

## CURRICULUM VITAE PROF. ROSEMARIE TEDESCHI PhD

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### PERSONAL INFORMATION

Dipartimento di Scienze Agrarie, Forestali e Alimentari (DISAFA)

ULF Entomologia generale ed applicata

Università degli Studi di Torino

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### MAIN AREAS OF RESEARCH

- Insect rearing and insect manipulation.
- Insect transmission trials of plant pathogens (viruses and phytoplasmas).
- Detection of plant pathogens in insect vectors and plants: DNA and RNA extraction, DNA amplification (direct and nested PCR), RT-PCR, Real-Time PCR, RFLP.
- Innovative strategies for the control of crop pests (Physical barriers and RNAi technology).
- Insect cell cultures.
- Laboratory trials for testing the side effects of pesticides on beneficial organisms.
- Modelling insect population dynamics and spatial distribution of plants and insects.

### ACADEMIC CAREER AND POSITIONS HELD TO DATE

2015-present Associate Professor, Dep. of Agriculture, Forest and Food Sciences (DISAFA), University of Torino (IT),

2008-2015 Permanent Researcher, DISAFA, ex DIVAPRA, Univ. of Torino (IT).

1999-2008 Research Scientist, Dep. of Exploitation and Protection of the Agricultural and Forestry Resources (DIVAPRA), Faculty of Agriculture, Univ. of Torino (IT).

1998-1999 Post-Graduate Fellowships, DIVAPRA, Faculty of Agriculture, Univ. of Torino (IT).

1996-1997 Post-Graduate Fellowship, Department of Crop Protection, Univ. of Gent (BE).

2000-2003 PhD in Integrated and biological pest management, Univ. of Torino (IT). Thesis: "Vectors of the Apple proliferation phytoplasma in northwestern Italy".

1991-1996 Master Degree in Agricultural Sciences, Univ. of Torino (IT). Thesis: "Predatory activity of the antocorids *Orius laevigatus* and *Orius insidiosus* against the thrips *Frankliniella occidentalis* in greenhouse".

### STUDENT MENTORING

2002-2018 Supervisor of 3 PhD students, 11 First level Degree thesis, and 9 Master Degree thesis and 3 PostDoc fellows, Faculty of Agriculture/DISAFA, University of Torino (IT).

2014 1 Master Degree Thesis, Faculty of Agriculture, University of Padua (IT).

2013 1 Master Degree Thesis, Faculty of Sciences, University of Torino (IT).

2009 1 First level Degree thesis, Faculty of Medicine, University of Torino (IT).

### MOST IMPORTANT RESEARCH PROJECTS

- **Co-investigator** in the LIFE+ SU.SA.FRUIT project "Low pesticide IPM in sustainable and safe fruit production" (2014-2017, 42 months) founded by the European Community.
- **PI** in the project "In vitro and in vivo disruption of phytoplasma transmission competence in insect vectors by RNAi technology" (2015-2017, 24 months) founded by the University of Torino and the Compagnia di San Paolo Foundation.
- **PI** in the project "Updating and settlement of new pest management strategies to guarantee the integrity of productions,

food healthiness and environmental impact control" founded by Regione Piemonte, IT (2011-2013, 24 months).

#### TEACHING ACTIVITIES

- 2006 Contract Professor, "Vectors' biology laboratory", Fac. of Agriculture, Univ. of Torino (IT).
- 2007 Contract Professor, "Biological and integrated pest management", Fac. of Agriculture, Univ. of Torino (IT).
- 2008-2010 Lecturer in charge, "Biological and integrated pest management" Fac. of Agriculture, Univ. of Torino (IT).
- 2009-2011 Lecturer in charge, "Vectors' biology laboratory", Fac. of Agriculture, Univ. of Torino (IT).
- 2009-2010 Lecturer in charge, "Interdisciplinary exercises", Fac. of Agriculture, Univ. of Torino (IT).
- Since 2011 Lecturer in charge, "Integrated laboratory techniques Mod. Diagnostic and molecular analysis techniques", Fac. of Agriculture/DISAFA, Univ. of Torino (IT).
- Since 2016 Lecturer in charge, "Protection of foodstuffs from pests", Fac. of Agriculture/DISAFA, Univ. of Torino (IT).
- 2010 Lecturer within the PhD School in Agricultural entomology (Consortium Univ. Torino, Bologna, Piacenza, IT) on Auchenorrhyncha and Sternorrhyncha vectors of phytoplasmas"
- 2017 Lecturer on "Primary cell cultures and RNAi: new tools for the study and the control of insect vectors" within the course "Biotechnology in Plant Protection", Biotechnologies for Food Science, DAFNAE, University of Padova (IT)

#### ORGANISATION OF SCIENTIFIC MEETINGS

- 2017 **Member of the Organizing Committee** of the VII Italian National Meeting on Phytoplasmas and Phytoplasma Diseases Grugliasco (TO), IT, 11-13 September 2017.
- 2016 **Member of the Scientific Committee** of the International symposium on sustainable fruit production, to be held at Terme Jezerčica, Donja Stubica, Croatia, March 21-24, 2016
- 2016 **Member of the Scientific Committee and invited co-convener** for the section "RNAi and Gene Expression Control in Insects" at the XXV International Congress of Entomology, to be held in Orlando, Florida (USA), 25-30 September 2016
- 2012 Training School "Molecular Tools to Identify Leafhopper and Planthopper Vectors of Phytoplasmas", Ivrea-Grugliasco (TO), IT, 5th-9th September, 2012. COST Action FA0807.
- 2012 Short Course on "Insect Molecular Taxonomy" Ivrea (TO), IT, 5th-6th November 2012
- 2007 **Member of the Organizing Committee** of the "4th European Hemiptera Congress", Ivrea (TO), IT, 10th-14th September 2007

#### INTERNATIONAL COOPERATIONS

- 2014-2017 **Co-investigator** in the LIFE+ SU.SA.FRUIT project "Low pesticide IPM in sustainable and safe fruit production" (2014-2017, 42 months) founded by the European Community.
- 2013-2016 **International expert** in the project "Plant quality adapted to a modern and sustainable Norwegian strawberry and apple industry (PlantQuality)" founded by the Norwegian Research Council.
- 2009-2013 **Participant** of the COST ACTION FA0807 "Integrated Management of Phytoplasma Epidemics in Different Crop Systems". **Task leader** of the WG 2 "Epidemiology and vector ecology" Task "Monitor the presence of phytoplasma diseases and their putative vectors in defined regions throughout Europe".
- 2012 **Participant** in the projet The National Program for the Improvement of Olive Oil's Quality and Actions against the Diffusion of Stone Fruit Phytoplasma (Project No. AID 9627) of the Ministry of Agriculture of Lebanon
- 2009-2011 **Participant** in the project "Integrated Management of the Stone Fruit Phytoplasma in Lebanon", financed by the Italian Cooperation and managed by the Italian NGO AVSI
- 2008-2010 **Participant** of the XVII Executive Program Italy-Hungary of scientific and technological cooperation 2008-2010 (20LS), "Improvement of identification methods based on molecular characterization of stolbur phytoplasma strains causing serious diseases in horticultural crops" (ID No. I-73/2007).
- 1998 **Participant** in the Interreg II (Italy-France) n° 397 "Epidemiologie des maladies a phytoplasmes des cultures perennes en zone de montagne (Valle d'Aosta et Savoie-Haute Savoie)

#### NAMES AND INSTITUTIONS OF KEY INTERNATIONAL COOPERATION PARTNERS IN THE LAST 5 YEARS

- **Prof. Tomislav Jemrić**, Faculty of Agriculture, University of Zagreb, Croatia
- **Prof. Liliana M. Cano**, Department of Plant Pathology, University of Florida, Indian River Research and Education Center (IRREC), Fort Pierce, FL, USA

- **Dr Wayne Hunter**, USDA/ARS, Fort Pierce, Florida, USA
- **Prof. Bjorn Hatteland**, Bioforsk, Lofthus and University of Bergen, Norway
- **Prof. Blake Bextine**, University of Texas at Tyler, USA [At the moment Program Manager at the Defense Advanced Research Projects Agency (DARPA), USA]
- **Prof. Yusuf Abou Jawdah**, Entomology, American University of Beirut, Lebanon
- **Dr Elia Choueiri**, Plant pathology, Lebanese Agricultural Research Institute, Lebanon

#### FIVE MOST IMPORTANT PEER REVIEW ACTIVITIES, EDITORSHIPS AND/OR MEMBERSHIPS IN ACADEMIC ORGANIZATIONS

- **Peer reviewer** for the following **ISI scientific journals**: Environmental Entomology, Bulletin of Insectology, Annals of applied biology, Bulletin of Entomological Research, Phytopathology, Journal of Insect Physiology, Journal of Economic Entomology, European Journal of Plant Pathology, Plant Pathology, Journal of Plant Pathology, PLOS ONE.
- **International peer reviewer** for the FONDECYT Regular 2017 grant competition, an initiative of the Chilean National Science and Technology Commission (CONICYT - Chile).
- **International peer reviewer** for the Shota Rustaveli National Science Foundation of Georgia.
- **INTAS evaluator**, calls 2005-2006.

#### LIST OF ALL PUBLICATIONS IN THE LAST 5 YEARS

##### A) PEER-REVIEWED PUBLICATIONS

- Candian, V., Pansa M. G., Briano R., Peano C., **Tedeschi R.**, Tavella L. (2018) Exclusion nets: a promising tool to prevent *Halyomorpha halys* from damaging nectarines and apples in NW Italy. *Bulletin of Insectology*, 71 (1): 21-30.
- Lessio, F., **Tedeschi, R.**, Alma, A. (2017). Influence of foraging strip crops on the presence of leafhoppers and planthoppers associated to grapevines' phytoplasmas. *Bulletin of Insectology*, 70(2): 221-229.
- Tedeschi, R.**, Monti, M., Gonella, E., Melchiori, G., Alma, A., Mandrioli, M. (2017) Molecular and cellular analysis of immunity in the phytoplasma vector *Euscelidius variegatus*: Exploiting immunity to improve biological control strategies Invertebrate. *Invertebrate Survival Journal*, 14, 63-72.
- Saladini, M.A., Asteggiano, L., Pansa, M.G., Giordani, L., Serre, L., Vittone, G., Tavella, L., **Tedeschi, R.** (2016) Glue barriers reduce earwig damage on apricots in north-western Italy International. *Journal of Pest Management*, 62 (3), 214-221.
- Picciau, L., Hoch, H., Asche, M., **Tedeschi, R.**, Alma, A. (2016) The genus *Cixius* Latreille, 1804 (Hemiptera, Fulgoromorpha, Cixiidae) in Lebanon with the description of two new species. *Zootaxa*, 4093 (1), 85-102.
- Casati, P., Quaglino, F., Abou-Jawdah, Y., Picciau, L., Cominetti, A., **Tedeschi, R.**, Jawhari, M., Choueiri, E., Sobh, H., Molino Lova, M., Beyrouthy, M., Alma, A., Bianco, P.A. (2016) Wild plants could play a role in the spread of diseases associated with phytoplasmas of pigeon pea witches'-broom group (16SrIX). *Journal of Plant Pathology*, 98 (1), 71-81.
- Quaglino, F., Kube, M., Jawhari, M., Abou-Jawdah, Y., Siewert, C., Choueiri, E., Sobh, H., Casati, P., **Tedeschi, R.**, Lova, M.M., Alma, A., Bianco, P.A. (2015) '*Candidatus* Phytoplasma phoenicium' associated with almond witches'-broom disease: From draft genome to genetic diversity among strain populations. *Microbial genetics, genomics and proteomics BMC Microbiology*, 15 (1), art. no. 148.
- Mandrioli M., Monti M., **Tedeschi R.** (2015). A practical guide to insect cell cultures: establishment and maintenance of primary cell cultures. *Halteres*, 6, pp. 132-141.
- Mandrioli, M., Monti, M., **Tedeschi, R.** (2015) Presence and conservation of the immunoglobulin superfamily in insects: Current perspective and future challenges. *Invertebrate Survival Journal*, 12, pp. 188-194.
- Tedeschi, R.**, Picciau, L., Quaglino, F., Abou-Jawdah, Y., Molino Lova, M., Jawhari, M., Casati, P., Cominetti, A., Choueiri, E., Abdul-Nour, H., Bianco, P.A., Alma, A. (2015) A cixiid survey for natural potential vectors of '*Candidatus* Phytoplasma phoenicium' in Lebanon and preliminary transmission trials. *Annals of Applied Biology*, 166 (3), 372-388.
- Monti, M., Mandrioli, M., Bextine, B., Hunter, W.B., Alma, A., **Tedeschi, R.** (2014) Maintenance of primary cell cultures of immunocytes from *Cacopsylla* spp. psyllids: a new in vitro tool for the study of crop pest insects. *In Vitro Cellular and Developmental Biology - Animal*, 50 (9), 797-801.
- Monti, M., Martini, M., **Tedeschi, R.** (2013) EvaGreen Real-time PCR protocol for specific '*Candidatus* Phytoplasma mali' detection and quantification in insects. *Molecular and Cellular Probes*, 27 (3-4), 129-136.
- Bosco, D., **Tedeschi, R.** (2013) Insect vector transmission assays. *Methods in molecular biology* (Clifton, N.J.), 938, pp. 73-85.

Tedeschi R., Jarausch B., Delic D., Weintraub P. (2013) Actual distribution of fruit tree and grapevine phytoplasma diseases and their vectors in Europe and neighboring regions, PHYTOPATHOGENIC MOLLI CUTES 3: 3-4. ISSN:2249-4669.

#### **B) NON-PEER-REVIEWED PUBLICATIONS**

- Tedeschi R.** (2015) Vettori di agenti fitopatogeni: nuove acquisizioni sul comportamento per lo studio dell'epidemiologia e la gestione. Atti Accademia Nazionale Italiana di Entomologia Anno LXII, 2014: 203-208.
- Pizzinat A., Giraud M., Asteggiano L., Giordani L., Pansa M.G., Saladini M.A., Pavarino A., Bevilacqua A., Nari L., Vittone G., **Tedeschi R.** (2014) Verifica dell'efficacia di contenimento di lepidotteri carpofagi del melo mediante copertura totale degli impianti con rete antigrandine sul modello Alt'Carpo, QUADERNI DELLA REGIONE PIEMONTE. AGRICOLTURA 84: 70-78. ISSN:1972-9405.
- Pansa M.G., Saladini M.A., Pizzinat A., Asteggiano L., Giordani L., Giraud M., Pavarino A., Vittone G., Tavella L., **Tedeschi R.** (2014) Indagine bioetologica e definizione di metodi di controllo a basso impatto ambientale su *Forficula auricularia* su drupacee, QUADERNI DELLA REGIONE PIEMONTE. AGRICOLTURA 84: 79-85. ISSN:1972-9405.
- Pansa M.G., Saladini M.A., Pizzinat A., Asteggiano L., Vittone G., **Tedeschi R.** (2014) Forficule: prove di lotta con un'esca a base di clorpirifos INFORMATORE AGRARIO 70:54-56. ISSN:0020-0689.
- Saladini M.A., Ronco D., Pansa M.G., Asteggiano L., Giordani L., Pavarino A., Vittone G., Tavella L., **Tedeschi R.** (2013) Indagine bioetologica e definizione di metodi di controllo a basso impatto ambientale su *Forficula auricularia* su drupacee, QUADERNI DELLA REGIONE PIEMONTE. AGRICOLTURA 80: 87-93. ISSN:1972-9405.
- Asteggiano L., Giordani L., Pansa M.G., Giraud M., Saladini M.A., Pavarino A., Ronco D., Bevilacqua A., Nari L., Vittone G., **Tedeschi R.**, Alma A. (2013) Verifica dell'efficacia di contenimento di lepidotteri carpofagi del melo mediante copertura totale degli impianti con rete antigrandine sul modello Alt'Carpo, QUADERNI DELLA REGIONE PIEMONTE 80: 77-86. ISSN:1972-9405.
- Monti M., Martini M., **Tedeschi R.** (2013) Diagnosi e quantificazioni specifiche di '*Candidatus Phytoplasma mali*' in insetto mediante Evagreen "Real-Time" PCR, Atti del VI Incontro nazionale sui fitoplasmi e le malattie da fitoplasmi, Bologna 17-19 giugno 2013, PETRIA 23(1): 75-78. ISSN:1120-7698.
- Tedeschi R.**, Picciau L., Quaglino F., Casati P., Molino Lova M., Abou-Jawdah Y., Bianco P.A., Alma A. (2013) Indagini preliminari su insetti vettori di '*Candidatus Phytoplasma phoenicium*' in Libano, Atti del VI Incontro nazionale sui fitoplasmi e le malattie da fitoplasmi, Bologna 17-19 giugno 2013, PETRIA 23(1): 79-82. ISSN:1120-7698.
- Quaglino F., Casati P., Abou-Jawdah Y., Choueiri E., Molino Lova M., **Tedeschi R.**, Alma A., Bianco P.A. (2013) Elevata omogeneità genetica in popolazioni di fitoplasmi associati agli scopazzi del mandorlo in Libano. Atti del VI Incontro nazionale sui fitoplasmi e le malattie da fitoplasmi, Bologna 17-19 giugno 2013, PETRIA 23(1): 53-56. ISSN:1120-7698.
- Casati P., Abou-Jawdah Y., Cominetti A., Quaglino F., Choueiri E., Molino Lova M., **Tedeschi R.**, Prati S., Picciau L., Alma A., Bianco P.A. (2013) Identificazione molecolare di '*Candidatus Phytoplasma phoenicium*' in piante spontanee presenti in frutteti del Libano, Atti del VI Incontro nazionale sui fitoplasmi e le malattie da fitoplasmi, Bologna 17-19 giugno 2013, PETRIA 23(1): 21- 24. ISSN:1120-7698.
- Pansa M.G., Asteggiano L., Ronco D., Saladini M.A., Serre L., Vittone G., Tavella L., **Tedeschi R.** (2013) Come contenere le forficule su albicocco e nettarino, INFORMATORE AGRARIO 69: 57- 60. ISSN:0020-0689.
- Angeli G., Baldessari M., **Tedeschi R.** (2013) *Cacopsylla melanoneura* vettore degli scopazzi del melo, INFORMATORE AGRARIO 69: 81-84. ISSN:0020-0689.

#### **TEN MOST IMPORTANT SCHOLARLY PUBLICATIONS IN THE RESEARCHER'S ENTIRE CAREER TO DATE**

- Tedeschi, R., Picciau, L., Quaglino, F., Abou-Jawdah, Y., Molino Lova, M., Jawhari, M., Casati, P., Cominetti, A., Choueiri, E., Abdul-Nour, H., Bianco, P.A., Alma, A. (2015). A cixiid survey for natural potential vectors of '*Candidatus Phytoplasma phoenicium*' in Lebanon and preliminary transmission trials. *Annals of Applied Biology*, 166 (3), pp. 372-388.
- Quaglino, F., Kube, M., Jawhari, M., Abou-Jawdah, Y., Siewert, C., Choueiri, E., Sobh, H., Casati, P., **Tedeschi, R.**, Lova, M.M., Alma, A., Bianco, P.A. (2015) '*Candidatus Phytoplasma phoenicium*' associated with almond witches'-broom disease: From draft genome to genetic diversity among strain populations. *Microbial genetics, genomics and proteomics BMC Microbiology*, 15 (1), art. no. 148.
- Monti, M., Mandrioli, M., Bextine, B., Hunter, W.B., Alma, A., **Tedeschi, R.** (2014). Maintenance of primary cell cultures of immunocytes from *Cacopsylla* spp. psyllids: a new in vitro tool for the study of crop pest insects. *In Vitro Cellular and Developmental Biology - Animal*, 50 (9), pp. 797-801.
- Monti M., Martini M., **Tedeschi R.** (2013). EvaGreen Real-time PCR protocol for specific '*Candidatus Phytoplasma mali*' detection and quantification in insects. *Molecular and Cellular Probes* 27, pp. 129-136..

- Tedeschi R.**, Baldessari M., Mazzoni V., Trona F., Angeli G. (2012) Population dynamics of *Cacopsylla melanoneura* (Homoptera: Psyllidae) in Northeast Italy and its role in the Apple proliferation epidemiology in apple orchards, *Journal of Economic Entomology* 105(2): 322-328.
- Gonella E., Negri I., Marzorati M., Mandrioli M., Sacchi L., Pajoro M., Crotti E., Rizzi A., Clementi E., **Tedeschi R.**, Bandi C., Alma A., Daffonchio D. (2011) Bacterial endosymbiont localization in *Hyalesthes obsoletus*, the insect vector of Bois Noir in *Vitis vinifera*, *Applied and Environmental Microbiology* 77(4): 1423-1435.
- Raddadi N., Gonella E., Camerota C., Pizzinat A., **Tedeschi R.**, Crotti E., Mandrioli M., Bianco P.A., Daffonchio D., Alma A. (2011). '*Candidatus Liberibacter europaeus*' sp. nov. that is associated with and transmitted by the psyllid *Cacopsylla pyri* apparently behaves as an endophyte rather than a pathogen. *Environmental Microbiology*, 13 (2), pp. 414-426.
- Tedeschi R., Nardi F. (2010). DNA-based discrimination and frequency of phytoplasma infection in the two hawthorn-feeding species, *Cacopsylla melanoneura* and *Cacopsylla affinis*, in northwestern Italy. *Bulletin of Entomological Research*, 100 (6), pp. 741-747.
- Tedeschi R., Alma A. (2004). Transmission of apple proliferation phytoplasma by *Cacopsylla melanoneura* (Homoptera: Psyllidae). *Journal of Economic Entomology*, 97 (1), pp. 8-13.
- Tedeschi R., Bosco D., Alma A. (2002). Population dynamics of *Cacopsylla melanoneura* (Homoptera: Psyllidae), a vector of apple proliferation phytoplasma in northwestern Italy. *Journal of Economic Entomology*, 95 (3), pp. 544-551.