Adam H. Sparks

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skills

GIS
modelling
agricultural statistics

experience

2012–present **International Rice Research Institute** Los Baños, Philippines — Scientist I
Develop tools and strategies for farmers to use in addressing rice diseases

2011–2012 **International Rice Research Institute** Los Baños, Philippines — Post-Doctoral Fellow
Linked botanic epidemiology models to GIS tools for mapping model output

2009–2010 **Kansas State University,** Manhattan, Kansas, USA — Post-Doctoral Research Associate
Developed and refined predictive Fusarium head blight models for wheat

2002–2004 **University of Nebraska-Lincoln,** Lincoln, Nebraska, USA — Research Technologist
Managed maize and soybean plant pathology extension field research

2000–2003 **University of Nebraska-Lincoln,** Clay Center, Nebraska, USA — Research Technician
Managed maize and sorghum plant pathology extension field research

1999–2000 **Purdue University,** West Lafayette, Indiana, USA — Assistant Director
Coordinated training events for Purdue Diagnostic Training and Research Center

1997–1999 **Purdue University,** West Lafayette, Indiana, USA — Research Technician
Managed soybean and canola production research studies

education

2009 **Ph.D.** Plant Pathology — Kansas State University, Manhattan, Kansas, USA
Plant Disease Epidemiology and Ecology
Dissertation: *Disease risk mapping with metamodels for coarse resolution predictors: global potato late blight risk now and under future climate conditions*

2007 **Graduate Certificate** Geography — Kansas State University, Manhattan, Kansas, USA
Geographic Information Science

2000 **B.Sc.** Agronomy — Purdue University, West Lafayette, Indiana, USA
Soil and Crop Management

publications

peer-reviewed

Decision tools for bacterial blight resistance gene deployment in rice-based agricultural ecosystems
S G Dossa, A H Sparks, C M Vera Cruz, R Oliva
Frontiers in Plant Science *6.305 (2015). DOI:* `10.3389/fpls.2015.00305`

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 (2014) pp. 3621–3631. DOI:* `doi:10.1094/PDIS-04-11-031`

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 (2013) pp. 443–457. DOI:* `10.1007/s10658-013-0195-6`

Taking transgenic rice drought screening to the field.
A C M Gaudin, A Henry, A H Sparks, I H Slamet-Loedin

Journal of Experimental Botany *63.2 (2012) pp. 695–709. 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*

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

Serge Savary, Andrew Nelson, Adam H. Sparks, Laetitia Willocquet, Etienne Duveiller, George Mahuku, Greg Forbes, Karen A. Garrett, David Hodson, Jon Padgham, Suresh Pande, Mamta Sharma, Jonathan Yuen, Annika Djurle

Plant Disease *95.10 (2015/04/24 2011) pp. 1204–1216. Scientific Societies. DOI: 10.1094/PDIS-04-11-0316*

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 van Bruggen, L Willocquet, A Djurle, E Duveiller, H Eckersten, S Pande, C Vera Cruz, J Yuen

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

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 (2011) art90. 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 (2009) pp. 1228–36. 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). DOI: 10.1094/PHI-A-2008-0129-01*

Ecology and epidemiology in R: modeling plant 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

(2008). DOI: 10.1094/PHI-A-2008-0129-02

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). DOI: 10.1094/PHI-A-2008-0129-03*

Introduction to the R programming environment

K A Garrett, P D Esker, A H Sparks

The Plant Health Instructor *(2007). 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*

Writing teaching documents as a class project

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

The Plant Health Instructor *(2007). DOI: 10.1094/PHI-T-2007-1226-01*

conferences/proceedings

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

In 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)*

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)*

Predisposition factors affecting brown spot disease development in rice

N F Magculia, A H Sparks

Phytopathology *vol. 102:S4.74.7 (2012)*

Putting information to use: Decisions at different scales

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

Phytopathology *vol. 102:S4.162 (2012)*

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)*

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)*

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

In 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)*

book chapters

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", In Press

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, "Cambio clim/'aico y adaptaciń en el Altiplano boliviano", 2013

Chap. Plant pathogens as indicators for climate change

K A Garrett, M Nita, E D De Wolf, L Gomez, A H Sparks
Letcher, T, Elsevier, "Climate Change Indicators", 2009

reports

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

invited talks

October 2014 **Taking Sustainable Crop Protection From the Field to the Cloud**
4th International Rice Congress (IRC2014)
Bangkok, Thailand

August 2014 **Impact of Climate Change on Rice Diseases**
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

May 2014 **Epidemiology and Disease Management of Rice Brown Spot: Research Priorities and Knowledge Gaps**
66th Annual Indian Phytopathological Society Meeting
Indira Gandhi Krishi Vishwavidyalaya University,
Raipur, India

April 2013 **Biosecurity Risks in Southeast Asia Impacting on Human Food Supplies**
Forum: Pacific Environmental Safety Forum Australian Department of Defence and U. S. Pacific Command
Sydney, New South Wales, Australia

March 2010 **Global Potato Late Blight Risk in Response to Climate Change, Possible Futures for a Historic Disease**
Symposium: Emerging Infectious Diseases in Response to Climate Change.
New York Academy of Sciences,
New York, New York, USA

extramural support

2013–2017 **PRISM** (Philippine Rice Information SysteM) $2,765,783
Component B – Crop Health Monitoring,
Co–PIs: A Nelson (IRRI) and G S Arida (PhilRice), E J P Quilang (PhilRice)

2013–2015 **Syngenta--IRRI Scientific Knowledge and Exchange Program** $454,640
Phase II, Sub–Project 2 – Crop Health Management

2015–2017 **Identifying resistant rice germplasm to false smut using combined screening approaches and understanding the mechanisms underlying rice resistance** $653,914
Epidemiology and environmental characterisation of false smut,
Co–PI's: B Zhou (IRRI) and CM Vera Cruz (IRRI)

service to profession

currently reviewing for
Global Change Biology
European Journal of Plant Pathology
Climatic Change

organizational service

2014–present **Crop and Environmental Sciences Division Seminar Committee Chair**

professional certifications

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

professional affiliations

Australasian Plant Pathology Society (APPS)