



- 2014 Peng H, Yang J, Xiao H, Bha A, Zhou J, Butler V, Zhou Z, **Gonzalez-Bellido PT**, Wook Oh S, Zeng H, Iannello G, Hawrylycz M, Myers E, and Long F. 3D Virtual Finger Boosts 3D Imaging and Microsurgery, Terabyte Volume Image Data Visualization and Annotation, and Image Analysis. *Nat Commun* 5; published online Epub07/11/online (10.1038/ncomms5342)
- 2014 **Gonzalez-Bellido PT\***, Wardill TJ\*, Ulmer KM, Buresch KC, Hanlon RT. Expression of squid iridescence depends on environmental luminance and peripheral ganglion control. *J Exp Biol*. 217, 850-858.
- 2013 Yang J, **Gonzalez-Bellido PT**, Peng H. A distance-field based automatic neuron tracing method. *BMC Bioinformatics*. doi: 10.1186/1471-2105-14-93.
- 2013 **Gonzalez-Bellido PT**, Peng H, Yang J, Georgopoulos AP, Olberg RM. Eight pairs of descending visual neurons in the dragonfly give wing motor centers accurate population vector of prey direction. *Proc Natl Acad Sci USA*. 110: 696-701.
- 2012 Wardill TJ\*, **Gonzalez-Bellido PT\***, Crook RJ, Hanlon RT. Neural control of tuneable skin iridescence in squid. *Proc R Soc B* 279: 4243-4252. \***Equal Contribution**.
- 2012 **Gonzalez-Bellido PT**, Wardill TJ (Cover). Labeling and confocal imaging of neurons in thick invertebrate tissue samples. *Cold Spring Harbor Protocols*: doi: 10.1101/pdb.prot069625.
- 2011 **Gonzalez-Bellido PT**, Wardill TJ, Juusola M. Compound eyes and retinal information processing in miniature dipteran species match their specific ecological demands. *Proc Natl Acad Sci USA* 108: 4224-4229.
- 2009 **Gonzalez-Bellido PT**, Wardill TJ, Kostyleva R, Meinertzhagen IA, Juusola M. Overexpressing temperature-sensitive dynamin decelerates phototransduction and bundles microtubules in *Drosophila*. *J. Neuroscience* 29: 14199-14210.

### **Publications in preparation**

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**Gonzalez-Bellido\* PT**, Scaros\* , L, Hanlon RT, Wardill TJ. Hold that pose: neural control of the cuttlefish masquerade. *Under review*.

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Fabian S, Wardill TJ, Cornwall HL, Stewart F, **Gonzalez-Bellido PT**. Proportional navigation guides the attack of killer flies and robber flies.

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Supple J, **Gonzalez-Bellido PT**. A population of robber fly descending neurons encodes target tracking information with a novel algorithm.

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### **Reviews and primers**

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2016 **Gonzalez-Bellido PT**, Fabian ST, Nordstrom K. Target detection in insects: optical, neural and behavioral optimizations. *Curr Opin in Neurobiol*. 41:122–128

2013 Nordstrom K and **Gonzalez-Bellido PT**. Invertebrate Vision: Peripheral Adaptation to Repeated Object Motion. *Current Biol*. 23:R655–R656

### **Funding**

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2016-218 Marie Curie Fellowship to Kate Feller. (£132k)

2016-2017 Air Force Office of Scientific Research “Insect Cornea Maps” (allocated as extension to FA9550-15-1-0188, £41K)

2016-2017 Air Force Office of Scientific Research “Insect Cornea Maps” (allocated as extension to FA9550-15-1-0188, £41K)

2015-2018 Air Force Office of Scientific Research “.Neural basis of target tracking in insects: Impact of body size and flight strategy” (FA9550-15-1-0188, £607k)

2014 Royal Society International Exchange Scheme. Title: Reconstruction of prey capture by the dipteran *H.fusca*, a tiny dragonfly mimic (£3k).

2014 Physiological Society Research Grant. Title: Target Selective Descending Neuron analogues in the miniature predatory dipteran species *Coenosia*. (£10k)

2014 Joint Research Grant for new Lecturer. (Internal Grant from the University of Cambridge). Title: Intercepting a small moving target: Neural coding strategies in a tiny dipteran fly (£82k)

2014 Successful bid 2x High Speed Videocameras (Photron SA2) and associated accessories. School of Biological Sciences large Equipment Fund for shared use. (£120)

2012 Extension to the Air Force Office of Scientific Research for support grant to investigate the 3D trajectories of *Coenosia attenuata* predatory flight. (FA9550-10-0472 to RMO. P.I. Prof. Robert Olberg). (£3.5k)

### **Invited Talks**

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- 2017 SOAR Meeting, Oxford, UK.
- 2017 University of Chicago, (OBA department, Chicago).
- 2017 Air Force Research Laboratories (Florida).
- 2017 Neuroethology Gordon Conference (Switzerland).
- 2016 Exeter University, Centre for Research in Animal Behaviour (CRAB)
- 2016 Science Festival Lecture (Cambridge). “What can a tiny brain do?”
- 2016 28th Cambridge Neuroscience Symposium. Invited Speaker
- 2016 CADB Institute Spain, Universidad Pablo de Olavide.
- 2015 "Moving the Senses: From Motion Sensing to Animals in Motion", Bielefeld, Germany.
- 2015 SOAR Meeting, Bristol, UK.
- 2015 Newcastle University, Centre for Neuroecology, UK.
- 2014 Physics of Living Matter Symposium, Cambridge UK.
- 2014 Karger Workshop in Evolutionary Neuroscience, Washington DC, USA.
- 2014 8<sup>th</sup> International Congress of Dipterology. Potsdam, Germany.
- 2013 3<sup>rd</sup> International Conference on Invertebrate Vision, Sweden.
- 2013 Rank Prize Funds Symposium. “Computational basis of early vision”, Cumbria, UK.
- 2012 Japanese Electrophysiology and Biochemistry Society Annual Meeting. Hayama, Japan.
- 2012 Ecology and Evolutionary Biology Department, Brown University, MA, USA.
- 2011 NESM (New England Society for Microscopy). Northboro, MA, USA.
- 2011 WHOI Bio Seminar. Woods Hole Oceanographic Institution, Woods Hole, MA, USA.
- 2011 East Nerve Net Conference. Woods Hole, Marine Biological Laboratory, MA, USA.

### **Supervisory role for**

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- 2016 onwards Marie Curie Fellow (1)
- 2015 onwards PhD student (3)
- 2015 onwards Laboratory Technician (1)
- 2014 - 2016 Undergraduate Projects (5 students)

### **Teaching**

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2016-2017 Neuroethology course (2 Lectures on extreme adaptation for 2<sup>nd</sup> year students)

## Teaching

2016-2017	Neuroethology course (3 Lectures on extreme adaptation for 3 <sup>rd</sup> year students)
2016-2017	Neural systems and Behavior (Workshop for Master students)
2015-2017	Motor Control Module (4 Lectures on invertebrate systems for 3 <sup>rd</sup> year students)
2014-2017	Neurobiology 1B (3 Lectures on Sensorimotor conversion for 2 <sup>nd</sup> year students)
2014-2017	Practical Class demonstrator (Action potentials, eye structure, eye movements)
2014-2016	Undergraduate Project Supervision (5 students)
2012-2013	Summer intern supervision, Marine Biological Laboratory, MA, USA.
2012	Speaker “Research Experience for Undergraduates” (REU prog. funded by NSF).
2011-2013	Union College and Siena College Presentation for 1 <sup>st</sup> year students. NY, USA.
2011	Confocal Microscopy Techniques demonstration.
2007	Demonstrator on EMBO Practical Course, University of Sheffield, UK.
2002	Invertebrate Biology Teaching Assistant, University of Queensland. Australia.
2002	Statistics Teaching Assistant, University of Queensland. Australia.

## Service to Profession

- “Research in biological sciences” presentation for High School students visiting Clare College
- Symposium organizer and co-chair “Neuronal mechanisms underlying target detection” symposium. International society of Neuroethology Congress. (2016)
- Organizing committee member for 2016 Neuroethology Symposium Cambridge (Monthly installment of talks through the year)
- Vice Chairman for the Neuroethology Gordon Research Seminar, Vermont, US (2013). Organizing Committee for East Coast Nerve Net, University of Massachusetts, US (2012) and the Young Physiologist Symposium, Sheffield, UK (2009).
- Reviewer for BBSRC Grants and AFOSR
- Reviewer for the Journal of Comparative Physiology A. , the Journal of Experimental Biology, Current Biology, Frontiers in Neural Circuits, Royal Society letters.
- Reviewer for Konishi awards, Society of Neuroethology Young Scientist award and Gordon conference poster awards
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- Career planning and presentation skills workshop. The Graduate University for Advanced Studies, Sokendai, Japan. (2012).
- Representative Faculty member in the Departmental Postdoctoral Committee.
- Departmental: member of the postdoctoral and wellbeing committees.

## Media Exposure, impact and outreach (selection)

March	2017	Robber fly manuscript covered in news by NYTimes, Scientific American, BBC
		Science, BBC Radio4, Reuters agency
Jan	2016	Article for Physiology News Magazine.
Jan	2016.	Research featured in “Horizons” Cambridge Magazine “think small”
Oct	2015	Daily Planet (Canada) TV Show feature killer fly video o “discoveries”.
Sept.	2015	BBC Science Section “How tiny killer flies pounce on prey”.
August	2015	Outreach activity: “a day of fieldwork” for visiting summer camp students.
March	2014	Nature highlight “How squid control their shine” on JEB squid manuscript.
March	2014	JEB insider primer on 2014 JEB squid manuscript.
January	2013	Explanation of our dragonfly PNAS manuscript in Scientific

March	2014	JEB insider primer on 2014 JEB squid manuscript.
January American.	2013	Explanation of our dragonfly PNAS manuscript in Scientific
April Times	2013	Mention our dragonfly PNAS manuscript in the New York
Sept. MBL.	2012	Electrophysiology demonstration for Brockton High School students,
August	2012	Science Friday interview for NPR radio, Spanish Podcast. “Los secretos de la iridiscencia submarina del calamar”(the secrets of the squid underwater iridescence)
August Tube	2012	“Insane chromatophore” outreach video. 2 million views on You
August Scientist,	2012	News articles regarding squid iridescence for LiveScience.com, New National Geographic News, Science Daily.