



## ***Teach Mob – Visiting Professors Academic year 2017/2018***

<b>2<sup>nd</sup> Term</b>
<b>COURSE TITLE</b> Postharvest pathology
<b>Scientific area</b> Agricultural Sciences
<b>Department of Agricultural, Forest and Food Sciences</b>
<b>Language used to teach: English</b>
<b>Teaching Commitment: 30 hours</b>
<b>Course summary</b> The course will be organized in 10 sessions of three academic hours, corresponding to 2.5 h. The topics of the ten sessions will be: <ol style="list-style-type: none"><li>1. Agriculture in Israel and main postharvest diseases in typical Israeli crops</li><li>2. Postharvest management of fruit and vegetables</li><li>3. Biological control of postharvest diseases</li><li>4. Mode of action of yeast biocontrol agents: biochemical and molecular mechanism</li><li>5. Development of a commercial biocontrol product</li><li>6. Alternative strategies to control postharvest diseases</li><li>7. Pathogenicity mechanisms of postharvest pathogens, with a focus on <i>Penicillium</i> species</li><li>8. Resistance mechanisms of fruits against postharvest pathogens</li><li>9. Induced resistance in fruit against fungal pathogens</li><li>10. Fruit microbiome and its modulation for the control of postharvest diseases</li></ol>
<b>Learning objectives</b> The main learning objectives will be: <ul style="list-style-type: none"><li>• provide an overview about the agricultural and postharvest systems in the middle east.</li><li>• give a panoramic about the main aspects of biological control</li><li>• help to understand the steps involved in the development of a biocontrol agent</li><li>• improve the knowledge about alternative strategies to control postharvest diseases</li><li>• clarify the mechanisms of pathogenicity of postharvest pathogens</li><li>• explain the mechanisms of fruit resistance to postharvest pathogens</li><li>• provide an overview about fruit microbiome</li></ul>
<b>Tutorship activities</b> The visiting Professor will be involved in tutorship activities. In particular, his experience will be used for tutoring the research activities of one or two students in the realization of their MS thesis, which should be related to pathogenicity mechanisms of <i>Penicillium</i> spp.
<b>Lab activities</b> The presence of the Visiting Professor will permit an improvement of the quality of the research of the research group, with limited experience in omics techniques, bioinformatics and gene knock out.

During his period, the visiting Professor will help one Ph.D. student, Silvia Valente, working on the genomics of postharvest pathogens. Through weekly lab meetings, the Visiting Professor will help to train the PostDocs and grant fellows to orient the research activities and to train on omics techniques, bioinformatics and gene knock out.

**Other activities besides the course: i.e. seminars and conferences addressed to PhD students and research fellows, dissemination conferences**

The competence of the Visiting Professor will be exploited to organize two seminars for the Ph.D. students of the Ph.D. School in Natural Sciences and Innovative Technologies of the University of Torino. The topics of the seminars will be: "Study of the plant pathogen interactions"; "Development of a biofungicide for biocontrol".

**Visiting Professor Profile**

The Visiting Professor should have the following profile:

- be a full or associate professor;
- have an international curriculum vitae;
- have a Ph.D. in plant pathology;
- have a significant number of international peer reviewed publications;
- have a high h-index;
- have written a significant number of book chapters and/or books;
- have experience with patenting;
- work in postharvest pathology;
- have experience with non-chemical postharvest control technologies.

**Contact person at the Department**

Prof.ssa Maria Lodovica Gullino - marialodovica.gullino@unito.it  
didattica.disafa@unito.it