

MATT J DUNN BSc (HONS), PhD, MCOptom, FHEA

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Cardiff University

Lecturer & Optometrist

Deputy Director, POSTGRADUATE RESEARCH, SCHOOL OF OPTOMETRY AND VISION SCIENCES

Deputy Director, RESEARCH UNIT FOR NYSTAGMUS

PUBLICATIONS

Peer-reviewed journals

- 13 BOWDEN J, WHITAKER D, **Dunn MJ**. THE ROLE OF PERIPHERAL VISION IN THE FLASHED FACE DISTORTION EFFECT. *Perception* (**In review**)
- 12 **Dunn MJ**, HARRIS CM, ENNIS FA, MARGRAIN TH, WOODHOUSE JM, MCILREAVY L, ERICHSEN JT. AN AUTOMATED SEGMENTATION APPROACH TO CALIBRATING INFANTILE NYSTAGMUS WAVEFORMS. *Behav Research Methods* (**In review**)
- 11 HUANG J, KINATEDER M, **Dunn MJ**, JAROSZ W, YANG X-D, COOPER EA. AN AUGMENTED REALITY SIGN-READING ASSISTANT FOR USERS WITH REDUCED VISION. *PLoS One* (**In review**)
- 2018 10 ROBINSON DG, MARGRAIN TH, **Dunn MJ**, BAILEY C, BINNS AM. LOW-LEVEL NIGHT-TIME LIGHT THERAPY FOR AGE-RELATED MACULAR DEGENERATION – RESULTS OF A PHASE I/II PROOF OF CONCEPT, RANDOMISED, CLINICAL TRIAL. *Invest Ophthalmol Vis Sci* (**In press**)
- 9 **Dunn MJ**, RUSHTON SK. LATERAL VISUAL OCCLUSION DOES NOT CHANGE HEADING WHEN WALKING. *J Vision* (**In press**)
- 8 KINATEDER M, GUALTIERI J, **Dunn MJ**, JAROSZ W, YANG X-D, COOPER EA. USING AN AUGMENTED REALITY DEVICE AS A DISTANCE-BASED VISUAL AID – PROMISE AND LIMITATIONS. *Optom Vis Sci* (**In press**)
- 2017 7 ZAHIDI AA, WOODHOUSE JM, ERICHSEN JT, **Dunn MJ**. INFANTILE NYSTAGMUS: AN OPTOMETRIST'S PERSPECTIVE. *Clin Optom* **9**: 123–131.
- 6 **Dunn MJ**, WIGGINS D, WOODHOUSE JM, MARGRAIN TH, HARRIS CM, ERICHSEN JT. THE EFFECT OF GAZE ANGLE ON VISUAL ACUITY IN INFANTILE NYSTAGMUS. *Invest Ophthalmol Vis Sci* **58**: 642–650.
- 2016 5 **Dunn MJ**. VISUAL PERCEPTION IN INFANTILE NYSTAGMUS. *Optometry in Practice* **17**: 19–26.

- 2015 4 **Dunn MJ**, MARGRAIN TH, WOODHOUSE JM, ERICHSEN JT. VISUAL PROCESSING IN INFANTILE NYSTAGMUS IS NOT SLOW. *Invest Ophthalmol Vis Sci* **56**: 5094–5101.
- 3 HARRISON JJ, SUMNER P, **Dunn MJ**, ERICHSEN JT, FREEMAN TC. QUICK PHASES OF INFANTILE NYSTAGMUS SHOW THE SACCADIC INHIBITION EFFECT. *Invest Ophthalmol Vis Sci* **56**: 1594–1600.
- 2014 2 **Dunn MJ**, MARGRAIN TH, WOODHOUSE JM, ENNIS FA, HARRIS CM, ERICHSEN JT. AUTHOR RESPONSE: GRATING VISUAL ACUITY IN INFANTILE NYSTAGMUS IN THE ABSENCE OF IMAGE MOTION. *Invest Ophthalmol Vis Sci* **55**: 4955–4957.
- 1 **Dunn MJ**, MARGRAIN TH, WOODHOUSE JM, ENNIS FA, HARRIS CM, ERICHSEN JT. GRATING VISUAL ACUITY IN INFANTILE NYSTAGMUS IN THE ABSENCE OF IMAGE MOTION. *Invest Ophthalmol Vis Sci* **55**: 2682–2686.

Non peer-reviewed journals

- 2017 3 **Dunn MJ**. DISORDERS OF PERCEPTION. *Optometry Today* **57** (11): 64–69.
- 2016 2 **Dunn MJ**, LEE H. MANAGEMENT OF NYSTAGMUS. *Optometry Today* **56** (8): 64–68.
- 1 **Dunn MJ**. CLINICAL ASSESSMENT OF NYSTAGMUS. *Optometry Today* **56** (7): 80–85.

Electronic

- 2012 2 DUNN VISION REFERENCE
Mobile ophthalmology text hosting a glossary of over 3500 terms related to optometry and vision science. Coded in Objective-C and Java for iOS and Android (over 7000 downloads)
- 2010 - 2012 1 EYE HANDBOOK (DICTIONARY)
Author of dictionary for mobile ophthalmology app (over 600,000 downloads)

TALKS

Invited talks

- 2017 VISION 2017 (THE HAGUE, NETHERLANDS)
'Time to see' in infantile nystagmus
- 2016 RANK PRIZE FUNDS (GRASMERE, UK)
Visual perception in the presence of nystagmus
OXFORD, BRISTOL, CARDIFF & SOUTHAMPTON ALLIANCE IN VISION RESEARCH (CARDIFF, UK)
Seeing with nystagmus
100% OPTICAL (LONDON, UK)
A clinician's guide to nystagmus
- 2015 LEICESTER ROYAL INFIRMARY (LEICESTER, UK)
Visual perception in infantile nystagmus
MIDLAND PERIPATETIC GROUP FOR TEACHERS OF THE VISUALLY IMPAIRED (BIRMINGHAM, UK)
Seeing with nystagmus
LV PRASAD EYE INSTITUTE (HYDERABAD, INDIA)
Visual perception in infantile nystagmus
UC BERKELEY (CALIFORNIA, US)
Visual perception in infantile nystagmus
UNIVERSITY OF HOUSTON (TEXAS, US)
Visual perception in infantile nystagmus

Conference presentations (international)

- 2016 EUROPEAN ACADEMY OF OPTOMETRY AND OPTICS (BERLIN, GERMANY)
Monocular contributions to the nystagmus null zone
- 2015 ORTHOPTICS DECODED (MADURAI, INDIA)
Orthoptic treatments for nystagmus (session moderator)
EUROPEAN CONFERENCE ON EYE MOVEMENTS (VIENNA, AUSTRIA)
Temporal visual function in infantile nystagmus
EUROPEAN CONFERENCE ON VISUAL PERCEPTION (LIVERPOOL, UK)
The effect of simulated vision loss on walking paths
NYSTAGMUS NETWORK INTERNATIONAL RESEARCH WORKSHOP (NEW ORLEANS, LOUISIANA)
Visual timing in infantile nystagmus
ARVO ANNUAL MEETING (DENVER, COLORADO)
Visual processing in infantile nystagmus is not slow
- 2013 NYSTAGMUS NETWORK INTERNATIONAL RESEARCH WORKSHOP (ABINGDON, UK)
Appropriate measures of visual performance in infantile nystagmus: Acuity is not enough
EUROPEAN CONFERENCE ON EYE MOVEMENTS (LUND, SWEDEN)
Involuntary saccade initiation is related to the timing of voluntary saccades in infantile nystagmus
ARVO ANNUAL MEETING (SEATTLE, WASHINGTON)
Visual acuity in infantile nystagmus in the absence of image motion

Public engagement & media appearances

- 2018 BBC GOOD MORNING WALES
Radio interview – The importance of early sight tests
PUBLIC LECTURE (SUNDAY ASSEMBLY, UK)
What we miss
- 2017 PUBLIC LECTURE (GREEN GATHERING, UK)
Perception, illusions and visual neuroscience
- 2016 TINTERN PHILOSOPHY CIRCLE (UK)
How much can we know from our senses?
PUBLIC LECTURES (BOOMTOWN FAIR & GREEN GATHERING, UK)
How experience shapes perception: perspectives from visual neuroscience
- 2015 BBC POINTS WEST
TV news article – Mobility and vision in patients following stroke
BBC WALES TODAY
TV news article – Using virtual reality to understand visual guidance of walking
PUBLIC LECTURE (GREEN GATHERING, UK)
Neuroscience of visual perception
- 2014 PUBLIC LECTURE (SUNRISE FESTIVAL, UK)
Psychophysics and perception
- 2010 - 2016 SCIENCE IN HEALTH – LIVE!
Cardiff: Promoting careers in optometry to A-Level students

EMPLOYMENT

- 2016 - PRESENT LECTURER
School of Optometry & Vision Sciences, Cardiff University
- 2010 - PRESENT SELF-EMPLOYED LOCUM OPTOMETRIST
GOC & AOP registered; EHEW accredited
- 2014 - 2016 RESEARCH ASSOCIATE
School of Optometry & Vision Sciences, Cardiff University
- 2013 - 2015 TEACHER
School of Optometry & Vision Sciences, Cardiff University
- 2014 - 2015 OPTOMETRY LEAD
NHS Wales Informatics Service
- 2014 RESEARCH ASSOCIATE
Department of Neuroscience, Cardiff and Vale University Local Health Board
- 2013 - 2014 RESEARCH ASSOCIATE
School of Psychology, Cardiff University

EDUCATION

- 2014 PHD CARDIFF UNIVERSITY QUANTIFYING PERCEPTION AND OCULOMOTOR INSTABILITY IN
INFANTILE NYSTAGMUS
- 2009 BSC CARDIFF UNIVERSITY OPTOMETRY

TEACHING & CLINICAL SUPERVISION

Cardiff University

2018 - PRESENT	ABNORMAL OCULAR CONDITIONS (LECTURES)
2013 - PRESENT	ORTHOPTICS (CLINICAL TEACHING LEAD)
	INTRODUCTORY OPTOMETRY (LECTURES)
2015 - PRESENT	OCCUPATIONAL OPTOMETRY, LAW & BUSINESS (MODULE LEADER)
2014 - 2015	COLOUR VISION & PERCEPTION (MODULE LEADER - LECTURE SERIES)
2013 - 2015	MATLAB PROGRAMMING (STAFF & POSTGRADUATE TAUGHT COURSE)
2010 - 2015	PRIMARY EYE CARE (CLINICAL SUPERVISION)
2013 - 2014	VISUAL PERCEPTION (MODULE LEADER - LECTURE SERIES)
	INVESTIGATIVE TECHNIQUES (POSTGRADUATE CLINICAL TEACHING)
2010 - 2013	BINOCULAR VISION (CLINICAL SUPERVISION)
	INVESTIGATIVE TECHNIQUES (CLINICAL TEACHING)

FUNDING

2017	CHARACTERISATION OF OCULAR MOTOR FUNCTION IN ADULT-ONSET CERVICAL DYSTONIA <i>Co-investigator. NHM, RI seedcorn grant</i>	£5000
	ADDITIONAL CLINICAL TESTING FOR RETINAL PREDICTORS OF VISUAL PERFORMANCE IN NYSTAGMUS <i>Co-investigator. Nystagmus Network, Small Grant Scheme</i>	£1387
2016	THE EFFECT OF VISUAL COGNITIVE IMPAIRMENT DUE TO CEREBROVASCULAR DISEASE ON WALKING <i>Co-investigator. North Bristol Trust, Springboard Grant</i>	£8570
	RETINAL PREDICTORS OF VISUAL PERFORMANCE IN INFANTILE NYSTAGMUS <i>Principal investigator. College of Optometrists, Postgraduate Scholarship</i>	£55,827
2015	BINDING HAND MOVEMENTS TO VISUAL PERCEPTS <i>Principal investigator. Cardiff University Research Opportunities Programme</i>	£810
2014	UNDERSTANDING BINOCULAR VISION IN INFANTILE NYSTAGMUS <i>Principal investigator. College of Optometrists, Post Doctoral Research Award</i>	£19,573
	ESTABLISHING CLINICAL MEASURES OF TEMPORAL VISUAL FUNCTION IN INFANTILE NYSTAGMUS <i>Principal investigator. Nystagmus Network UK</i>	£14,552
2013	AUTOMATING THE ANALYSIS OF INFANTILE NYSTAGMUS WAVEFORMS <i>Co-investigator. Nystagmus Network UK</i>	£1500

HONOURS & AWARDS

2015	FELLOW, HIGHER EDUCATION ACADEMY
2014	ASSOCIATE FELLOW, HIGHER EDUCATION ACADEMY
2013	CAMBRIDGE RESEARCH SYSTEMS AVA TRAVEL AWARD ARVO INTERNATIONAL TRAVEL GRANT

STUDENT SUPERVISION

PhD students

2017 - PRESENT	M WELLS	MAPPING RESIDUAL VISUAL FUNCTION IN HEMIANOPIA
2016 - PRESENT	N THOMAS	RETINAL PREDICTORS OF VISUAL PERFORMANCE IN INFANTILE NYSTAGMUS
2014 - PRESENT	J BRAWN	EVALUATING EYE MOVEMENTS AS BIOMARKERS FOR MONITORING THE PROGRESSION OF HUNTINGTON'S DISEASE TO FACILITATE EARLY INTERVENTION AND CLINICAL MANAGEMENT

MSc/MRes students

2016 G KIDSON CAN NEUROADAPTIVE TRAINING AID IN CONTACT LENS ADAPTATION?
 H McDOWELL PUBLIC PERCEPTION OF VISION LOSS

COMMUNITY

REVIEWER FOR THE FOLLOWING JOURNALS & RESEARCH COUNCILS:

- MEDICAL RESEARCH COUNCIL
- JOURNAL OF OPHTHALMOLOGY
- FRONTIERS IN SYSTEMS NEUROSCIENCE
- BEHAVIOR RESEARCH METHODS
- CLINICAL OPHTHALMOLOGY
- OPTOMETRY AND VISION SCIENCE
- STRABISMUS
- JOURNAL OF EYE MOVEMENT RESEARCH
- NYSTAGMUS NETWORK

2018 SESSION CHAIR AT BRITISH OCULOMOTOR GROUP (CARDIFF, UK)
 2016 - PRESENT ISSF3 GRANT REVIEW PANEL MEMBER
 2015 MEMBER OF *Cardiff School of Optometry and Vision Sciences Research Ethics Audit Committee*
 2014 - PRESENT STEMNET AMBASSADOR
 2012 - 2017 MAINTAIN RESEARCH DATABASE FOR *IN-vision*

INTERESTS

CAVING MEMBER OF SOUTH & MID WALES CAVE RESCUE TEAM
 EXPEDITIONS TO MAP UNEXPLORED CAVES IN DACHSTEIN, AUSTRIA, 2009 &
 PICOS DE EUROPA, SPAIN, 2015
 REGULARLY LEAD NOVICE AND EXPERIENCED GROUPS UNDERGROUND

MUSIC WRITER, PRODUCER AND LEAD GUITARIST FOR PROGRESSIVE ROCK BAND SINCE
 2005

YOGA RYT 200 QUALIFIED GITANANDA YOGA TEACHER