

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

2017 Karl August Möbius Fellowship Award
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 Award
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 09/01/1918-08/31/2019
Syngenta \$100,000
Exploration of dsRNA in insects

Fuchs M (PI), Douglas AE & Loeb G (coPIs) 07/01/17-12/31/19
California Department of Food and Agriculture \$734,956
Resistance to grapevine leafroll-associated virus 3 and grape mealybug

Rasgon J (PI), Douglas AE, Grozinger C & Sakamoto JM (coPIs) 06/01/17-05/31/20
NSF EDGE Program \$2,500,000 (\$264,789 to AED)
Accelerating arthropod genetic manipulation through Remote Control

Douglas AE (PI), Robert Turgeon (co-PI) 05/01/17-04/30/20
NIFA Grant GRANT12216941 \$474,650.00
Enhancing the Efficacy of in planta RNAi against Phloem-Feeding Insects

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) 04/15/15-04/14/19
AFRI-NIFA \$480,000
Identification of Molecular Targets to Disrupt the Bacterial Symbiosis in Aphid Pests

Douglas AE (PI) 3/15/2014-3/14/2019
NSF IOS-1354743 \$650,000
How Nutritional Interactions in Multi-Partner Symbioses are Structured

Douglas AE (PI), Jaenike J and Loeb G (1/1/13-12/31/18)
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)

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

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

Selected Recent Completed Grants

Douglas AE (PI) 7/1/14-12/31/17
Bayer Crop Science \$252,453
Immunological attack as a possible target for pest control

Douglas AE (PI), Turgeon ER, van Eck J (10/01/14-09/30/16)
Atkinson Venture Fund \$107,208
Implementing a novel control strategy against *Bemisia* whiteflies

Jander G (PI), Douglas AE 03/01/2012-02/28/2015
AFRI-NIFA NYW-2011-04650 \$452,000
Osmoregulatory collapse to control phloem-feeding insect pests

Douglas AE (PI) 1/01/2011-12/31/2015
NIH (NIGMS) 1R01GM095372 \$1,617,247
The protein nutrition of the symbiotic system between *Drosophila* and its gut
microbiota (Andrew Clark and Brian Lazzaro, associated personnel)

Douglas AE (PI), Jander G and van Wijk K 2009-2012
NSF IOS-0919765 \$450,000
Metabolic coupling in an obligate insect-bacterial symbiosis

Behmer S (PI), Douglas AE and Grebenok R 2010-2012
USDA-AFRI \$449,190
Control of sap-feeding insect pests by plant sterols

Selected Recent Invited Conference Presentations

- 2018 The Uncultivable Bacteria Symposium, The Forsyth Institute, Boston
European Congress of Entomology, Naples, Italy (plenary speaker)
Next Generation Insect Management Summit, Corteva, Iowa
- 2017 World Economic Forum (Davos, Switzerland): IdeasLab on Microbiomes
Metabolism: Disease Models and Model Organisms. 36th Summer Symposium in
Molecular Biology at Pennsylvania State University
BAGECO_14: 14th Symposium on Bacterial Genetics and Ecology "Talking with
the neighbours", Aberdeen, Scotland
Keynote speaker at Gordon Research Seminar on Animal-Microbial Symbioses, Mt
Snow, VT

- The Human Microbiome: emerging themes at the horizon of the 21st century. NIH Common Fund, Bethesda, Washington DC
- 4th International Conference on Model Hosts. Aegean conferences, Rhodes
- Entomological Society of Canada Annual Meeting, Winnipeg, Canada (keynote)
- The Company of Biologists Workshop on Symbiosis in the Microbial World: from Ecology to Genome Evolution, UK
- 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
- 6th 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 Conferences/Workshops

- 2019-21 Organizer of Gordon Conference on Animal-Microbial Symbioses (Vice-Chair in 2019; Chair in 2021)
- 2018 Co-organizer of symposium Evolution of Hosts and Parasites with their Microbiomes: a problem of unfaithful relationships at Joint Congress on Evolutionary Biology Montpellier, France (with Hinrich Schulenburg, Joaquin Martinez and Nolwenn Dheilly)
- 2017-19 Co-organizer of Gordon Congerence on Ecological and Evolutionary Genetics (Vice co-Chair in 2017; co-Chair in 2019)
- 2017-20 Chair of Life Sciences Lecture Series at Cornell University
- 2015/16 Convenor of Biology without Borders Lecture Series at Cornell University
- 2016 Co-convenor for section on *Insect Immunity* (comprising 13 symposia) at International Congress of Entomology (ICE) 2016 Orlando, Florida, USA; and co-Organizer of Symposium “Insect Gut Microbe Interactions” with Bruno Lemaitre
- 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 5th 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
- 2008-present Organizer of Annual Patton Lecture, Cornell University

Selected Recent Invited Seminars

- 2018 Department of Microbiology, University of Tennessee at Knoxville
Junior Researchers Training Workshop, Center for Biosciences, University of Kiel, Germany
Our Microbes Our Global Health Workshop, Cornell University
Graduate Society Fest of the Boyce Thompson Institute
Department of Molecular, Cellular, and Biomedical Sciences University of New Hampshire
- 2017 University of Kiel, Germany
Zhejiang University, China (120th year celebration series)
Department of Biochemistry and Molecular Biology, Pennsylvania State University
Department of Plant Pathology, Cornell University
- 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
Strickland 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 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 per year) 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

Current Editorial Board Membership

- 2017-2021 Editor: Annual Review of Entomology
2017-2020 Environmental Microbiology (Board Member)

2014-2019 Applied and Environmental Microbiology (Board Member)
2014-2018 Journal of Chemical Ecology (Board Member)
2013-2017 Annual Review of Entomology (Board Member)
Ongoing Journal of Insect Physiology (Board Member)
2014 Guest Editor for volume on Microbial Symbionts in Current Opinion in Insect Science

Current Committee Membership of External Organizations

2018- Committee member for Max Planck Institute for Chemical Ecology, Jena, Germany
2017-2019 External Advisory Board of Collaborative Research Centre (CRC) "Origin and Function of Metaorganisms" (DFG, Germany)
2017-2018 Member of Stammkommission and Search Committee for Research Director at Max Planck Institute for Chemical Ecology, Jena, Germany
2015-2017 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)

Selected Cornell University Committee Membership

2017-2019 Life Sciences Lectures Series (Chair)
2017 Cornell Presidential Fellowship Selection Committee
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- 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: 9 postdoctoral staff, 1 graduate students, 4 technicians, 3 undergraduate assistants
Total: 32 students graduated with PhD degree, 30 postdoctoral researchers

Publications

Publication list available at <http://angeladouglaslab.com/publications/>