

Curriculum vitae: Sophien Kamoun

[September 2016]

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Education

Pierre & Marie Curie Univ., Paris, France	Cell Biology and Genetics	Maitrise	1987
University of California, Davis, USA	Genetics	PhD	1991
NSF CEPRAP, UC Davis, USA	Molecular Plant Pathology	Postdoc	1991-94

Appointments

2007-present	Senior Scientist, The Sainsbury Laboratory, Norwich Research Park, UK
2014-present	Postgraduate Research Director, The Sainsbury Laboratory, UK.
2012-present	Professor of Biology, Univ. of East Anglia, Norwich, UK
2009-2014	Head, The Sainsbury Laboratory, Norwich Research Park, UK
2009-2012	Honorary Professor, Univ. of East Anglia, Norwich, UK
2006-2007	Professor, Dept. Plant Pathology, Ohio State Univ, Ohio Ag Res Dev Center (OARDC), Wooster
2002-2006	Associate Professor, Dept. Plant Pathology, Ohio State Univ, OARDC, Wooster
1998-2002	Assistant Professor, Dept. Plant Pathology, Ohio State Univ, OARDC, Wooster
1994-1997	Senior Research Scientist, Dept. Phytopathology, Wageningen Univ, The Netherlands
1991-1994	Postdoc, NSF Ctr for Engineering Plants for Resistance Against Pathogens (CEPRAP), UC Davis
1987-1991	Research Assistant, Dept. Plant Pathology and Genetics Graduate Group, UC Davis
1986	Research Assistant, The Wistar Institute, Philadelphia, Pennsylvania, USA

Teaching

2015	Workshop "Writing scientific papers"; Norwich Biosciences Doctoral Training Partnership (DTP)
2004-2014	Workshops "Computational Biology" and "Don't Perish: Writing a scientific paper"
1998-2007	"Agricultural Genomics: Principles and Applications" and "Plant-Microbe Interactions"

Awards and Recognitions

2014	EMBO (elected member)
2014-2016	Thomson Reuters Highly Cited Researcher
2014	Member, Gregor Mendel Institute of Molecular Plant Biology Science Advisory Board
2013	American Association for the Advancement of Science (elected fellow)
2013	American Phytopathological Society Noel Keen Award
2012	Académie d'Agriculture de France (elected member "correspondant étranger")
2012	Academia Europaea (elected member)
2012	President, International Society for Molecular Plant-Microbe Interactions (IS-MPMI)
2012	Experimental Plant Science Graduate School Advisory Board (Netherlands)
2011	INRA Département Santé des Plantes et Environnement Advisory Board (France)
2010	Daiwa Adrian Prize (scientific collaboration between Japanese and British research teams)
2010	Science Advisory Board, Max Planck Institute for Terrestrial Microbiology
2010	Thomson Reuters Fast Breaking Paper: Hogenhout <i>et al.</i> Mol Plant-Microbe Interact 22:115.
2009	Science Advisory Board, Two Blades Foundation
2009	Think Tank "wheat stem rust", San Diego, CA.
2008	BASF Science Panel
2007	Board of Directors, International Society for Molecular Plant-Microbe Interactions (IS-MPMI).
2006	WE Krauss Director's Award for Excellence in Graduate Research Mentorship, OARDC

2004 Pomerene Teaching Award, CFAES, Ohio State University
 2004 OARDC Junior Faculty Research Award
 2003 American Phytopathological Society Syngenta Award
 2002 Advisory Committee, NSF Research Collaboration Network on *Phytophthora* Molecular Genetics.
 2001 Advisory Committee, Potato Genome Project, NSF Plant Genome Program

Research Funding (selected)

2015-2018 "An effector-detector domain in a rice immune receptor". BBSRC, £217,000.
 2012-2017 "Next generation disease resistance breeding in plants". ERC Advanced Investigator. €2,500,000.
 2011-2014 "Mechanisms of virulence and avirulence in the Avr3a family of *Phytophthora*". BBSRC, £280,000.
 2011-2014 "A pipeline to identify durable late blight disease resistance in potato". BBSRC, £300,000.
 2008-2011 "Role of the *P. infestans* secreted kinase CRN8 in plant disease". BBSRC, £353,325.
 2008-2011 "Monitoring of Avr genes in *P. infestans* populations". BASF Plant Science, £220,000.
 2005-2007 "Genome Sequence of *P. infestans*". NSF-USDA Microbial Genome Sequencing. \$3,745,458.
 2005-2007 "Genome sequence of *P. capsici*". NSF-USDA Microbial Genome Sequencing. \$1,729,226.
 2002-2006 "Functional Genomics of *Phytophthora*". NSF Plant Genome Research Program, \$1,891,617.

Organisation of International conferences

2018 Advisory Committee Chair, International Congress of Plant Pathology (ICPP18) in Boston, MA.
 2017 Co-organiser, Plant Pathogenomics Training School, Norwich, UK.
 2014 Co-organiser, Oomycete Molecular Genetics Network Annual Meeting, Norwich, UK.
 2013 Co-organiser, Keynote session "Genomics & plant pathology", Int. Congress of Plant Pathology, Beijing, China.
 2013 Co-organiser, Keystone Symposium, Plant Innate Immunity.
 2012 Co-organiser, 30th New Phytol Symp "Immunomodulation by plant associated organisms", Fallen Leaf Lake, CA
 2011 Co-organiser, Plant Pathogenomics Conference, Shenzhen, China.
 2009 Co-organiser, 22nd New Phytologist Symposium "Effectors in Plant Microbe Interactions", Paris.
 2008 Workshop chair, Keystone Symposium, Plant Innate Immunity, Keystone, Colorado.
 2008 Co-organiser, Third International Late Blight Conference, Beijing, China.
 2007 Chair, 13th International Congress of Molecular Plant-Microbe Interactions, Sorrento, Italy.
 2007 Chair, session "Plant/Environment Interactions", 4th Solanaceae Genomics Workshop.
 2005 Chair, session "Genomes and Evolution", 23d Fungal Genetics Conference.
 2001 Organiser, "Oomycete Molecular Genetics 2001" Conference, Wooster, Ohio.
 2000 Organiser, "*Phytophthora* Molecular Genetics Symposium: Beyond Y2K" conference, Wooster, Ohio.

Invited presentations (selected from >250)

2016 William Dewar Cooper Lecture, University of British Columbia
 2016 Department of Biology, Stanford University
 2015 Max Planck Institute for Evolutionary Biology, Plön, Germany.
 2015 10th DOE Joint Genome Institute Genomics of Energy & Environment Meeting, Walnut Creek, CA.
 2015 Donald Danforth Plant Science Center, St. Louis, MO.
 2015 Molecular Microbiology, Washington University Medical School, St Louis, MO.
 2014 IRC2014 International Rice Congress, Bangkok, Thailand.
 2014 New Phytologist workshop, Origin and evolution of plants and their interactions with fungi, London.
 2014 Tübingen International PhD Programme (TIPP) Retreat.
 2014 International Congress of Molecular Plant-Microbe Interactions, Rhodes Greece.
 2014 12th European Conference on Fungal Genetics, Seville, Spain.
 2013 Keynote presentation at the International Congress of Plant Pathology, Beijing, China..
 2013 Frontiers in Genomics, Cuernavaca, Mexico.
 2012 Keynote presentation at 50th Anniversary Meeting of Korean Society of Plant Pathology, Seoul, Korea.
 2012 Keynote presentation at 5th Croatian Congress of Microbiology, Primošten, Croatia.

2012 CSHL Quantitative Biology Symposium “The Biology of Plants”
 2012 Whetzel Westcott Dimock Lecture, Cornell University, Ithaca, NY.
 2012 Center for Plant Molecular Biology (ZMBP), Tuebingen, Germany.
 2012 Lausanne Genomics Days, Switzerland.
 2011 «L’Immunité innée», Académie des Sciences et Académie d’agriculture de France, Paris.
 2011 CSHL Meeting on Plant Genomes & Biotechnology
 2011 Keynote presentation at International Arabidopsis Conference, Madison, WI
 2011 Plenary talk at Advances in Genome Biology and Technology (AGBT), Marco Island, FL
 2010 Annual Plant Sciences Institute Mini-Symposium: Effectors of Plant Pathogens, Iowa State
 2010 Plenary talk at SOL 2010, 7th Solanaceae conference Dundee, Scotland
 2010 Plenary talk at Crop Functional Genomics, Jeju, Korea
 2010 Plenary talk at Keystone Conference, Granlibakken, Tahoe, California
 2009 9th International Plant Molecular Biology Congress, St Louis, Missouri.
 2009 Plenary talk at 8th Plant GEM meeting, Lisbon, Portugal.
 2009 Keynote presentation at Botanical Congress, “Phytopathology” Symposium, Leipzig, Germany.
 2009 Keynote presentation at Dutch national meeting ALW, Molecular Genetics, Lunteren, Netherlands.
 2009 Plenary talk at 14th International Congress of Molecular Plant-Microbe Interactions, Quebec
 2009 25th Fungal Genetics Conference, Workshop “Fungal and oomycete effectors”, Asilomar, California.
 2008 International Congress of Plant Pathology, session “Host-pathogen interactions”, Torino, Italy.
 2008 50th Anniversary of the Department of Genetics, Smurfit Inst., Trinity College, Dublin, Ireland.
 2008 Gordon Research Conference “Cellular and Molecular Fungal Biology”, Holderness, NH

Edited books

Martin, F. and Kamoun, S. (Eds) 2012. “Effectors in Plant-Microbe Interactions”. Wiley-Blackwell.
Lamour, K. and Kamoun, S. (Eds) 2009. “Oomycete Genetics and Genomics: Diversity, Interactions, and Research Tools”. John Wiley and Sons.
Grant, M. and Kamoun, S. (Eds) 2008. Themed issue on biotic interactions. *Curr Opin Plant Biol* 11:357.
Kamoun, S. (Topical Editor) 2003. *Encyclopedia of Plant and Crop Science: Fungal and oomycete diseases.*

Editorials Boards

2006-2009 Monitoring Editor, *Plant Physiology*.
 2006-2009 Editor In Chief, *IS-MPMI Reporter*.
 2003-2008 Senior Editor, *Molecular Plant Pathology*.
 2000-2003 Associate Editor, *Molecular Plant-Microbe Interactions*.

Contributions to early career scientists

Since 2007, I supervised 17 students and 24 postdocs. Prior to that during my tenure at Ohio State University, I supervised 22 students and 12 postdocs. The great majority (>90%) of my students and postdocs have gone on to successful independent careers. These include: Edgar Huitema (James Hutton Institute, Scotland, ERC Grant holder), Elodie Gaulin (Paul Sabatier University, Toulouse, France), Jorunn Bos (James Hutton Institute, Scotland, ERC Grant holder), Miaoying Tian (University of Hawaii, USA), Nicolas Champouret (JR Simplot Co., USA), Lina Quesada (North Carolina State University, USA), Thirumala Devi Kanneganti (St. Jude Children’s Research Hospital, USA), Carolyn Young (The Samuel Roberts Noble Foundation, USA), Sang-Keun Oh (Chungnam National University, Korea), Liliana Cano (University of Florida, USA), Ricardo Oliva (International Rice Research Institute, Philippines), Carla Garzon (Oklahoma State University, USA), Tolga Bozkurt (Imperial College, UK), Maria Eugenia Segretin (CONICET, Argentina), Sebastian Schornack (Sainsbury Laboratory at Cambridge University, ERC Grant holder), Sylvain Raffaele (INRA Toulouse, ERC Grant holder), Kentaro Yoshida (Kobe University, Japan), Diane Saunders (Earlham Institute, UK, ERC Grant holder), Vladimir Nekrasov (Rothamsted Research, UK), Suomeng Dong (Nanjing University, China), Yasin Dagdas (Gregor Mendel Institute, Austria).

Sophien Kamoun Top 20 Publications

(co-senior authorship marked with *, citations from ISI <http://www.researcherid.com/rid/B-3529-2009>)

182. Dagdas, Y.F., Belhaj, K., Maqbool, A., Chaparro-Garcia, A., Pandey, P., Petre, B., Tabassum, N., Cruz-Mireles, N., Hughes, R.K., Sklenar, J., Win, J., Menke, F., Findlay, K., Banfield, M.J., **Kamoun, S.***, and Bozkurt, T.O.* 2016. An effector of the Irish potato famine pathogen antagonizes a host autophagy cargo receptor. *eLife*, 5:e10856. [Just published - Times cited: 4]
149. Dong, S., Stam, R., Cano, L.M., Song, J., Sklenar, J., Yoshida, K., Bozkurt, T.O., Oliva, R., Liu, Z., Tian, M., Win, J., Banfield, M.J., Jones, A.M.E., van der Hoorn, R.A.L., and **Kamoun, S.** 2014. Effector specialization in a lineage of the Irish potato famine pathogen. *Science*, 343:552-555. [Times cited: 50; highlighted in a Perspective article by Science; Faculty of 1000 rated]
137. Yoshida, K., Schuenemann, V., Cano, C., Pais, P., Mishra, B., Sharma, R., Lanz, C., Martin, F., **Kamoun, S.**, Krause, J., Thines, M., Weigel, D., and Burbano, H. 2013. The rise and fall of the *Phytophthora infestans* lineage that triggered the Irish potato famine. *eLife*, 2:e00731. [Times cited: 66; Faculty of 1000 rated]
131. Cooke, D.E.L.* , Cano, L.M., Raffaele, S., Bain, R.A., Cooke, L.R., Etherington, G.J., Deahl, K.L., Farrer, R.A., Gilroy, E.M., Goss, E.M., Grünwald, N.J., Hein, I., MacLean, D., McNicol, J.W., Randall, E., Oliva, R.F., Pel, M.A., Shaw, D.S., Squires, J.N., Taylor, M.C., Vleeshouwers, V.G.A.A., Birch, P.R.J., Lees, A.K., and **Kamoun, S.*** 2012. Genome analyses of an aggressive and invasive lineage of the Irish potato famine pathogen. *PLoS Pathogens*, 8:e1002940. [Times cited: 80]
118. Bozkurt, T.O., Schornack, S., Win, J., Shindo, T., Ilyas, M., Oliva, R., Cano, L.M., Jones, A.M.E., Huitema, E., van der Hoorn, R.A.L., and **Kamoun, S.** 2011. *Phytophthora infestans* effector AVRblb2 prevents secretion of a plant immune protease at the haustorial interface. *Proceedings of the National Academy of Sciences USA*, 108:20832-20837. [Times cited: 86]
112. Raffaele, S., Farrer, R.A., Cano, L.M., Studholme, D.J., MacLean, D., Thines, M., Jiang, R.H.Y., Zody, M.C., Kunjeti, S.G., Donofrio, N.M., Meyers, B.C., Nusbaum, C., and **Kamoun, S.** 2010. Genome evolution following host jumps in the Irish potato famine pathogen lineage. *Science*, 330:1540-1543. [Times cited: 136; Faculty of 1000 rated]
108. Schornack, S., van Damme, M., Bozkurt, T.O., Cano, L.M., Smoker, M., Thines, M., Gaulin, E., **Kamoun S.***, and Huitema, E.* 2010. Ancient class of translocated oomycete effectors targets the host nucleus. *Proceedings of the National Academy of Sciences USA*, 107:17421-17426. [Times cited: 107]
106. Bos, J.I.B., Armstrong, M.R., Gilroy, E.M., Boevink, P.C., Hein, I., Taylor, R.M., Zhendong, T., Engelhardt, S., Vetukuri, R.R., Harrower, B., Dixelius, C., Bryan, G., Sadanandom, A., Whisson, S.C., **Kamoun, S.***, and Birch, P.R.J.* 2010. *Phytophthora infestans* effector AVR3a is essential for virulence and manipulates plant immunity by stabilizing host E3 ligase CMPG1. *Proceedings of the National Academy of Sciences USA*, 107:9909-14. [Times cited: 144]
100. Oh, S.-K., Young, C., Lee, M., Oliva, R., Bozkurt, T., Cano, L.M., Win, J., Bos, J.I.B., Liu, H.,-Y., van Damme, M., Morgan, W., Choi, D., van der Vossen, E.A.G., Vleeshouwers, V., and **Kamoun, S.** 2009. *In planta* expression screens of *Phytophthora infestans* RXLR effectors reveal diverse phenotypes, including activation of the *Solanum bulbocastanum* disease resistance protein Rpi-blb2. *Plant Cell*, 21:2028-2947. [Times cited: 108]
99. Haas, B.J.* , **Kamoun, S.***, Zody, M.C., Jiang, R.H.Y., Handsaker, R.E., Cano, L.M., Grabherr, M., Kodira, C.D., Raffaele, S., Torto-Alalibo, T., Bozkurt, T.O., Ah-Fong, A.M.V., Alvarado, L., Anderson, V.L., Armstrong, M.R., Avrova, A., Baxter, L., Beynon, J., Boevink, P.C., Bollmann, S.R., Bos, J.I.B., Bulone, V., Cai, G., Cakir, C., Carrington, J.C., Chawner, M., Conti, L., Costanzo, S., Ewan, R., Fahlgren, N., Fischbach, M.A., Fugelstad, J., Gilroy, E.M., Gnerre, S., Green, P.J., Grenville-Briggs,

L.J., Griffith, J., Grunwald, N.J., Horn, K., Horner, N.R., Hu, C.-H., Huitema, E., Jeong, D.-H., Jones, A.M.E., Jones, J.D.G., Jones, R.W., Karlsson, E.K., Kunjeti, S.G., Lamour, K., Liu, Z., Ma, L., MacLean, D., Chibucos, M.C., McDonald, H., McWalters, J., Meijer, H.J.G., Morgan, W., Morris, P.F., Munro, C.A., O'Neill, K., Ospina-Giraldo, M., Pinzon, A., Pritchard, L., Ramsahoye, B., Ren, Q., Restrepo, S., Roy, S., Sadanandom, A., Savidor, A., Schornack, S., Schwartz, D.C., Schumann, U.D., Schwessinger, B., Seyer, L., Sharpe, T., Silvar, C., Song, J., Studholme, D.J., Sykes, S., Thines, M., van de Vondervoort, P.J.I., Phuntumart, V., Wawra, S., Weide, R., Win, J., Young, C., Zhou, S., Fry, W., Meyers, B.C., van West, P., Ristaino, J., Govers, F., Birch, P.R.J., Whisson, S.C., Judelson, H.S., and Nusbaum, C.* 2009. Genome sequence and analysis of the Irish potato famine pathogen *Phytophthora infestans*. *Nature*, 461:393-398. [Times cited: 462; Faculty of 1000 rated]

92. Song, J., Win, J., Tian, M., Schornack, S., Kaschani, F., Ilyas, M., van der Hoorn, R.A.L., and **Kamoun, S.** 2009. Two effectors secreted by unrelated eukaryotic plant pathogens target the tomato defense protease Rcr3. *Proceedings of the National Academy of Sciences USA*, 106:1654-1659. [Times cited: 104]

88. Van der Hoorn, R.A. and **Kamoun, S.** 2008. From guard to decoy: a new model for perception of plant pathogen effectors. *Plant Cell*, 20:2009-2017. [Times cited: 227]

79. Win, J., Morgan, W., Bos, J., Krasileva, K.V., Cano, L.M., Chaparro-Garcia, A., Ammar, R., Staskawicz, B.J., and **Kamoun, S.** 2007. Adaptive evolution has targeted the C-terminal domain of the RXLR effectors of plant pathogenic oomycetes. *Plant Cell*, 19:2349-2369. [Times cited: 160]

68. Bos, J.I.B., Kanneganti, T. -D., Young, C., Cakir, C., Huitema, E., Win, J., Armstrong, M., Birch, P.R.J., and **Kamoun, S.** 2006. The C-terminal half of *Phytophthora infestans* RXLR effector AVR3a is sufficient to trigger R3a-mediated hypersensitivity and suppress INF1-induced cell death in *Nicotiana benthamiana*. *Plant Journal*, 48:165-176. [Times cited: 174]

66. Bhattacharjee, S., Hiller, L. N., Liolios, K., Win, J., Kanneganti, T. -D., Young, C., **Kamoun, S.**, and Haldar, K. 2006. The malarial host-targeting signal is conserved in the Irish potato famine pathogen. *PLoS Pathogens* 2: e50. [Times cited: 125; Faculty of 1000 rated]

54. Armstrong, M.R., Whisson, S.C., Pritchard, L., Bos, J.I.B., Venter, E., Avrova, A.O., Rehmany, A. P., Böhme, U., Brooks, K., Cherevach, I., Hamlin, N., White, B., Fraser, A., Lord, A., Quail, M.A., Churcher, C., Hall, N., Berriman, M., Huang, S., **Kamoun, S.**, Beynon, J.L., and Birch, P.R.J. 2005. An ancestral oomycete locus contains late blight avirulence gene *Avr3a*, encoding a protein that is recognised in the host cytoplasm. *Proceedings of the National Academy of Sciences USA*, 102:7766-7771. [Times cited: 234]

53. Rehmany, A. P., Gordon, A., Rose, L.E., Allen, R.L., Armstrong, M.R., Whisson, S.C., **Kamoun, S.**, Tyler, B.M., Birch, P.R.J., and Beynon, J.L. 2005. Differential recognition of highly divergent downy mildew avirulence gene alleles by *RPP1* genes from two Arabidopsis lines. *Plant Cell*, 17:1839-1850. [Times cited: 218]

46. Tian, M., Huitema, E., da Cunha, L., Torto-Alalibo, T., and **Kamoun, S.** 2004. A Kazal-like extracellular serine protease inhibitor from *Phytophthora infestans* targets the tomato pathogenesis-related protease P69B. *Journal of Biological Chemistry*, 279:26370-26377. [Times cited: 153]

39. Torto, T., Li, S., Styer, A., Huitema, E., Testa, A., Gow, N.A.R., van West, P., and **Kamoun, S.** 2003. EST mining and functional expression assays identify extracellular effector proteins from the plant pathogen *Phytophthora*. *Genome Research*, 13:1675-1685. [Times cited: 181]

24. **Kamoun, S.**, Hraber, P., Sobral, B., Nuss, D., Govers, F. 1999. Initial assessment of gene diversity for the oomycete pathogen *Phytophthora infestans* based on expressed sequences. *Fungal Genetics and Biology*, 28:94-106. [Times cited: 112]