

**ANGELA E DOUGLAS**  
**CURRICULUM VITAE**

**Academic Record**

1978 BA Zoology University of Oxford, UK  
1981 PhD University of Aberdeen, UK

**Professional Positions**

2008-present **Daljit S. and Elaine Sarkaria Professor of Insect Physiology and Toxicology**, Cornell University, Ithaca, NY  
2003-2008 **Professor (personal chair)**, University of York, UK  
1999-2003 **Reader**, University of York, UK  
1996-1999 **Senior Lecturer**, University of York, UK  
1986-1996 **Royal Society University Research Fellow** at University of York (1992-1996), University of Oxford (1987-1992) and John Innes Institute (1986-1987)  
1985-1986 **Postdoctoral Fellow** at University of East Anglia, UK  
1981-1985 **Postdoctoral Fellow** at University of Oxford, UK

**Membership of**

American Society for Microbiology  
Entomological Society of America (elected as Fellow 2011)  
International Symbiosis Society  
Royal Entomological Society (Fellow)  
Atkinson Center for Sustainable Future (Faculty Fellow)  
Cornell Center for Comparative and Population Genomics

**Honors and Awards**

2015 2015 Entomological Society of America Recognition award in Insect Physiology, Biochemistry and Toxicology  
2014 College of Agriculture and Life Sciences Award for Outstanding Accomplishments in Research  
2013 Sir Frederick McMaster Fellowship (CSIRO, Australia)  
2013-2016 Visiting Professor at Northwest A&F University, China  
2011 Elected Fellow of Entomological Society of America  
Founders Memorial Lecture of Entomological Society of America  
2005-2008 BBSRC Research Fellowship  
1986-1996 Royal Society University Research Fellowship

**Current Research Grants**

Douglas AE (PI) 09/23/16-08/31/20  
NIH 2R01GM095372 \$1,260,932  
Integrating the metabolic function and population dynamics of gut microbiota for host nutritional health

Marc Fuchs (PI), Douglas AE and Loeb G 08/01/16-07/31/17  
American Vineyard Foundation 2016-1933 \$155,900  
Resistance to grapevine leafroll-associated virus 3 and the grape mealybug

Raguso RA (PI), Douglas AE and Loeb G 10/01/2015-09/30/2018  
NIFA-HATCH \$84,000  
Identification of fruit fly volatiles for improved management of the invasive spotted wing *Drosophila*

Colvin JC (PI) and 13 sub-grantees including Douglas AE 11/01/2014-10/31/2018  
Bill and Melinda Gates Foundation \$10,500,000 (\$528,766 to Douglas)  
African cassava whitefly: outbreak causes and sustainable solutions

Douglas AE (PI) 10/01/2014-09/30/2016  
AFRI-NIFA \$480,000  
Identification of molecular targets to disrupt the bacterial symbiosis in aphid pests

Douglas AE (PI) 3/15/2014-3/14/2017  
NSF IOS-1354743 \$650,000  
How nutritional interactions in multi-partner symbioses are structured

Douglas AE (PI) 7/1/14-12/31/16  
Bayer Crop Science \$252,453  
Immunological attack as a possible target for pest control

Douglas AE (PI), Jaenike J and Loeb G 1/1/13-12/31/17  
NSF BIO 1241099 \$1,968,342  
Animal-microbial interactions as an engine of phylogenetic and functional diversity: insights from interactions between drosophilids and their resident microbiota

### **Partner Participation in Current Grants**

O'Brochta D (PI) 04/01/2014-03/31/2019  
Douglas AE (member of Steering Committee and Meetings Committee)  
NSF Research Coordination Network (RCN) \$99,104  
Insect genetic technologies (igtrcn.org)

Lifka D (PI), Furlani T and Wolski R (coPIs) 10/15/2015-09/30/2020  
Douglas AE (project partner)  
NSF ACI (Division of Advanced Cyberinfrastructure) \$4,975,094  
CC\*DNA DIBBS: Data analysis and management building blocks for multi-campus cyberinfrastructure through cloud federation

Ewer J (PI), Douglas AE (collaborator) 11/01/2016-10/31/2019  
Office of Naval Research BAA15-001 \$109,920  
Impact of microbiome on the biological clock

Selhuber C (Biocompatible Nanomaterials Group Leader, Department of Materials Science and Engineering, Christian-Albrechts Universitat, Kiel, Germany)  
Alexander Humboldt Foundation Fellowship 2014-2016  
(I am co-host with Dr Chris Ober, Dept Material Science & Engineering, Cornell University)

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### **Selected Recent Completed Grants**

Jander G (PI), Douglas AE AFRI-NIFA NYW-2011-04650 Osmoregulatory collapse to control phloem-feeding insect pests	03/01/2012-02/28/2015 \$452,000
Douglas AE (PI) NIH (NIGMS) 1R01GM095372 The protein nutrition of the symbiotic system between <i>Drosophila</i> and its gut microbiota	1/01/2011-12/31/2015 \$1,617,247
Douglas AE (PI), Jander G and van Wijk K NSF IOS-0919765 Metabolic coupling in an obligate insect-bacterial symbiosis	2009-2012 \$450,000
Behmer S (PI), Douglas AE and Grebenok R USDA-AFRI Control of sap-feeding insect pests by plant sterols	2010-2012 \$449,190

### **Selected Recent and Upcoming Invited Conference Presentations**

2018	11 <sup>th</sup> European Congress of Entomology, Naples, Italy
2017	IdeasLab on Microbiomes at World Economic Forum, Davos 14 <sup>th</sup> Symposium on Bacterial Genetics and Ecology, Aberdeen, UK Gordon Research Conference on Animal-Microbial Symbiosis: keynote speaker for early career symposium, and session chair for main symposium Company of Biologists Workshop on Symbiosis in the Microbial World, UK 4th International Conference on Model Hosts, Rhodes, Greece
2016	RoundTable on Science and Welfare in Laboratory Animal Use under the auspices of the Institute for Laboratory Animal Research (ILAR) of the National Academy of Sciences Major Evolutionary Transitions Workshop, Oxford University, UK International Congress of Entomology, Symposium on Insect Gut Microbe Interactions Annual Meeting of the Microbiology Society, UK: Insights from within: current understanding of microbial interactions with insects. Nutritional Homeostasis Workshop, Bonn, Germany KickOff Meeting of Collaborative Research Center 1182: Origin and Function of MetaOrganisms, Kiel, Germany
2015	Entomological Society of America Annual Meeting, PBT Section Symposium: Water and Ion Homeostasis-Role of Aquaporins and Other Channel Proteins Minneapolis, MN Keystone Symposium on The Arthropod Vector: The Controller of Transmission, Taos, New Mexico Frontiers in Host Microbe Interactions, MBA Woods Hole Gordon Conference on Ecological and Evolutionary Genomics, Biddeford, MA German Society for Microbiology Annual Meeting, Marburg, Germany 6 <sup>th</sup> Congress of European Microbiologists, Maastricht, Netherlands Gordon Conference on Animal-Microbe Symbioses, Waterville Valley, NH Development and Symbiosis Conference, University of Minnesota, Minneapolis

### **Selected Recent and Upcoming Organiser of Workshops/Conferences**

- 2017-19 Co-organizer of Gordon Congerence on Ecological and Evolutionary Genetics
- 2016 Co-Convener for section on *Insect Immunity* at International Congress of Entomology (ICE) 2016 Orlando, Florida, USA;  
Co-Organizer of Symposium “Insect Gut Microbe Interactions” with Bruno Lemaitre
- 2015-16 Convenor of Biology without Borders Lecture Series at Cornell University
- 2015 Co-organizer of Plenary Session “Metabolism at the Host-Microbial Interface” of Annual Meeting of American Society for Microbiology (with Mary O’Riordan)
- 2014 Co-organizer of 5<sup>th</sup> Beneficial Microbes Conference, American Society for Microbiology (with Rob Knight) (September 27-30)
- 2014-15 Co-organizer of Seminar Series of Cornell Center for Comparative and Population Genomics

### **Selected Recent and Upcoming Invited Seminars**

- 2016 Michael Perkins Memorial Lecture, Cambridge University, UK  
Department of Entomology, Penn State University  
Charles Chesley Doane Memorial Lecture, Department of Entomology, University of Wisconsin at Madison  
Department of Biology, University of Western Ontario, Canada  
School of Integrated Plant Science, Cornell University  
Stickland Memorial Lecture at University of Alberta, Edmonton  
Department of Entomology, North Carolina State University: Mike Duke Memorial Lecture, graduate student invitation  
Bayer Crop Science, Monheim, Germany
- 2015 Department of Entomology/Department of Microbiology University of Georgia  
Kansas State University  
University of Pennsylvania  
Population Biology, Ecology and Evolution Graduate Program, Emory University  
Evolution Group, Cornell University  
Department of Microbiology, Cornell University

### **Selected Recent and Upcoming Outreach activities**

- 2017 The Art of Symbiosis, in collaboration with MetaOrganisms at Kiel University, Germany
- 2015-17 Workshop on bacterial genomes (2 x one week) for local higher education institutions, in collaboration with Corning Community College and Mansfield University, Pennsylvania
- 2014 Discussion session: perspectives on the immune system, Cornell Institute for Biology Teachers  
Organizer of art exhibition in Mann Library – Shifting the Paradigm: Microbes as Animal Help-Mates
- Annual Department of Entomology Open Day: Insectapalooza. Organizer of laboratory exhibit for the general public

### **Selected Recent Review Panels**

- 2015 NIH Panel member for NIMH RFA on Gut-Microbiome-Brain Interactions and Mental Health, held on 11 March 2015  
AFRI Competitive Grant Program A1111 Plant Associated Insects and Nematodes held on 15-18 September 2015
- 2014 NSF Dimensions of Diversity Program Review Panel 4-6 June  
NIH/SREA reviewer for a CSR study section meeting held on 11 June 2014
- 2013 National Institute of General Medical Sciences [NIGMS] Review Panel for Dynamics of Host-Associated Microbial Communities June 18<sup>th</sup>

### **Current Editorial Board Membership**

- Annual Reviews of Entomology Nov 2013-present, board member; editor from 2017  
Applied and Environmental Microbiology Jan 2014- Dec 2019  
Guest Editor for volume on Microbial Symbionts in Current Opinion in Insect Science 2014  
Journal of Chemical Ecology Jan 2014-Dec 2018  
Journal of Insect Physiology (current)

### **Current Committee Membership of External Organizations**

- 2015-2016 Member of the Scientific Advisory Board of The Citrus Research and Development Foundation
- 2014-2019 Steering committee and conference committee of NSF Research Coordination Network on Insect Genetic Technologies (IGTRCN)
- 2014 External reviewer of Department of Entomology, Iowa State University

### **Recent Teaching at Cornell University**

- 2016 ARTH 4151 Topics in Media Arts: one lecture and lab visit for students.  
Graduate course BIOMG7810: Problems in Genetics and Development: one session
- 2015 Graduate course BIOMG7810: Problems in Genetics and Development: one session  
Graduate course ENTOM7670: Professional Development in Entomology Insect Physiology: (4830): 20 lectures and linked labs/projects
- 2014 Chemical Ecology (3690): 3 lectures  
Graduate course BIOMG7810: Problems in Genetics and Development: one session
- 2013 Insect Physiology (4830): 20 lectures and linked labs/projects  
Insect Physiology at UC Davis, skype discussion for one session in collaboration with Dr Walter Leal, Department of Entomology, University of California, Davis  
Graduate course BIOMG7810: Problems in Genetics and Development: one session

### **Selected Cornell University Committee Membership**

- 2016-2019 Member of Cornell Institute of Biotechnology Faculty Advisory Board
- 2016-2019 Member of University Faculty Committee on Program Review
- 2014-2015 Member of Search Committee for Director of Baker Institute
- 2014 Member of Search Committee for the Director of Cornell University Press
- 2012-2014 Member of Faculty Advisory Committee On Tenure Appointments
- 2012-present Member of Cornell University Press Science Faculty Board
- 2012-2016 Member of Life Sciences Advisory Committee (Chair from August 2013)
- 2011-2013 Member of Graduate Admissions Committee (Field of Microbiology)

2011-2012 Chair of Search Committee: tenure-track appointment in Insect Immunology  
2011-2013 Faculty Advisor for the Graduate Women in Science  
2010-2013 Member of Departmental Strategy Committee  
2010-2013 Member of University Local Action (Research) Committee  
2009-2013 Member of Departmental Executive Committee  
2008-2011 Member of Graduate Admissions Committee (Field of Entomology)

### **Laboratory Personnel**

Current: 7 postdoctoral staff, 2 graduate students, 3 technicians  
Total: 32 graduated with PhD degree, 27 postdoctoral researchers

### **Publications**

Current publication list available at <http://angeladouglaslab.com/publications/>  
221 refereed publications, including 33 review articles

#### Academic Books:

Douglas AE *The Multi-Organismal Animal* commissioned by Princeton University Press and submitted in August 2016  
Simpson SJ and Douglas AE (editors) 2012. *The Insects – Structure and Function*. Cambridge University Press  
Douglas AE, 2010. *The Symbiotic Habit*. Princeton University Press.  
Douglas AE 1994. *Symbiotic Interactions*. Oxford University Press.  
Smith DC and Douglas AE 1987. *The Biology of Symbiosis*. Edward Arnold