ISBN 3-926501-17-0 pp.149. & ISBN 90-75018-16-9 pp.222-225 respectively. (Peer reviewed).

**Commissioning body:** Part funded by E.M.A.F. WWVF, Research Awards-School of TVI and Microrobotics U.K.

**Location and dates:** Version II - Centrespace, Visual Research Centre, DCA, 8 - 28 June 2002 (Solo exhibition).

**Completed:** V.1 May 1998, V.2 April 2002.

**Process of commission:** Competition.

**Title:** "Digital Gateway"\*

**Description:** Large-scale, permanent, interactive computer installation - new research in the development of a "real-time", multi-user, interactive artwork for the entrance of a new digital imaging gallery, utilising multi-processing and l.e.d. technology, dealing with the transition from one state to another, from the physical analogue world into the digital domain.

**Media:** Opposing clear glass vertical walls embedded with 128 autonomous modular circuit-boards, consisting of 6,912 red light - emitting diodes, infra-red sensors, 128 micro-computers. All software programming and Gateway design authored by Nigel Johnson.

**Location and dates:** "Wired Worlds" Gallery, The National Museum of Photography Film & Television<sup>iv</sup>, Bradford. March 1999. Documentation shown at the Video Forum, Brucknerhaus, Linz, Austria September 4 - 9

---

<sup>iii</sup> **Worldwide Video Festival (WWVF)** - An international, peer reviewed venue for new media art from twenty-three countries presented at the Stedelijk Museum, the Melkweg, the Gate Foundation, Monte Video / TBA and W139, Amsterdam, Netherlands.

<sup>iv</sup> **The National Museum of Photography Film and Television (NMPFT)**. This internationally renowned museum opened a new gallery - "Wired Worlds", a permanent digital media gallery and commissioned a number of new and major works from leading artists including myself, Jeffrey Shaw, Jane Prophet, Paul Sermon et al. The Gallery and works have won a number of major awards since its opening including the "Best of the Best" Design awards 2000.

1999. Documentation also included in the online version of "Machinista" - International Arts and Technology Festival in association with the CCA, Glasgow 7-9 May 2004.

**Dimensions:** Approximately 3m x 2.5m x 3m.

**Commissioning body:** Part funded by NMPFT, Science Museum and Lottery Funding incorporating sponsorship by Microrobotics, Cambridge, U.K.

**Completed:** March 1999.

**Process of commission:** Invitation.

**Title:** "Soundscapes I & II"\*

**Description including media:**

A "real-time, interactive" installation comprising night time and day time panoramas (QuickTime movies) of cityscapes and landscapes, complemented by a live "soundscape" generated by the moving digital images. Additionally, user activity within the space is utilised via video sensing technology to "seed" the compositional arrangements together with user-based screen interaction. Optimised Apple G4, Max/ Msp/ Nato+ and Cyclops application programmes, other specially written software by the artist, high resolution data projector and screen. All software programming and new interface design authored by Nigel Johnson. Note: Soundscapes II (2004) is a revised and substantially enhanced version of Soundscapes I.

**Name of galleries/venues: locations: opening and closing dates:**

Visual Research Centre (VRC), DCA, Dundee's international centre for contemporary arts from 8 – 28<sup>th</sup> June 2002. "DIS 2004" (international, peer-reviewed conference), Cambridge, Massachusetts, USA, 1 - 4 August 2004. Selected for "Drift: Resonant Cities" a New Media Scotland initiative throughout 2004. Included in the online version of "machinista" - international arts and technology festival in association with the CCA, Glasgow 7-9th May 2004.

**Number of pieces exhibited:** Two (Visual Research Centre – solo show), One (DIS 2004)

**Scale of the project and/or dimensions of the exhibits:**

Variable – approximately 2m x 3m x 5m.

**Co-exhibitors:** 9, Kelly Dobson, Media Lab, MIT; Davide Agnelli, Interaction Design Institute, IVEREA (Italy); Carlos Rocha, Media Lab, MIT.

**Catalogue ISBN/ISSN/URL:** DIS: ISBN 1-58113-787-7, p. 307 - 318 (Peer reviewed) <http://www.acm.org/sigs/sigchi/dis2004/>

**Name of client/commissioning body:**

AHRC

**Location:** Cambridge, Boston, Massachusetts, USA.

**Date commission completed/available to the public:**

Completed in June 2002 and exhibited as part of a solo show at the Visual Research Centre, DCA, Dundee's international centre for contemporary arts from 8 – 28<sup>th</sup> June 2002. Version II completed in November 2003.

**Process of commission:** Competition

**Title:** "Vox"

**Description:** An interactive web based work, dealing with the contemporary re-working, investigation and research into aboriginal creation myths, generating real-time sonic compositions from images of the landscape.

**Media:** Web based, Flash, action scripting and programming. Research and design Nigel Johnson; action scripting Dan Norton.

**Location and dates:** Celtic Film and Television Festival, Dundee 2004, U.K. launch 31 March - 3 April 2004. European Media Art Festival, Osnabrück, Germany. European launch 21 - 25, April 2004. "Pop-Up", Heyri Valley Festival, Tanhyun Community, Paju City Gyeonggi, S.Korea. 1 - 31 May 2005.

**Dimensions:** Web based work.

**Catalogue/ISBN/ISSN/URL:** ISBN 3-926501-24-3 (Electronic Lounge).

**Commissioning body:** Alt-W Scottish Digital Media Fund - Partnership Board made up of Scottish Screen, Scottish Enterprise Tayside, Dundee City Council, Dundee College, University of Abertay, University of Dundee. [www.voxland.org](http://www.voxland.org)

**Completed:** March 2004.

**Process of commission:** Competition & invitation respectively.

**Title:** "G-Vision"

**Description:** A gestural recognition software plug-in for augmented real-time analysis within interactive installation and performance scenarios. Principal investigator in association with Dr Stephen McKenna, Applied Computing, Faculty of Engineering & Physical Sciences. The development of a hand/body 'gesture recognition' software 'plug-in', providing a more creative, unified, meaningful and 'natural' user interface for interactive applications and which potentially has wider appeal within other application areas and the creative industries.

**Media:** Computer software, Max/Msp/Jitter application programmes together with other specially written software.

**Location and dates:** Visual Research Centre (VRC), DCA, Dundee's international centre for contemporary arts from 31 November – 15 December 2006.

**Dimensions:** N/A.

**Commissioning body:** Digital Media Commercialisation Award, Scottish Enterprise Tayside and Research and Innovation Services.

**Completed:** Twelve month project with prototype stage completing in November 2006, beta testing 2007.

**Process of commission:** Competition.

**Title:** "A-Life"

**Collaborators:** N/A.

**Description including media:**

Large-scale, real-time, Interactive computer installation based on research which makes "retrospective homage" both conceptually and stylistically to the early work of John Conway's "Game of Life",

incorporating elements of Artificial Intelligence, Cellular Automata, Artificial Life and Gaming. Large L.E.D. screen 3m x 2.2m utilising multi-processing technologies including 58 micro-computers, light-emitting diode displays, steel and alloy framework. A-Life and hardware design authored by Nigel Johnson. Software design Nigel Johnson with Ruben Villanueva (research student) and Karl Lam (Microrobotics Ltd. U.K.).

**Name of galleries/venues: locations: opening and closing dates:**

Visual Research Centre (VRC), DCA, Dundee's international centre for contemporary arts from 31 November – 15 December 2006. Shrewsbury International Exhibition 2007, Batteries Not Included: Mind as Machine in association with the Darwin Summer Symposium, 14 July 2007 - 2 September 2007. (Major award winner).

**Number of pieces exhibited:** One.

**Scale of the project and/or dimensions of the exhibits:**

Approximately 3m x 2.2m x 4m.

**Co-exhibitors:** Solo show and group exhibition respectively.

**Name of client/commissioning body:**

Part funded by School of MAI Research Awards together with software development and hardware sponsorship by Microrobotics Ltd. Cambridge, U.K.

**Location:** Visual Research Centre (VRC), DCA; Shrewsbury Art Galleries & Museums.

**Date commission completed/available to the public:** December 1 - 15 2006.

**Process of commission:** Competition and invitation.

N. Johnson March 2008.

email: [n.m.johnson@dundee.ac.uk](mailto:n.m.johnson@dundee.ac.uk)

web: <http://imaging.dundee.ac.uk/people/njohnson/>  
<http://www.vrc.dundee.ac.uk/>