Karadjordjeva 18; Banja Luka 78000; Bosna I Hercegovina
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Mladen Čučak, PhD

PROFESIONAL PROFILE

- Aspiring agricultural researcher in the field of plant pathology/epidemiology with global experience of technical and development issues in crop protection
- Motivated achiever with PhD in Plant Pathology focused on field-based agronomy, agrometeorology and quantitative methods
- Track record of developing integrated pest management tools for practical disease control outcomes
- Strong collaborative qualities, leads change to effect positive outcomes
- Proficient problem-solver with the analytical skills to evaluate risks and develop realistic and effective strategies
- Strong logistics and programme organisational skills
- Proven ability to adapt to new subject areas and roles, along with the ability to develop strong professional relationships at all levels
- Influential interpersonal communicator, negotiator, and presenter
- Farmer focused approach through hands-on experience

AREAS OF EXPERTISE

Crop Protection	Statistical analysis	Agricultural development
General plant pathology	Statistical programming	Collaborative research
Integrated Pest Management	R language	Data Science
Epidemiology of Plant Diseases	Trial design	Agrometeorology

EXPERIENCE

Date: February 2016 - May 2020
Employer: Teagasc, Crops Research Centre, Oak Park, Carlow R93 XE12, Republic of Ireland
Position: Doctoral researcher
Main achievement: Development of potato late blight risk prediction models, analytic and field evaluation, and integration in practical integrated management in the Republic of Ireland
Main tasks:

- Design, implementation and analysis of the crop protection *in vivo* and *in vitro* trials (including all relevant agricultural operations from planting to storage);
- Collection, curation and analysis of database with historical and forecasted hourly weather observations and implementation of an automated decision support system to guide pesticide applications;
- Sampling, isolation and molecular characterization of *Phytophthora infestans*;
- Presentation of results of IPM tools to producers and industry; national and international scientific meetings from different fields (agronomy, plant pathology, epidemiology, meteorology);
- Supervision of lab interns (six three- and six-months placements);
- Initiated, led and tutored data analysis and R programing language group at the institute;
- Intensive collaboration with European and international groups.

Date: 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) on project *Introduction of ICT in IPM in Bosnia and Hercegovina's agriculture*; Senior Research Technician (10.06.2015 –15.12.2015) involved in several projects of Plant Pathology Department

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Main tasks:

- Assisting project coordinator in project management;
- Monitoring pest and disease population and modelling risk of harmful organisms in agriculture;
- Work on the development and international promotion of decision support systems in agriculture;
- Facilitating international collaboration Norway – Balkans;
- Development of an automated insect trap.

Teaching:

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

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

Volunteering:

2010	Youth engagement project: *Global exchange.* Three-month stays in Egypt and the UK
1998-2012	Youth and development organisations such as Scout club, IAESTE (International Organisation of Agronomy Students) and "Rada" (Society Of Agronomists And Tourism Workers)

EDUCATION

2016 - 2020	PhD	Plant Pathology/Epidemiology. Maynooth University/Teagasc; Ireland
2012 - 2015	MSc	Agronomy: Biomolecular Techniques and Plant Protection. Maribor; Slovenia
2006 - 2011	BSc	Plant Production - Plant Protection. Banja Luka; Bosnia and Herzegovina

GRANTS, AWARDS AND SCHOLARSHIPS

2021	Co-PI on the project: Development of mummy berry decision support tool in north-west Washington state (21.000$)
2019	Teagasc Walsh Fellowship Travel Award for three-month research stay at UC Davis (5000€)
2016	Student travel award for participation on EAPR Pathology and Pests section meeting
2016 - 2020	Doctoral fellowship at Maynooth University and Teagasc
2014	EEA grant for an internship at Norwegian Institute for Bioeconomy Research (3000€)
2012 - 2014	Erasmus Mundus scholarship for Master studies

PROFESSIONAL ACTIVITIES

Synergistic Activities
Early career associate editor *Phytopathology* (APS)
Reviewer for *Plant Disease* (APS)and *Agronomy* (MDPI)

Membership in Professional Associations:
The American Phytopathological Society (APS)
EuroBlight group
Open Plant Pathology

PERSONAL

Driving license: Category B (license from Ireland)

Hobbies: sports, cooking, photography

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SCIENTIFIC OUTPUTS

Peer-reviewed publications

Cucak, M., Moral, R., Fealy, R., Downes, P., Kildea, S. 2021 Opportunities for an improved potato late blight management in the Republic of Ireland: Field evaluation of the modified Irish Rules crop disease risk prediction model. *Phytpopathology*

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

Kildea, S., Byrne, J., Cucak, M. and Hutton, F., 2020. First report of virulence to the septoria tritici blotch resistance gene Stb16q in the Irish *Zymoseptoria tritici* population. New Dis. Rep, 41(13), pp.2044-0588.

Cucak, M., Sparks, A. H., Moral, R., Kildea, S., Lambkin, K., Fealy, R. 2019. Evaluation of Irish Rules, the potato late blight forecasting model and its operational use in the Republic of Ireland. *Agronomy* 2019. 9: 515

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

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

Publications (accepted-under revisions):

Cucak, M., Esker, P., Kildea, S., Downes, P., Fealy, R. BlightR: a new potato late blight risk prediction model and approach. Submitted to *Plant Disease.*

Code repository: https://github.com/mladencucak/BlightR

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 the 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., Dalla Lana, F., Ojiambo, P., De Wolf, D., Shah, E., Paul, P., Esker, P. (2020) Using Advanced Statistical Methods, Big Data and Open Science to Upgrade Current Crop Disease Management Decision Support Approaches. ASA, CSSA and SSSA International Annual Meeting, 9-13 November 2020

Cucak, M., Dalla Lana, F., Ojiambo, P., De Wolf, E., Paul, P., Esker, P. (2020) Into the new era of decision support in crop protection: Multifaceted disease management advisors based on machine learning and open science. APS Meeting, 10-14 August 2020

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)

Cucak, M., Fealy, R., Griffin, D., Lambkin, K., Kildea, S. (2016) Can We Still Use Irish Rules to Forecast Potato Late Blight In Ireland? 7 - 11 August 2016, Dundee, Scotland, Meeting of Pest and Pathology Group of European Potato Research Society.

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)