Brian Butterworth: CV October 2012

EDUCATION
1963-1966 Merton College, Oxford. BA(Hons) Psychology and Philosophy
(Supervisor: Prof Peter Nidditch)
Dissertation title: Semantic analyses of the phasing of fluency in spontaneous speech
(Supervisor: Prof Frieda Goldman-Eisler)

Employment
MRC Speech and Communication Unit, Edinburgh.
1971-1972 MRC Junior Research Fellow
Department of Experimental Psychology, University of Cambridge.
1972-1980 University Lecturer in Psychology.
Department of Psychology, University College London.
1980-1986 Lecturer
1986-1992 Reader in Psychology
1992-2009 Professor of Cognitive Neuropsychology
2009- Emeritus Professor of Cognitive Neuropsychology
Melbourne University
2000-2003 Senior Visiting Research Fellow
2003- Professorial Fellow
Ospedale San Camillo, Venice, Italy
2011 Research consultant

Professional Qualifications
Chartered Psychologist (Practicing certificate)

HONOURS and PRIZES
Fellow of the British Psychological Society (elected 1993)
Fellow of the British Academy (elected 2002)
Professorial Fellow, University of Melbourne, Australia (2003-present)
The Dyscalculia Screener won the British Education and Training with Technology software award in 2004.
Joint British Academy – British Psychological Society Annual Lecture, 2005
Honorary Professor, Dalian University of Technology, China (2007-present)
A. Research

A. 1 Publications

1. Papers in academic journals


Butterworth, B. (1979) Hesitation and the production of verbal paraphasias and neologisms in jargon aphasia. *Brain and Language*, 8, 133-161


2. Book sections


Butterworth, B. (2011). Foundational numerical capacities and the origins of
dyscalculia. In S. Dehaene & E. M. Brannon (ed.s) Space, Time and Number
in the Brain: Searching for the Foundations of Mathematical Thought. An
978-0-12-385948-8

Butterworth, B. (2012). Low numeracy and dyscalculia: cognitive theory,
neuroscience and intervention. In N. Frederickson, D. Laurillard & A. Tolmie
(Eds.), Educational Neuroscience (pp. 29-43). British Journal of Educational
Psychology Monograph Series II: Psychological Aspects of Education -
7177-9

3. Books


(Translated as Butterworth, B. (1999) Intelligenza Matematica. Milano: Rizzoli.;
“nigate na hito” ga irunoka. Tokyo: Shufunotomo. (Why are there people who
are good at mathematics and people who are bad at mathematics?)Also

manual)

(2010). Dyskalkuli: Att hjälpa elever ned specificka matematiksvårigheter. Stockholm:


University Press

Edited books

Academic Press.


**A. 2 International profile**

**1. International positions**

Visiting Professor, University of Tennessee, Knoxville, 1978

Visiting Fellow, Centre for Cognitive Studies, MIT, 1979

Visiting Fellow, Max Planck Institute of Psycholinguistics, 1983

Executive Committee of the European Workshop in Cognitive Neuropsychology, 1984 – present

Brotherton Memorial Lecturer, University of Melbourne, 1985

Royal Society Travel Fellow, University of Melbourne, 1988

Professore a contratto, University of Padua, Italy, 1990

Professore a contratto, University of Trieste, Italy, 1992

Professorial Fellow, University of Melbourne, Australia (2003-present)

Executive committee OECD programme on the *Brain and Learning* 2003-2006

Honorary Professor, Dalian University of Technology, China (2007-present)

International review board for *Explorative Projects combining Research on Learning and Instruction and Neuroscience* from German Federal Ministry of Education and Research. 2007-

Visiting lecturer, University of Trento, 2010-2011

Research Consultant – Ospedale San Camillo, Venice, Italy

**2. International Collaborations (recent)**
Professor Robert Reeve, University of Melbourne (Leverhulme Foundation funding, Australian Research Council funding, see A.3)

Professor Mitchell Valdés Sosa and Dr Vivian Reigosa Crespo (Royal Society, British Council, Cuban Government A.3)

Professor Dong Qi & Dr Zhou Xinlin. Key State Laboratory for Cognitive Neuroscience and Learning, Beijing Normal University, Beijing China (Chinese Government).

Coordinator of six laboratory network, Neuromath (Mathematics and the brain, EU funding, A.3)

Coordinator of eight laboratory network, Numbra (Numeracy and brain development, EU funding, A.3)

Professor Joey Tang, Hong Kong University (HKU and British Academy funding, A.3)

3. International conferences and symposia organised (selected)

Language Universals, Cascais, Portugal. December, 1981


Cognitive Genomics. UCL, September, 2003 (with J. O’Keefe) (Keynote by Eric Kandel, Nobel Laureate)

Neuroscience of number processing. Numbra/ESCOP Summer School. Erice, Italy, June 2005


1st British-Cuban Workshop on Neuroimaging: Techniques and applications. Havana, Cuba, November 2006

Numeracy and brain development: progress and prospects. Numbra Summer School, Santorini, Greece, September 2007

2012 Beijing International Conference on the Neuroscience of Mathematical Cognition and Learning. Beijing, China, June 2012

4. International keynote presentations (recent)
Butterworth, B. *Dyscalculia: a practical application of neuroscience to education*. The Third Nordic Research Conference on Special Needs Education in Mathematics. Aalborg, Denmark, November 2005 (Keynote)

Butterworth, B. *Se l’arimetica è innata, perché insegnarla? Le difficoltà di apprendimento in matematica*. Reggio Emilia, Italy, April 2006 (Keynote)

Butterworth, B. *Neuroscience and education*. Japan Psychological Association. Fukuoka, Japan, November, 2006 (Keynote)

Butterworth, B. *Neuroimaging and cognitive development: an important topic for the future*. First British-Cuban Workshop on Neuroimaging: Techniques and Applications. Havana, Cuba, November, 2006 (Keynote)

Butterworth, B. *Number vocabulary and the concept of number: evidence from indigenous Australia*. Language in Cognition - Cognition in Language. Aarhus, Denmark, November 2007 (Keynote)

Butterworth, B. *Bridging the Gap between Findings about Children's Mathematical Development and their Application to Educational Practice*. Conference: Neuroscience ~ Instruction ~ Learning, German Federal Ministry of Education and Research. Berlin, November 2007 (Keynote)

Butterworth, B. *Numeracy and the Brain*. Understanding the Brain: The birth of a learning science. Department for Children Schools and Families (DCSF), the UK and Centre for Educactional Research and Innovation (CERI), OECD. London, December 2007 (Keynote)


Butterworth, B. *Number and space in the parietal lobes and elsewhere*. ESF International Symposium on Parietal Lobe Functions. Amsterdam, September 2010


5. Invited international presentations

CNR Centro Phonetica, Padova, Italy. Speech and gesture. 1988

Department of Psychology, University of Padova, Italy. Grammatical disorders of speech in English and Italian. 1988

Department of Psychology, University of Queensland, Brisbane, Australia. Disorders of short-term memory. 1988

Department of Psychology, University of Melbourne, Australia. Grammatical deficits in aphasia. 1988

Department of Linguistics, Australian National University, Canberra. Disorders of short-term memory and language processing. 1988

Department of Psychology, University of Melbourne, Australia. Morphological processes in aphasia. 1988

Department of Psychology, Monash University, Victoria, Australia. Parsing, lookahead and the phonological record. 1988

Department of Psychology, University of Melbourne, Australia. Longitudinal studies of aphasic disorders. 1988

Chinese University, Hong Kong. Comprehension and short-term memory. 1988
Neurosciences Program, University of Southern California. Speech comprehension and short-term memory. 1989


University of Padua, Italy. Topics in neuropsychological methodology. (Series of five lectures). 1990


University of Trieste, Italy. Calculation and its disorders. June 1992


University of Trieste, Italy. Topics cognitive neuropsychology. (Series of five lectures). June, 1993.


University of Melbourne, Australia. Short-term memory and comprehension. August, 1995

Macquarie University, Sydney. Acquired Chinese dyslexias. August, 1995


Centre for Brain Rehabilitation, University of Copenhagen. Acalculias and rehabilitation. October, 1995


Club Parisien de Neuropsychologie, Hôpital de la Salpêtrière. Losing the cardinal meaning of numbers: Two case studies. April, 1996.

Tokyo Metropolitan Institute of Gerontology, Japan. The neuropsychology of numbers. May, 1996

University of Melbourne, Australia. Short-term memory and arithmetic. August, 1996


LaTrobe University, Victoria, Australia. Mathematics and the brain. July, 2001


Santa Lucia Hospital, Rome September 2002

Research Centre for Language Typology, La Trobe University, Melbourne Australia, October 2002.

University of Salzburg, Austria. The development of basic numeracy: evidence from a very large scale study. June 2004

University of Maastricht, Netherlands. Dyscalculia. June 2004

OECD Learning Sciences and Brain Research: Emotions & Learning and Education Seminar. Copenhagen, Denmark. Fear and loathing in mathematics. November 2004

Netherlands Dyslexia Institute, Annual Meeting. Dyscalculia Diagnosis and Intervention. Arnhem, Netherlands, December 2004

La Bicocca University, Milan, Italy. Developmental dyscalculia: origins and diagnosis. January 2005


Dalian University of Technology. Four lectures on neuroscience and education. International Master’s Series. Dalian, China. May, 2007


Education Bureau, Hong Kong. Understanding mathematics disabilities. June, 2009

Education Bureau, Hong Kong. Dyscalculia: Practice and policy. June, 2009

Hong Kong University. Neurobiological basis of numbers and arithmetic. June, 2009

Learning and Teaching Scotland 7th Adult Numeracy Seminar The mathematical brain: dyscalculia – causes, identification and intervention. Stirling, February 2011
6. Other presentations at international meetings


Butterworth, B. *Studies of enumeration and arithmetic in indigenous Australia*, Trieste, Italy, November, 2009


*B. Butterworth. *Dyscalculia: What’s the brain got to do with it?* German Dyslexia and Dyscalculia Association (BVL). Erfurt, Germany, March, 2011

7. International usage of my website (www.mathematicalbrain.com)
This chart represents the proportion of about 106,000 hits in October 2012 from different sources. The largest proportion comes from largely US-originated domains.
A. 3 Grants


European Community, SCIENCE Plan Grant (1991-1994). Title: Acquired disorders of mathematical cognition. With the National Hospital and the University of Padua, Italy. Co-ordinator. (£180,000)

MRC Project Grant. (1995-8) Title: Universal and script-specific properties of reading: basic cognitive mechanisms in reading Japanese. Principal Investigator (£120,000)

Wellcome Trust Project Grant. (1995-8) Title: The use of arithmetical facts in the four arithmetical operations. Principal Investigator (£180,000)

Wellcome Biomedical Research Collaboration Grant (1996-1999) Title: Modelling simple arithmetic and its disorders. (£8,000) with the University of Trieste.

Royal Society Joint Project Grant. (2000-2002) Title: Representation of numerical magnitude. (£8,000) with University of Padova, Italy.


Wellcome Trust Project Grant (2000-2003). Title: Neuropsychological investigation of calculation disorders. (£123,000) Principal Investigator with Professor M. Kopelman (St Thomas’s Hospital)

Wellcome Trust Equipment Grant (2000-2003) Co-applicant with Prof. Tim Shallice and others (£39,000)


NTT Collaboration Agreement Grant (2000-2001) (£18,000)
NTT Collaboration Agreement Grant (2001-2002) (£100,000)
NTT Collaboration Agreement Grant (2002-2003) (£107,000)
NTT Collaboration Agreement Grant (2003-2004) (£87,000)

Leverhulme Trust (2002-2005) Ideas of number in Aboriginal children without experience of number words or counting. (£133,258) with Prof R. Reeve (Melbourne University) & Prof E. Bavin (La Trobe University)

Leverhulme Trust (2003-2006) Numeracy and Left-right Spatial Ability in Developmental Synaesthesia. (£104,000) Co-applicant with Dr J Ward


Royal Society Short-term visitor grant (2004) (£5000)

Australian Research Council (2004-2007) Longitudinal study of dyscalculia. (£100,000) Co-PI with Prof R. Reeve (Melbourne University)

University of Hong Kong (2008-2010) Exploring developmental dyscalculia in Hong Kong. (HK$ 166,000) Co-PI with Dr J. Tang

British Academy (2008-2010) Objective measures of mathematics anxiety (£5600)

Every Child a Chance Trust (2009-2010) Screening for dyscalculia (£30000)

Royal Society Exchange (2012-2014) Development and evaluation of interventions for dyscalculia and low numeracy (£12000)

**B Knowledge transfer**

**B. 1. Software**


**B. 2. Harrow**

Dyscalculia projects in Harrow LEA since 2002. Carrying our experiments in schools, reporting back to teachers and parents on dyscalculia. Developing a programme to train teachers in identifying and remediating dyscalculia (supported by John Lyon’s Charity 2006-2009)

**B. 3. Summer schools**

I have organised summer schools for graduate students and post-docs on mathematical processing in the brain
Neuroscience of number processing. Numbra/ESCOP Summer School. Erice, Italy, June 2005


Numeracy and brain development: progress and prospects. Santorini, Greece, Numbra Summer School, September 2007

**B. 4 Cuba**

I initiated the study of dyscalculia during a brief visit in 2002. This has resulted in a large-scale prevalence study (a cohort of 11500 students in Central Havana) submitted for publication, and a subsequent national survey of dyscalculia requested in 2006 by the President.

**B. 5 Every Child Counts**

I was invited by the schools minister, Lord Adonis, to serve on the advisory committee of a new initiative to raise standards of mathematical attainment in primary schools.

**B. 6. Media**

**Newspaper articles (Recent)**


Butterworth, B. Fighting the enemy within. A theatrical masterpiece is highlighting turmoil that can torment stroke victims. *The Guardian*, May 10, 1994, II.5


Television and radio (Recent)

"What's in a number?". Equinox, Channel 4. 10 November 1996


Outlook. BBC World Service. 26 April 1999

In Our Time. BBC Radio 4. 6 May 1999

Tomorrow’s World Plus. BBC TV. May 1999

You and Yours, BBC Radio 4. May 31, 1999

BBC Radio West Midlands. 1 June, 1999.

Andrew Neill show. BBC Radio 5 Live. 11 July, 1999

Five Live. BBC Radio. 1 June 1999


The Learning Curve, BBC Radio 4. 21 September 1999


Life as an Infant. BBC Radio 4. (repeated in on BBC World Service). 3 July 2001

Everywoman. BBC World Service. 9 July 2001

To the best of our knowledge. Wisconsin Public Radio. 10 July 2001


The Brain’s Trust. BBC Radio 3. November 27, 2001

More or less. BBC Radio 4. 4 December, 2001

Woman's Hour, BBC Radio 4, 18 April 2002

Tomorrow's World, BBC 1 TV 24 April 2002
The Infinite Mind, PBS USA, October 2002

More or Less, BBC Radio 4, 25 March 2003


Newsround BBC 1 TV, 3 December 2003

Mind reading, BBC Radio 4. December, 2004

Dyscalculia. Child of our Time. BBC1 TV. January 2006


"Generation Next". BBC World Service. December 2006

"Understanding the Teenage Brain", Discovery. BBC World Service. December 2006

“The brain” Available Light Productions for Teachers' TV. December 2006

Evolution of numerical abilities for “More or Less”, BBC Radio 4, May 2007

“Am I normal?” Programme 3 BBC Radio 4 March 2008
(http://www.bbc.co.uk/radio4/science/am_i_normal.shtml)

BBC Radio 4 News 8 June 2008

BBC Radio 5 Live 8 June 2008

Independent Radio News 8 June 2008

Robyn Williams interview on whether recent Australian experiments indicate that numbers are wired into human brain on "The Science Show" (27th September 2008).

Brian Butterworth on BBC2's "Horizon": "Who Do You Want Your Child To Be?"(18th March 2009).

Brian Butterworth Dyscalculia on Numberphile on YouTube. (24th July 2012). Over 100,000 views since 24 July 2012


BBC Radio 4 The Infinite Monkey Cage. (14 MB podcast). (10th December 2012).

Press Interviews and coverage
New Scientist. 3.7.1999
Corriere della Sera. 25.10.1999

Panorama. 10.12.1999


Sunday Telegraph (2002) 14 April. Schools will test for genetic ‘number blindness’. (By Macer Hall)


Daily Mail (2003) February. When sums don’t add up. (Fred Redwood)

The Times (June 2006) Health Feature: Dyscalculia. (Hilary Freeman)


The Scotsman. (April 2008) One in 20 may suffer effects of 'number blindness' (Fiona MacLeod) (http://news.scotsman.com/latestnews/One-in-20-may-suffer.3980677.jp)


The Independent (9 June 2008) ‘Number blindness’ more common than dyslexia (Steve Connor) http://www.independent.co.uk/news/science/number-blindness-more-common-than-dyslexia-842781.html


We are natural born mathematicians by Roger Highfield in Daily Telegraph. (18th August 2008).

Human Brain Has 'Built-In' Counting Skill by ANI: OneIndia. (20th August 2008).


Numbers come before language, says study, by Brandon Keim: Wired. Also You don't need to count to be a maths genius. (18th August 2008).

Easy As 1, 2, 3. People Come into the World Ready to Count Its Wonders in The Economist. (30th December 2008).

Why some people can't put two and two together by Laura Spinney in New Scientist: Number 2692. (24th January 2009).

Who do you your child to be? Horizon BBC2 TV with David Baddiel (9 September 2009)

Numbers that made the world: Episode 2. BBC World Service Radio (9 September 2009)

What’s so great about … maths? BBC 4 Radio with Lenny Henry (9 January 2010)

Dyscalculia. The ONE Show. BBC 1 TV (21 January 2010)

BBC Radio 4 Today programme: http://bbc.in/mBZfnf (27 May 2011)

NPR Science Friday (27 May 2011)
http://www.sciencefriday.com/program/archives/201105272

BBC1 Breakfast TV (Sunday, no URL available) (29 May 2011)

BBC World Service News (no URL available ) (30 May 2011)

The Times (£)http://www.thetimes.co.uk/tto/science/article3041248.ece

The Independent http://ind.pn/m8ti9G

Times Educational Supplement http://www.tes.co.uk/article.aspx?storycode=6085908

ABC (Australia)

NZ Herald:
Art-Science projects
From Babble to Babel. Mind Zone, Millennium Dome. (With Storm Thorgerson)
2000

Three number experiments. Explore@Bristol Science Museum 2000-

_The Brain Unravelled_ Exhibition and events, London, September 2009 (with Maria Lopes)
_Just Trial and Error._ Documentary by Alex Gabbay. London International Documentary Film Festival, April 2010

Festivals
The mathematical brain. _Hay-on-Wye Festival_, June 1999

Where do numbers come from? _British Association for the Advancement of Science_, Salford, October 2003.

_Some press coverage of the symposium_

http://www.thestatesman.net/page.news.php?clid=3&theme=&usrsess=1&id=22697
http://news.bbc.co.uk/cbbcnews/hi/uk/newsid_3100000/3100414.stm
http://www.nature.com/nsu/030908/030908-10.html
http://www.telegraph.co.uk/connected/main.jhtml?xml=/connected/2003/09/03/efmaths03.xml&sSheet=/connected/2003/09/03/ixconn.html
http://www.timesonline.co.uk/newspaper/0,,173-811581,00.html
http://www.guardian.co.uk/uk_news/story/0,3604,1039501,00.html
http://news.bbc.co.uk/1/hi/sci/tech/3098340.stm
http://icwales.icnetwork.co.uk/0100news/0600uk/content_objectid=13394115_method=full_siteid=50082_headline=Misery-of-pupils-who-can-t-count-name_page.html
http://www.brunei-online.com/bb/fri/sep12w22.htm
http://www.spiegel.de/wissenschaft/mensch/0,1518,265174,00

Dyscalculia. _Cheltenham Science Festival_. 8 June 2008

_The learning brain._ _Cambridge Science Festival_. 24 March 2011

Butterworth CV October 2012
Public lectures (recent)

Joint British Academy – British Psychological Society Annual Lecture. *Everybody counts but not everybody understands numbers: the unrecognised handicap of dyscalculia*. 2005


Lighthill Institute of Mathematical Sciences. *Numbers in the brain*. December, 2006

Queensland Brain Institute, Brisbane, Australia. *The science of failing to learn arithmetic*. February 2011

Brunel University, Brain Awareness Week. *The science of failing to learn arithmetic*. March 2011

Reading University, Institute of Education. *Bad at numbers: what’s the brain got to do with it?* March 2011

Official Reports,


Lectures to educational and government bodies in UK


Blackburn and Darwen Local Education Authority. Dyscalculia. March 2003

Department for Education and Skills. Dyscalculia. February 2004
Oxfordshire LEA Special Educational Needs. Dyscalculia. May 2004


Hertfordshire CC Development Centre. Dyscalculia: a practical application of neuroscience to education. May 2006

Website

http://www.mathematicalbrain.com

Currently averages over 3000 hits per day, about 1m hits per year, and nearly 60000 visitors.

Book reviews


Journal papers: Popular journals


Exhibition
*The Brain Unravelled.* Co-curator with Maria Lopes. 2009.  
(www.thebrainunravelled.com)

**C Teaching (Recent)**

**C. 1. Undergraduate**
Convenor: C532 Human Neuropsychology

Convenor 3306 Mathematical Cognition

Lectures on 2208 Cognition and language.

**C. 2. Postgraduate**
Course Director of the MSc in Cognitive Neuropsychology

Convenor of, and sole lecturer, in the Numeracy and Literacy module of the MSc in Cognitive Neuropsychology

Convenor of the Research Methods and Statistics module of the MSc in Cognitive Neuropsychology

Lectures to MSc Research Methods in Psychology, MSc in Cognitive Neuropsychology

Supervision of research students and postgraduate research projects

Masters course in Mathematical Cognition, University of Trento, Italy, 2010-

**PhD Students (current position)**
Sean Courtney 1973-1975 (Professor, Marquette University)

John McShane 1974-1977 (Formerly, lecturer in Psychology, LSE; deceased)

Geoffrey Beattie 1974-1977 (Professor of Psychology and Head of Department, University of Manchester)

David Good 1977-1980 (Director of Education, Cambridge-MIT Institute, Cambridge; Fellow of King’s College Cambridge)

Trevor Harley 1979-1983 (Chair of Cognitive Psychology, Dean of School, University of Dundee)

Helen Petrie 1981-1984 (Professor of Human Computer Interaction, University of York)
David Howard 1981-1985 (Research Development Professor, University of Newcastle)

John Skoyles 1987-1992 (Research Fellow, LSE)

Teresa Hood 1987-1991 (Human Factors, Conde Nast)

Wengang Yin 1988-1991 (Professor, Institute of Psychology, Chinese Academy of Science, Beijing)

Lisa Cipolotti 1989-1992 (Head of Neuropsychology, National Hospital for Neurology and Neurosurgery, London)

Luisa Girelli 1994-1998 (Professore Associato, University of Milano-La Bicocca)

Manuela Piazza 1999-2002 (Researcher, Centro Interdipartimentale Mente/Cervello, University of Trento)

Marinella Cappelletti 1998-2002 (Wellcome Senior Research Fellow, UCL)

Joey Tang 2001-2005 (Research associate professor, Hong Kong University)

Raffaella Moro 2002-2008 (Clinical psychologist)

Petra Vetter 2004-2008 (Post-doc, Glasgow University)

Ashish Ranpura 2005-

Vjaceslav Karolis 2007-2012

Teresa Iuculano 2007-2012

D. Enabling

D. 1. Administration

ERASMUS/SOCRATES Coordinator (1987-2000)

Chairman of Examiners in Psychology (1988-1999)

Chairman of Coordinating Committee and Director: MSc in Cognitive Neuropsychology (1999-)

Executive Committee of Institute of Cognitive Neuroscience (1996-2000)

Chair of Steering Committee of the Institute of Cognitive Neuroscience (2000-2003)
Alexandra House Group Leaders Committee


Panel Member: UCL Sub-Committee on Specific Learning Difficulties (1999-2004)

Centre for Educational Neuroscience. First Chair of Planning Board 2008-2009; Member of Steering Committee 2008- (see below D.2.3)

**D. 2 Strategic**

Most of my strategic work has been aimed at transcending disciplinary boundaries in both research and teaching.

1. Institute of Cognitive Neuroscience

I was one the founder members of the ICN and served on the Executive Committee and chaired the Steering committee (2000-2003).

2. MSc in Cognitive Neuropsychology

I created this very successful intercollegiate (with Birkbeck) Master’s course to exploit the new synergy generated by the new Institute of Cognitive Neuroscience. This course has attracted many students from overseas. It has always been heavily oversubscribed, and we have always had the full complement of FTEs (25). This year, for example, we received 93 applications. Within the UCL pool of applicants, 25 were from UK, 15 from other EU countries and 19 from overseas. Eight of the 20 accepted on this year’s course are full-fee (non-EU).

3. Centre for Neuroscience in Education

I initiated and was first chair of the Planning Board of the Centre, and a multidisciplinary collaboration with UCL, Birkbeck College University of London and the Institute of Education University of London. This aims
1. To provide translational research and applications for relevant aspects of neuroscience to make practical contributions to learning and teaching.
2. To generate basic and applied research that will provide a new transdisciplinary account of the learning sciences.

4. Relations with China, Hong Kong and Taiwan
I have been developing contacts and long-term academic relationships with colleagues and institutions in China over more than a decade, and this has borne fruit in several ways for UCL.

I supervised the first psychology PhD student from PRC, Yin Wengang, now professor in the Institute of Psychology, Chinese Academy of Science.

I was a member of a UCL delegation to Beijing and Shanghai in 1997 to investigate possible links in medical sciences.

A senior scientist from the Key State Laboratory for Cognitive Neuroscience and Learning, Beijing Normal University, spent a year in my lab funded by the Chinese government. I made a reciprocal visit in 2007 with a view to further collaborative research in the field of mathematical development.

I am an honorary professor at Dalian University of Technology, which uses my methods for diagnosing dyscalculia.

I had discussions with Mr Zhou Ji, the minister of education, and several of his senior officials in 2007, covering potential research links with UCL on mathematics education.

In 2009 I advised the Hong Kong Education Bureau (Ministry of Education) on dyscalculia identification and intervention.

I am a member of the Advisory Board of the Taiwan Centre for Mind/Brain Imaging of the National Chengchi University and National Yangming University.

5. UCL Academy School
I am a member of the Academy Research Links Working Group. I hope to be able to contribute to linking educational delivery with research in educational neuroscience, especially in the area of special educational needs.

6. Swiss Cottage School (for children with special needs)
I am a member of the Strategy Board for their Development and Research Centre.

7. External
I served on UK Government’s Office of Science Foresight Project: Mental Capital and Wellbeing, and contributed a section on developmental dyscalculia.
I served on the advisory board of *Every Child Counts*, a joint UK government-charitable initiative to improve mathematics attainment in primary schools. I advise the Hong Kong Education Department on low numeracy.

**D. 3 Editorial**

Part of the task of building a new research field is the establishment of respected journals capable of representing this field. In my time at *Linguistics*, already a highly-respected journal, I ensured that psycholinguistic studies were seen as a proper part of the science of language. We founded *Language and Cognitive Processes* as a new interdisciplinary forum for the burgeoning research field of psycholinguistics which had, at the time, no proper journal. There was very little interdisciplinary research in mathematical cognition, but I felt that there should be. So I created the journal, *Mathematical Cognition*, in order to foster it. It accepted papers from a wide range of disciplines, philosophy, history, anthropology, neuropsychology, but with a preponderance of cognitive and developmental psychology. Some of these papers quickly became classics in the field.


