

Paul Constable  
Full Member  
College of Nursing and Health Sciences  
Caring Futures Institute



## Research Biography

I lead the retinalbiomarkers group which consists of a team of clinicians, visual electrophysiologists, and biomedical engineers, that aims to identify novel functional and structural retinal biomarkers for conditions affecting the central nervous system. Our main focus is on neurodevelopmental conditions and cerebral vision impairment and peripheral vasculopathies. We apply signal analysis and machine learning and a multiverse statistical approach to improve classification with members based in the UK, Germany, and the US.

## Qualifications

Postgraduate Certificate, Ocular Therapeutics, Australian College of Optometry  
Award Date: 17 Jun 2020

PhD, City University of London  
Award Date: 28 Feb 2007

Bachelor of Science, Optometry, University of Melbourne  
Award Date: 31 Mar 1991

## Employment

### Senior Lecturer

College of Nursing and Health Sciences  
Flinders University  
21 Sept 2015 → 31 Dec 2099

### Full Member

Caring Futures Institute  
Flinders University  
29 Nov 2019 → present

## Research outputs

### Detecting Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder Using Multimodal Time-Frequency Analysis with Machine Learning Using the Electroretinogram from Two Flash Strengths

Manjur, S. M., Roberto Mercado Diaz, L., Lee, I. O., Skuse, D. H., Thompson, D., Marmolejo-Ramos, F., Constable, P. A. & Posada-Quintero, H. F., 23 Feb 2024, (E-pub ahead of print) In: Journal of Autism and Developmental Disorders. 14 p.

### Suspected case of benign familial fleck retina with functional loss

Constable, P. A., Loh, L. & Grigg, J. R., Dec 2023, In: Clinical Case Reports. 11, 12, 7 p., e8362.

### Spectral analysis of Electroretinography to differentiate autism spectrum disorder and attention deficit hyperactivity disorder

Manjur, S. M., Hossain, B. MD., Constable, P. A., Thompson, D. A., Marmolejo-Ramos, F., Lee, I. O. & Posada-Quintero, H., 14 Nov 2023. 4 p.

### Visual acuity and reading print size requirements in children with vision impairment

Loh, L., Prem-Senthil, M. & Constable, P. A., 12 Nov 2023, (E-pub ahead of print) In: Clinical and Experimental Optometry. 7 p.

**A systematic review of the impact of childhood vision impairment on reading and literacy in education**  
Loh, L., Prem Senthil, M. & Constable, P. A., Apr 2024, In: Journal of Optometry. 17, 2, 10 p., 100495.

**Autism spectrum disorder detection using variable frequency complex demodulation of the electroretinogram**  
Posada-Quintero, H. F., Manjur, S. M., Hossain, M. B., Marmolejo-Ramos, F., Lee, I. O., Skuse, D. H., Thompson, D. A. & Constable, P. A., Nov 2023, In: Research in Autism Spectrum Disorders. 109, 20 p., 102258.

**Group comparisons of the individual electroretinogram time trajectories for the ascending limb of the b-wave using a raw and registered time series**  
Brabec, M., Constable, P., Thompson, D. & Marmolejo-Ramos, F., 29 Sept 2023, In: BMC Research Notes. 16, 1, 9 p., 238.

**Retinal electrophysiology in central nervous system disorders: A review of human and mouse studies**  
Constable, P., Lim, J. & Thompson, D., 2 Aug 2023, In: Frontiers in Neuroscience. 17, 30 p., 1215097.

**OculusGraphy: Signal Analysis of the Electroretinogram in a Rabbit Model of Endophthalmitis Using Discrete and Continuous Wavelet Transforms**  
Zhdanov, A., Constable, P., Manjur, S. M., Dolganov, A., Posada-Quintero, H. & Lizunov, A., Jun 2023, In: Bioengineering. 10, 6, 21 p., 708.

**Visual search and childhood vision impairment: A GAMLS-oriented multiverse analysis approach**  
Constable, P. A., Loh, L., Prem Senthil, M. & Marmolejo-Ramos, F., May 2023, In: Attention, Perception & Psychophysics. 85, 4, p. 968-977 10 p.

**A review of patient-reported outcome measures used in uveitis**  
Prem Senthil, M., Simon, S. & Constable, P., 1 Mar 2023, In: Survey of Ophthalmology. 68, 2, p. 225-240 16 p.

**Detecting Autism Spectrum Disorder Using Spectral Analysis of Electroretinogram and Machine Learning: Preliminary results**  
Manjur, S. M., Hossain, M. B., Constable, P. A., Thompson, D. A., Marmolejo-Ramos, F., Lee, I. O., Skuse, D. H. & Posada-Quintero, H. F., 8 Sept 2022, *44th Annual International Conference of the IEEE Engineering in Medicine & Biology Society*. Institute of Electrical and Electronics Engineers Inc., Vol. 2022. p. 3435-3438 4 p. (Annual International Conference of the IEEE Engineering in Medicine and Biology Society; vol. 2022).

**Discrete Wavelet Transform Analysis of the Electroretinogram in Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder**  
Constable, P. A., Marmolejo-Ramos, F., Gauthier, M., Lee, I. O., Skuse, D. H. & Thompson, D. A., 6 Jun 2022, In: Frontiers in Neuroscience. 16, p. 1-11 11 p., 890461.

**The electroretinogram b-wave amplitude: a differential physiological measure for Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder**  
Lee, I. O., Skuse, D. H., Constable, P. A., Marmolejo-Ramos, F., Olsen, L. R. & Thompson, D. A., 6 May 2022, In: Journal of Neurodevelopmental Disorders. 14, 1, 15 p., 30.

**A review of ocular complications associated with medications used for anxiety, depression, and stress**  
Constable, P. A., Al-Dasooqi, D., Bruce, R. & Prem-Senthil, M., 24 Feb 2022, In: Clinical Optometry. 14, p. 13-25 13 p.

**Cone dystrophy, childhood vision impairment and education: are clinical measures of visual function adequate to support a child through education?**  
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**Is white the right light for the clinical electrooculogram?**  
Constable, P. A. & Kapoor, G., Dec 2021, Documenta Ophthalmologica, 143, 3, p. 297-304 8 p.

**The photopic negative response in autism spectrum disorder**

Constable, P., Lee, I., Marmolejo-Ramos, F., Skuse, D. & Thompson, D., 7 Apr 2021, In: Clinical and Experimental Optometry. 104, 8, p. 841-847 7 p.

**A snapshot of optometry teaching in Australia and New Zealand in response to COVID-19**

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**Optical coherence tomography angiography in primary eye care**

Coffey, A. M., Hutton, E. K., Combe, L., Bhindi, P., Gertig, D. & Constable, P. A., 2021, In: Clinical and Experimental Optometry. 104, 1, p. 3-13 11 p.

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Constable, P. A., Bailey, K., Beck, A., Borrello, D., Kozman, M. & Schneider, K., 1 May 2020, In: Clinical and Experimental Optometry. 103, 3, p. 296-306 11 p.

**Light-adapted electroretinogram differences in Autism Spectrum Disorder**

Constable, P., Ritvo, E., Ritvo, A., Lee, I., McNair, M., Stahl, D., Sowden, J., Quinn, S., Skuse, D., Thompson, D. & McPartland, J., 7 Feb 2020, In: Journal of Autism and Developmental Disorders. 50, 8, p. 2874-2885 12 p.

**Light-adapted ERG differences in autism spectrum disorder**

Constable, P. A., Ritvo, E. R., Ritvo, A. R., Lee, I. O., McNair, M. L., Stahl, D., Sowden, J., Quinn, S., Skuse, D. H., McPartland, J. C. & Thompson, D. A., 31 Oct 2019, p. S20. 1 p.

**Are motion coherence thresholds in individuals with autism spectrum disorder associated with retinal function?**

Lee, I., Fritsch, D. M., Kerz, M., Sowden, J. C., Constable, P. A., Skuse, D. H. & Thompson, D. A., 10 Oct 2019, p. S6. 1 p.

**Spectral properties of the light rise of the electro-oculogram**

Kapoor, G., Le Dieu, T., Kyi, S., Hoang, H., Tiong, F., Trinh, S. & Constable, P., 10 Oct 2019, p. S3. 1 p.

**The Electroretinogram As a Candidate Biomarker for Autism Spectrum Disorder**

Constable, P., Ritvo, E., Ritvo, R., Thompson, D., Lee, I., Stahl, D., McNair, M., Gertig, D., Quinn, S., Skuse, D. & McPartland, J., 4 May 2019.

**The slow light and dark oscillation of the clinical electro-oculogram**

Constable, P. A. & Ngo, D., Nov 2018, In: Clinical and Experimental Optometry. 101, 6, p. 786-792 7 p.

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Constable, P. A., Ring, M., Gaigg, S. B. & Bowler, D. M., 1 Jul 2018, In: Autism. 22, 5, p. 597-608 12 p.

**The slow light and dark oscillation of the clinical EOG**

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Constable, P., Ngo, D., Quinn, S. & Thompson, D., 2017, (E-pub ahead of print) In: Documenta Ophthalmologica. 135, 3, p. 219-232 14 p.

**How blood barrier stands up to drug treatments**

Mahmood, M. & Constable, P., 17 Jun 2016, In: Optician. p. 24-29 5 p.

**Full-field electroretinogram in autism spectrum disorder**

Constable, P., Gaigg, S., Bowler, D., Jagle, H. & Thompson, D., 1 Apr 2016, In: Documenta Ophthalmologica. 132, 2, p. 83-99 17 p.

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**The Physiology of the retinal pigment epithelium in Danon disease**

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**Genetic associations to the ERG in autism spectrum disorder**

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**A perspective on the mechanism of the light-rise of the electrooculogram.**

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**Full field ERGs in individuals with autism spectrum disorder**

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**Motion and pattern cortical potentials in adults with high-functioning autism spectrum disorder**

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Constable, P., 2011, In: Optician. 241, 6295, p. 25-28 4 p.

**Autism Part 2: Early Signs and Managing an Individual with ASD**

Constable, P., 2011, In: Optician. 241, 6300, p. 12-16 5 p.

**Basics of Clinical Electrophysiology**

Constable, P., 2011, In: Optician. 242, 6320, p. 34-41 8 p.

**Fundamentals of genetic screening for eye disease**

Constable, P., 2011, In: Optician. 242, 6326, p. 20-22 3 p.

**Nifedipine alters the light-rise of the electro-oculogram in man**

Constable, P., 2011, In: Graefe's Archive For Clinical and Experimental Ophthalmology. 249, 5, p. 677-684 8 p.

**Crowding and visual search in high functioning adults with autism spectrum disorder**

Constable, P., Solomon, J., Gaigg, S. & Bowler, D., 2010, In: Clinical Optometry. 2010, 2, p. 93-103 11 p.

**Glial cell factors and the outer blood retinal barrier**

Constable, P. & Lawrenson, J., 2009, In: Ophthalmic and Physiological Optics. 29, 5, p. 557-564 8 p.

**P-Glycoprotein Expression and Function in the Retinal Pigment Epithelium**

Constable, P., Lawrenson, J. & Abbott, J., 2008, *Ocular Transporters in Ophthalmic Disease and Drug Delivery*. HUMANA PRESS, p. 235-253 19 p.

**Light and alcohol evoked electro-oculograms in cystic fibrosis**

Constable, P., Lawrenson, J. & Arden, G., 2006, In: *Documenta Ophthalmologica*. 113, 2, p. 133-143 11 p.

**P-Glycoprotein expression in human retinal pigment epithelium cell lines**

Constable, P., Lawrenson, J., Dolman, D., Arden, G. & Abbott, J., 2006, In: *Experimental Eye Research*. 83, 1, p. 24-30 7 p.

**The electro-oculogram**

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**Role of the cystic fibrosis transmembrane conductance regulator in the electro-oculogram**

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**Compartmental analysis of taurine transport to the outer retina in the bovine eye**

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