Mladen Cucak, MSc

PhD fellow

Maynooth University / TEAGASC - Agriculture and Food Development Authority

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EXPERIENCE

1. February 2016 –April 2020

Location: Teagasc, Crops Research Centre, Oak Park, Carlow R93 XE12, Republic of Ireland

Position: Doctoral research fellow

Work duties:

- Implementation of the decision support system and chemical treatments for the field trials, including all relevant agricultural operations from planting to storage;
- Collection, maintenance and analysis of weather and disease data;
- Evaluation of the old and proposition of the new potato late blight risk prediction algorithm;
- Sampling, isolation and molecular characterization of *Phytopthora infestans*;
- Supervision of lab interns (five three - months placements);
- Initiated, led and tutored an R group at the institute;
- Collaboration with European and international groups.

2. December 2014 – December 2015

Employer: NIBIO Norwegian Institute of Bioeconomy Research, Plant Protection Division Høgskoleveien 7, 1430 Ås, Norway

Position: Intern (01.12.2014 – 10.06.2015), Senior Research Technician (10.06.2015 – 15.12.2015)

Work duties:

- Assisting project coordinator;
- Monitoring pest population and modelling risk of harmful organisms in agriculture (*Venturia inaequalis*, *Cydia pomonella*);
- Work on development and international promotion of decision support systems in agriculture;
- Facilitating international collaboration Norway – Balkans;
- Development of an automated insect trap: http://bih.vips3test.bioforsk.no/information/4/.

Internships

01.06.2013 - 01.07.2013	Plant protection department; Agricultural Institute of Slovenia, Kmetijsko gozdarska zbornica Slovenije; Vinarska ulica 14, 2000 Maribor, Slovenia
01.04.2009 - 15.04.2009	Phytopharmacy store. Trznica A.D. Jedinica: Poljoprivredna apoteka, Banja Luka, Bosnia and Herzegovina
01.04.2008 - 15.04.2008	Apple fruit orchard (200 Ha); Agroimpex, Laktasi, Gradiska, Bosnia and Herzegovina

Lab interns

2019	Melanie Fortier; Masters student
2018 - 2019	Antoine Bodelot; Masters student
2018	Audrey Havot; Pre-Masters
2018	Fiona Folley; Masters student
2017	Marrie Anne Duranel; Masters student

Teaching

2018 - 2019	GY310B – Tutoring group of 16 students writing Bachelor thesis in the field of plant diseases epidemiology.
2019	Intro to R workshop for colleagues from the institute (weekly sessions for 2 months).

EDUCATION

2016 – 2020	PhD Maynooth University / Teagasc - Agriculture and Food Development Authority
2012 - 2015	Master of sciences in Agronomy - Biomolecular Techniques and Plant Protection; Faculty of Agriculture and Life Sciences, University of Maribor; Slovenia
2006 - 2011	Bachelor of Agronomy for Plant Production - Plant Protection; Faculty of Agriculture, University of Banja Luka; Bosnia and Herzegovina

PROFFESIONAL

Research interests:

Integrated Pest Management
Plant Pathology
Agrometeorology
Epidemiology of Plant Diseases
Decision Support Systems in Agriculture
Crop Protection
Data Analysis
Statistics

Professional Service

Open Plant Pathology
Reviewer for Plant Disease
Reviewer for Phytopathology

Membership in Professional Associations

European Association for Potato Research
The American Phytopathological Society
EuroBlight group

Awards and Scholarships:

2019	Teagasc Walsh Fellowship Travel Award for three-month research stay at UC Davis (5000 EUR)
2016	Student travel award for participation on EAPR Pathology and Pests section meeting in Dundee, August 2016
2016 - 2020	Doctoral fellowship at Maynooth University and Teagasc - Agriculture and Food Development Authority
2014	EEA grant for internship at Norwegian Institute for Bioeconomy Research NIBIO (3000 EUR)
2012 - 2014	Erasmus Mundus scholarship for Master Course

SCIENTIFIC OUTPUTS

Peer-reviewed publications

Cucak, M., Sparks, A. H., Moral, R., Kildea, S., Lambkin, K., Fealy, R. (2018) Evaluation of Irish Rules, the Potato Late Blight Forecasting Model and its Operational use in Republic of Ireland. *Agronomy* 2019. 9: 515

Website and supplementary material: https://mladencucak.github.io/PLBFieldTrial/index.html

Publications under review:

Cucak, M., Moral, R., Fealy, R., Downes, P., Kildea, S. Optimising potato late blight management in the Republic of Ireland using risk prediction, varietal resistance and molecular tools. Submitted to *Phytpopathology*

Website and supplementary material: https://mladencucak.github.io/AnalysisPLBIreland/

Publications in preparation:

Cucak, M., Esker, P., Kildea, S., Downes, P., Fealy, R. BlightR: a new potato late blight risk prediction model and approach. To be submitted to *Phytopathology*

Conference paper

Hansen, J.G., Lassen, P., Hjelkrem, A.-G.R., Eikemo, H., Cucak, M., Lees, A., Gaucher, D., Chatot, C., Kessel, G., 2017. Integration of pathogen and host resistance information in existing DSSs - introducing the IPMBlight2.0 approach. In: Proc. Sixt. Euroblight Workshop December 2017. PAGV Special Report No. 18: 147–158.

Available at: http://euroblight.net/fileadmin/euroblight/Workshops/AArhus/Proceedings/20._Jens_Hansen-p147-158.pdf (accessed 29 January 2019)

Conference Presentations

Cucak, M., Sparks, A. H., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2018) Potato Late Blight Risk Forecasting in Republic Of Ireland: Field validation. Society of Irish plant pathologists (SIP) Meeting. Dublin, 26-27 November 2018

Cucak, M., Sparks, A. H., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2018) Revision of Potato Late Blight Risk Forecasting in Republic Of Ireland. IEW12- 12th International Epidemiology Workshop. Lillehammer, 10-14th June 2018

Cucak, M., Sparks, A. H., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2017) Potato Late Blight Risk Forecasting in Republic Of Ireland. Society of Irish plant pathologists (SIP) Meeting. Dublin, 5-6th December 2017

Cucak, M., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2017) The use of agrometeorological data for crop disease risk forecasting in Ireland: a case of potato late blight. 17th EMS Annual Meeting: European Conference for Applied Meteorology and Climatology 2017. Dublin, 4-8th September 2017

T-E. Skog, M. Cucak, B. Nordskog, H. Eikemo, H. Hole, A. F. Schjøll, J. Netland, N. Trandem, T. Rafoss, R. Meadow. (2015) VIPS – an Open Source technology platform for prognosis and decision support and its implementation in Bosnia and Herzegovina. IV International Symposium and XX Scientific Conference of agronomists of Republic of Srpska. Bijeljina, Bosnia and Herzegovina.

Poster presentations

Cucak, M., Sparks, A. H., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2017) Lowering thresholds of qualitative plant risk prediction algorithms: sensitivity versus specificity of Irish Rules for potato blight development. Arhus, Denmark. E In: Proc. Sixth Euroblight Workshop December 2017. PAGV Special Report No. 18: 231-232.
Available at:
http://euroblight.net/fileadmin/euroblight/Workshops/AArhus/Proceedings/Special_Report_18_Totaal.pdf (accessed 29 January 2019)

7th – 11th August 2016, Dundee, Scotland, Meeting of Pest and Pathology Group of European Potato Research Society, Poster Presentation: Can We Still Use Irish Rules to Forecast Potato Late Blight In Ireland?

T-E. Skog, M. Cucak, B. Nordskog, H. Eikemo, H. Hole, A. F. Schjøll, J. Netland, N. Trandem, T. Rafoss, R. Meadow. (2015) VIPS – an Open Source technology platform for prognosis and decision support. Plant health for sustainable agriculture. Ljubljana, Slovenia.

Other

Master thesis:
Cucak, M. 2015: Analysis of possibilities for peach (*Prunus persica L.*) disease control without use of copper-based pesticides. University of Maribor, Maribor, Slovenia.
Available at: https://dk.um.si/Dokument.php?id=70634&lang=eng)

PERSONAL

Driving license:

Category B (license from Ireland)

Hobbies:

Cooking, photography and several sports.