

# 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 *Phytophthora 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

## **PROFESIONAL**

### Research interests:

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

Data Analysis  
Statistics

### Professional Services

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 revision:

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 *Phytopathology*

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

### Publications in preparation:

Cucak, M., Esker, P., McRoberts, N., Kildea, S., Moral, R., 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. Sixth 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](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. Aarhus, 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](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.