

**Project " Harmonization and Innovation in PhD Study Programs for Plant Health in Sustainable Agriculture –HarISA " (598444-EPP-1-2018-1-HR-EPPKA2-CBHE-JP)**

## **Final Conference**

**Novi Sad, 6<sup>th</sup>-8<sup>th</sup> September 2022**

# **WP 3: Curriculum of the Joint PhD Study Program**

### **WP3 Leaders:**

**Dr Aleksandra Ignjatović- Ćupina, Full Professor**

University of Novi Sad, Faculty of Agriculture, Serbia, [cupinas@polj.uns.ac.rs](mailto:cupinas@polj.uns.ac.rs)

**Dr Eustachio Tarasco, Associate Professor,**

University "Aldo Moro" Bari, Italy, [eustachio.tarasco@uniba.it](mailto:eustachio.tarasco@uniba.it)

## PRESENTATION CONTENT:

- TASKS
- WP3 STRUCTURE: SCIENTIFIC GROUPS, MEMBERS AND CONTRIBUTORS
- CURRICULUM- COURSES
- TEACHERS` COMPETENCES
- DIDACTIC MATERIAL

## WP3: DEVELOPMENT-Improving the scientific contents

## WP3 TASKS

Work Package/Outcome ref.nr.:	Title:	Type of Outcome:
3.1.	Workshops organization	event, report
3.2.	Identification of scientific needs and research topics for PhD thesis and proposal of joint mentorship	report
3.3.	Improvement of the existing courses	teaching material, learning material, report
3.4.	Development of new courses related to plant health	teaching material, learning material
3.5.	Preparation of joint teaching material	teaching material, learning material
3.6.	Scientific conference organization	event, report

## WP3 ACTIVITY ACHIEVEMENTS

 **analyzed the existing** courses taught at PIs, by comparison of:




- contents
- methods,
- tools,
- human capacities,
- and learning outcomes;

 **identified the teaching needs;**

 **proposed research topics** for PhD students and proposed **joint mentorship** ( $\Leftrightarrow$  WP5, SB);

 **proposed student and staff mobility** to WP5;

## WP3 ACTIVITY ACHIEVEMENTS

-  **improved the existing courses, developed new courses** (⇔ WP2, SB) and prepared **Joint Curriculum: Book of courses (syllabus) and Book teachers prepared;**
-  **developed the joint teaching material** for the Joint Curriculum (available on HarIsa Repository):
  - Protocols, Guidelines, Methods
  - Books
  - Dissertations
-  **organized scientific conference** (PhD students will present their research results and activities during their mobility).

## WP3 ACTIVITY ACHIEVEMENTS

### WP3 workshops: 7

- 5 on-site:
  - Zagreb, February 26th, 2019;
  - Podgorica, June 10-11, 2019;
  - Belgrade, October 28-29, 2019;
  - Durres, March, 29-30, 2022;
  - Novi Sad, 6-8 September 2022
- 2 on-line:
  - April 27-29, 2020;
  - January 19th, 2021;

### Meetings with other WP and PMB: 5 on-line

- WP3+WP5: June 7th 2021;
- WP3+PMB: July 16th, 2021;
- WP3+WP2: February 7th 2022;
- WP3+PMB: June 1st 2022;
- WP3+PMB: August 31st 2022

# WP3 STRUCTURE

appointed at Kick off meeting



## ➤ WP3 Leaders:

Eustachio Tarasco & Aleksandra Ignjatović Čupina

## ➤ WP3 Coordinators (**1** representative teacher per each PI)

➤ WP3 Members: **2-3** teachers per each PI

**2** students per each PI

**70 active WP3 members (46 teachers + 24 students)**



# WP3 STRUCTURE

## ➤ SCIENTIFIC GROUPS (SGs) AND SG LEADERS

1. **Diagnosis in plant health and IPM - SG1 - Leader Maja Čačija (FAZ)**
2. **Sustainable use of pesticides - SG2 - Leader Matteo Spagnuolo (UNIBA)**
3. **Plant feeders - SG3 - Leader Ivana Majić (FAZOS)**
4. **Plant pathology - SG4 - Leader Sotiris Tjamos (AUA)**
5. **Weed science – SG5 - Leader Maja Šćepanović (FAZ)**
6. **Mycotoxins and food safety - SG6 - Leader Dimitris Tsitsigiannis (AUA)**
7. **General contents of transversal interests –SG7 - Leader Ana Mandić (SVEMO)**

## WP3 MEMBERS AND CONTRIBUTORS

SG	TEACHERS	STUDENTS	TOTAL
<b>1. Diagnosis in plant health and IPM</b>	9	2	11
<b>2. Sustainable use of pesticides</b>	8	6	14
<b>3. Plant feeders</b>	8	6	14
<b>4. Plant pathology</b>	6	9	15
<b>5. Weed science</b>	10	4	14
<b>6. Mycotoxins and food safety</b>	8	2	10
<b>7. General contents of transversal interests</b>	14	1	15
<b>TOTAL</b>	<b>63</b>	<b>30</b>	<b>93</b>

**Mailing list with all contacts created and shared to members and contributors**



# PhD Study Program for Plant Health in Sustainable Agriculture

## CURRICULUM



## WP2+WP3

TYPE OF ACTIVITY	ECTS IN TOTAL		
Teaching	<b>min. 25</b>	Mandatory -general topics (SG7)	<b>10</b>
		Elective courses	<b>min 15</b>
Research (including (production of scientific papers , PhD thesis, other research activities ) :	<b>max. 155</b>	Active participation to conferences, trainings etc.	<b>5-10</b>
<b>TOTAL</b>	<b>180</b>		

## COURSES AND COURSE LEADERS

### SG1. Diagnosis in plant health and IPM :

- 1) Advanced diagnostic methods and techniques for detection of prejudicial and beneficial organisms (ADM&TDO) – Incharged course leader Prof. Epimenondas Paplomatas (AUA)**
- 2) Integrated approach to surveillance of prejudicial organisms affecting plant health (IAS) – Course leaders: Prof. Mirha Đikić (UNSA) and Prof. Karolina Vrandečić (FAZOS)**
- 3) Control of quarantine prejudicial organisms, managing of non-native beneficial organisms and evaluation of risk assessment based on EU protocols (CQPO, MNNB & ERA) – Course leaders: Prof. Enrico de Lillo (UNIBA) and Francesco Porcelli (UNIBA)**

## COURSES AND COURSE LEADERS

### SG2. Sustainable use of pesticides - SG 2

- 1) Plant Protection Products in Sustainable Agriculture (PPPSA) - **Prof. Slavica Vuković (UNS)**
- 2) Environmental fate of pesticides (EFP) - **Prof. Matteo Spagnuolo (UNIBA)**  
and **Prof. Magdalena Cara (AUT)**
- 3) Toxicology and Ecotoxicology of pesticides (TEP) - **Prof. Dragica Brkić (UB)**

## COURSES AND COURSE LEADERS

### SG3. Plant feeders - SG 3, leader Ivana Majić (FAZOS):

- 1) Advanced techniques in plant feeders (ATPF) - **Prof. Biljana Vidović (UB)**
- 2) Frontiers in invertebrate pest and resistance management (FIPRM) – **Prof. Anita Liška(FAZOS)**
- 3) Advanced invertebrate pathology (AIP) – **Prof. Eustachio Tarasco (UNIBA)**
- 4) Invasive alien arthropods (IAP) - **Prof. Francesco Porcelli (UNIBA)**
- 5) Vectors of plant pathogens (VPP) – **Prof. Olivera Petrović Obradović (UB)**
- 6) Integrated Management of urban pests (IMUP) - **Prof. Aleksandra Ignjatović Ćupina (UNS)**

## **COURSES AND COURSE LEADERS**

### **SG4. Plant pathology - SG 4, leader Sotiris Tjamos (AUA):**

- 1) Molecular Plant Microbe Interactions (MPMI) – Prof. Sotirios Tjamos (AUA) and Rita Milvia De Miccolis Angelini (UNIBA)**

### **SG5. Weed science - SG 5, leader Maja Šćepanović (FAZ):**

- 1) Weed management in precision agriculture (WMPA) - Prof. Dragana Božić (UB)**
- 2) Modelling in Weed Science (MWS) - Prof. Maja Šćepanović (FAZ)**
- 3) Invasive plant species (IPS) – Prof. Sava Vrbničanin (UB)**

### **SG6. Mycotoxins and food safety - SG 6, leader Dimitrios Tsitsigiannis (AUA) :**

- 1) Mycotoxins and food safety (MFS) - Prof. Dimitris Tsitsigiannis (AUA) and Donato Gerin (UNIBA)**



## COURSES AND COURSE LEADERS

### SG7. General contents of transversal interest - SG 7, leader Ana Mandić (SVEMO):

- 1) Principles of Scientific Work in Bio-science (PSWB) – **Prof. Franco Nigro (UNIBA)**
- 2) Bio-diversity and bio-indicators in sustainable agriculture (BD&BI)– **Prof. Mirjana Brmež (FAZOS)**
- 3) GIS & Spatial Data Analysis (GIS & SDA) – **Prof. Melisa Ljuša (UNSA)**
- 4) Bio-informatics (BINF) – **Prof. Jasmin Grahić (UNSA) and Arnela Okić (UNSA)**
- 5) Knowledge and management of research funding systems (KMRFS) – **Prof. Renata Bažok (FAZ)**

Type of Courses	Courses	ECTS	Workload (Lectures+ Other activities)
MANDATORY (3 courses, total 10 ECTS)	1. Principles of Scientific work in bio-science	3	20+55=75
	2. Bio-informatics	3	20+55=75
	3. Knowledge and management of research funding systems	4	30+70=100
ELECTIVE (optional No. of courses, min 15 ECTS)	All other courses -option a)	3	20+55=75
	-option b)	4	30+70=100

**TOTAL**

**Min 25**

<b>Study program</b>		International joint study PhD study program in Plant Health for Sustainable Agriculture	
<b>Course title</b>		<b>Integrated approach to surveillance of prejudicial organisms affecting plant health</b>	
<b>Course code</b>		IAS	
<b>Course leader</b>		Mirha Đikić (UNSA), Karolina Vrandečić (FAZOS)	
<b>Responsible PI University/Faculty/Department/Country</b>		UNSA FAZOS	
<b>Other teachers and related PIs (University University/Faculty/Department/Country)</b>		Ivan Juran (FAZ), Anita Liška (FAZOS), Aleksandra Konjević (UNS), Teofil Gavrić (UNSA), Franco Nigro (UNIBA), Igor Pajović (UoM), Milan Ivanović (UB), Mihaela Kavran (UNS), Vera Stojšin (UNS)	
<b>Credits (ECTS)</b>	4	<b>Course status</b>	Elective
<b>Specific entry requirements</b>	none		
<b>Aim of the course and student`s competences</b>	Acquiring knowledge and understanding of integrated approach to surveillance of prejudicial organisms affecting plant health and its importance for sustainable agriculture and environmental protection: knowledge, skills and competences (know how) for selection and implementation of integral surveillance strategies, protocols, monitoring methods and techniques, perspectives of application of alternative modern control techniques in sustainable agriculture.		
<b>Learning outcomes</b>	<ol style="list-style-type: none"> <li>1. Select, develop, set up and validate the appropriate methods of monitoring of plant materials and soil as well as define methods in order to determine the relevance of plant prejudicial organisms.</li> <li>2. Analyze and identify reasons of mass occurrence and spreading of certain plant pathogens, pests and weeds.</li> <li>3. Design and compare plant protection measures in conventional, integrated and organic agricultural production for their efficiency with regard to environmental impact, and operator and consumer safety.</li> <li>4. Explain the principles and evaluate the potentiality of application of precision agriculture in IPM.</li> <li>5. Create/design and conduct field and laboratory research in the area of IPM.</li> </ol>		

**Course content:***Theoretical lessons:*

Integrated pest management approach in sustainable agriculture; protocols for surveillance of plant pathogens, pests, weeds and beneficial organisms; techniques and methods of monitoring and interpretation of monitoring results; preparedness, early detection, signalization for outbreak prevention and control of prejudicial organisms; alternative control techniques in sustainable agriculture; case studies on actual topics.

*Practical classes: laboratory exercises*

Training and application of different monitoring and control methods and techniques; field and laboratory exercises on targeted organisms.

**Literature and other learning material:**

1. Altieri M.A. Nicholls C.I. (2004): Biodiversity and Pest Management in Agroecosystems. Second Edition. Food Products Press, an imprint of The Haworth Press, Inc. 236 pp.
2. Walter, G. H., (2005): Insect pest management and ecological research. Cambridge University Press. 387 pp.
3. Schauff ME (2001) Collecting and preserving insects and mites: techniques and tools. [Updated and modified WWW version of Steyskal GC, Murphy WL, Hoover EH (Eds) (1986) Insects and mites: techniques for collection and preservation.] Agricultural Research Service, USDA, Miscellaneous Publication 1443: 1–103. [http://www.ars.usda.gov/SP2UserFiles/ad\\_hoc/12754100CollectingandPreservingInsectsandMites/collpres.pdf](http://www.ars.usda.gov/SP2UserFiles/ad_hoc/12754100CollectingandPreservingInsectsandMites/collpres.pdf)
4. Leather, S. R. (2005): Insect Sampling in Forest Ecosystems. Blackwell Science Ltd
5. Gibb T.J., Oseto C.Y. (2006): Arthropod Collection and Identification Field and Laboratory Techniques. Elsevier Academic Press Academic Press, 311 pp.
6. Dyck V.A., Hendichs J., Robinson A.S. (2005): Sterile Insect Technique Principles and Practice in Area-Wide Integrated Pest Management. Joint FAO/IAEA Programme, Vienna, Austria. Springer, Netherlands. 787 pp
7. Horowitz A.R., Ishaaya I. (2004): Insect Pest Management: Field and Protected Crops. Springer-Verlag Berlin Heidelberg. 344 pp.
8. Rechcigl, J. E., Rechcigl N. A. (Eds) (2000): Insect pest management: techniques for environmental protection. Lewis Publishers- an imprint of CRC Press LLC. 408 pp
9. Altieri M.A. Nicholls C.I., Fritz M.A. (2005): Manage insects on your farm: a guide to ecological strategies. Sustainable Agriculture Network handbook series; bk. 7, 119 pp.
10. Kogan M., Jepson P. (Eds) (2007): Perspectives in ecological theory and integrated pest management. Cambridge University Press, UK, 570 pp
11. Horne P.A., Page J. (2008): Integrated pest management for crops and pastures. Landlinks Press, 119 pp.
12. Flint M.L., Van den Bosch R. (1981): Introduction to Integrated Pest Management. Plenum Press, New York, 240 pp.
13. Aldrich, R.J., Kremer, R.J. (1997). Principled in Weed Management, Iowa State University
14. Naylor, R.E.L. (2002). Weed management Handbook. British Crop Protection Council

<b>Number of classes</b>			
<b>Lectures (teoretical, practical lessons, seminars = contact hours)</b> 30	<b>Student research work:</b> -		<b>Other activities (preparation for exam, literature research, preparation of seminars etc):</b> 70
<b>Teaching methods:</b> PPT presentations, other didactic tools, demonstrations in field and laboratory , seminars /round tables/workshops			
<b>Evaluation (max. 100 points)</b>			
<b>Pre-exam obligations</b>	<b>Points</b>	<b>Final exam</b>	<b>Points</b>
<b>Activity during lectures</b> (=active class participation)	15	<b>Written exam</b>	20
<b>Practical classes</b> (= Practical work)	15	<b>Oral exam</b>	20
<b>Colloquium</b> (= preliminary exam)			
<b>Seminar papers</b> (=Seminar(s))	30		
<b>A way to form a final grade:</b>			
Final grade - formed based on the sum of acquired points, with the minimum of 11/20 required points for both written and oral exam.			

# PhD Study Program for Plant Health in Sustainable Agriculture

## TEACHERS AND THEIR COMPETENCES



## SG 1. Diagnosis in plant health and IPM

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Advanced diagnostic methods and techniques for detection of prejudicial and beneficial organisms -ADM&amp;TDO</b>	Epameinondas Paplomatas (AUA)	UNIBA: Stefania Pollastro FAZ: Maja Čačija (FAZ) AUA: Dimitris Tsitsigiannis, Sotiris Tjamos, Elisavet Chatzivassiliou, Aliko Tzima, Dionysios Perdikis, Ioannis Giannakou UoM: Jelena Zindović AUT: Magdalena Cara UNS: Dragana Budakov <b>1+ 11 =12</b>
<b>Integrated approach to surveillance of prejudicial organisms affecting plant health - IAS</b>	Mirha Đikić (UNSA) Karolina Vrandečić (FAZOS)	FAZ: Ivan Juran FAZOS: Anita Liška, UNS: Aleksandra Konjević UNSA: Teofil Gavrić UNIBA: Franco Nigro UoM: Igor Pajović UB: Milan Ivanović UNS: Mihaela Kavran, Vera Stojšin <b>2+9=10</b>
<b>Control of quarantine prejudicial organisms, managing of non-native beneficial organisms and evaluation of risk assessment based on EU protocols - CQPO, MNNB &amp; ERA</b>	Enrico de Lillo (UNIBA) Francesco Porcelli (UNIBA)	UNS: Aleksandra Konjević, Ferenc Bagi, Mila Grahovac FAZ: Ivana Pajač Živković FAZOS: Jasenka Ćosić UB: Aleksandra Bulajić UNIBA: Roberta Spanò <b>2+7=9</b>

## SG-2. Sustainable use of pesticides

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Plant Protection Products in Sustainable Agriculture - PPPSA</b>	Slavica Vuković (UNS)	FAZ: Renata Bažok UNIBA: Matteo Spagnuolo, Franco Faretra AUT: Magdalena Cara UoM: Nedeljko Latinović <p style="text-align: right;"><b>1+5=6</b></p>
<b>Environmental fate of pesticides - EFP</b>	Matteo Spagnuolo (UNIBA) Magdalena Cara (AUT)	UB: Dragica Brkić SVEMO: Ivan Ostojić UNS: Sanja Lazić <p style="text-align: right;"><b>2+3=5</b></p>
<b>Toxicology and Ecotoxicology of pesticides - TEP</b>	Dragica Brkić (UB)	UNIBA: Matteo Spagnuolo UNS: Sanja Lazić AUT: Magdalena Cara <p style="text-align: right;"><b>1+3=4</b></p>



## SG-3. Plant feeders

<b>COURSE TITLE AND ACRONYM</b>	<b>COURSE LEADER/LEADERS (PI)</b>	<b>OTHER TEACHERS (per PI)</b>
<b>Advanced techniques in plant feeders - ATPF</b>	Biljana Vidović (UB)	FAZOS: Mirjana Brmež FAZ: Ivana Pajač Živković UNSA: Nedžad Karić AUA: Ioannis Giannakou UNIBA: Daniele Cornara <b>1+5 =6</b>
<b>Frontiers in invertebrate pest and resistance management - FIPRM</b>	Anita Liška (FAZOS)	FAZOS: Ankica Sarajlić, Vlatka Rozman FAZ: Darija Lemić UB: Anđa Radonjić UNIBA: Giovanni Tamburini <b>1+5=6</b>
<b>Advanced Invertebrate Pathology - AIP</b>	Eustachio Tarasco (UNIBA)	FAZOS: Ivana Majić FAZ: Maja Čačija AUA: Ioannis Giannakou UB: Nikola Grujić <b>1+4=5</b>
<b>Invasive Alien Pests - IAP</b>	Francesco Porcelli (UNIBA)	FAZ: Ivana Pajač Živković FAZOS: Ankica Sarajlić UNS: Aleksandra Konjević UB: Dušanka Jerinić-Prodanović UoM: Snježana Hrnčić SVEMO: Mladen Zovko <b>1+6=7</b>
<b>Vectors of plant pathogens- VPP</b>	Olivera Petrović-Obradović (UB)	FAZ: Tanja Gotlin Čuljak UoM: Sanja Radonjić FAZOS: Ivana Majić UNIBA: Daniele Cornara <b>1+4=5</b>
<b>Integrated management of urban pests - IMUP</b>	Aleksandra Ignjatović Ćupina (UNS)	UNSA: Nedžad Karić FAZ: Aleksandar Mešić UB: Draga Graora UoM: Igor Pajović UNIBA: Eustachio Tarasco UNS: Aleksandra Petrović <b>1+6=7</b>

## SG-4. Plant pathology

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Molecular Plant Microbe Interactions - MPMI</b>	Sotiris Tjamos (AUA) Rita Milvia De Miccolis Angelini (UNIBA)	AUA: Epameinondas Paplomatas, Dimitris Tsitsigiannis UB: Nataša Duduk UNS: Renata Iličić UNSA: Arnela Okić SVEMO: Ana Crnogorac FAZOS: Karolina Vrandečić UoM: Jelena Latinović <b>2+8=10</b>

## SG-5. Weed science

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Weed management in precision agriculture - WMPA</b>	Dragana Božić (UB)	AUT: Skender Varaku FAZ: Maja Šćepanović FAZOS: Marija Ravlić UNSA: Teofil Gavrić UNS: Aleksandar Sedlar <p style="text-align: right;"><b>1+5=6</b></p>
<b>Modelling in Weed Science -MWS</b>	Maja Šćepanović (FAZ)	UNSA: Jasmin Grahić UB: Sava Vrbničanin UNS: Maja Meseldžija <p style="text-align: right;"><b>1+3=4</b></p>
<b>Invasive Plant Species - IPS</b>	Sava Vrbničanin (UB)	UNSA: Mirha Djikić FAZOS: Renata Baličević FAZ: Maja Šćepanović UNS: Bojan Konstantinović SVEMO: Danijela Petrović <p style="text-align: right;"><b>1+5=6</b></p>

## SG-6. Mycotoxins and food safety

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Mycotoxins and food safety -MFS</b>	Dimitris Tsitsigiannis (AUA) Donato Gerin (UNIBA)	AUT: Magdalena Cara UNS: Ferenc Bagi, Mila Grahovac FAZOS: Karolina Vrandečić UB: Nataša Duduk, Ivana Vico SVEMO: Anita Lalić UNIBA: Simona Sanzani UoM: Jelena Latinović AUA: Eleni Tsiplakou  <b>2+10=12</b>

## SG-7. General contents of transversal interest

COURSE TITLE AND ACRONYM	COURSE LEADER/LEADERS (PI)	OTHER TEACHERS (per PI)
<b>Principles of Scientific Work in Bio-science - PSWB</b>	Franco Nigro (UNIBA)	UNIBA: Antonio Ippolito UB: Sava Vrbničanin <b>1+2=3</b>
<b>Biodiversity and bioindicators in sustainable agriculture - BD&amp;BI</b>	Mirjana Brmež (FAZOS)	UNIBA: Tiziana Mascia FAZ: Darija Lemić UB: Dragana Božić, Nataša Duduk UNIBA: Claudio De Giovanni AUT: Shpend Shahini UNS: Aleksandra Petrović <b>1+7=8</b>
<b>GIS &amp; Spatial Data Analysis - GIS &amp; SDA</b>	Melisa Ljuša (UNSA)	FAZOS: Ivan Plaščak UB: Goran Topisirović <b>1+2=3</b>
<b>Bio-informatics - BINF</b>	Jasmin Grahić (UNSA) Arnela Okić	UB: Ivana Stanković UNS: Mladen Petreš <b>2+2=4</b>
<b>Knowledge and management of research funding systems - KMRFS</b>	Renata Bažok (FAZ)	UoM: Nedeljko Latinović UNIBA: Stefania Pollastro <b>1+2=3</b>

PARTNER INSTITUTIONS	Full Professors	Associate Professors	Assistant Professors	Researchers	Research Associate	Research Assistant	TOTAL
FAZ - Zagreb, HR	3	3	2				8
FAZOS - Osijek, HR	7	1	2				10
UNIBA - Bari, IT	5	6	2	3			16
AUA - Athens, GR	3	4	1				8
AUT - Tirana, AL	3						3
UNSA - Sarajevo, BA	2	2	2				6
SVEMO - Mostar, BA	1	1	3				5
UB - Belgrade, RS	10	4	1				15
UNS - Novi Sad, RS	7	5	1		1	1	15
UoM- Podgorica, ME	4		2				6
<b>TOTAL – 10 PI</b>	45	26	16	3	1	1	<b>92</b>
	48,91%	28.26%	17.39%	3.26%	1.09%	1.09%	



PARTNER INSTITUTIONS	FEMALES	MALES	TOTAL	%	
				FEMALES	MALES
FAZ - Zagreb, HR	6	2	8	<b>75.00</b>	<b>25.00</b>
FAZOS - Osijek, HR	9	1	10	<b>90.00</b>	<b>10.00</b>
UNIBA - Bari, IT	5	11	16	<b>31.25</b>	<b>68.75</b>
AUA - Athens, GR	3	5	8	<b>37.50</b>	<b>62.50</b>
AUT - Tirana, AL	1	2	3	<b>33.33</b>	<b>66.67</b>
UNSA - Sarajevo, BA	3	3	6	<b>50.00</b>	<b>50.00</b>
SVEMO - Mostar, BA	3	2	5	<b>60.00</b>	<b>40.00</b>
UB - Belgrade, RS	12	3	15	<b>80.00</b>	<b>20.00</b>
UNS - Novi Sad, RS	11	4	15	<b>73.33</b>	<b>26.67</b>
UoM- Podgorica, ME	4	2	6	<b>66.67</b>	<b>33.33</b>
<b>TOTAL</b>	<b>57</b>	<b>35</b>	<b>92</b>	<b>61.96%</b>	<b>38.04%</b>



ΓΕΩΠΟΝΙΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ ΑΘΗΝΩΝ

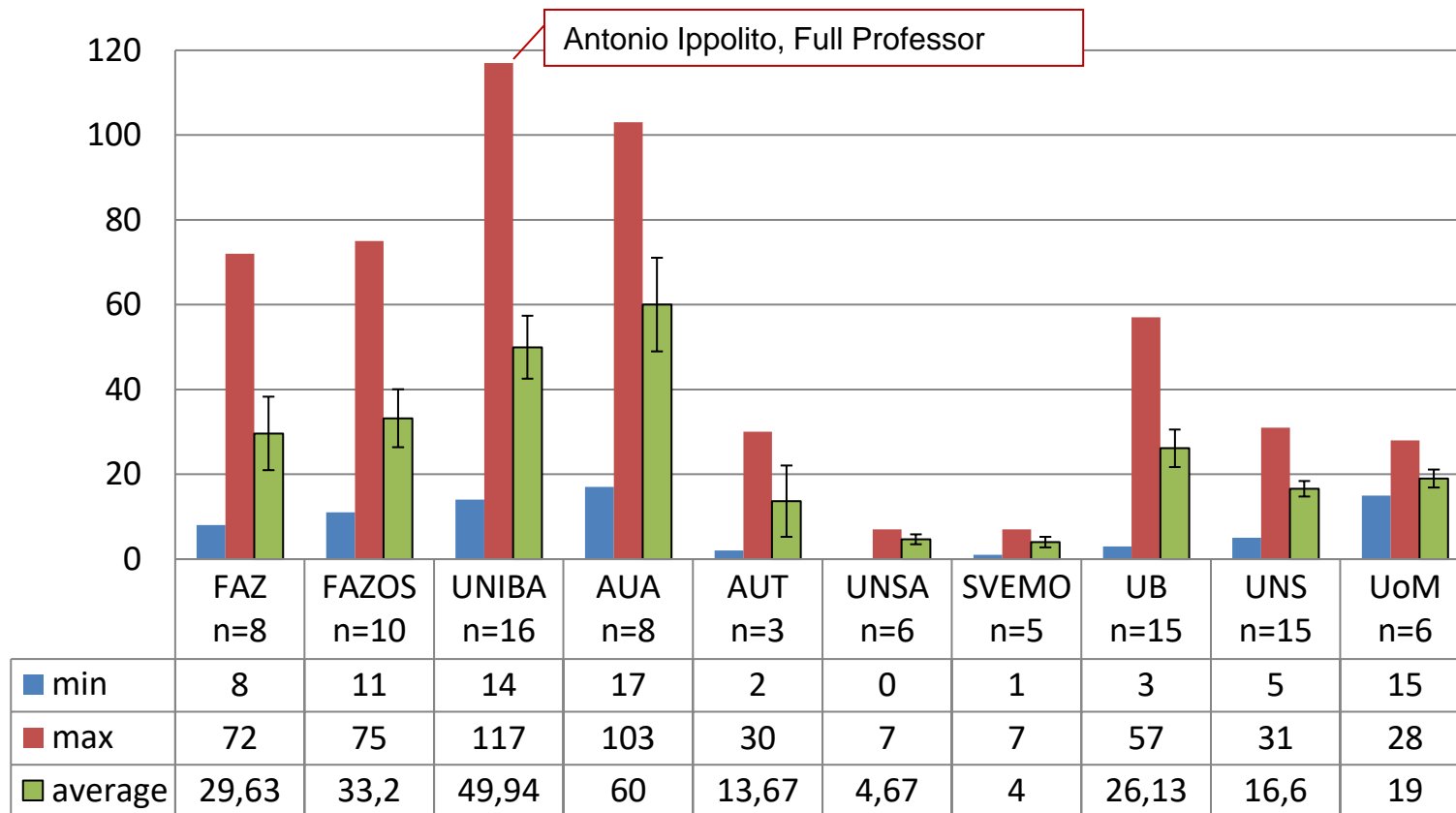


Name, family name		ANTONIO IPPOLITO		
Title of position		Full professor		
Scientific discipline		Plant Pathology		
<b>Academic career:</b>	Year	Institution	Scientific Field	Scientific Discipline
Election to the last position	2005	UNIBA	Plant Pathology	Plant pathology
Doctorate	1988	UNIBA	Plant Pathology	Plant pathology
Master of Science	1982	UNIBA	Agronomy	Horticulture
Bachelor Diploma	-	-	-	-
<b>The list of courses carried out by the teacher in doctoral studies</b>				
	Course code	Course title	Name of the study program, the type of study	
1.	PSWB	Principles of Scientific Work in Bio-science	International joint study PhD study program in Plant Health for Sustainable Agriculture; doctoral studies-3 <sup>rd</sup> level	
2.		Diseases of citrus	Plant protection	
<b>Representative references (minimum 10 no more than 20)</b>				
1	<b>Sanzani, S. M., Sgaramella, M., Mosca, S., Solfrizzo, M., Ippolito, A.</b> 2021. Control of <i>Penicillium expansum</i> by an Epiphytic Basidiomycetous Yeast. <i>Horticulturae</i> , 7(11), 473.			
2	<b>Habib, W., Khalil, J., Mincuzzi A., Saab1. C., Gerges1, E., Tsouvalakis H.C., Ippolito, A., Sanzani, S.M.</b> 2021. Fungal pathogens associated with harvested table grapes in Lebanon, and characterization of the mycotoxigenic genera. <i>Phytopathologia Mediterranea</i> , 60(3): 427-439.			
3	<b>Brighenti, V., Iseppi, R., Pinzi, L., Mincuzzi, A., Ippolito, A., Messi, P., Sanzani, S.M., Rastelli, G., Pellati, F.</b> 2021. Antifungal Activity and DNA Topoisomerase Inhibition of Hydrolysisable Tannins from <i>Punica granatum</i> L. <i>International Journal of Molecular Sciences</i> , 22(8), 4175.			
4	<b>Aloi, F., Riolo, M., Sanzani, S.M., Mincuzzi, A., Ippolito, A., Siciliano, I., Pane, A., Gullino, M.L., Cacciola, S.O.</b> 2021. Characterization of <i>Alternaria</i> Species Associated with Heart Rot of Pomegranate Fruit. <i>Journal of Fungi</i> 7(3),172.			
5	<b>Sanzani, S.M., Djenane, F., Incerti, O., Admane, N., Mincuzzi, A., Ippolito, A.</b> 2021. Mycotoxigenic fungi contaminating greenhouse-grown tomato fruit and their alternative control. <i>European Journal of Plant Pathology</i> , 160, 287–300.			
6	<b>Tragni, V., Cotugno, P., Grassi, A.D., Cavalluzzi, M.M., Mincuzzi, A., Lentini, G., Sanzani, S.M., Ippolito, A., Pierri, C.L.,</b> 2021. Targeting <i>Penicillium expansum</i> GMC oxidoreductase with high affinity small molecules for reducing patulin production. <i>Biology</i> , 10, 1-24.			
7	<b>Tragni, V., Cotugno, P., De Grassi, A., Massari, F., Di Ronzo, F., Aresta, A.M., Zambonin, C., Sanzani, S.M., Ippolito, A., Pierri, C.L.</b> 2021. Targeting mitochondrial metabolite transporters in <i>Penicillium expansum</i> for reducing patulin production. <i>Plant Physiology and Biochemistry</i> , 158, 158-181.			
8	<b>Cara, M., Mincuzzi, A., Merkuri, J., Vrapı H., Cara, O., Ippolito, A., Baroncelli, R., Sanzani, S.M.,</b> 2020. <i>Colletotrichum gloeosporioides sensu stricto</i> as causal agent of anthracnose on pomegranate flowers and fruit in Albania. <i>Crop Protection</i> 137, 105291.			
9	<b>Spadoni, A., Ippolito, A., Sanzani, S.M.</b> 2020. First report of <i>Stemphylium eturmiunum</i> causing postharvest rot of sweet cherry in Italy. <i>Crop Protection</i> 132, 105112.			
10	<b>Mincuzzi, A., Ippolito, A., Brighenti, V., Marchetti, L., Benvenuti, S., Ligorio, A., Pelati, F., Sanzani, S. M.</b> 2020. The effect of polyphenols on pomegranate fruit susceptibility to <i>Pilidiella granati</i> provides insights into disease tolerance mechanisms. <i>Molecules</i> , 25, 515.			

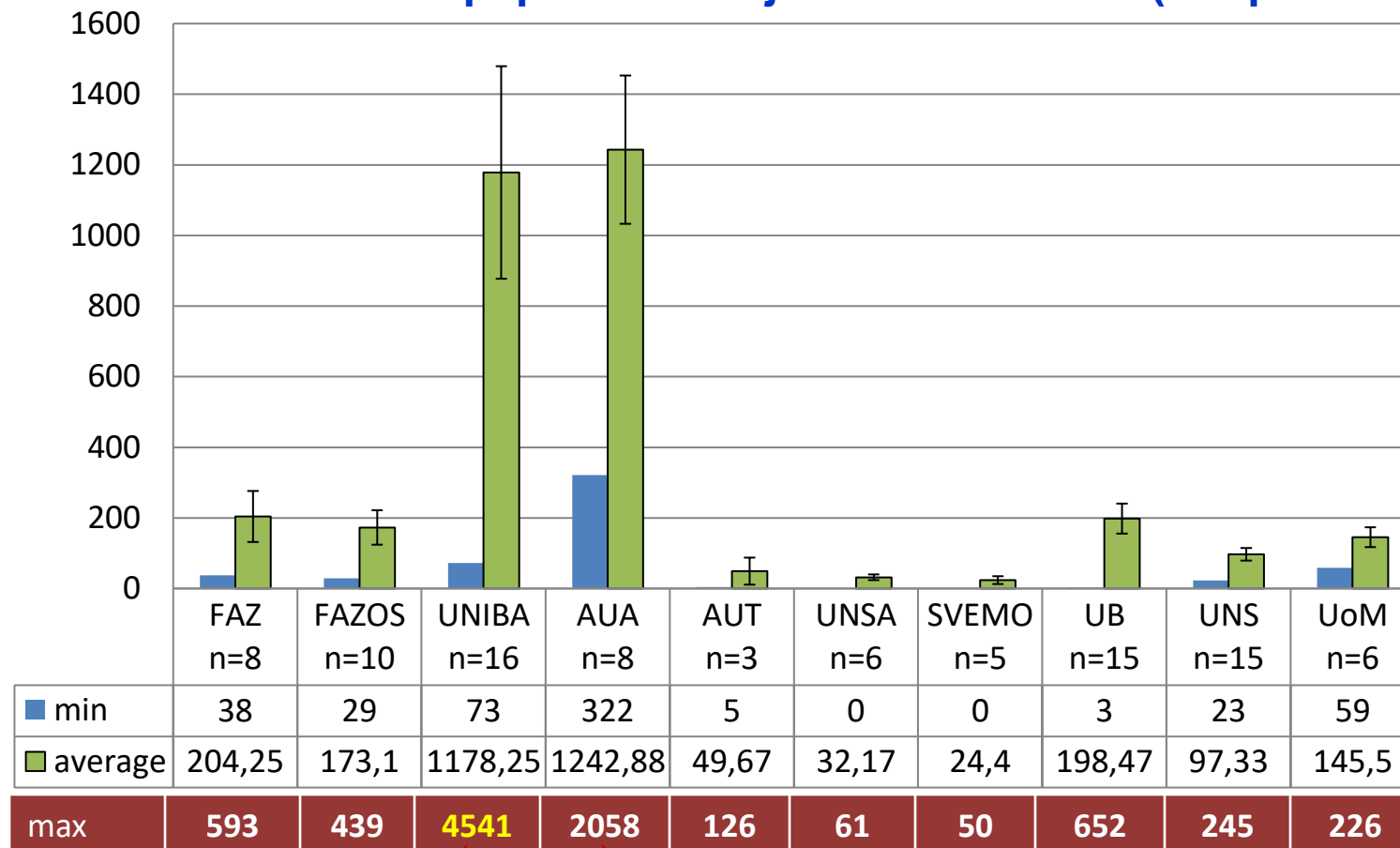


<b>Summary data of scientific and professional activities of teacher</b>		
Total number of citations	<b>4541</b>	
The total number of papers in SCI journal list	<b>117</b>	
H-index	<b>38</b>	
Current participation in projects	National: 1	International : 2
Specialization and trainings		
<b>Other relevant information:</b>		
<ul style="list-style-type: none"> <li>- Member of various committees for PhD final exams and postdoc, researcher, associate and full professor recruitment;</li> <li>- 2012-2013 Member of the ASN (Abilitazione Scientifica Nazionale) Commission for sector 07/D1;</li> <li>- Chair of the international Working group “Biological Control of Postharvest Diseases”;</li> <li>- Member of the international Commissions “Quality and Postharvest Horticulture” and “Plant Protection” of the International Society for Horticultural Science (ISHS).</li> <li>- 2009-2021 Coordinator of the PhD course “Biodiversity, Agriculture and Environment” at the University of Bari, Italy</li> </ul> <p><b>MEMBER OF SOCIETIES</b></p> <ul style="list-style-type: none"> <li>- Italian Society of Plant Pathology (SIPaV);</li> <li>- Italian Association for Plant Protection (AIPP);</li> <li>- International Society for Horticultural Science (ISHS);</li> <li>- Mediterranean Phytopathological Union (MPU);</li> <li>- International Society of Citriculture (ISC);</li> <li>- International Association for the Plant Protection Science.</li> </ul>		

## Number of papers in SCI journal list / teacher (Scopus database)



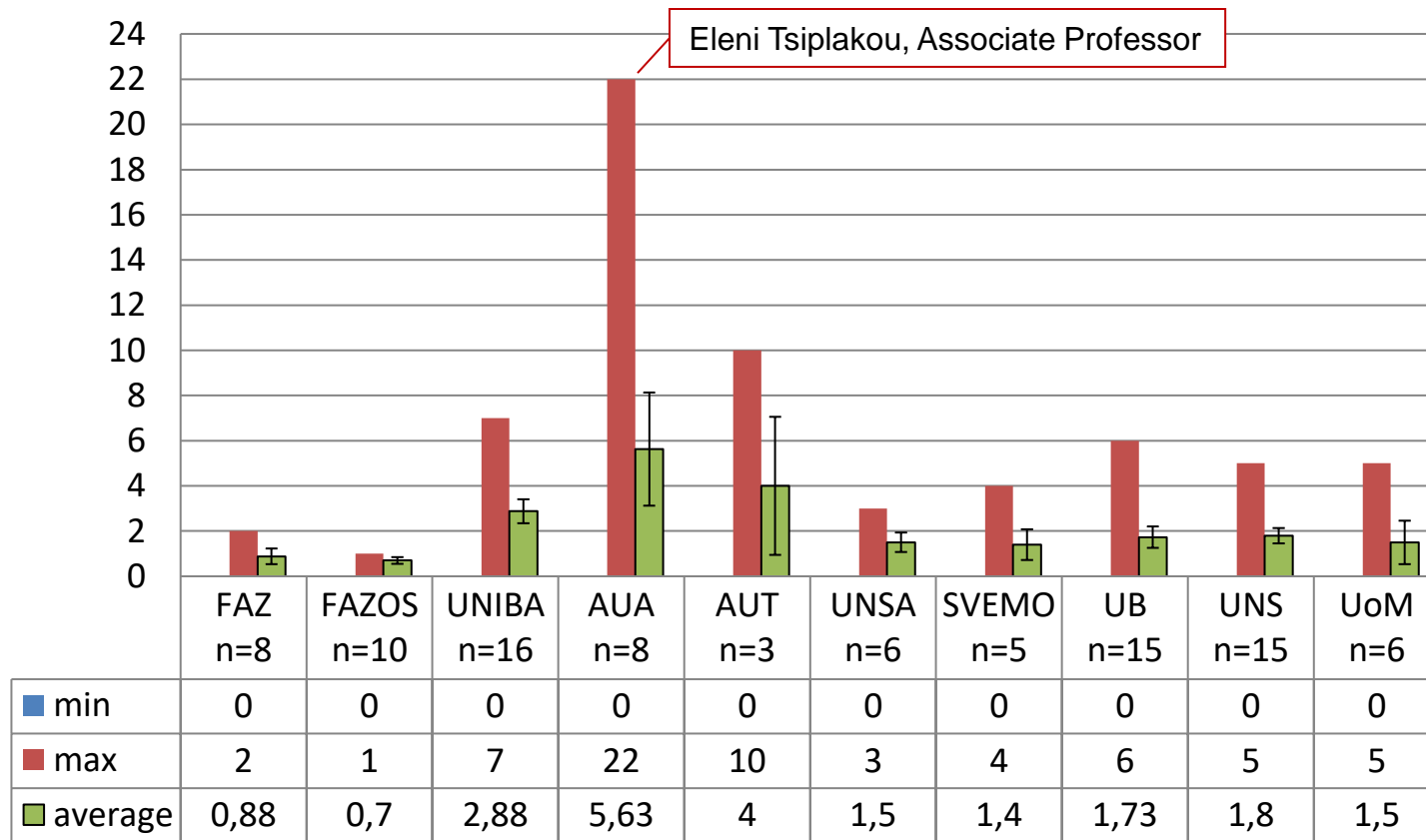
## Number of citations in papers in SCI journals / teacher (Scopus database)



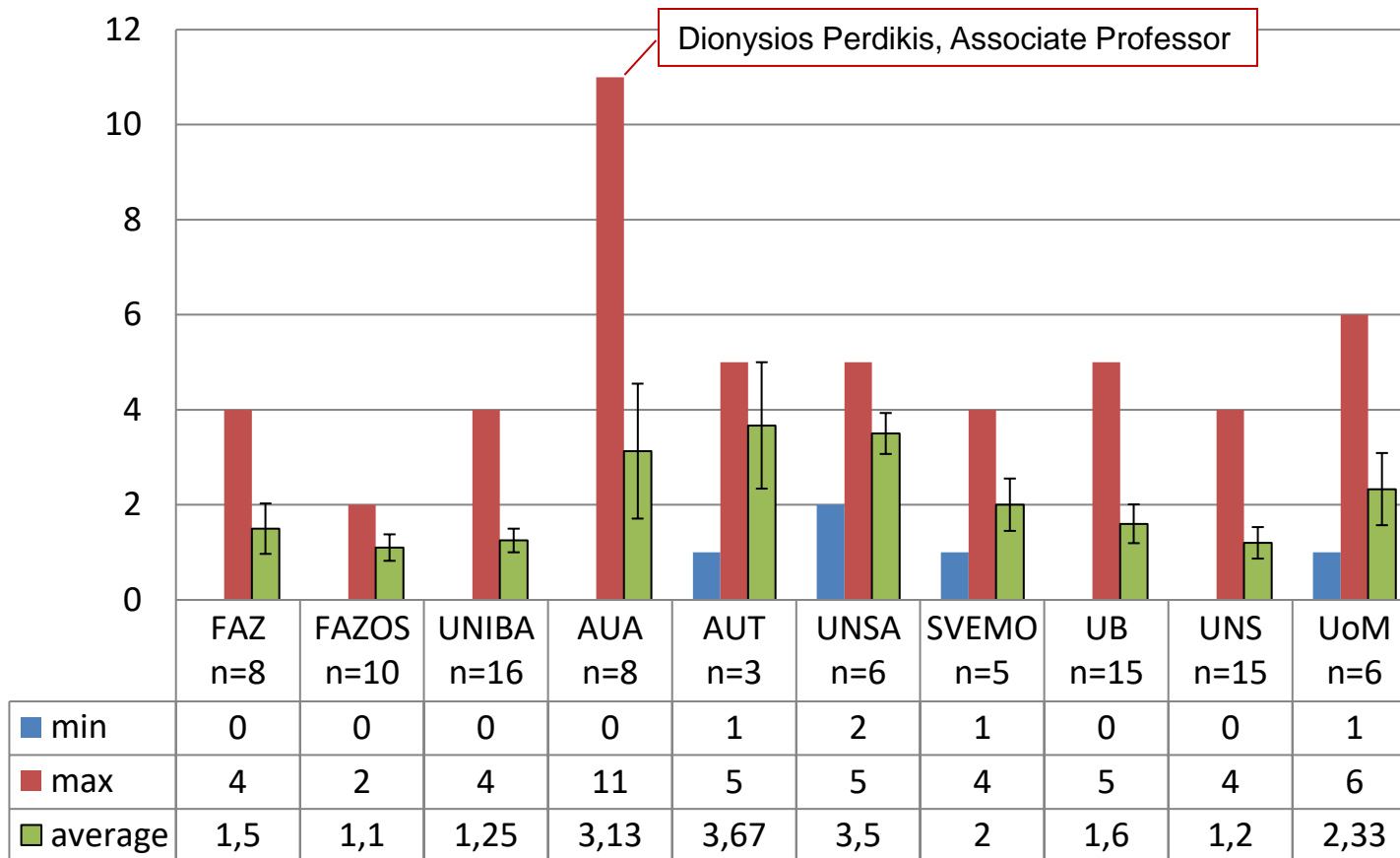
Antonio Ippolito, Full Professor

Epameinondas Paplomatas, Full Professor

## Number of national projects / teacher (current participation)

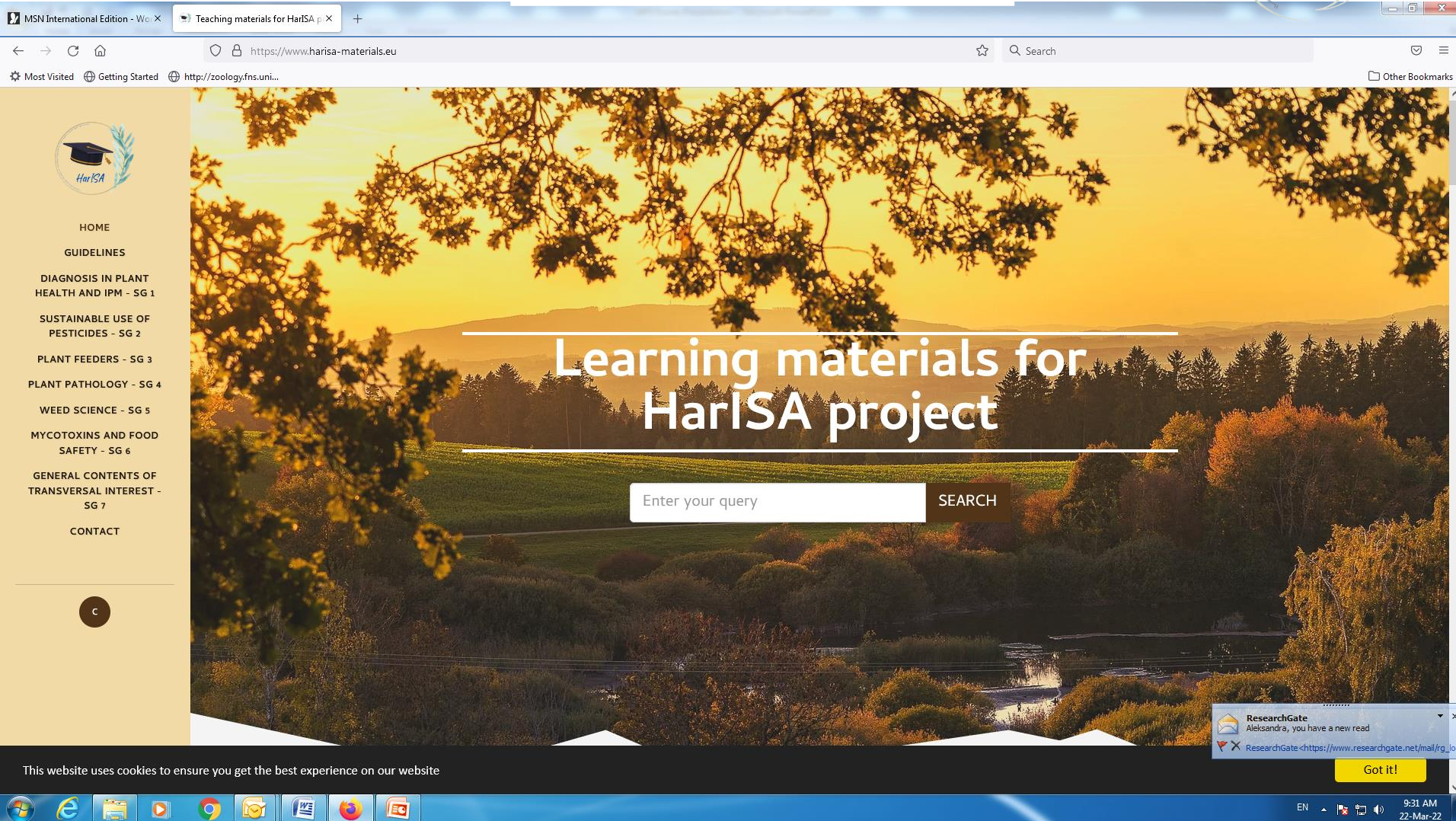


## Number of international projects / teacher (current participation)



# PhD Study Program for Plant Health in Sustainable Agriculture


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- WEED SCIENCE - SG 5
- MYCOTOXINS AND FOOD SAFETY - SG 6
- GENERAL CONTENTS OF TRANSVERSAL INTEREST - SG 7

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# Learning materials for HarISA project

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## GUIDELINES

### GUIDELINES ON HOW TO ENTITLE AND SORT TEACHING MATERIAL FOR THE COURSES TAUGHT IN JOINT PhD STUDY PROGRAM „Plant Health in Sustainable Agriculture (PHISA)“

This guidelines shall be applied for all teaching material. The aim is to get common classification of the teaching material. There are different types of teaching material that can be collected. Teaching material could be classified as follows.


For each course within the scientific area (each course shall get unique abbreviation):

Protocols, guidelines, methods (PGM)			Books (B)		Dissertations (D)
-developed by project staff prior or during the project activities (in a form of manuscript- word or pdf, could be just extracted from the paper or from dissertation completed under the mentorship of teachers involved in PHISA)  (abbreviation MS)	-available in the literature (scientific papers with usefull methods published by teachers involved in the project or by other authors- whole text)  (abbreviation PAP)	-links and references of selected papers or web pages where relevant methodologies are published  (abbreviation LINK)	-whole books (e-form) published by project team members or e-books available on web published by other authors  (abbreviation FULL)	-references of books published by project team member or other author not available in e-form  (abbreviation LINK)	-dissertations defened under the mentorship of teachers involved in PHISA that contain important informations about pests, methods, protocols etc.
PGM-MS- yyy-author name	PGM-PAP- yyy-first author name and year	PGM-LINK-yyy- name of the web page or first author name	B-FULL-yyy-first author name and year	B-LINK-yyy-first author name and year	D- yyy-PhD student name and year





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# WMPA

## Teaching materials:

### 1. Protocols, guidelines, methods (PGM)

PGM-MS-yyy-author	PGM-PAP-yyy-first author name	PGM-LINK-yyy-name of the web page or first author name
	Site-specific weed control technologies -> <a href="#">PGM-PAP-WMPA-Christensenetal.-2009</a>	<a href="#">PGM-LINK-WMPA-Rocha et al.-2015</a>
	Weed Control Decision Support System Based on Precision Agriculture Approach -> <a href="#">PGM-PAP-WMPA-Sampurno et al-2014</a>	<a href="#">PGM-LINK-WMPA-Steward et al.-2019</a>
		<a href="#">PGM-LINK-WMPA- Young et al-2014</a>
		<a href="#">PGM-LINK-WMPA- Torres-Sánchez- 2013</a>
		<a href="#">PGM-LINK-WMPA-Shorewala et al.-2020</a>
		<a href="#">PGM-LINK-WMPA- Jiménez-Brenes et al.- 2019</a>
		<a href="#">PGM-LINK-WMPA- Huang et al.- 2018</a>
		<a href="#">PGM-LINK-WMPA- Pallottino et al.- 2018</a>
		<a href="#">PGM-LINK-WMPA- Merotto- 2012</a>
		<a href="#">PGM-LINK-Mateen and Zhu- 2019</a>

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**2. Books**

Whole books (e-form) = B-FULL-yyy-first author name and year	References of books (not available in e-form) = B-LINK-yyy-first author name and year
Precision Crop Protection - the Challenge and Use of Heterogeneity -> <a href="#">B-FULL-WMPA-Oerke et al- 2010</a>	
Automation: The Future of Weed Control in Cropping Systems -> <a href="#">B-FULL-WMPA-Young and Pierce-2014</a>	

**3. Dissertations = D-yyy-PhD student name and year**

Site-Specific Weed Management Using Remote Sensing -> <a href="#">D-2016-Norasma Che'Ya- 2016</a>
Automatic Detection and Classification of Weed Seedlings under Natural Light Conditions -> <a href="#">D-2017-Dyrmann-2017</a>

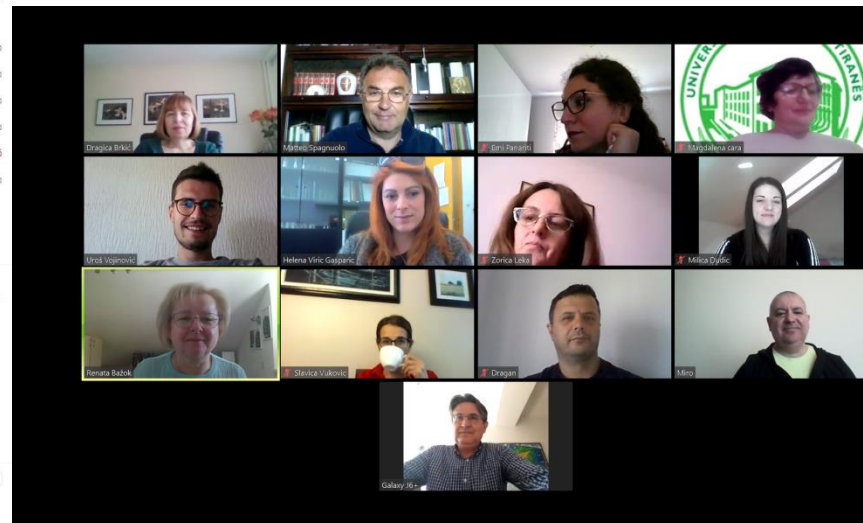
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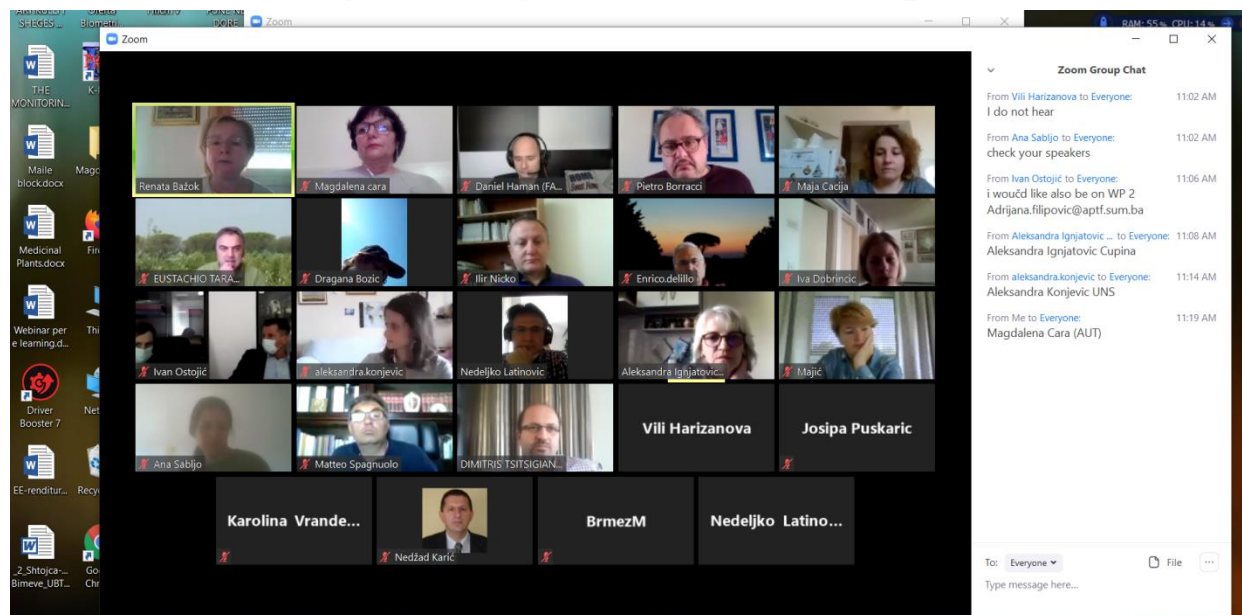
TOTAL	COURSES	1. Protocols, guidelines, methods	2. Books	3. Dissertations
SG1	3	16	4	1
SG2	3	13	2	-
SG3	6	9	1	4
SG4	1	-	-	-
SG5	3	14	10	2
SG6	1	-	-	-
SG7	5	-	-	-
<b>SG1-SG7</b>	<b>22</b>	<b>52</b>	<b>17</b>	<b>7</b>

**SO FAR, 76 MATERIALS IN TOTAL ; PLEASE, ADD MORE...**





**THANK YOU VERY MUCH FOR ACTIVE AND FRUITFUL WORK !**  
**THANK YOU FOR YOUR ATTENTION !**



The 1<sup>st</sup> Zoom WP3 workshop “Mostar” (April, 2022)