

Curriculum vitae (January 2021)

Name (first, last): Jürg Enkerli
Date of birth: 21st March 1963
Business Address: Molecular Ecology,
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Nationality: Swiss

EDUCATION AND DIPLOMAS

2007 Certified Project Management Associate IPMA level E
1991 - 1997 Ph.D. in Botany (1997), University of Georgia, Athens GA, USA,
1986 - 1991 Diploma as a High School Teacher in Biology (1991), University of Bern
1988 - 1990 Diploma in Biology I (1990), University of Basel
1984 - 1988 Prediploma 1 and 2 in Biology (1988), University of Bern
1979 - 1983 Matura Typus C (1983), Gymnasium Bern Neufeld

PROFESSIONAL CAREER

2008 - present Senior Scientist Molecular Ecology, Agroscope, Zürich
2004 - present Lecturer, Department of Biology, ETH Zurich
2003 - 2008 Research Scientist, Molecular Ecology, Agroscope, Zürich
2002 - 2003 Research Scientist, Biological Control, Agroscope, Zürich
1999 - 2002 Postdoctoral Scientist with Dr. S. Keller, Agroscope, Zürich,
1997 - 1999 Postdoctoral Scientist with Prof. Th. Boller, Friedrich Miescher Institute, Basel
1991 - 1997 University of Georgia, USA, research assistant with Prof. M. S. Fuller and Prof. S. F. Covert
1990 - 1991 Sandoz Agro AG, Witterswil, research assistant with Dr. E. Mössinger

PROFESSIONAL SERVICES

2018 – present Steering board member of the section Environmental Mycology within the Swiss Society for Microbiology
2004 -2011 Convenor IOBC/WPRS subgroup “Soil Insect Pests”, Working Group “Insect Pathogens and Insect Parasitic nematodes”
Since 2003 Ad hoc Reviewer: Fungal Biology, Fungal Ecology, Molecular Ecology, Applied Soil Ecology, Microbial Ecology, Journal of Invertebrate Pathology, Journal of Medical Mycology, Journal of Pest Science, Sydowia, BioControl, Bioresource Technology, Agricultural and Forest Entomology, Mycologia, BioMed Research International, PLOS one, Biocontrol Science and Technology. Molecular Ecology Resources, BMC Genetics, Journal of Pest Science, Journal of Biotechnology

MEMBER OF SCIENTIFIC ORGANIZATIONS

since 2018 Swiss Society for Microbiology
since 2002 Society for Invertebrate Pathology
since 2002 Schweizerische Gesellschaft für Phytomedizin
since 2001 British Mycological Society

CURRENT AND PREVIOUS PROJECT FUNDING

- 2020-2024 Integrated Pest Management of the invasive Japanese Beetle, *Popillia japonica* (IPM-POPILLIA, 48 month, 1 PhD student)
H2020-SFS-2018-2020 Sustainable Food Security (*Grant Agreement No.861852*)
- 2018-2022 Influence of spatial and temporal separation on population structure of the European cockchafer and its main fungal pathogen (MelBeauPop, 48 month, 1 PhD student)
Agroscope
- 2018-2020 Interactions of insect and soil microbial communities with insect pathogenic fungi. (INMIFungi, 24 months Individual Fellowship María del Carmen Fernández Bravo)
EU MARIE SKŁODOWSKA-CURIE ACTIONS (Grant Agreement No. 794526)
- 2015 Fungal entomopathogens as endophytes for improved plant growth. (International Short Visit of Dr. Lara Ramzi Jaber).
Swiss Science Foundation (IZKOZ3_161554 / 1)
- EU (2012-2016) Innovative biological products for soil pest control (INBIOSOIL 42 months, 1 Ph.D. student).
EU FP7 ECO-INNOVATION (Grant Agreement No. 282767)
- 2012 Potential von Mikrosatelliten Markern für die Unterscheidung exotischer und einheimischer *Metarhizium* Stämme (1 research assistant)
Federal Office for the Environment (FOEN 10.0003.PJ / L392-1501)
- 2008 – 2011 Alternative control of *Verticillium* wilt in strawberry production: efficacy of “biofumigation” and “biological soil disinfestation” and impacts on non-target microorganism as indicators of soil quality. Co-applicant with Dr. F. Widmer and Dr. V. Michel, Agroscope, Switzerland (1 Ph.D. student).
European Cooperation in Science and Technology (COST Action 863, SBF-Nr. C07.0127)
- 2007-2011 Molecular tools to monitor entomopathogenic soil fungi for soil quality assessment and conservation biological control (1 Ph.D. student).
Swiss Science Foundation (SNF 3100A0-114064)
- 2004-2008 Development of a mycoinsecticide against *Helicoverpa armigera* in pulses: from the laboratory to the market. Genetic characterization and diversity of *M. anisopliae*. (1 postdoctoral scientist).
Indo-Swiss Collaboration in Biotechnology (ISCB BP1)
- 2003-2006 Genetic diversity of the aphid pathogenic fungus *Pandora neoaphidis* in different habitats and its implication on biological control. Co-applicant with Dr. S. Keller, Agroscope, Switzerland (1 Ph.D. student).
European Cooperation in Science and Technology (COST Action 842, SBF-Nr. C02.0051)
- 2003-2006 Monitoring soil microbial structures and fungal biological control agents for ecological effect and fate studies used for risk assessment. Co-applicant with Dr. F. Widmer, Agroscope, Switzerland (1 Ph.D. student).
Federal Office for the Environment (FOEN 810.3189.104)

INTERNATIONAL COLLABORATIONS

Dr. L. Ramzi Jaber Laboratory of Biological Control, Department of Plant Pathology, University of Jordan, 11942 Amman, Jordan. Collaboration on endophytism of *Beauveria* spp. and *Metarhizium* spp.

Dr. S. Rehner, Systematic Mycology and Microbiology Laboratory, BARC-W, Beltsville, MD 20705, USA. Collaboration on systematics and genetic diversity of *B. brongniartii*, *B. bassiana*, and *Metarhizium* spp.

- Prof. Dr. S. Vidal, Department für Nutzpflanzenwissenschaften, Abteilung Agrarentomologie, Georg-August Universität Göttingen, Grisebachstrasse 6, Goettingen, Deutschland, Project partner in EU project INBIOSOIL.
- Dr. N. Meyling, Department of Plant and Environmental Sciences, Faculty of Life Sciences, University of Copenhagen, Thorvaldsensvej 40, DK-1871 Frederiksberg C. Collaboration on the genetic diversity of *B. bassiana*
- Prof. Dr. I Sundh, Department of Molecular Sciences, SLU Biocentre, Almas allé 5, Uppsala, Sweden. Collaboration on genetic diversity of *Metarhizium* spp.
- Prof. Dr. J. Eilenberg, Department of Plant and Environmental Sciences, Faculty of Life Sciences, University of Copenhagen, Thorvaldsensvej 40, DK-1871 Frederiksberg C. Collaborations in frame of COST 842 project on ecological studies of *P. neoaphidis* and the efficacy of *M. robertsii* and *M. anisopliae* as biological control agents.
- Dr. H. Strasser, Institut für Mikrobiologie, Leopold-Franzens-Universität Innsbruck, Technikerstraße 25, 6020 Innsbruck, Österreich. Collaboration on the efficacy of *B. brongniartii* as biological control agent

SELECTED PUBLICATIONS

- Pedrazzini C, Strasser H, Holderegger R, Widmer F, **Enkerli J** (2021). Development of a SNP-based tool for the identification and discrimination of *Melolontha melolontha* and *Melolontha hippocastani*. Bulletin of Entomological Research. Online, doi.org/10.1017/S0007485320000784
- Mayerhofer J, **Enkerli J**, Widmer F (2020). Small bias of one highly dominant taxon on community analyses using amplicon sequencing. Journal of Microbiological Methods 178: 106069. doi.org/10.1016/j.mimet.2020.106069
- Mayerhofer J, Lutz A, Dennert F, Rehner S, Kepler R, Widmer F, **Enkerli J** (2019). A species-specific multiplexed PCR amplicon assay for distinguishing between *Metarhizium pingshaense*, *M. anisopliae*, *M. robertsii*, and *M. brunneum*. Journal of Invertebrate Pathology 161: 23-28, doi.org/10.1016/j.jip.2019.01.002
- Mayerhofer J, Rauch H, Hartmann M, Widmer F, Gschwend F, Strasser H, Leuchtman A, **Enkerli J** (2019). Response of soil microbial communities to the application of a formulated *Metarhizium brunneum* biocontrol strain. Biocontrol Science and Technology 29: 547-564, doi: 10.1080/09583157.2019.1566953
- Mayerhofer J, Eckard S, Hartmann H, Grabenweger G, Widmer F, Leuchtman A, **Enkerli J** (2017). Assessing effects of the entomopathogenic fungus *Metarhizium brunneum* on soil microbial communities in *Agriotes* spp. biological pest control. FEMS Microbiology Ecology 93: doi.org/10.1093/femsec/fix117
- Eckard S, Bacher S, **Enkerli J**, Grabenweger G (2017). A simple in vitro method to study interactions between soil insects, entomopathogenic fungi, and plant extracts. Entomologia Experimentalis et Applicata 163: 315–327, doi: 10.1111/eea.12578
- Rogge SA, Mayerhofer J, **Enkerli J**, Grabenweger G (2017). Preventive application of an entomopathogenic fungus in cover crops for microbial wireworm control. BioControl 163: 315–327, doi:10.1007/s10526-017-9816-x
- Rauch H, Steinwender BM, Mayerhofer J, Sigsgaard L, Eilenberg J, **Enkerli J**, Zelger R, Strasser H (2017). Field efficacy of *Heterorhabditis bacteriophora* (Nematoda: Heterorhabditidae), *Metarhizium brunneum* (Hypocreales: Clavicipitaceae), and chemical insecticide combinations for *Diabrotica virgifera virgifera* larval management. Biological Control 107: 1–10, doi.org/10.1016/j.biocontrol.2017.01.007
- Jaber L, **Enkerli J** (2017). Fungal entomopathogens as endophytes: can they promote plant growth? Biocontrol Science & Technology 27: 28-41, doi.org/10.1080/09583157.2016.1243227
- Castro T, Mayerhofer J, **Enkerli J**, Eilenberg J, Meyling N, de Andrade Moral R, Garcia Borges Demétrio C, Delalibera Jr I. (2016). Persistence of Brazilian isolates of the entomopathogenic fungi *Metarhizium anisopliae* and *M. robertsii* in strawberry crop soil after soil drench application. Agriculture, Ecosystems & Environment 233:361-369, doi.org/10.1016/j.agee.2016.09.031
- Fernández-Bravo M, Garrido-Jurado I, Valverde-García P, **Enkerli J**, Quesada-Moraga E (2016). Responses to abiotic environmental stresses among phylloplane and soil isolates of *Beauveria bassiana* from two holm oak ecosystems. Journal of Invertebrate Pathology 141: 6-17, doi.org/10.1016/j.jip.2016.09.007
- Jaber L, **Enkerli J** (2016). Effect of seed treatment duration on growth and colonization of *Vicia faba* by endophytic *Beauveria bassiana* and *Metarhizium brunneum*. Biological Control 103: 187-195, doi.org/10.1016/j.biocontrol.2016.09.008
- Steinwender B, **Enkerli J**, Widmer F, Eilenberg J, Kristensen HL, Bidochka MJ, Meyling NV (2015). Root isolations of *Metarhizium* spp. from crops reflect diversity in the soil and indicate no plant specificity. Journal of Invertebrate Pathology 132: 142-148, doi.org/10.1016/j.jip.2015.09.007
- Mayerhofer J, Lutz A, Widmer F, Rehner SA, Leuchtman A, **Enkerli J** (2015). Multiplexed microsatellite markers for seven *Metarhizium* species. Journal of Invertebrate Pathology 132: 132-134, doi.org/10.1016/j.jip.2015.09.006
- Mayerhofer J, **Enkerli J**, Zelger R, Strasser H (2015). Biological control of the European cockchafer: Persistence of *Beauveria brongniartii* after long-term applications in the Euroregion Tyrol. BioControl 60: 617-629, doi:10.1007/s10526-015-9671-6