

# Paul Craig - Curriculum Vitae

Nationality: British  
Place and Date of Birth: Belfast (UK), 13-Aug-1974  
Languages: English, Spanish (fluent)  
Address: Casa 2, Universidad Tecnológica de la Mixteca,  
Carretera a Acatlima Km. 2.5, Huajuapán de León,  
Oaxaca, México CP 69000  
Email: paulcraig99@gmail.com  
Web: paulspapers.wordpress.com

---

## Education

- Oct 2001 – Jan 2006 **PhD**  
- ***'Animated Interval Scatter-plot Views for the Exploratory Analysis of Large Scale Microarray Time-course Data'***  
Edinburgh Napier University  
Supervised by *Prof. Jessie Kennedy*, examined by *Prof. David Benyon* and *Dr Jonathan C. Roberts* (Bangor University)
- Oct 2000 – Oct 2001 **MSc (distinction), Software Engineering**  
- ***'A Generic Information Visualization Tool for Tabular Data'***  
Edinburgh Napier University  
Supervised by *Prof. Jessie Kennedy*
- Oct 1994 – Oct 1997 **BSc Applied Physics with Micro-computing**  
Edinburgh Napier University
- 

## Work Experience

- Nov 2010 - present **Lecturer and Researcher (Profesor/ Investigador)**  
*Human Computer Interaction (BSc, MSc), Database Systems (MSc), Information Retrieval (BSc) and Academic Nucleus for Distributed Systems (MSc)*  
Universidad Tecnológica de la Mixteca
- Oct 2007 – Oct 2010 **Research Fellow**  
Edinburgh Napier University
- Jun 2006 – Oct 2007 **Research Assistant**  
Edinburgh Napier University
- Jan 2002 – Aug 2006 **Database and Website Development/ Maintenance**  
The Genetics Society, Roslin Institute (*part time to supplement PhD funding*)

## Technical Experience

Java (expert), JavaScript, C++, SQL, PHP, SVN, XML ...

---

## Research Projects and Funding

- May 2013 – 2015 **Principal Investigator**  
(*current*) - **Conacyt/152/008 'Managing Small Group Behaviour for Collaborative Information Visualization and Learning'**  
Part of multidisciplinary project  
- 'Theories, Methods, and Models of Social Complexity'  
*Conacyt (Mexico)*  
*With support for publication fees, conference expenses and funding for the salary of two research assistants.*  
This is a three year project involving twenty-five different researchers from different groups around Mexico with the overarching goal of applying and extending the theory of complex systems to tackle specific social, economic and political problems in Mexico. For our own part, we will investigate how people collaborate when learning or exploring data and determine how the more beneficial processes involved can be managed through different aspects of interface design.
- Jun 2013 – Jun 2014 **Desirable Research Profile**  
(*current*) *Conacyt (Mexico)*  
*40,000 MXP*  
To develop a lab with state of the art Information Visualization technology.
- Sept 2011 – Jan 2013 **Principal Investigator**  
- **PROMEP/103.5/11/4427 'Information Visualization of Document Collection Structure for Information Retrieval'**  
*Conacyt (Mexico)*  
*361,834MXP (maximum award)*  
This project would investigate the use of animated information visualization to improve the process of information retrieval. It involved three case studies; the Dialogue Explorer [9], the Mexican History Browser [10] and the Cluster Explorer [11]. Each of these applications allowed the user to search and explore different types of data using animated visualisations optimised for legibility.
- Aug 2010 – Nov 2010 **Research Fellow**  
- **Companions**  
*European Union project*  
Joined the end of the project to help evaluate the Embodied Conversational Agent (ECA) Samuela.

...

- Oct 2007 – Oct 2009 **Research Fellow and Lead Developer**  
- **L/JR/POC/8-OET003 developing the software  
MaTSE (the Microarray Time-series Explorer)**  
*Scottish Enterprise Proof of Concept*  
*~250,000 GBP (core team of 4 researchers)*  
To redevelop and extend the initial prototypes from my PhD project. The final version of MaTSE allows users to visualize data with missing values, cross reference multiple conditions, highlight gene groupings, and collaborate by sharing their findings. The software was evaluated with academic and industrial partners from; the Institute of Cancer Sciences at the University of Glasgow; the Institute for Stem Cell Research, Edinburgh; the Scottish Crop Research Institute; CXR Biosciences, Dundee; and Queen's Medical Research Institute, Edinburgh.
- Jun 2006 – Oct 2007 **Research Assistant**  
- the Science Environment for Ecological Knowledge (SEEK)  
*United States National Science Foundation (NSF)*  
Responsible for developing the Concept Relationship editor application, a visual interface to support the assertion of synonymy relationships between taxonomic classifications.
- 

## Academic Positions

- Editorial Board **Journal for Applied Research and Technology**  
(indexed in the Thomson Science Citation Index Expanded, published by the Universidad Nacional Autónoma de México with ISSN 1665-6423)
- Programme Committee **Information Visualisation**  
(Information Visualisation Society/ IEEE)
- Member **IEEE, SPIE, EACE**
- 

## Publications

2014

Craig, P., Roa-Seiler, N., Díaz, M. Martínez, & Rosano, F. Lara. (2014). **Evaluating the case for computer supported face to face collaborative learning to supplement traditional primary learning in the mexican state of Oaxaca.** To appear at INTED, Valencia, Spain.

Roa-Seiler, N., Craig, P., Aguilar, J. A., Saucedo, A. Benítez, Díaz, M. Martínez, & Rosano, F. Lara. (2014). **Defining a child's conceptualization of a virtual learning companion.** To appear at INTED, Valencia, Spain.

## 2013

Craig, P., Cannon, A., Kukla, R., Kennedy, J. (2013). **MaTSE: the gene expression time-series explorer**. *BMC Bioinformatics*, 14(Suppl 19)(S1). (Impact factor 3.02)

Craig, Paul, Roa-Seiler, Néna, Cervantes, Ana Delia Olvera, Velasco, Marco Polo Tello, & García, Martín Reyes. (2013). **Information visualization for the collaborative analysis of complex data**. Paper presented at the 1er. Congreso de Investigación y vinculación para el desarrollo, Universidad de la Sierra Sur.

Craig, Paul, Roa-Seiler, Néna, Martínez Díaz, Marcela, & Lara Rosano, Felipe. (2013). **Assessing the potential of collaborative video games to improve education in la mixteca region of mexico**. Paper presented at the Third International Conference on Cognitronics, Slovenia.

Craig, Paul, Roa-Seiler, Néna, Rosano, Felipe Lara, & Díaz, Marcela Martínez. (2013). **The role of embodied conversational agents in collaborative face to face computer supported learning games**. Paper presented at the 26th International Conference on System Research, Informatics & Cybernetics, Baden Baden, Germany. **Winner of the Outstanding Scholarly Contribution Award**

Craig, Paul, Roa-Seiler, Néna, Cervantes, Ana Delia Olvera, Velasco, Marco Polo Tello, & García, Martín Reyes. (2013). **Information visualization for the collaborative analysis of complex data**. Paper presented at the 1st Conference on Research and Partnership for Development Oaxaca, Mexico.

Guzmán, Marvelia Gizé Jiménez, Morales, Lluvia, Craig, Paul, & Rocha, Mario Alberto Moreno. (2013). **Developing mixed initiative educational web interfaces for english education: A contextual approach**. Paper presented at the 6th Latin American Conference on Human Computer Interaction, Costa-Rica.

Guzmán, Marvelia Gizé Jiménez, Morales, Lluvia, Craig, Paul, & Rocha, Mario A. (2013). **Applying a user centered methodology to the development of mixed initiative web interfaces for english education**. Paper presented at the Congreso Internacional de Tecnologías de Información, Colima, Mexico.

P. Craig and N. Roa-Seiler, "A combined multidimensional scaling and hierarchical clustering view for the exploratory analysis of multidimensional data," VDA, San Francisco, pp. 86540T-86540T, 2013.

## 2012

Craig, P., Cannon, A., Kukla, R., Kennedy, J. (2012, October). **MaTSE: The Microarray Time-Series Explorer**. Paper presented at *2nd IEEE Symposium on Biological Data Visualization*, Seattle, WA.

Craig, P. and N. Roa-Seiler (2012). **A Vertical Timeline Visualization for the Exploratory Analysis of Dialogue Data**. *Information Visualisation*. Information Visualisation Montpellier, France: 68 – 73. ISSN : 1550-6037 Print ISBN: 978-1-4673-2260-7

Martínez García, D., Craig, P., Roa-Seiler, N. and Benítez Saucedo, A., "Validación de una estrategia de interacción de un agente corpóreo conversacional a través de la técnica del mago de Oz," presented at the MexIHC, Mexico City, Mexico, 2012. ACM ISBN: 978-1-4503-1659-0

Victor Manuel Garcia Luna, Mario Alberto Moreno Rocha, Néna Roa Seiler, and Paul Craig., **“Estrategia para la integración de diferencias transculturales en el diseño de una Interfaz Gráfica de Usuario (GUI) implementando Indicadores de Sociedad de Información (ISI)”** presented at the MexIHC, Mexico City, Mexico, 2012. ACM ISBN: 978-1-4503-1659-0

Craig, P., Roa-Seiler, N., Leplâtre, G., **“A Situated Cognition Aware Approach to the Design of Information Retrieval Systems for Geospatial Data”** in European Conference on Cognitive Ergonomics, Edinburgh, UK, 2012.

## 2010

Craig, P., Kennedy, J., Kukla, R., Cannon, A. (2010). **Pattern Browsing and Query Adjustment for the Exploratory Analysis and Cooperative Visualisation of Microarray Time-course Data**. In: Luo, Y. (Ed.) *Proceedings of the 7th International Conference on Cooperative Design, Visualisation and Engineering, 6240/2010*. (pp. 199-206). Mallorca, Spain: Lecture Notes in Computer Science.

## 2009

Craig, P., Kennedy, J. (2009). Refactoring **Data Transforms in MatSE for Flexibility**. Paper presented at *REVISE: Refactoring Visualization from Experience, VizWeek Workshop*, Atlantic City, NJ.

## 2008

Graham, M., Craig, P., Kennedy, J. (2008). **Visualisation to Aid Biodiversity Studies through Accurate Taxonomic Reconciliation**. In: Gray, A., Jeffery, K., Shao, J. (Eds.) *Proceedings of British National Conference on Database Systems: Sharing Data, Information and Knowledge, 5071/2008 (LNCS 5071 ed.)*. (pp. 280-291). Cardiff, UK: Springer-Verlag.

Craig, P., Kennedy, J. (2008). **Concept Relationship Editor: A visual interface to support the assertion of synonymy relationships between taxonomic classifications**. In: Börner, K., Gröhn, M., Park, J., Roberts, J. (Eds.) *Visualization and Data Analysis 2008, Proceedings of the SPIE, 6809*. (pp. 680906-680912). San Jose, CA: Society of Photo-Optical Instrumentation Engineers, Bellingham, WA, ETATS-UNIS .

Graham, M., Craig, P., Kennedy, J. (2008). **Visualisation to Aid Biodiversity Studies through Accurate Taxonomic Reconciliation**. In: Gray, A., Jeffery, K., Shao, J. (Eds.) *Proceedings of British National Conference on Database Systems: Sharing Data, Information and Knowledge, 5071/2008 (LNCS 5071 ed.)*. (pp. 280-291). Cardiff, UK: Springer-Verlag.

## 2007

Craig, P., Kennedy, J. (2007). **Concept Relationship Editor: A visual interface to support the creation of relationships between taxonomic classifications**. Paper presented at *InfoVis2007*, Sacramento CA.

## 2006

Craig, P. (2006). **Animated Interval Scatter-plot Views for the Exploratory Analysis of Large Scale Microarray Time-course Data** (PhD). Edinburgh Napier University.

## 2005

Craig, P., Kennedy, J., Cumming, A. (2005). **Animated Interval Scatter-plot Views for the Exploratory Analysis of Large Scale Microarray Time-course Data.** *Information Visualization*, 4(3), 149-163.

Craig, P., Kennedy, J., Cumming, A. (2005). **Coordinated Parallel Views for the Exploratory Analysis of Microarray Time-course Data.** In: *Proceedings of 3rd International Conference on Coordinated & Multiple Views in Exploratory Visualization*. (pp. 3-14). London: IEEE Computer Society Press.

Craig, P., Kennedy, J., Cumming, A. (2005). **Time-series Explorer: An Animated Information Visualisation for Microarray Time-course Data.** *BMC Bioinformatics 2005*, 6(3), P8.

## 2003

Craig, P., Kennedy, J. (2003). **Coordinated Graph and Scatter-Plot Views for the Visual Exploration of Microarray Time-Series Data.** In: *IEEE Symposium on Information Visualization*. (pp. 173-180). Seattle WA: IEEE Computer Society Press.

## 2002

Craig, P., Kennedy, J., Cumming, A. (2002). **Towards Visualising Temporal Features in Large Scale Microarray Time-series Data.** In: *6th International Conference on Information Visualisation – IV2002*. (pp. 427-433). IEEE Computer Society Press.

---

## Referees

Prof. Jessie Kennedy  
Director of Centre for Informatics  
Research  
School of Computing  
Napier University  
Edinburgh, United Kingdom  
j.kennedy@napier.ac.uk  
+44 (0)131 455 2772

Dr. Jose Anibal Arias Aguilar  
Director of the Masters of Robotics  
División de Posgrado  
Universidad Tecnológica de la Mixteca  
Huajuapán, Oaxaca, Mexico  
anibal@mixteco.utm.mx  
+52 953 5320399 ext 300

Dr. Felipe de Jesús Lara-Rosano  
Jefe del Departamento de Tecnologías  
de la Información del CCADET  
(Head of the Informatics Department of  
the center of Applied Sciences and  
Technology)  
Universidad Nacional Autónoma de  
México (UNAM)  
Mexico City, México  
flararosano@gmail.com  
(55) 5622-8602 ext 1241