Curriculum Vitae

Fabio Rezzonico, Ph.D.

Date and place of birth February 1st,1973; Lugano (Switzerland)

Citizenship Swiss

Marital status Married, two children (born 2007 and 2010)

Languages

Italian	- Mother tongue
German	- Fluent
English	- Fluent
French	- Fluent
Spanish	- Basic knowledge

Education

2000 - 2004 **Ph.D. in Biological Sciences, ETH Zürich, Switzerland.** Dissertation: "Analysis of stress response and type III secretion system mediated biocontrol in fluorescent pseudomonads protecting plants from soil-borne diseases.", Institute for Plant Sciences, Phytopathlogy Group (Prof. G.Défago, http://www.path.ethz.ch).

1992 - 1998 **M. Sc. in Biological Sciences, ETH Zürich, Switzerland.** Microbiology and molecular biology. Thesis: "Genetic expression in mitogen-activated T lymphocytes under simulated microgravity", Space biology group (Dr. A.Cogoli).

Research experience

2013 - …. **Research Fellow - Research Team Environmental Genomics and System Biology, Zürich University for Applied Sciences (ZHAW), Wädenswil, Switzerland.** (Dr. B. Duffy, website)

2007 - 2013 **Scientific collaborator/PostDoc, Bacteriology Group, Agroscope Changins-Wädenswil (ACW), Wädenswil, Switzerland.** Partecipation to several projects related to fire blight (Dr. B. Duffy, website):

- Diversity and biosafety of fire blight biocontrol agent *Pantoea agglomerans*.
- Investigation of DNA-mediated resistance in streptomycin formulations
- Sequencing of several *Erwinia* and *Pantoea* genomes
- Application of MALDI-TOF MS for the identification of environmental organisms.
- Diversity, evolution and source-tracking of fire blight agent *Erwinia amylovora.*

2005 - 2007 **Post-doctoral researcher, SafeCrop Centre, Istituto Agrario San Michele all'Adige, Italy.** Role of quorum sensing in the pathogenicity of fire blight agent *Erwinia amylovora* (Dr. C. Gessler, http://www.iasma.it)

2005 - 2006 **Research associate, Project HiDRAS (High-quality Disease Resistant Apples for a Sustainable Agriculture).** Identification of genetic markers associated with fruit quality and disease resistance in apple. (Dr. A. Patocchi, http://www.hidras.unimi.it).

2004 - 2005 **Research assistant, Institute for Plant Sciences, Phytopathlogy Group. ETH Zürich, Switzerland.** Role of secondary metabolites in plant protection by biocontrol agent *Pseudomonas fluorescens* (Prof. G. Défago, http://www.path.ethz.ch).

1999 - 2000 **Research assistant, Institute for Plant Sciences, Phytopathlogy Group, ETH Zürich, Switzerland.** Development of a PCR-based method for detection and quantification of *Pseudomonas fluorescens* in soil. (Prof. G. Défago).

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PUBLICATIONS

Doctoral thesis

Rezzonico F. 2004. Analysis of stress response and type III secretion system mediated biocontrol in fluorescent pseudomonads protecting plants from soil-borne diseases. Diss. ETH No.15724 (ETH-Zürich, Switzerland). [pdf]

In peer-reviewed journals

Smits T.H.M., Duffy B., Sundin G.W., Zhao Y.F. **Rezzonico F.** (2017) *Erwinia amylovora* in the genomics era: from genomes to pathogen virulence, regulation, and disease control strategies. *J Plant Pathol* **(in press)**.

Rezzonico F., Duffy B., Smits T.H.M., Pothier J.F. (2017) *Erwinia* species identification using matrix-assisted laser desorption ionization-time of flight mass spectrometry. *J Plant Pathol* **(in press)**.

Rezzonico F., Smits T.H.M., Born Y., Blom J., Frey J.E., Goesmann A., Cleenwerck I., de Vos P., Bonaterra A., Duffy B., Montesinos E. (2016) *Erwinia gerundensis* sp. nov., a cosmopolitan epiphyte originally isolated from pome fruit trees. *Int J Sys Evol Microbiol* **66:**1583-1592. [pdf]

Smits T.H.M., **Rezzonico F.**, Blom J., Goesmann A., Abelli A., Kron Morelli R., Vanneste J.L., Duffy B. (2015) Draft genome of the commercial biocontrol strain *Pantoea agglomerans* P10c. *Genome Announc* **3:**e01448-15. [pdf]

Bonaterra A., Badosa E., **Rezzonico F.**, Duffy B., Montesinos E. (2014) Phenotypic comparison of clinical and plant-beneficial strains of *Pantoea agglomerans*. *Int Microbiol* **17:**81-90. [pdf]

Almario J., Gobbin D., Défago G., Moënne-Loccoz Y., **Rezzonico F.** (2014) Prevalence of type III secretion system in effective biocontrol pseudomonads. *Res Microbiol* **165:**300-304. [pdf]

Rezzonico F. (2014) Nanopore-based instruments as biosensors for future planetary missions. *Astrobiology* **4:**344-351. [pdf]

Bink M.C.A.M., Jansen J., Madduri M., Voorrips R.E., Durel C.-E., Kouassi A.B., Laurens F., Mathis F., Gessler C., Gobbin D., **Rezzonico F.**, Patocchi A., Kellerhals M., Boudichevskaia A., Dunemann F., Peil A., Nowicka A., Lata B., Stankiewicz-Kosyl M., Jeziorek K.,Pitera E., Soska A., Tomala K., Evans K.M., Fernández-Fernández F., Guerra W., Korbin M., Keller S., Lewandowski M., Plocharski W., Rutkowski K., Zurawicz E., Costa F., Sansavini S., Tartarini S., Komjanc M., Mott D., Antofie A., Lateur M., Rondia A.,Gianfranceschi L., van de Weg W.E. (2014) Bayesian QTL analyses using pedigreed families of an outcrossing species, with application to fruit firmness in apple. *Theor Appl Genet* **127:**1073-1090. [pdf]

Smits T.H.M., Guerrero-Prieto V.M., Hernández-Escarcega G., Blom J., Goesmann A., **Rezzonico F.**, Duffy B., Stockwell V.O. (2014) Whole-genome sequencing of Erwinia amylovora strains from México detects SNPs in rpsL conferring streptomycin resistance and in the avrRpt2 effector altering host interactions. *Genome Announc* **2:**e01229-13. [pdf]

Bühlmann A., Dreo T., **Rezzonico F.**, Pothier J.F., Smits T.H.M., Ravnikar M., Frey J.E., Duffy B. (2013) Phylogeography and population structure of the biologically invasive phytopathogen *Erwinia amylovora* inferred using minisatellites. *Environ Microbiol* **16:**2112-2125. [pdf]

Smits T.H.M., **Rezzonico F.**, López M.M., Blom J., Goesmann A., Frey J.E., Duffy B. (2013) Phylogenetic position and virulence apparatus of the pear flower necrosis pathogen *Erwinia piriflorinigrans* CFBP 5888^{T} as assessed by comparative genomics. *Syst App Microbiol* **36:**449-456. [pdf]

Bühlmann A., Pothier J.F., **Rezzonico F.**, Smits T.H.M., Andreou M., Boonham N., Duffy B., Frey J.E. (2013) *Erwinia amylovora* loop-mediated isothermal amplification (LAMP) assay for rapid pathogen detection and on-site diagnosis of fire blight. *J Microbiol Meth* **92:**332-339. [pdf]

Braun-Kiewnick A., Lehmann A., **Rezzonico F.**, Wend C., Smits T.H.M., Duffy B. (2012) Development of species-, strain- and antibiotic biosynthesis-specific quantitative PCR assays for *Pantoea agglomerans* as tools for biocontrol monitoring. *J Microbiol Meth* **90:**315-320. [pdf]

Rezzonico F., Smits T.H.M., Duffy B. (2012) Detection of AI-2 receptors in genomes of *Enterobacteriaceae* suggests a role of type-2 quorum sensing in closed ecosystems. *Sensors* **12:**6645-6665. [pdf]

Rezzonico F., Braun-Kiewnick A., Powney R., Rodoni B., Goesmann A., Duffy B. & Smits T.H.M. (2012) Lipopolysaccharide biosynthesis genes as a distinguishing factor for *Rubus* isolates of *Erwinia amylovora*. *Mol Plant Pathol* **13:**975-984. [pdf]

Rezzonico F., Smits T.H.M., Duffy B. (2012) Misidentification slanders *Pantoea agglomerans* as a serial killer. *J. Hosp Inf* **81:**137-139. [pdf]

De Maayer P., Chan W.Y., **Rezzonico F.**, Bühlmann A., Venter S.N., Blom J., Goesmann A., Frey J.E., Smits T.H.M., Duffy B., Coutinho T.A. (2012) Complete genome sequence of clinical isolate *Pantoea ananatis* LMG 5342. *J Bacteriol* **194:**1615-1616. [pdf]

Kamber T., Smits T.H.M., **Rezzonico F.**, Duffy B. (2012) Genomics and current genetic understanding of *Erwinia amylovora* and the fire blight antagonist *Pantoea vagans*. *Trees* **26:**227-238. [pdf]

Rezzonico F., Stockwell V.O., Tonolla M., Duffy B., Smits T.H.M. (2011) Pantoea clinical isolates cannot be accurately assigned to species based on metabolic profiling. *Transpl Inf Dis* **14:**220-221. [pdf]

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Smits T.H.M., **Rezzonico F.**, Kamber T., Blom J., Goesmann A., Ishimaru C.A., Frey J.E., Stockwell V.O., Duffy B. (2011) Metabolic versatility and antibacterial metabolite biosynthesis are distinguishing genomic features of the fire blight antagonist *Pantoea vagans* C9-1. *PLoS ONE* **6:**e22247. [pdf]

Rezzonico F., Smits T.H.M. & Duffy B. (2011) Diversity and functionality of CRISPR regions in fire blight pathogen *Erwinia amylovora*. *Appl Environ Microbiol* **77:**3819-3829. [pdf]

Evans K.M., Patocchi A., **Rezzonico F.**, Mathis F., Durel C.E., Fernández-Fernández F., Boudichevskaia A., Dunemann F., Stankiewicz-Kosyl M., Gianfranceschi L., Komjanc M., Lateur M., Madduri M., Noordijk Y. & van de Weg W.E. (2010) Genotyping of pedigreed apple breeding material with a genome covering set of SSRs: Trueness to type of cultivars and their parentages. *Mol Breeding* **28:**535-547. [pdf]

Rezzonico F., Vögel G., Duffy B., Tonolla M. (2010) Rapid identification of *Pantoea agglomerans* and discrimination of misidentified *Enterobacter* spp. using Intact Cell MALDI-TOF Mass Spectrometry. *Appl Environ Microbiol* **76:**4497-4509. [pdf]

Smits T.H.M., Jaenicke S., **Rezzonico F.**, Kamber T., Goesmann A., Frey J.E. & Duffy B. (2010) Complete genome sequence of the fire blight pathogen *Erwinia pyrifoliae* DSM 12163^{T} and comparative genomic insights into plant pathogenicity. *BMC Genomics* **11:**2. [pdf]

Smits T.H.M., **Rezzonico F.**, Kamber T., Blom J., Goesmann A., Frey J.E. & Duffy B. (2010) Complete genome sequence of the fire blight bacterium *Erwinia amylovora* CFBP 1430 and comparison to other *Erwinia* spp. *Mol Plant-Microbe Interact* **23:**384-393. [pdf]

Smits T.H.M., **Rezzonico F.**, Kamber T., Goesmann A., Stockwell V.O., Frey J.E. & Duffy, B. (2010) The genome sequence of the biocontrol agent *Pantoea vagans* C9-1. *J Bacteriol* **192:**6486-6487. [pdf]

Smits T.H.M., **Rezzonico F.**, Pelludat C., Goesmann A., Frey J.E. & Duffy B. (2010) Genomic and phenotypic characterization of a non-pigmented variant of *Pantoea vagans* biocontrol strain C9-1 lacking the 530 kb megaplasmid pPag3. *FEMS Microbiol Lett* **308:**48-54. [pdf]

Smits T.H.M., **Rezzonico F.** & Duffy B. (2010) Evolutionary insights from *Erwinia amylovora* genomics. *J Biotechnol* **155:**34-39. [pdf]

Patocchi A. , Fernández-Fernández F., Evans K., Gobbin D., **Rezzonico F.**, Boudichevskaia A., Dunemann F., Stankiewicz-Kosyl M., Mathis-Jeanneteau F., Durel C.E., Gianfranceschi L., Costa F., Toller C., Cova V., Mott D., Komjanc M., Barbaro E., Kodde L., Rikkerink E., Gessler C. & van de Weg W.E. (2009) Development and test of 21 multiplex PCRs composed of SSRs spanning most of the apple genome. *Tree Genetics & Genomes* **5:**211-223. [pdf]

Rezzonico F., Smits T.H.M., Montesinos E., Frey J.E. & Duffy B. (2009) Genotypic comparison of *Pantoea agglomerans* plant and clinical strains. *BMC Microbiol* **9:**204. [pdf]

Rezzonico F., Stockwell V.O. & Duffy B. (2009) Plant-agricultural streptomycin formulations do not carry antibiotic resistance genes. *Antimicrob Agents Chemother* **53:**3173-3177. [pdf]

Rezzonico F. & Duffy B. (2008) Lack of genomic evidence of AI-2 receptors suggests a non-quorum sensing role for *luxS* in most bacteria. *BMC Microbiol* **8:**154. [pdf]

Gobbin D., **Rezzonico F.** & Gessler C. (2007) Quantification of the biocontrol agent *Pseudomonas fluorescens* Pf153 in soil using a quantitative competitive PCR assay unaffected by variability in cell lysis- and DNA extraction efficiency. *Soil Biol Biochem* **39:**1609-1619. [pdf]

Rezzonico F. & Duffy B. (2007) The role of *luxS* in the fire blight pathogen *Erwinia amylovora* is limited to metabolism and does not involve quorum sensing. *Mol Plant-Microbe Interact* **20:**1284-1297. [pdf]

Rezzonico F., Zala M., Keel C., Duffy B., Moënne-Loccoz Y. & Défago G. (2007) Is the ability of biocontrol fluorescent pseudomonads to produce the antifungal metabolite 2,4-diacetylphloro-glucinol really synonymous with higher plant protection? *New Phytol* **173:**861-872. [pdf]

Rezzonico F., Binder C., Défago G. & Moënne-Loccoz Y. (2005) Evolutionary recycling of type III secretion system to target pathogenic Chromista promotes plant protection by bacteria. *Mol Plant-Microbe Interact* **18:** 991-1001. [pdf]

Molina L., **Rezzonico F.**, Défago G. & Duffy B. (2005) Autoinduction in *Erwinia amylovora*: evidence of an acyl-homoserine lactone signal in the fire blight pathogen. *J Bacteriol* **187:** 3206-3213.

Rezzonico F., Défago G. & Moënne-Loccoz Y. (2004) Comparison of ATPase-encoding type III secretion system gene *hrcN* in biocontrol fluorescent pseudomonads and phytopathogenic Proteobacteria. *Appl Environ Microbiol* **70:** 5119-5131. [pdf]

Rezzonico F., Moënne-Loccoz Y. & Défago G. (2003) Effect of stress on the ability of a *phlA*-based quantitative competitive PCR assay to monitor biocontrol strain *Pseudomonas fluorescens* CHA0. *Appl Environ Microbiol* **69:** 686-690. [pdf]

Unreferred publications

Eichmann J., **Rezzonico F.**, Fahrentrapp J. (2017) Gene expression analyses of selected genes of *Vitis vinifera* during early infection stages of *Plasmopara viticola* and *Botrytis cinerea*. *Acta Hort* **(in press)**.

Fahrentrapp J., Duffy B., Nicot P., **Rezzonico F.** (2017) Spatio-temporal transcriptional effects of compatible pathogen attack in tomato *Acta Hort* **(in press)**.

Konavko D., Malchev S., Pothier J.F., Jundzis M., Moročko-Bičevska I., **Rezzonico F.** (2016) Diversity and host range of *Pseudomonas* in fruit tree species in Latvia. *Acta Hort* **1149:**25-29.

Rezzonico F. (2014) Il tempo in una latta (appunti di stenoscopia). *Meridiana* **232:**29-31.
Djaimurzina A., Umiralieva Z., Zharmukhamedova G., Born Y., Bühlmann A., **Rezzonico F.** (2014) Detection of the causative agent of fire blight - *Erwinia amylovora* (Burrill) Winslow *et al*. - in the southeast of Kazakhstan. *Acta Hort* **1056:**129-132. [pdf]
Smits T.H.M., Guerrero-Prieto V.M., Hernández-Escarcega G., **Rezzonico F.**, Blom J., Goesmann A., Duffy B., Stockwell V.O. (2014) Comparative genomics of *Erwinia amylovora* isolates from Mexico. *Acta Hort* **1056:**173-177.
Rezzonico F., Duffy B. (2013) Thirteenth Int'l Workshop on Fire Blight. *Chronica Horticulturae*, **53(4):**40-41.
Rezzonico F., Smits T.H.M., Duffy B. (2011) Record of past encounters with phages and plasmids delivers new insights about the origin and dispersal of fire blight pathogen *Erwinia amylovora*. *Acta Hort* **896:**109-113.
Rezzonico F., Duffy B., Pflüger V., Vogel G., Tonolla M. (2011) MALDI-TOF mass spetrometry as a tool for rapid identification and clustering analysis of fire blight biocontrol *Pantoea* strains and the genus *Pantoea. Acta Hort* **896:**119-122.
Smits T.H.M., **Rezzonico F.**, Pelludat C., Kamber T., Frey J.E., Duffy B., Goesmann A., Ishimaru C.A., Stockwell V.O. (2011) The genome sequence of *Pantoea vagans* biocontrol strain C9-1. *Acta Hort* **896:**233-236.
Smits T.H.M., **Rezzonico F.**, Frey J.E., Duffy B. (2011) Insights into evolution from comparative genomics of Erwinia amylovora and related species. *Acta Hort* **896:**259-262.
Braun-Kiewnick A., Kellerhals M., **Rezzonico F.**, Baumgartner I., Kamber T., LeRoux P.-M., Duffy B. (2010) 12. Internationaler Feuerbrand-Workshop. *SZOW* **146(22):**11-13.
Rezzonico F. & Gobbin D (2009) Are type III secretion systems found in fluorescent pseudomonads involved in plant colonization or biocontrol? *IOBC/WPRS Bull* **43:**331-335.
Rezzonico F., Smits T.H.M., Pelludat C., Montesinos E., Frey J.E. & Duffy B. (2009). Genotypic comparison of *Pantoea agglomerans* biocontrol and clinical isolates to address taxonomic and bio-safety questions. *IOBC/WPRS Bull* **43:**35-39.
Smits T.H.M., **Rezzonico F.**, Pelludat C., Stockwell V.O., Goesmann A., Frey J.E. & Duffy B. (2009). Complete genome sequencing of *Pantoea agglomerans* strain C9-1. *IOBC/WPRS Bull* 43:375-378
Rezzonico F. & Duffy B. (2008) Metabolic role of *luxS*, putative autoindicer-2 synthase, in *Erwinia amylovora*. *Acta Hort* **793:**61-65.
Rezzonico F., Duffy B. & Stockwell V.O. (2008) Absence of streptomycin resistance genes in antibiotic formulations. *Acta Hort* **793:**415-417.
Gobbin D., **Rezzonico F.** & Gessler C. (2007) Development of a quantitative competitive PCR assay for the quantification of the biocontrol agent *Pseudomonas fluorescens* Pf153 in soil. *IOBC/WPRS Bull* **30(6):**481-484.
Patocchi A., Fernandez F., Evans K., Silfverberg-Dilworth E., Matasci C.L., Gobbin D., **Rezzonico F.**, Boudichevskaia A., Dunemann F., Stankiewicz-Kosyl M., Matisse F., Soglio V., Gianfranceschi L., Durel C.E., Toller C., Cova V., Mott D., Komjanc M., Barbaro E., Costa F., Voorrips R.E., Yamamoto T., Gessler C. & Van de Weg W.E. (2007) Development of a set of apple SSRs markers spanning the apple genome, genotyping of HiDRAS plant material and validation of genotypic data. *Acta Hort* **814:**603-608.
Rezzonico F., Zala M., Keel C., Duffy B., Moënne-Loccoz Y. & Défago G. (2007) Population-level evidence of the importance of 2,4-diacetylphloroglucinol and hydrogen cyanide in plant protection by *Pseudomonas fluorescens*. *IOBC/WPRS Bull* **30(6):**99-104.
Rezzonico F. & Duffy B. (2007) Characterization of the role of *luxS* in the fire blight pathogen *Erwinia amylovora*. *IOBC/WPRS Bull* **30(6):**181-185.
Rezzonico F., Moënne-Loccoz Y. & Défago G. (2002) Impact of cell stress on the efficacy of *phlA*-based quantitative competitive PCR in biocontrol *Pseudomonas fluorescens* CHA0. Proceedings of APS 2002 Annual Meeting, Milwaukee, Wisconsin (July 27-31, 2002). *Phytopathology* **92:**S69.
Rezzonico F. (2002) Giove veglia sui pesci. *Meridiana* **161:**9-10.

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