Adam H. Sparks

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Adam H. Sparks
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GIS
modelling
R programming

- Wide ranging career demonstrating consistent success both in an non-profit international NGO and academia.
- Experience in conceptualising projects through successful grant applications, project management and attaining desired results.
- Extensive background of experiences in working with diverse partners.
- Broad experience in effective communication ranging from peer-reviewed journal articles to extension presentations and popular press.

2016–Present	Toowoomba, Queensland, AUS	Associate Professor
2012–2015	Los Baños, Laguna, PHL	Scientist I
2011–2012	Los Baños, Laguna, PHL	Post-Doctoral Fellow
2009–2010	Manhattan, Kansas, USA	Post-Doctoral Research Associate
2002–2004	Lincoln, Nebraska, USA	Research Technologist
2000–2003	Clay Center, Nebraska, USA	Research Technician
1999–2000	West Lafayette, Indiana, USA	Assistant Director
1997–1999	West Lafayette, Indiana, USA	Research Technician

2009	Plant Pathology Epidemiology and Ecology of Plant Pathogens Disease risk mapping with metamodels for coarse resolution predictors: global potato late blight risk now and under future climate conditions	Kansas State University, USA
2007	Geography Geographic Information Science	Kansas State University, USA
2000	Agronomy Soil and Crop Management	Purdue University, USA

Crop health and its global impacts on the components of food security

S. Savary, S. Bregaglio, L. Willocquet, D. Gustafson, D. Mason D'Croz, A. Sparks, N. Castilla, A. Djurle, C. Allinne, Mamta Sharma, V. Rossi, L. Amorim, A. Bergamin, J. Yuen, P. Esker, Neil McRoberts, J. Avelino, E. Duveiller, J. Koo, K. Garrett

Food Security 9.2 (Mar. 2017) pp. 311–327. Springer Nature. DOI: *10.1007/s12571-017-0659-1*

getCRUCLdata: Use and Explore CRU CL v. 2.0 Climatology Elements in R

A. H. Sparks

The Journal of Open Source Software 2.12 (Apr. 2017). The Open Journal. DOI: *10.21105/joss.00230*

GSODR: Global Summary Daily Weather Data in R

A. H. Sparks, T. Hengl, A. Nelson

The Journal of Open Source Software 2.10 (Feb. 2017). The Open Journal. DOI: *10.21105/joss.00177*

bomrang: Fetch Australian Government Bureau of Meteorology Weather Data

A. H. Sparks, H. Parsonage, K. Pembleton

(2017). DOI: *10.5281/zenodo.598301*

Spatial modelling of rice yield losses in Tanzania due to bacterial leaf blight and leaf blast in a changing climate

C. Duku, A. H. Sparks, S. J. Zwart

Climatic Change 135.3-4 (Jan. 2016) pp. 569–583. Springer Nature. DOI: *10.1007/s10584-015-1580-2*

Decision tools for bacterial blight resistance gene deployment in rice-based agricultural ecosystems

G. S. Dossa, A. Sparks, C. Vera Cruz, R. Oliva

Frontiers in Plant Science 6.305 (May 2015). Frontiers Media SA. DOI: *10.3389/fpls.2015.00305*

Farmers' Preference for Rice Traits: Insights from Farm Surveys in Central Luzon, Philippines, 1966-2012

A. G. Laborte, N. C. Paguirigan, P. F. Moya, A. Nelson, A. H. Sparks, G. B. Gregorio

PLOS ONE 10.8 (Aug. 2015) e0136562. Public Library of Science (PLoS). DOI: *10.1371/journal.pone.0136562*

Philippine Rice Information System (PRISM): innovating the rice field data capture and monitoring using smartphone

J. M. Maloon, E. J. P. Quilang, M. R. O. Mabalay, J. L. Dios, A. C. Arocena Jr. J. R. F. Mirandilla, P. A. Mabalot, M. I. Barroga, R. T. Dollontas, G. C. Peralta, G. Mesa, B. T. Salazar, G. D. Balleras, N. B. Detoito, G. Arida, D. K. M. Donayre, E. C. Martin, G. F. Estoy, A. Nelson, A. Sparks, J. V. Raviz, A. G. Laborte, T. O. Setiyono, A. A. Maunahan, A. B. Rala, J. E. Villa, N. P. Castilla, Z. M. Bhatti, D. D. Maco, R. S. Bayot, M. Barbierri

Philippine Journal of Crop Science (2015)

Climate change may have limited effect on global risk of potato late blight

A. H. Sparks, G. A. Forbes, R. J. Hijmans, K. A. Garrett

Global Change Biology 20.12 (May 2014) pp. 3621–3631. Wiley-Blackwell. DOI: *10.1111/gcb.12587*

A review on crop losses, epidemiology and disease management of rice brown spot to identify research priorities and knowledge gaps

M. K. Barnwal, A. Kotasthane, N. Magculia, P. K. Mukherjee, S. Savary, A. K. Sharma, H. B. Singh, U. S. Singh, A. H. Sparks, M. Variar, N. Zaidi

European Journal of Plant Pathology 136.3 (Mar. 2013) pp. 443–457. Springer Nature. DOI: *10.1007/s10658-013-0195-6*

Taking transgenic rice drought screening to the field

A. C. M. Gaudin, A. H. A. H. Sparks, I. H. Slamet-Loedin

Journal of Experimental Botany 64.1 (Dec. 2012) pp. 109–117. Oxford University Press (OUP). DOI: *10.1093/jxb/ers313*

An economic assessment of the impact of mango pulp weevil on the agricultural sector of Palawan, Philippines

J. D. Mckinley, A. H. Sparks, V. O. Pede, B. Duff

The Philippine Agricultural Scientist 95.3 (2012) pp. 286–292

Complexity in climate-change impacts: an analytical framework for effects mediated by plant disease

K. A. Garrett, G. A. Forbes, S. Savary, P. Skelsey, A. H. Sparks, C. Valdivia, A. H. C. Bruggen, L. Willocquet, A. Djurle, E. Duveiller, H. Eckersten, S. Pande, C. Vera Cruz, J. Yuen

Plant Pathology 60.1 (Jan. 2011) pp. 15–30. Wiley-Blackwell. DOI: *10.1111/j.1365-3059.2010.02409.x*

International Agricultural Research Tackling the Effects of Global and Climate Changes on Plant Diseases in the Developing World

S. Savary, A. Nelson, A. H. Sparks, L. Willocquet, E. Duveiller, G. Mahuku, G. Forbes, K. A. Garrett, D. Hodson, J. Padgham, S. Pande, M. Sharma, J. Yuen, A. Djurle

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A metamodeling framework for extending the application domain of process-based ecological models

A. H. Sparks, G. A. Forbes, R. J. Hijmans, K. A. Garrett

Ecosphere 2.8 (Aug. 2011) art90. Wiley-Blackwell. DOI: *10.1890/es11-00128.1*

Beyond Yield: Plant Disease in the Context of Ecosystem Services

M. R. Cheatham, M. N. Rouse, P. D. Esker, S. Ignacio, W. Pradel, R. Raymundo, A. H. Sparks, G. A. Forbes, T. R. Gordon, K. A. Garrett

Phytopathology 99.11 (Nov. 2009) pp. 1228–1236. Scientific Societies. DOI: *10.1094/phyto-99-11-1228*

Ecology and Epidemiology in R: Disease Forecasting

P. D. Esker, A. H. Sparks, L. Campbell, Z. Guo, M. Rouse, S. D. Silwal, S. Tolos, B. Van Allen, K. A. Garrett

The Plant Health Instructor (2008). Scientific Societies. DOI: *10.1094/phi-a-2008-0129-01*

Ecology and Epidemiology in R: Spatial Analysis

A. H. Sparks, P. D. Esker, G. Antony, L. Campbell, E. E. Frank, L. Huebel, M. N. Rouse, B. Van Allen, K. A. Garrett

The Plant Health Instructor (2008). Scientific Societies. DOI: *10.1094/phi-a-2008-0129-03*

Ecology and Epidemiology in R: Disease Progress over Time

A. H. Sparks, P. D. Esker, M. Bates, W. Dall'Acqua, Z. Guo, V. Segovia, S. D. Silwal, S. Tolos, K. A. Garrett

The Plant Health Instructor (2008). Scientific Societies. DOI: *10.1094/phi-a-2008-0129-02*

Ecology and epidemiology in R: modeling dispersal gradients

P. D. Esker, A. H. Sparks, G. Antony, M. Bates, W. Dall'Acqua, E. E. Frank, L. Huebel, V. Segovia, K. A. Garrett

The Plant Health Instructor (2007). DOI: *10.1094/PHI-A-2007-1226-03*

An Introduction to the R Programming Environment

K. A. Garrett, P. D. Esker, A. H. Sparks

The Plant Health Instructor (2007). Scientific Societies. DOI: *10.1094/phi-a-2007-1226-02*

Writing Teaching Documents as a Class Project

K. A. Garrett, P. D. Esker, A. H. Sparks, L. C. Scharmann

The Plant Health Instructor (2007). Scientific Societies. DOI: *10.1094/phi-t-2007-1226-01*

Mungbean and Sorghum Disease Update

L. Kelly, J. White, M. Sharman, H. Brier, L. Williams, R. Grams, D. Weir, A. Mckay, A. H. Sparks

GRDC Updates (Jondaryan) (July 19, 2017). Jondaryan, Queensland, Australia

Evaluation of correlation methods for co-occurrence network construction of rice crop health survey data

S. Jaisong, N. P. Castilla, C. T. Magculia, S. Savary, I. B. Pangga, A. H. Sparks

Proceedings of the Australasian Plant Pathology Society 2015 Meeting (2015)

Mapping Rice Diseases for Targeted Deployment of Resistant Varieties in India

A. H. Sparks, M. Noel

Proceedings of the Australasian Plant Pathology Society 2015 Meeting (2015)

Modeling the impact of disease resistance on rice yields in the Philippines and Indonesia

A. H. Sparks, J. Anaurio, C. Duku, M. Noel, D. Raitzer

Proceedings of the Australasian Plant Pathology Society 2013 Meeting (2013)

Spatial modelling of rice yield losses due to bacterial leaf blight and leaf blast in a changing climate

A. H. Sparks, C. Duku, M. Noel, S. J. Zwart

Acta Phytopathologica Sinica vol. 43.Supplement (2013)

Predisposition factors affecting brown spot disease development in rice

N. J. Magculia, A. H. Sparks

Phytopathology vol. 102:S4.74.7 (2012)

Putting information to use: Decisions at different scales

S. Savary, A. H. Sparks, A. Nelson, N. McRoberts, P. D. Esker

Phytopathology vol. 102:S4.162 (2012)

Preventing what ails rice with a strategic, statistical, prescriptive model system

A. H. Sparks, S. Savary, A. Nelson

Phytopathology vol. 102:S4.113.7 (2012)

Income inequality and economic growth in the Philippines

G. B. Ballesefin, V. O. Pede, A. H. Sparks

The Conference Secretariat, 2011 PAEDA Biennial Convention (2011)

An economic assessment of the impact of mango pulp weevil on the agricultural sector of Palawan, Philippines

J. McKinley, V. O. Pede, A. H. Sparks, B. Duff

The Conference Secretariat, 2011 PAEDA Biennial Convention (2011)

Refined empirical models for predicting Fusarium head blight epidemics in the United States

A. Sparks, D. Shah, E. DeWolf, L. Madden, P. Paul, K. Willyerd

Phytopathology vol. 101:S223 (2011)

Crop losses in highly populated areas: A global perspective

L. Willocquet, A. Nelson, A. Sparks, A. Laborte, S. Savary

Phytopathology vol. 101:S223 (2011)

Metamodels for scaling potato late blight risk analysis in climate change scenarios

A. H. Sparks, G. Forbes, R. Hijmans, K. Garrett

Phytopathology vol. 100:S121 (2010)

Anticipating and responding to biological complexity in the effects of climate change on agriculture

K. Garrett, G. Forbes, S. Pande, S. Savary, A. Sparks, C. Valdivia, C. Vera Cruz, L. Willocquet

IOP Conference Series: Earth and Environmental Science vol. 6.37 (2009)

Adapting disease forecasting models to coarser scales: Global potato late blight prediction

A. H. Sparks, G. Forbes, K. A. Garrett

Phytopathology vol. 99:S122 (2009)

Adapting global disease forecasting models for readily available weather data sets in GIS

A. H. Sparks, K. A. Garrett, G. A Forbes

Proceedings of the 10th International Epidemiology Workshop (2009). Geneva, NY, USA

Regional predictions of potato late blight risk in a GIS incorporating disease resistance profiles, climate change, and risk neighborhoods

A. H. Sparks, R. Raymundo, R. Simon, G. Forbes, K. A. Garrett

Phytopathology vol. 98:S149 (2008)

Chap. Plant pathogens as indicators for climate change

K. A. Garrett, M. Nita, E. D. DeWolf, P. D. Esker, L. Gomez-Montano, A. H. Sparks

Letcher, T. M., Elsevier, "Plant Pathogens as Indicators of Climate Change", 2016

Chap. An introduction to key distributions and models for epidemiology using R

K. A. Garrett, P. D. Esker, A. H. Sparks

Stevenson, K. and M. Jeger, APS Press, Minneapolis, MN, "Exercises in Plant Disease Epidemiology", 2014

Chap. Cambio climático, enfermedades de las plantas e insectos plaga

K. A. Garrett, G. A. Forbes, L Gómez, M. A. Gonzáles, M. Gray, P. Skelsey, A. H. Sparks

Jiménez, E., Plural editores, "Cambio climático y adaptacińn en el Altiplano boliviano", 2013

Is rice improvement still making a difference? assessing the economic, poverty and food security impacts of rice varieties released from 1989 to 2009 in Bangladesh, Indonesia and the Philippines.

D. A. Raitzer, A. H. Sparks, Z. Huelgas, R. Maligalig, Z. Balangue, C. Launio, A. Daradjat, H. U. Ahmed

A report submitted to the Standing Panel on Impact Assessment (SPIA), CGIAR Independent Science and Partnership Council (ISPC). 128 pp.

Evaluation of seed treatment for controlling seedling diseases and compatibility with Rhizobium inoculants, 2003.

L. J. Geisler, A. H. Sparks

Fungicide and Nematicide Tests 59:ST025

Evaluation of seed treatment fungicides for controlling soybean seedling diseases, 2003

L. J. Geisler, A. H. Sparks

Fungicide and Nematicide Tests 59:ST025

2016

2016 Korean Society of Plant Pathology Fall Meeting and International Conference
Seoul National University
Pyeongchang, Gangwon-do, Korea

2014

4th International Rice Congress (IRC2014)
Bangkok, Thailand

2014

Workshop on the impact of climate change on crop pests and diseases, and adaptation strategies for the Greater Mekong Sub – Region (GMS)
Hotel Continental Saigon,
Ho Chi Minh City, Vietnam

2014

66th Annual Indian Phytopathological Society Meeting
Indira Gandhi Krishi Vishwavidyalaya University,
Raipur, India

2013

Pacific Environmental Security Forum
Australian Department of Defence (ADoD) and U. S. Pacific Command (USPACOM)
Sydney, New South Wales, Australia

2010

Emerging infectious diseases in response to climate change.
New York Academy of Sciences,
New York, New York, USA

Current (Collaborator) Maynooth University/TEAGASC, IRL
Can we still use 'Irish Rules' to forecast development of potato late blight epidemics in Ireland?

Current (Associate Supervisor) University of Southern Queensland, AUS
Modelling the effects of the interaction of carbon dioxide and temperature on concentration of crops' protein using diverse statistical methods

Current (Associate Supervisor) University of Southern Queensland, AUS
Modelling plant functional group responses to rising carbon dioxide concentration

2016 (Principal Supervisor) University of the Philippines, Los Baños, PHL
Network analysis of rice crop health survey data for characterization of yield reducing factors of tropical rice ecosystems in south and southeast Asia

2017 (Collaborator) Strathmore University, KEN
A model for early detection of potato late blight disease: A case study in Nakuru County

2016 (Principal Supervisor) University of the Philippines, Los Baños, PHL
Environmental performance of water saving technologies for irrigated lowland rice production

2016-2019 (Developing Ecologically-based Participatory IPM package for rice in Cambodia) USD 2.2 million
PIs: B. Hadi (IRRI), A. Sparks, V. Kumar (IRRI), A. Stuart (IRRI), R. Oliva (IRRI), I.R. Choi (IRRI)

2016–2019 USD 484,274
Phase III, Sub-Project 1 - Crop Health Management
PIs: A. Sparks (IRRI) and K. K. Fui (Syngenta)

2015–2017 USD 653,914
Epidemiology and environmental characterisation of false smut,
PIs: B. Zhou (IRRI), C. M. Vera Cruz (IRRI) and A. Sparks (IRRI)

2013–2017 (Philippine Rice Information SysteM) USD 2.8 million
Component B - Crop Health Monitoring,
PIs: A. Nelson (IRRI), A. Sparks (IRRI), G. S. Arida (PhilRice), E. J. P. Quilang (PhilRice)

2013–2015 USD 454,640
Phase II, Sub-Project 2 - Crop Health Management
PI: A. Sparks (IRRI) and K. K. Fui (Syngenta)

2016
As part of the Toowoomba Trio with K Pembleton and G Grundy

Crop and Environmental Sciences Division Seminar Committee Chair

IRRI OCS Advisory Group Member

PRINCE2 Foundation (2014) candidate number: P2R/009385 – HiLogic Pty Ltd.

Australasian Plant Pathology Society (APPS)
American Phytopathological Society (APS)
International Society for Plant Pathology (ISPP)

ExtensionAUS Field Crop Diseases Community of Practice
International Congress of Plant Pathology (ICPP) 2018 Epidemiology Committee
American Phytopathological Society (APS) Epidemiology Committee