

# 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 Res 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* **59**: 4531–4541
- 9 **Dunn MJ**, RUSHTON SK. LATERAL VISUAL OCCLUSION DOES NOT CHANGE HEADING WHEN WALKING. *J Vis* **18**: 11
- 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* **95**: 727–737
- 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

- 2018      4    WELLS MT, RUSHTON SK, REDMOND T, CLATWORTHY P, **Dunn MJ**. RESIDUAL VISUAL FUNCTION IN CORTICAL VISION LOSS. *Optometry Today* (**Submitted**)
- 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

2018	THE ROLE OF ATTENTION IN PERIPHERAL VISION	£28,727
	<i>Principal investigator. College of Optometrists, Research Fellowship</i>	
	IMPROVING VEP DIAGNOSTICS IN PEOPLE WITH NYSTAGMUS	£6204
	<i>Principal investigator. Fight for Sight &amp; Nystagmus Network, Small Grant Award</i>	
	HOW SUGGESTIBLE IS PERIPHERAL VISION?	£2100
	<i>Co-investigator. Cardiff University Research Opportunities Programme</i>	
2017	CHARACTERISATION OF OCULAR MOTOR FUNCTION IN ADULT-ONSET CERVICAL DYSTONIA	£5000
	<i>Co-investigator. NHM, RI seedcorn grant</i>	
	ADDITIONAL CLINICAL TESTING FOR RETINAL PREDICTORS OF VISUAL PERFORMANCE IN NYSTAGMUS	£1387
	<i>Co-investigator. Nystagmus Network, Small Grant Scheme</i>	
2016	THE EFFECT OF VISUAL COGNITIVE IMPAIRMENT DUE TO CEREBROVASCULAR DISEASE ON WALKING	£8570
	<i>Co-investigator. North Bristol Trust, Springboard Grant</i>	
	RETINAL PREDICTORS OF VISUAL PERFORMANCE IN INFANTILE NYSTAGMUS	£55,827
	<i>Principal investigator. College of Optometrists, Postgraduate Scholarship</i>	
2015	BINDING HAND MOVEMENTS TO VISUAL PERCEPTS	£810
	<i>Principal investigator. Cardiff University Research Opportunities Programme</i>	
2014	UNDERSTANDING BINOCULAR VISION IN INFANTILE NYSTAGMUS	£19,573
	<i>Principal investigator. College of Optometrists, Post Doctoral Research Award</i>	
	ESTABLISHING CLINICAL MEASURES OF TEMPORAL VISUAL FUNCTION IN INFANTILE NYSTAGMUS	£14,552
	<i>Principal investigator. Nystagmus Network UK</i>	
2013	AUTOMATING THE ANALYSIS OF INFANTILE NYSTAGMUS WAVEFORMS	£1500
	<i>Co-investigator. Nystagmus Network UK</i>	

## 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 <i>Cardiff School of Optometry and Vision Sciences Research Ethics Audit Committee</i>
2014 - PRESENT	STEMNET AMBASSADOR
2012 - 2017	MAINTAIN RESEARCH DATABASE FOR <i>IN-vision</i>

## 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