

British Congress of Optometry and Vision Science
9th – 10th September 2013
Govan Mbeki Building, Glasgow Caledonian University

Monday 9th September

09:30-10:20	Registration and coffee
Oral presentations session 1: Chair – Anita Simmers, GCU	
10:20-10:40	Dizziness and vertigo symptoms in an elderly population waiting for cataract surgery <i>Alison Alderson, Christopher J. Davey, Elvira Supuk, Andy Scally, Clare Green, Norman Litvin, David B. Elliott</i>
10:40-11:00	Age differences in visual short-term memory for object recall and location recognition <i>Raju P. Sapkota, Ian van der Linde, Shahina Pardhan</i>
11:00-11:20	Rehabilitation for visual field loss after stroke: exploring scanning training interventions in Scotland <i>Christine Hazelton, Alex Pollock, Glyn Walsh, Marian Brady</i>
11:20-11:50	Coffee
Oral presentations session 2: Chair – Graeme Kennedy, GCU	
11:50-12:10	Synthetic face adaptation reveals neural tuning <i>Andrew J. Logan, Gunter Loffler, Gael E. Gordon</i>
12:10-12:30	Standardisation of vision measurements in the context of reading difficulty <i>Caroline Wilson, James M. Gilchrist, Brendan T. Barrett</i>
12:30-12:50	Perceptual noise exclusion deficits in dementia revealed by a reading-in-noise test <i>Velitchko Manahilov, Niall Strang, Laura Priestler, Peter Connelly</i>
12:50-13:50	Lunch
Oral presentations session 3: Chair – Gunter Loffler, GCU	
13:50-14:10	A novel home-based binocular therapy for childhood anisometropic amblyopia <i>Manuela Bossi, Elaine J. Anderson, Vijay K. Tailor, Peter J. Bex, John A. Greenwood, Annegret Dahlmann-noor, Steven C. Dakin</i>
14:10-14:30	Temporal characteristics of L- and M- cone isolated steady-state ERGs <i>Deepika Kommanapalli, Declan McKeefry, Ian J. Murray, Jan Kremers, Neil R. A. Parry</i>
14:30-14:50	The importance of individual calibration and the impact of disparity and blur cues in the assessment of accommodation and vergence using the PowerRefractor III <i>Lesley Doyle, Kathryn Saunders, Julie-Anne Little</i>
14:50-15:10	Vision screening – what are we missing? <i>Amritpreet Kaur Basra-Badh, David Whitaker, Brendan Barrett, Alison Bruce</i>
15:10-16:00	Coffee
Keynote lecture: Introduced by Anita Simmers, GCU	
16:00-17:00	Removing the brakes on plasticity in the amblyopic brain <i>Dennis M. Levi, University of California, Berkeley, CA, USA</i>
17:00-18:30	Poster session and drinks reception

Tuesday 10th September

09:00-9:40	Coffee
Oral presentations session 4: Chair – Mhairi Day, GCU	
09:40-10:00	Ocular volume in ametropia <i>Manbir Nagra, Bernard Gilmartin, Nicola S. Logan</i>
10:00-10:20	The relationship between retinal shape and relative peripheral refractive error in emmetropic, myopic and hyperopic individuals <i>Janis B. Orr, Lyle S. Gray, Dirk Seidel, Mhairi Day</i>
10:20-10:40	Anisometropia incidence and resolution across a three-year period: results from the NICER study <i>Karen M. M. Breslin, Lisa O'Donoghue, Kathryn J. Saunders</i>
10:40-11:00	Persistence of ocular malleability may facilitate myopic progression in the ageing eye <i>Deborah S. Laughton, Amy L. Sheppard, Edward A. H. Mallen, Leon N. Davies</i>
11:00-11:30	Coffee
Guest lecture: Introduced by Niall Strang, GCU	
11:30-12:15	Controlling myopia progression – Lessons learned and yet to be learnt from animal studies <i>Christine F. Wildsoet, University of California, Berkeley, CA, USA</i>
12:15-12:30	Prize-giving and closing remarks
12:30-13:30	Lunch and close

NB all talks will take place in the Deeprise Lecture Theatre (A005), Govan Mbeki Building, and all posters and refreshments will be located in the adjacent Garden Cafe.

Keynote lecture: Monday 9th September 16:00-17:00

Removing the brakes on plasticity in the amblyopic brain

Dennis M. Levi, University of California, Berkeley, CA, USA

Biographical sketch

Dennis M. Levi, OD, PhD, is Professor of Optometry and Vision Science, and Dean of the School of Optometry at the University of California, Berkeley, USA. His research on amblyopia and spatial vision has been continuously funded by the National Eye Institute for the last 37 years, and he has published over 260 scientific papers and 2 books. Levi served as Chair of the Vis B. (now CVP) study section, and was a member of the Strabismus, Amblyopia and Visual Processing Panel of the National Eye Institute. He also served on the National Research Council (NAS) Committee on Disability Determination for Visual Impairments. Until January 2013 Levi was Editor-in-Chief and Chairman of the Board of *Vision Research* and is now Editor-in-Chief of *Journal of Vision*. He has also served on a number of other Editorial Boards including *Ophthalmic and Physiological Optics* and *Investigative Ophthalmology and Visual Science*. Levi was elected Fellow of the Optical Society of America for his research contributions in the areas of amblyopia and spatial vision, and has received numerous awards including the Glenn Fry Award, the Garland Clay Award and the Prentice Medal from the American Academy of Optometry.

Abstract

In the last 10 years there has been a rekindling of interest in amblyopia; a new understanding of the underlying patho-physiology based in part on new brain imaging methods such as functional MRI, and a massive shift in our thinking about the treatment of amblyopia fueled in part by a number of important clinical trials. Experience-dependent plasticity is closely linked with the development of sensory function. However, there is also growing evidence for plasticity in the adult visual system. This plenary session re-examines the notions of critical period and sensitive period for a variety of visual functions. One critical issue is the extent to which alternative neural structures are recruited to restore these visual functions. Recent experimental and clinical evidence for the rehabilitation of amblyopia will be discussed.

List of poster titles and authors

1.	A new method for determining the effectiveness of hp-guar tear supplement in an adverse dry environment Ali Abusharha, Ian Pearce
2.	Haemodynamic and electrophysiological correlates of visual perceptual learning Ross Aitchison, Uma Shahani, Sobana Wijekumar, Pamela Knox, Anita Simmers, Laura McKernan, Ana Vega Carreiro de Freitas
3.	Disparity vergence dynamics during 3D viewing are influenced by ocular rigidity Mohammed Alhazmi, Lyle S. Gray, Dirk Seidel
4.	Dose-dependency of blur adaptation Kiren Aziz Khan, Matthew Cufflin, Edward Mallen
5.	The effect of Retinitis Pigmentosa on activities of daily living M. Baranian, M. Timmis, K. Latham, S. Pardhan
6.	The effect of measurement assumptions when investigating peripheral eye length and peripheral refraction Lorraine A. Cameron, Lyle S. Gray, Dirk Seidel, Mhairi Day
7.	Biomechanical modelling of the accommodation system Benjamin. J. Coldrick, J. G. Swadener, Leon N. Davies
8.	The influence of axial length on normal visual field function Fiona E. Cruickshank, Nicola S. Logan, Robert P. Cubbidge
9.	Effectiveness of four methods to recover bacteria from used contact lenses Victoria Cruickshank, Sven Jonuscheit, Michael Doughty, S. Lang
10.	Tear lubricants effects on tear physiology and wettability in contact lens wear Raied Fagehi, A. Tomlinson, Katherine Oliver
11.	Multisensory integration distorts visual time perception Corinne Fulcher, John Hotchkiss, Craig Aaen-Stockdale, Neil W. Roach, David Whitaker, James Heron
12.	A flexible morphological augmented vision device for frequency limited visually impaired Ryan M. Gibson, Ali Ahmadinia, Scott G. McMeekin, Niall C. Strang, Gordon Morison
13.	Tear film biomarker profiling of subjects with dry eye disease Suzanne Hagan, Alan Tomlinson, Anne Marie Clark, Katherine Oliver
14.	Agreement and reproducibility across 6 instruments for measuring keratometry Catriona Hamer, Phillip Buckhurst, Hetal Buckhurst, Christine Purslow
15.	Characterisation of the dorsal and ventral pathways using external noise paradigm Mahesh Raj Joshi, Seong Taek Jeon, Anita Simmers
16.	Dichoptic perceptual learning in childhood amblyopia: do images need to be equated for visibility ? Pamela J. Knox, Anita J. Simmers
17.	Face discrimination in amblyopia Robin Legge, Gunter Loffler, Anita J Simmers, Niall Strang
18.	Reliability of computerized testing for assessing near binocular functions Wei Lin, Christine Dickinson, Catherine Porter
19.	The "Contrast Sensitivity Clock": evaluation of a simple test for measuring contrast sensitivity and glare Chris Longley, David Whitaker

20. Tear evaporation and inflammatory mediators in dry eye Eilidh Martin, Suzanne Hagan, Katherine Oliver, Alan Tomlinson
21. White noise and text adaptation reveal the impact of prior visual experience on contrast sensitivity Colm McGonigle, Sheila Rae, Ian van der Linde, Peter Allen, Shahina Pardhan
22. Haemodynamic responses to reversing checkerboard stimulation in young and old adults Laura McKernan, Ross Aitchison, Ana de Freitas, Sobana Wijekumar, Anita Simmers, Uma Shahani
23. Change in phoria are affected by exposure conditions in stereoscopic displays Pascaline Neveu, Caroline Coulot, Charles-Antoine Salasc, Corinne Roumes, Anne-Emmanuelle Priot
24. A validation of iSight app in pre-school vision screening Nadia Northway, G. Panesar, Daphne McCulloch, Rachel McKay
25. Measuring and interpreting the biomechanical properties of the cornea Daniela Oehring, Christine Purslow, Phillip Buckhurst, Hetal Buckhurst
26. <i>In vitro</i> measurement of light scatter caused by intraocular lens glistenings Eva Philippaki, Andy Doraiswamy, Christopher C. Hull
27. The character of monocular and binocular perceptual visual distortions in adult amblyopia Marianne Piano, Anita J. Simmers, Peter J. Bex
28. Cell substrates for ex vivo cultured human corneal endothelial cells Kostadin Rolev, Alexandra Chittka, Madhavan Rajan
29. Obstacle crossing in patients with visual field impairment Amy C. Scarfe, Matthew A. Timmis, Daryl R. Tabrett, Rupert R. Bourne, Shahina Pardhan
30. A unique insight into the progression of unilateral scotoma to acute homonymous hemianopia Syed Nadeemullah Shafiullah, Neha Zubair Dar
31. Visual acuity loss in patients with AMD, measured using a Vanishing Optotype letter chart Nilpa Shah, Steven C. Dakin, Adnan Tufail, Catherine A. Egan, Roger S. Anderson
32. Dietary analysis and nutritional behaviour in age-related macular disease affected subjects Rebekah Stevens, Hannah Bartlett, Richard Cooke
33. Identification of two sub-divisions within human motion-sensitive area V5 Samantha L. Strong, Edward H. Silson, Andre D. Gouws, Antony B. Morland, Declan J. McKeefry
34. Why does cataract surgery not reduce falls rate as much as you would expect? Elvira Supuk, Alison Alderson, Christopher J. Davey, Andy Scally, Clare Green, Norman Litvin, David B. Elliott
35. Investigating changes in the crosslink components of the accommodation and vergence responses following virtual stereoscopic viewing Laura Sweeney, Lyle S. Gray, Dirk Seidel, Mhairi Day
36. Methods for measuring accommodation Nicola Szostek, Hetal Buckhurst, Christine Purslow, Phillip Buckhurst
37. Illusory contour perception in amblyopes Richard Watson, Robin Legge, Anita Simmers, Peter Bex