

# David Paul Crabb – Curriculum Vitae

## **Professor of Statistics and Vision Research,**

Department of Optometry and Visual Science,  
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## Education and Qualifications

1996	City University London.	<b>Ph.D. Statistics / Vision Science</b>
1989	University of Sheffield.	<b>M.Sc. Statistics</b>
1986	Westminster College, University of Oxford.	<b>B.Ed. (Hons) Mathematics</b> Class: 2:1

## Recent Employment

02/2010-	<b>Professor</b>
09/2005-	<b>Reader</b> City University London.
09/1999 - 09/2005	<b>Lecturer/Senior Lecturer in Statistics.</b> School of Biomedical and Natural Sciences, Nottingham Trent University.
09/1994 – 09/1999	<b>Research Fellow.</b> Institute of Ophthalmology, University College London.

## Other Positions

- Honorary Consultant in Visual Science at Moorfields Eye Hospital, London (2006- )
- Leader of the Applied Vision Research Group, City University London (2007- )
- Fellow of the Royal Statistical Society (2000- )

## Research Funding (since 2008)

**2013 £25,000**

**International Glaucoma Association**

Project Grant (Charity)

Principal Investigator

Title: *What type of visual field defects are hazardous for driving?*

**2012 £52,472**

**Fight for Sight**

Project Grant (Charity)

Principal Investigator

Title: *Proof of Concept for "Eyecatcher": Detecting and monitoring age-related visual disease.*

<http://www.fightforsight.org.uk/project-display/items/231>

**2011 £114,000**

**Merck Investigator Studies Program**

Project Grant (fEC)

Principal Investigator

Title: *Measurements in glaucoma: What matters to the patient?*

**2011 £292,833**

**NIHR Post-Doctoral Research Fellowship Scheme**

Fellowship (fEC)

Co-investigator and mentor for Dr Haogang Zhu (City University London)

Title: *Complex data management, knowledge extraction and computerised clinical decision support for chronic disease Management*

**2011 £295,000**

**NIHR Health Services and Delivery Research (HS&DR) Program**

Project Grant (fEC)

Principal Investigator

Title: *Frequency of visual field testing when monitoring patients newly diagnosed with glaucoma*

<http://www.netscc.ac.uk/hsdr/projdetails.php?ref=10-2000-68>

**2010 £40,000**

**City University London Research competition (First Prize)**

Project Grant

Principal Investigator

Title: *Eyecatcher: A tool for detecting and monitoring age-related visual and neurological disease.*

<http://www.city.ac.uk/news/2011/jan/showcase-of-innovation-and-enterprise-at-research-competition>

**2010 £35,000**

**Allergan Inc., Irvine CA, US.**

Unrestricted donation to research laboratory (Not fEC)

Principal investigator

**2010 £245,000 (from a total of £1,480,000)**

**US National Institute for Health (NIH)**

Project Grant (part fEC)

Co-Investigator with Dr B. Swanson (University of Indiana, US)

Title: *Application of Psychophysical Models to Visual Disorders*

Grant Number: NIH 2R01EY007716 - 19A2

- 2009 £21,216**  
**International Glaucoma Association**  
Project Grant (Charity)  
Principal Investigator  
*Title: How does glaucoma look?*
- 2009 £47,000**  
**NHS Moorfields Eye Hospital Special Trustees.**  
Project grant (Charity)  
Principal Investigator  
*Title: Visual impairment and Quality of Life in glaucoma*
- 2009 £40,000**  
**Emerald Fund Standard Grant, London Development Agency.**  
Project grant (not fEC)  
Principal Investigator  
*Title: eyeVisor: a comprehensive portable visual function testing system*
- 2009 £32,624 (from a total of £349,856)**  
**NIHR Health Technology Assessment (HTA) Programme**  
Project grant (fEC)  
Co-Investigator with Dr J. Burr (University of Aberdeen)  
*Title: Optimal Surveillance Regimes for Individuals with Ocular Hypertension (OHT): Modelling and economic evaluation.*
- 2009 £19,726 (from a total of £390,988)**  
**Medical Research Council (MRC)**  
Platform IES grant (fEC)  
Co-Investigator with Dr J. Burr (University of Aberdeen)  
*Title: Developing the intervention & outcome components of a proposed RCT of screening for open angle glaucoma (OAG).*
- 2009 £20,000**  
**Allergan Inc., Irvine CA, US.**  
Unrestricted donation to research laboratory (Not fEC)  
Principal investigator
- 2008 £68,427**  
**Pfizer Inc., New York, US.**  
Independent Investigator Research Grant (fEC)  
Principal Investigator  
*Title: Visual disability in glaucoma*
- 2008 £58,646**  
**NHS New and Emerging Applications of Technology (NEAT) Awards**  
Project grant (fEC)  
Principal Investigator  
*Title: Detecting Glaucoma: PC based perimetry.*
- 2008 £77,100 (from a total of £156,145)**  
**UK Guide Dogs for the Blind Association.**  
Project grant (Charity)  
Co-Investigator with Professor S Vernon (University of Nottingham)  
*Title: Biological shape analyses of optic nerve head images*

## Peer Reviewed Published Papers

Directly from pubmed (since 2008):

[http://www.ncbi.nlm.nih.gov/pubmed?term=%28crabb%20dp\[Author\]%29%20AND%20%28%222008%22\[Date%20-%20Publication\]%20%3A%20%223000%22\[Date%20-%20Publication\]%29](http://www.ncbi.nlm.nih.gov/pubmed?term=%28crabb%20dp[Author]%29%20AND%20%28%222008%22[Date%20-%20Publication]%20%3A%20%223000%22[Date%20-%20Publication]%29)

H-Index Since 1996 ~ 20

### 2008-Present

Smith, N.D., Glen, F.C., and **Crabb, D.P.** (2012) Eye movements during visual search in patients with glaucoma. *BMC Ophthalmol.* 12:45

Smith, N.D., **Crabb, D.P.**, Glen, F.C., Burton, R., and Garway-Heath D. F. (2012) Eye Movements in Patients with Glaucoma When Viewing Images of Everyday Scenes. *Seeing Perceiving* 25:471-492.

Russell, R.A., **Crabb, D.P.**, Malik, R., and Garway-Heath, D.F. (2012) The Relationship between Variability and Sensitivity in Large-Scale Longitudinal Visual Field Data. *Invest Ophthalmol Vis Sci.* 53: 5985-90.

Burton, R., **Crabb, D.P.**, Smith, N.D., Glen, F.C., and Garway-Heath DF. (2012) Glaucoma and reading: exploring the effects of contrast lowering of text. *Optom Vis Sci.* 89:1282-7.

Saunders, L.J., Russell, R.A., and **Crabb, D.P.** (2012) Practical landmarks for visual field disability in glaucoma. *Br J Ophthalmol.* 96:1185-9

Glen, F.C., **Crabb, D.P.**, Smith, N.D., Burton, R. and Garway-Heath DF. (2012) Do patients with glaucoma have difficulty recognizing faces? *Invest Ophthalmol Vis Sci.* 53: 3629-37

Russell, R.A., Malik, R., Chauhan, B.C., **Crabb, D.P.**, and Garway-Heath, D.F. (2012) Improved estimates of visual field progression using bayesian linear regression to integrate structural information in patients with ocular hypertension. *Invest Ophthalmol Vis Sci.* 53:2760-9

**Crabb, D.P.**, and Garway-Heath DF. (2012). Intervals between visual field tests when monitoring the glaucomatous patient: wait-and-see approach. (2011). *Invest Ophthalmol Vis Sci* 53:2760-69.

Russell, R. A., and **Crabb, D.P.** On alternative methods for measuring visual field decay: Tobit linear regression. (2011). *Invest Ophthalmol Vis Sci* 52:9539-40.

Glen, F.C., **Crabb, D.P.**, and Garway-Heath DF. (2011) The direction of research into visual disability and quality of life in glaucoma. *BMC Ophthalmol.* 11:19

Asaoka, R., **Crabb, D.P.**, Yamashita, T., Russell, R.A., Xing Wang, Y., and Garway-Heath DF. (2011) Patients have two eyes! Binocular versus better eye visual field indices. *Invest Ophthalmol Vis Sci* 52:7007-11.

Zhu, H., **Crabb, D.P.**, Fredette, M.J., Anderson, D.R., and Garway-Heath DF. (2011). Quantifying discordance between structure and function measurements in the clinical assessment of glaucoma. *Arch Ophthalmol.* 129(9):1167-74

Zhu, H., **Crabb, D.P.**, Schlottmann, P.G., Wollstein, G. and Garway-Heath DF. (2011). Aligning scan acquisition circles in optical coherence tomography images of the retinal nerve fibre layer. *IEEE Trans Med Imaging.* 30(6):1228-38.

- Smith, N.D., **Crabb, D.P.**, and Garway-Heath, D.F (2011). An exploratory study of visual search performance in glaucoma. *Ophthalmic Physiol Opt.* 31:225-32.
- Bergin, C., Redmond, T.R., Nathwani, N., Verdon-Roe, G.M., **Crabb, D.P.**, Anderson, R.S., and Garway-Heath, D.F (2011). The effect of induced intraocular straylight on perimetric tests. *Invest Ophthalmol Vis Sci* 52:3676-82.
- Crossland, M.D., **Crabb, D.P.**, and Rubin GS. (2011). Task specific fixation behavior in macular disease. *Invest Ophthalmol Vis Sci* 52:411-6
- O’Leary, N., **Crabb, D.P.**, and Garway-Heath, D.F (2010). An *in silico* model of scanning laser tomography image series: an alternative benchmark for the specificity of progression algorithms. *Invest Ophthalmol Vis Sci* 51:6472-82.
- Zhu, H., **Crabb, D.P.**, Schlottmann, P.G., Ho, T. and Garway-Heath DF. (2010). Floating Canvas: quantification of 3D retinal structures from spectral domain optical coherence tomography. *Opt Express* 18:24595-610.
- Zhu, H., **Crabb, D.P.**, Schlottmann, P.G., Lemij, H., Reus, N.J., Healey, P.R., Mitchell, P., Ho, T. and Garway-Heath DF. (2010). Predicting Visual Function from the Measurements of Retinal Nerve Fibre Layer Structure. *Invest Ophthalmol Vis Sci* 51:5657-66.
- Myint, J., Edgar, D.F., Kotecha, A., **Crabb, D.P.**, and Lawrenson JG. (2010). Development of a competency framework for optometrists with a specialist interest in glaucoma. *Eye* 24(9):1509-14.
- Crabb, D.P.**, Smith, N.D., Rauscher, F.G., Chisholm, C.M., Barbur, J.L., Edgar, D.F., and Garway-Heath, D.F. (2010). Exploring eye movements in patients with glaucoma when viewing a driving scene. *PLoS One.* 16;5(3):e9710.
- O’Leary, N., **Crabb, D.P.**, Mansberger, S.L., Fortune, B., Twa, M.D., Lloyd, M.J., Kotecha, A., Garway-Heath, D.F., Cioffi, G.A. and Johnson C.A. (2010). Glaucomatous Progression in Series of Stereoscopic Photographs and Heidelberg Retina Tomograph Images. *Arch Ophthalmol.* 128: 560-568.
- Artes, P.H., and **Crabb, D.P.** (2010). Estimating Normative Limits of Heidelberg Retina Tomograph Optic Disc Rim Area with Quantile Regression. *Invest Ophthalmol Vis Sci* 51: 355-361.
- Kotecha, A., **Crabb, D.P.**, Spratt, A., and Garway-Heath (2009). The relationship between diurnal variations in intraocular pressure measurements and central corneal thickness and corneal hysteresis. *Invest Ophthalmol Vis Sci* 50: 4229-4236.
- Wall, M., Johnson, C.A., Kardon, R.H., and **Crabb, D.P.** (2009). Use of a Continuous Probability Scale to Display Visual Field Damage. *Arch Ophthalmol.* 127: 749-756.
- Kotecha, A., O’Leary, N., Melmoth, D., Grant, S., and **Crabb, D.P.** (2009). The functional consequences of glaucoma for eye-hand co-ordination. *Invest Ophthalmol Vis Sci* 50: 203-213.
- Owen, V.M.F., **Crabb, D.P.**, White E.T., Viswanathan, A.C., Garway-Heath, D.F, and Hitchings, R.A. (2008). Glaucoma and fitness to drive: using binocular visual fields to predict a milestone to blindness *Invest Ophthalmol Vis Sci* 49: 2449-2455.
- Bergin, C., Garway-Heath, D.F, and **Crabb, D.P.** (2008) Evaluating the effect of the new alignment algorithm for longitudinal series of Heidelberg retina tomography images. *Acta Ophthalmol* 86: 207-214.

## Book Chapter

**Crabb, D.P.** (2009) Visual Fields. In *Glaucoma*. (Eds T. Shaarawy, M.B. Sherwood, R.A. Hitchings and J.G. Crowston) Elsevier, Edinburgh. Ch.10.

## Full time PhD students (First supervisor)

- Dr Stuart Gardiner                      2000- 2003  
Title: *Statistical methods for the analysis of visual field data in glaucoma*.  
Currently:  
Assistant Scientist, Devers Eye Institute, Portland USA.
- Dr Andrew Patterson                      2002- 2006  
Thesis: *Analysis of retinal images in glaucoma*  
Currently:  
Research Scientist, Department of Radiology, University of Cambridge.
- Ms. Victoria Owen                      2004- Suspended studies  
Currently: Medical Statistician, University of Nottingham
- Dr Haogang Zhu                      2005- 2011  
Thesis: *Knowledge mining in the clinical assessment of glaucoma*  
Currently:  
NIHR Post Doc Research Fellow , City University London
- Dr Neil O’Leary                      2005- 2011  
Thesis: Optic nerve head image analysis for glaucoma progression detection  
Currently:  
Post Doc Research Assistant, Dalhousie University, Halifax, Canada.
- Dr Ciara Bergin                      2005- 2011  
Thesis: Improving measurements in perimetry for glaucoma  
Currently:  
Research Fellow, Hôpital Ophtalmique Jules-Gonin, Université de Lausanne, Switzerland
- Mr. Nicholas Smith                      2005- 2012  
Thesis: Eye movements, search and perception of visual field defects in glaucoma  
Currently:  
Research Assistant , City University London
  
- Ms. Robyn Burton                      2009-
- Ms. Fiona Glen                      2009-
- Mr. Luke Saunders                      2011-
- Ms. Vera Moenter                      2011-
- Mr. Trishal Boodhna                      2012-
- Mr. Bruno Fidalgo                      2012-