

# Mladen Čučak, PhD

## PROFESSIONAL PROFILE

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- Aspiring agricultural researcher in the field of plant pathology/epidemiology with global experience of technical and development issues in crop protection
- 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 organizational skills
- Proven ability to adapt to new subject areas and roles develop strong professional relationships at all levels
- Influential interpersonal communicator, negotiator, and presenter
- Farmer focused approach through hands-on experience

## EDUCATION

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

## AREAS OF EXPERTISE

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

## PROFESSIONAL APPOINTMENTS

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**Date:** March 2021 – till now  
**Position:** Postdoctoral researcher  
**Employer:** Department of Plant Pathology and Environmental Microbiology, Pennsylvania State University, 219 Buckhout Lab (office), University Park, PA 16802. USA.

### Main tasks:

- Development, practical application and field validation of the “new age” decision support tools and educational tools for field crops based on big data, machine learning and open science
- Group operation (field data collection, student supervision, international collaboration)

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**Date:** February 2016 - May 2020  
**Position:** Doctoral researcher  
**Employer:** Teagasc, Crops Research Centre, Oak Park, Carlow R93 XE12, Republic of Ireland

**Main achievement:** Development of potato late blight risk prediction models, analytic and field evaluation, and integration in practical crop disease management strategy 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 trials to producers and industry; national and international scientific meetings from different fields (agronomy, plant pathology, epidemiology, meteorology)

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- Initiated, led and tutored data analysis and R programming language group at the institute
- Intensive collaboration with European and international groups.

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**Date:** December 2014 – December 2015

**Employer:** Plant Pathology department, Plant Protection Division, NIBIO Norwegian Institute of Bioeconomy Research; Høgskoleveien 7, 1430 Ås, Norway.

**Position:** Senior Research Technician.

**Main tasks:**

- Assisting project coordinator in project management
- Monitoring pest and disease population and modelling risk of harmful organisms in agriculture
- Facilitating international collaboration Norway – Balkans
- Development of an automated insect trap.

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**Internships:**

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

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**TEACHING AND MENTORING:**

2021 APS workshop: Intro to data visualisation with R.  
<https://kelseyandersen.github.io/DataVizR/index.html>  
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).  
2017 - 2019 Supervision of lab interns (six three- and six-months placements);

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**GRANTS**

**(Total: \$36486.38)**

2021-22 Optimizing the management of mummy berry using an online decision support tool.  
Washington Blueberry Commission (\$20,766).  
2020 Potato yield survey for the Republic of Ireland in 2021 (7000€)  
2019 Research visit for a three-month research stay at UC Davis. Teagasc Travel Fellowship (5000€)  
2011 Online plant disease compendium. Ministry of Agriculture of Serb Republic (Bosnia) (1000€)

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**AWARDS AND SCHOLARSHIPS**

**(Total: \$96000)**

2016 Student travel award for participation on EAPR Pathology and Pests section meeting (500€)  
2016 - 2020 Doctoral fellowship at Maynooth University and Teagasc (48000€)  
2014 EEA grant for an internship at Norwegian Institute for Bioeconomy Research (3000€)  
2012 - 2014 Erasmus Mundus scholarship for Master studies (28000€)

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**SERVICE TO PROFESSION**

Synergistic Activities

Early career associate editor: *Phytopathology* (APS)  
Reviewer: Plant Disease and Phytopathology (APS), Plant Pathology (BSPP), Agronomy (MDPI)

Membership in Professional Associations:

The American Phytopathological Society (APS)  
EuroBlight group  
Open Plant Pathology