
EDUCATION AND PROFESSIONAL EXPERIENCE

- 2004-today** **Associate Professor** of Aquatic Microbial Ecology at the Department of Biology at Texas State University, San Marcos, Texas, USA
- 1999-2004** **Assistant Professor** of Microbial Ecology at the Department of Chemical Engineering at the New Jersey Institute of Technology (NJIT), New Jersey, USA (also affiliated with the Department of Biological Sciences, Rutgers University, Newark, New Jersey, USA)
- 1995-1998** **Assistant Research Professor** (“Oberassistent”) of Molecular Microbial Ecology at the Institute of Terrestrial Ecology, Soil Biology, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland (Prof. Josef Zeyer) (30% teaching, 30% administration, 40% research)
- Title **Habilitation thesis:** *In situ* analysis of bacterial populations in heterogeneous environments
- 1991-1994** **PostDoc** and **leader** (“Assistent”) of the "Molecular Ecology Group" at the Institute of Terrestrial Ecology, Soil Biology, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland (Prof. Josef Zeyer) (20% teaching, 20% administration, 60% research)
- 1989-1991** **PostDoc** at the Institute of Microbiology, Wageningen Agricultural University (WAU), The Netherlands (Prof. Alexander J.B. Zehnder, Prof. Antoon D.L. Akkermans) (10% teaching, 5% administration, 85% research)
- 1985-1989** **Ph.D. Student** at the Institute of Microbiology, Wageningen Agricultural University (WAU), The Netherlands (Prof. Alexander J.B. Zehnder, Prof. Antoon D.L. Akkermans) (20% teaching, 80% research)
- Title **Ph.D. thesis:** 16S rRNA as molecular marker in ecology of *Frankia*
- 1979-1985** **Student** in Biology at the University of Hamburg, Germany
- Title **Diploma thesis:** Characterization of *Frankia* strains isolated from *Alnus glutinosa* nodules
- 1977-1979** Civilian Service in Bad Segeberg, Germany
- 1977** Bacchalaureat at the Holstenschule, Neumünster, Germany

SCHOLARLY ACTIVITIES

A. Published Peer-Reviewed Journal Papers

1. **Hahn, D., Starrenburg, M.J.C., Akkermans, A.D.L.** 1988. Variable compatibility of cloned *Alnus glutinosa* ecotypes against ineffective *Frankia* strains. *Plant Soil* **107**, 233-243.
2. **Hahn, D., Lechevalier, M.P., Fischer, A., Stackebrandt, E.** 1989. Evidence for a close phylogenetic relationship between members of the genera *Frankia*, *Geodermatophilus*, and "Blastococcus" and emendation of the family *Frankiaceae*. *System. Appl. Microbiol.* **11**, 236-242.
3. **Hahn, D., Dorsch, M., Stackebrandt, E., Akkermans, A.D.L.** 1989. Synthetic oligonucleotide probes for identification of *Frankia* strains. *Plant Soil* **118**, 210-219.
4. **Akkermans, A.D.L., Hahn, D., Zoon, F.** 1989. Interactions between root symbionts, root pathogens and actinorhizal plants. *Ann. Sci. For.* **46**, 765-771.
5. **Hahn, D., Starrenburg, M.J.C., Akkermans, A.D.L.** 1990. Oligonucleotide probes that hybridize with rRNA as a tool to study *Frankia* strains in root nodules. *Appl. Environ. Microbiol.* **56**, 1342-1346.
6. **Hahn, D., Starrenburg, M.J.C., Akkermans, A.D.L.** 1990. Growth increment of *Alnus glutinosa* upon dual inoculation with effective and ineffective *Frankia* strains. *Plant Soil* **122**, 121-127.
7. **Hahn, D., Kester, R., Starrenburg, M.J.C., Akkermans, A.D.L.** 1990. Extraction of ribosomal RNA from soil for detection of *Frankia* with oligonucleotide probes. *Arch. Microbiol.* **154**, 329-335.
8. **Mirza, M.S., Janse, J.D., Hahn, D., Akkermans, A.D.L.** 1991. Identification of atypical *Frankia* strains by fatty acid analysis. *FEMS Microbiol. Letters* **83**, 91-98.
9. **Akkermans, A.D.L., Hahn, D., Mirza, M.S.** 1991. Molecular ecology of *Frankia*: Advantages and disadvantages of the use of DNA probes. *Plant Soil* **137**, 49-54.
10. **Hahn, D., Amann, R.I., Ludwig, W., Akkermans, A.D.L., Schleifer, K.-H.** 1992. Detection of microorganisms in soil after *in situ* hybridization with rRNA targeted, fluorescently labelled oligonucleotides. *J. Gen. Microbiol.* **138**, 879-887.
11. **Mirza, M.S., Hahn, D., Akkermans, A.D.L.** 1992. Isolation and characterization of *Frankia* strains from *Coriaria nepalensis*. *System. Appl. Microbiol.* **15**, 289-295.

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12. **Hahn, D., Amann, R.I., Zeyer, J.** 1993. Whole cell hybridization of *Frankia* strains with fluorescence- or digoxigenin-labeled, 16S rRNA targeted oligonucleotide probes. *Appl. Environ. Microbiol.* **59**, 1709-1716.
 13. **Hahn, D., Amann, R.I., Zeyer, J.** 1993. Detection of mRNA in *Streptomyces* cells by whole cell hybridization with digoxigenin-labeled probes. *Appl. Environ. Microbiol.* **59**, 2753-2757.
 14. **Nölling, J., Hahn, D., Ludwig, W., de Vos, W.M.** 1993. Phylogenetic analysis of thermophilic *Methanobacterium* sp.: Evidence for a common formate-utilizing ancestor. *System. Appl. Microbiol.* **16**, 208-215.
 15. **Mirza, M.S., Hahn, D., Dobritsa, S.V. Akkermans, A.D.L.** 1994. Phylogenetic studies on uncultured *Frankia* populations in nodules of *Datisca cannabina*. *Can. J. Microbiol.* **40**, 313-318.
 16. **Hönerlage, W., Hahn, D., Zepp, K., Zeyer, J., Normand, P.** 1994. A hypervariable 23S rRNA region provides a discriminating target for specific characterization of uncultured and cultured *Frankia*. *System. Appl. Microbiol.* **17**, 433-443.
 17. **Hönerlage, W., Hahn, D., Zeyer, J.** 1995. Detection of mRNA of *nprM* in *Bacillus megaterium* ATCC 14581 grown in soil by whole cell hybridization. *Arch. Microbiol.* **163**, 235-241.
 18. **Fischer, K., Hahn, D., Amann, R.I., Daniel, O., Zeyer, J.** 1995. *In situ* analysis of the bacterial community in the gut of the earthworm *Lumbricus terrestris* L. by whole cell hybridization. *Can. J. Microbiol.* **41**, 666-673.
 19. **Fischer, K., Hahn, D., Hönerlage, W., Schönholzer, F., Zeyer, J.** 1995. *In situ* detection of spores and vegetative cells of *Bacillus megaterium* in soil by whole cell hybridization. *System. Appl. Microbiol.* **18**, 265-273.
 20. **Zepp, K., Hahn, D., Zeyer, J.** 1997. Evaluation of a 23S rRNA insertion as target for the analysis of uncultured *Frankia* populations in root nodules of alders by whole cell hybridization. *System. Appl. Microbiol.* **20**, 124-132.
 21. **Hahn, D., Zepp, K., Zeyer, J.** 1997. Whole cell hybridization as a tool to study uncultured *Frankia* populations in root nodules. *Physiol. Plant.* **99**, 696-706.
 22. **Fischer, K., Hahn, D., Hönerlage, W., Zeyer, J.** 1997. Effect of passage through the gut of the earthworm *Lumbricus terrestris* L. on populations of *Bacillus megaterium*. *Soil Biol. Biochem.* **29**, 1149-1152.
 23. **Zepp, K., Hahn, D., Zeyer, J.** 1997. *In situ* analysis of introduced and indigenous *Frankia* populations in soil and root nodules obtained on *Alnus glutinosa*. *Soil Biol. Biochem.* **29**, 1595-1600.
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24. **Hess, A., Zarda, B., Hahn, D., Häner, A., Stax, D., Höhener, P., Zeyer, J.** 1997. Phylogenetic characterization and *in situ* analysis of toluene and *m*-xylene degrading bacteria in a mineral oil contaminated aquifer. *Appl. Environ. Microbiol.* **63**, 2136-2141.
 25. **Zarda, B., Hahn, D., Chatzinotas, A., Schönhuber, W., Neef, A., Amann, R.I., Zeyer, J.** 1997. Analysis of bacterial community structure in bulk soil by *in situ* hybridization. *Arch. Microbiol.* **168**, 185-192.
 26. **Schönholzer, F., Kohli, L., Hahn, D., Daniel, O., Goetz, Chr., Zeyer, J.** 1998. Effect of decomposition of leaves on bacterial biomass and on palatability for *Lumbricus terrestris* L.. *Soil Biol. Biochem.* **30**, 1805-1813.
 27. **Holliger, C., Hahn, D., Harmsen, H., Ludwig, W., Schumacher, W., Tindall, B., Vazquez, F., Weiss, N., Zehnder, A.J.B.** 1998. *Dehalobacter restrictus* gen. nov. and sp. nov., a tetrachloroethene-dependent, strictly anaerobic bacterium. *Arch. Microbiol.* **169**, 313-321.
 28. **Zarda, B., Mattison, G., Hess, A., Hahn, D., Höhener, P., Zeyer, J.** 1998. Analysis of bacterial and protozoan communities in an aquifer contaminated with monoaromatic hydrocarbons. *FEMS Microbiol. Ecol.* **27**, 141-152
 29. **Tonolla, M., Demarta, A., Hahn, D., Peduzzi, R.** 1998. Microscopic and molecular *in situ* characterization of bacterial populations in the meromictic Lake Cadagno. *Documenta Ist. ital. Idrobiol.* **63**, 31-44.
 30. **Chatzinotas, A., Sandaa, R.A., Schönhuber, W., Amann, R., Daae, F.L., Torsvik, V., Zeyer, J., Hahn, D.** 1998. Analysis of broad-scale differences in microbial community structure in two pristine forest soils. *System. Appl. Microbiol.* **21**, 579-587.
 31. **Kohli, L., Daniel, O., Schönholzer, F., Hahn, D., Zeyer, J.** 1999. *Miscanthus sinensis* and wild flowers as food resource of *Lumbricus terrestris* L. *Appl. Soil Ecol.* **11**, 189-197.
 32. **Maunuksela, L., Zepp, K., Koivula, T., Zeyer, J., Haahtela, K., Hahn, D.** 1999. Analysis of *Frankia* populations in three soils devoid of actinorhizal plants. *FEMS Microbiol. Ecol.* **28**, 11-21.
 33. **Tonolla, M., Demarta, A., Peduzzi, R., Hahn, D.** 1999. *In situ* analysis of phototrophic sulfur bacteria in the chemocline of meromictic Lake Cadagno (Switzerland). *Appl. Environ. Microbiol.* **65**, 1325-1330.
 34. **Schönholzer, F., Hahn, D., Zeyer, J.** 1999. Origin and fate of fungi and bacteria in the gut of *L. terrestris* L. studied by image analysis. *FEMS Microbiol. Ecol.* **28**, 235-248.
 35. **Hahn, D., Nickel, A., Dawson, J.** 1999. Assessing *Frankia* populations in plants and soil using molecular methods. *FEMS Microbiol. Ecol.* **29**, 215-227.
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36. **Zepp Falz, K., Holliger, C., Grosskopf, R., Liesack, W., Nozhevnikova, A.N., Müller, B., Wehrli, B., Hahn, D.** 1999. Vertical distribution of methanogens in the anoxic sediment of Rotsee (Switzerland). *Appl. Environ. Microbiol.* **65**, 2402-2408.
 37. **Sandaa, R.-A., Torsvik, V., Enger, Ø., Daae, F.L., Castberg, T., Hahn, D.** 1999. Analysis of bacterial communities in heavy metal contaminated soils at different levels of resolution. *FEMS Microbiol. Ecol.* **30**, 237-251.
 38. **Chin, K.-J., Hahn, D., Hengstmann, U., Liesack, W., Janssen, P.** 1999. Characterization and identification of numerically abundant culturable bacteria from the anoxic bulk soil of rice paddy microcosms. *Appl. Environ. Microbiol.* **65**, 5042-5049.
 39. **Berchthold, M., Chatzinotas, A., Schönhuber, W., Brune, A., Amann, R., Hahn, D., König, H.** 1999. Differential enumeration and *in situ* localization of microorganisms in the hindgut of the lower termite *Mastotermes darwiniensis* by hybridization with rRNA-targeted probes. *Arch. Microbiol.* **172**, 407-416.
 40. **Hesselmann, R.P.X., Werlen, C., Hahn, D., van der Meer, J.R., Zehnder, A.J.B.** 1999. Enrichment, phylogenetic analysis and detection of a bacterium performing enhanced biological phosphate removal in activated sludge. *System. Appl. Microbiol.* **22**, 454-465.
 41. **Nickel, A., Hahn, D., Zepp, K., Zeyer, J.** 1999. *In situ* analysis of introduced *Frankia* populations in root nodules obtained on *Alnus glutinosa* grown under different water availability. *Can. J. Bot.* **77**, 1231-1238.
 42. **Tonolla, M., Demarta, A., Peduzzi, S., Hahn, D., Peduzzi, R.** 2000. *In situ* analysis of sulfate-reducing bacteria related to *Desulfocapsa thiozymogenes* in the chemocline of meromictic Lake Cadagno (Switzerland). *Appl. Environ. Microbiol.* **66**, 820-824.
 43. **Maunuksela, L., Hahn, D., Haahtela, K.** 2000. Effect of freezing of soils on nodulation capacities of total and specific *Frankia* populations. *Symbiosis (Rehovot)* **29**, 107-120.
 44. **Bolliger, C., Schönholzer, F., Schroth, M.H., Hahn, D., Bernasconi, S., Zeyer, J.** 2000. Characterization of intrinsic bioremediation by a combined analysis of ground water chemistry, stable carbon isotope ratios and microbial populations in a petroleum contaminated aquifer. *Biorem. J.* **4**, 359-371.
 45. **Nickel, A., Pelz, O., Hahn, D., Saurer, M., Siegwolf, R., Zeyer, J.** 2001. Effect of inoculation and leaf litter amendment on the establishment of nodule-forming *Frankia* populations in soil. *Appl. Environ. Microbiol.* **67**, 2603-2609.
 46. **Schönholzer, F., Hahn, D., Zarda, B., Zeyer, J.** 2002. Image analysis and *in situ* hybridization as tools to study bacterial populations in food resources, gut and cast of *Lumbricus terrestris* L. *J. Microbiol. Meth.* **48**, 53-68.
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47. **Burke, D., Hamerlynck, E., Hahn, D.** 2002. Effect of arbuscular mycorrhizae on soil microbial populations and associated plant performance of the salt marsh grass *Spartina patens*. *Plant Soil* **239**, 141-154.
 48. **Cai, H., Zarda, B., Mattison, G., Schönholzer, F., Hahn, D.** 2002. Fate of protozoa transiting the digestive tract of the earthworm *Lumbricus terrestris* L. *Pedobiologia* **46**, 161-175.
 49. **Burke, D., Hamerlynck, E., Hahn, D.** 2002. Interactions among plant species and microorganisms in salt marsh sediments. *Appl. Environ. Microbiol.* **68**, 1157-1164.
 50. **Zimpfer, J., Kaelke, C., Smyth, C.A., Hahn, D., Dawson, J.O.** 2003. *Frankia* isolate, soil biota, and host tissue extracts interact to influence *Casuarina* nodulation. *Plant Soil* **254**, 1-10.
 51. **Tonolla, M., Peduzzi, S., Hahn, D., Peduzzi, R.** 2003. Spatio-temporal distribution patterns of phototrophic sulfur bacteria in the chemocline of meromictic Lake Cadagno (Switzerland). *FEMS Microbiol. Ecol.* **43**, 89-98.
 52. **Peduzzi, S., Tonolla, M., Hahn, D.** 2003. Vertical distribution of sulfate-reducing bacteria in the chemocline of Lake Cadagno, Switzerland, over an annual cycle. *Aquatic Microb. Ecol.* **30**, 295-302.
 53. **Burke, D., Hamerlynck, E., Hahn, D.** 2003. Interactions between the salt marsh grass *Spartina patens*, arbuscular mycorrhizal fungi and sediment bacteria during the growing season. *Soil Biol. Biochem.* **35**, 501-511.
 54. **Peduzzi, S., Tonolla, M., Hahn, D.** 2003. Isolation and characterization of aggregate-forming phototrophic sulfur and sulfate-reducing bacteria in the chemocline of meromictic Lake Cadagno, Switzerland. *FEMS Microbiol. Ecol.* **45**, 29-37.
 55. **Tonolla, M., Peduzzi, S., Demarta, A., Peduzzi, R., Hahn, D.** 2004. Phototropic sulfur and sulfate-reducing bacteria in the chemocline of meromictic Lake Cadagno, Switzerland. *J. Limnol.* **63**, 157-166.
 56. **Tonolla, M., Botinelli, M., Demarta, A., Peduzzi, R., Hahn, D.** 2005. Molecular identification of an uncultured bacterium ("morphotype R") in meromictic Lake Cadagno, Switzerland. *FEMS Microbiol. Ecol.* **53**, 235-244.
 57. **Tonolla, M., Peduzzi, R., Hahn, D.** 2005. Long-term population dynamics of phototropic sulfur bacteria in the chemocline of Lake Cadagno, Switzerland. *Appl. Environ. Microbiol.* **71**, 3544-3550.
 58. **Karwa, M., Hahn, D., Mitra, S.** 2005. A sol-gel immobilization of nano and micron size sorbents in poly(dimethylsiloxane) (PDMS) microchannels for microscale solid phase extraction (SPE). *Anal. Chim. Acta* **245**, 22-29.
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59. **Hahn, D., Cozzolino, A., Piccolo, A., Armenante, P.M.** 2007. Reduction of 2,4-dichlorophenol toxicity to *Pseudomonas putida* after oxidative incubation with humic substances and a biomimetic catalyst. *Ecotoxicol. Environ. Safety* **66**, 335-342.
 60. **Hahn, D., Gaertner, J., Forstner, M.R.J., Rose, F.L.** 2007. High resolution analysis of salmonellae from turtles within a headwater spring ecosystem. *FEMS Microbiol. Ecol.* **60**, 148-155.
 61. **Suntornvongsakul, K., Burke, D.J., Hamerlynck, E.P., Hahn, D.** 2007. Fate and effect of heavy metals in salt-marsh sediments. *Environ. Pollut.* **149**, 79-91.
 62. **Suntornvongsakul, K., Burke, D.J., Hahn, D.** 2007. Uptake and translocation of heavy metals in salt marsh sediments by *Spartina patens*. *Bull. Environ. Contamin. Toxicol.* **78**, 275-279.
 63. **Zhang, C., Smirnov, A., Hahn, D., Grebel, H.** 2007. Surface enhanced raman scattering of biospecies on anodized aluminum oxide films. *Chem. Phys. Lett.* **440**, 239-243.
 64. **Mirza, B.S., Welsh, A., Hahn, D.** 2007. Saprophytic growth of inoculated *Frankia* sp. in soil microcosms. *FEMS Microbiol. Ecol.* (in press)

B. Published Non-Peer-Reviewed Papers (Journals, Proceedings, Book Chapters)

1. **Hahn, D., Starrenburg, M.J.C., Akkermans, A.D.L.** 1988. Micro-propagation and selection of *Alnus glutinosa* ecotype clones. In: Grassi, G., Pirrwitz, D., Zibetta, H. (eds), *Energie from Biomass 4*, pp 69-77, Elsevier Appl. Sci., New York, USA.
 2. **Hahn, D., Starrenburg, M.J.C., Akkermans, A.D.L.** 1988. Improvement of symbiotic nitrogen-fixation by *Alnus* sp. in monoculture and in mixed stands with poplar or douglas in the Netherlands. In: *Euroform New Energies vol. 3, Renewable energy sources: Proceedings EEC contractors meeting Saarbrücken*, pp. 437-439, H.S. Stephens & Associates Publ., Bedford, UK.
 3. **Akkermans, A.D.L., Hahn, D.** 1990. *Frankia* as limiting factor in the growth of *Alnus* spp.: A critical evaluation. In: Werner, D., Müller, P. (eds), *Fast growing trees and nitrogen fixing trees*, pp. 331-336. Gustav Fischer Verlag, Marburg, Germany.
 4. **Hahn, D.** 1990. 16S rRNA as molecular marker in ecology of *Frankia*. Ph.D. thesis, Wageningen Agricultural University, The Netherlands.
 5. **Hahn, D., Akkermans, A.D.L.** 1991. Ribosomal RNA: Marker in ecological soil research. *Biovisie* **71**, 39 (in dutch).
 6. **Akkermans, A.D.L., Hahn, D., Baker, D.** 1991. The family Frankiaceae. In: Balows, A., Trüper, H.G., Dworkin, M., Harder, W., Schleifer, K.-H. (eds), *The Prokaryotes*, Chapter 45, Springer Verlag, New York.
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7. **Hahn, D., Zeyer, J.** 1994. *In situ* hybridization techniques in natural environments. In: Ritz, K., Dighton, J., Giller, K.E. (eds), *Beyond the biomass: Compositional and functional analysis of soil microbial communities*, pp.137-148. John Wiley, Chichester, UK.
 8. **Hahn, D., Amann, R.I., Zeyer, J.** 1994. Oligonucleotide probes for the detection and identification of bacteria. In: Ryder, M.H., Stephens, P.M., Bowen, G.D. (eds), *Improving plant productivity with rhizosphere bacteria*, pp. 163-171. CSIRO Division of Soils, Adelaide, Australia.
 9. **Zeyer, J., Höhener, P., Hunkeler, D., Hahn, D.** 1995. *In situ* bioremediation of mineral oil contaminated soils and aquifers: Quantification of degradation rates and fate of hydrocarbons. In: van den Brink, W.J., Bosman, R., Arendt, F. (eds), *Contaminated soil '95*, pp. 319-326. Kluwer Academic Press, The Netherlands.
 10. **Akkermans, A.D.L., Hahn, D., Briglia, M.** 1995. Development of reliable methods for detection of genetically engineered microorganisms (GEMs) in soil. In: Rogaar, H., van Elsas, J.D., Akkermans, A.D.L., van den Heuvel-Pieper, A.H. (eds), *Adaptation and selection mechanisms of natural and genetically modified soil microorganisms*, pp. 25-34. The Netherlands Integrated Soil Research Programme, Vol 2, Wageningen, The Netherlands.
 11. **Zeyer, J., Höhener, P., Hunkeler, D., Hahn, D., Häner, A., Bregnard, T., Hess, A.** 1995. *In situ* bioremediation of hydrocarbon-contaminated soils and aquifers. *Bulletin. Magazin der ETH Zurich* **257**, 62-63 (in German).
 12. **Hahn, D.** 1996. Analysis of microbial community structure in terrestrial habitats by molecular methods. Habilitation thesis, Swiss Federal Institute of Technology Zurich, Switzerland.
 13. **Hahn, D., Hess, A., Amann, R.I., Zeyer, J.** 1998. *In situ* identification of bacterial populations in terrestrial habitats without cultivation. In: Serra, R. (ed), *Biotechnology for soil remediation*, pp. 41-65. C.I.P.A., Milan, Italy.
 14. **Hahn, D.** 1999. Molecular methods for the analysis of bacterial communities (Les méthodes moléculaires pour l'analyse des communautés bactériennes). *Biofutur* **185**, 16 (in French).
 15. **Hahn, D., Nickel, A., Zepp, K., Dawson, J.** 2000. Molecular methods for the analysis of *Frankia* populations in plants and soil. In: Subba Rao, N.S., Dommergues, Y.R. (eds), *Microbial interactions in agriculture and forestry*, Vol 2, pp. 15-60. Science Publishers, Enfield, NH, USA
 16. **Burke, D., Hahn, D.** 2000. The effect of mycorrhizae on nitrogen-fixing bacteria associated with the salt marsh grass *Spartina patens*. In: Nieder, W.C., Waldman, J.
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(eds), Final reports of the Tibor T. Polgar Fellowship Program 1999, section II, pp. 1-28. Hudson River Foundation and the New York State Department of Environmental Conservation, New York, NY, USA.

17. **Dawson, J.O., Gottfried, G.J., Hahn, D.** 2005. Occurrence, structure, and nitrogen-fixation of root nodules of actinorhizal Arizona alder. In: Gottfried, G.J., Gebow, B.S., Eskew, L.G., Edminster, C.B. (eds), Connecting islands and desert seas: biodiversity and management of the Madrean Archipelago II, pp. 75-79. Proceedings RMRS-P-36, USDA, Forest Service, Rocky Mountain Research Station Publications, Fort Collins, CO.
18. **Hahn D.**, Suntornvongsagul K. 2006. Competition between inoculated and indigenous *Frankia* populations for nodulation on *Alnus glutinosa*. In: Peduzzi, R., Tonolla, M., Boucher-Rodoni, R. (eds), Milieux extrêmes: conditions de vie en milieu alpin et milieu marin, pp. 111-117. Documenta Centro di Biologia Alpina di Piora (ISSN 1424-4993).
19. **Hahn, D.** 2007. Polyphasic taxonomy of the genus *Frankia*. In: Pawlowski, K., Newton, W.E. (eds), Nitrogen-fixing actinorhizal symbioses. Springer Verlag, Berlin, Germany (in press).

C. Professional Presentations (oral)

1. Seminar "Mixed Cultures", Wageningen Agricultural University, Department of Microbiology, The Netherlands, October 1988, Molecular techniques in ecological studies (in Dutch).
 2. Meeting of Dutch Microbiologists (BION), Amsterdam, The Netherlands, December 1988. Synthetic oligonucleotides in identification of *Frankia* strains (in Dutch).
 4. Seminar "Biochemical and Gene Technological Methods in Studies of Microbial Ecology", Copenhagen, Danmark, November 1989, Detection of nitrogen-fixing *Frankia* spp. in soil using 16S rRNA probes.
 5. Workshop "Identification and detection of microorganisms based on ribosomal RNA sequences", Ede, The Netherlands, June 1991, Ribosomal RNA as target for *in situ* hybridization.
 6. PHLO course "Molecular detection and identification of microorganisms in natural and industrial systems", Wageningen, The Netherlands, September 1991, Ribosomal RNA as marker molecule (in Dutch).
 7. EERO course "Introduction of genetically modified organisms into the environment: biosafety aspects", Wageningen, The Netherlands, December 1991, Demonstration "*In situ* detection of mycelium and spores of Streptomycetes in soil", and experimental bloc "Detection and identification of a *tsr*-marked GMO in soil"
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8. Meeting of Swiss Microbiologists (SGM), Montreux, Switzerland, March 1993, *In situ* detection of bacteria in the environment.
 9. Conference "Beyond the biomass: Compositional and functional analysis of soil microbial communities", Wye, England, March 1993, *In situ* hybridization techniques in natural environments.
 10. Seminar "Microscopic detection of bacteria in soil: advantages and disadvantages of the *in situ* hybridization technique". Limnological Research Center, Kastanienbaum, Switzerland, August 1993 (in German).
 11. Seminar "The *in situ* hybridization technique as tool to study uncultured microorganisms in heterogeneous environments", Université Claude Bernard-Lyon I, Soil Ecology, November 1993.
 12. Workshop on Plant Growth-Promoting Rhizobacteria, Adelaide, Australia, March 1994, Oligonucleotide probes for the detection and identification of bacteria.
 13. Meeting of Swiss Microbiologists (SGM), Lugano, Switzerland, March 1995, *In situ* detection and enumeration of bacteria in soil by whole cell hybridization.
 14. Seminar "*In situ* detection of bacteria in terrestrial environments", Biocentre, Basel, Switzerland, June 1995.
 15. Conference "The tenth international conference on *Frankia* and actinorhizal plants", Davis, California, USA, August 1995, *In situ* detection and enumeration of bacteria by whole cell hybridization.
 16. Seminar "*In situ* detection of bacteria in terrestrial environments", Friedrich-Schiller-Universität Jena, Germany, October 1995 (in German).
 17. Seminar "Whole cell hybridization as a tool to analyze bacterial populations *in situ*", Max-Planck-Institute for Terrestrial Microbiology, Marburg, Germany, January 1996 (in German).
 18. Seminar "*In situ* detection and enumeration of bacteria in soil by whole cell hybridization", GBF Braunschweig, Germany, May 1996.
 19. EAWAG and ETH course "Third advanced course in microbial ecology", Limnological Research Center, Kastanienbaum, Switzerland, August/September 1996. Seminar "*In situ* analysis of microbial populations by whole cell hybridization", and experimental bloc on the same topic.
 20. International conference "Biotechnology for soil remediation", Milan, Italy, November 1997, *In situ* analysis of microbial populations in terrestrial environments.
 21. Seminar "*In situ* detection of bacteria in the environment", Université Claude Bernard-Lyon I, Centre d'Analyse Moléculaire de la Biodiversité, France, February 1998.
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22. Meeting of the NVVM Section Microbial Ecology on "Microbial Diversity", Wageningen, The Netherlands, February 1998, Bacterial diversity in soil.
 23. Körber Symposium "Molecular and Microsensor Studies of Microbial Communities", Max Planck Institute for Marine Microbiology, Bremen, Germany, September 1998, *In situ* analysis of microorganism-earthworm interactions.
 24. Seminar series of the Federated Department of Biology, New Jersey Institute of Technology and Rutgers University, Newark, NJ, USA, April 1999, *In situ* analysis of microorganism-earthworm interactions.
 25. Seminar series of the Department of Ecology, Evolution and Natural Resources, Rutgers University, New Brunswick, NJ, USA, September 1999, Assessing *Frankia* populations in root nodules and soil using molecular methods.
 26. Biology colloquium of the Federated Department of Biology, New Jersey Institute of Technology and Rutgers University, Newark, NJ, USA, September 2000, Assessing *Frankia* populations in plants and soil.
 27. American Society of Microbiology, 101 General Meeting, Orlando, FL, 2001, Assessing *Frankia* populations in root nodules and soil using molecular methods.
 28. EAWAG workshop "Sediments and biofilms: *In situ* approach to limnic systems analysis", Limnological Research Center, Kastanienbaum, Switzerland, September 2001, *In situ* analysis of microbial populations.
 29. Seminar series of the Federated Department of Biology, New Jersey Institute of Technology and Rutgers University, Newark, NJ, February 2002, *In situ* analysis of microbial populations in Lake Cadagno.
 30. Seminar series of the Department of Biology, Essex County College, Newark, NJ, February 2002, Microbial ecology: Recent developments.
 31. Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana-Champaign, IL, March 2002, Interactions between uncultured bacterial populations in the environment.
 32. Department of Earth and Planetary Sciences, Washington University, St. Louis, MO, March 2002, Interactions between uncultured bacterial populations in the environment.
 33. 9th International Symposium on Nitrogen Fixation with Non-Legumes, Leuven, Belgium, September 2002, Ecology of *Frankia*: populations in root nodules and soil.
 34. Department of Biology, University of Nevada, Las Vegas, NV, USA, February 2003, Interactions between uncultured bacterial populations in the environment.
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35. Seminar series of the Department of Microbiology and Biochemistry, Rutgers University, New Brunswick, NJ, USA, March 2003, Interactions among sulfate-reducing and purple sulfur bacteria in the chemocline of meromictic Lake Cadagno, Switzerland.
 36. Workshop “Ecole doctorale en microbiologie: Biologie de l’extreme: en milieu alpine et en milieu marin”, University of Geneva, Geneva, and Cantonale Institute of Microbiology, Bellinzona, Switzerland, August 2003, Assessing *Frankia* populations in plants and soil.
 37. Seminar series of the Department of Chemical Engineering, New Jersey Institute of Technology (NJIT), NJ, USA, December 2003, Interactions between uncultured bacterial populations in the environment
 38. Department of Biology, Texas State University, San Marcos, TX, USA, June 2004, Interactions between uncultured bacterial populations in the environment
 39. Workshop “Ecole doctorale en microbiologie: Biologie de l’extreme: en milieu alpine et en milieu marin”, University of Geneva, Geneva, and Cantonale Institute of Microbiology, Bellinzona, Switzerland, August 2005, Introduction into Microbial Ecology
 40. Workshop “Ecole doctorale en microbiologie: Biologie de l’extreme: en milieu alpine et en milieu marin”, University of Geneva, Geneva, and Cantonale Institute of Microbiology, Bellinzona, Switzerland, August 2005, Molecular Tools in Microbial Ecology
 41. Department of Biology, Texas State University, San Marcos, TX, USA, September 2006, Interactions between uncultured bacterial populations in the environment
 42. American Society of Microbiology, Texas Branch Fall Meeting, Galveston, TX, 2006, Interactions among purple sulfur and sulfate-reducing bacteria in the chemocline of a meromictic lake
 43. Workshop “Ecole doctorale en microbiologie: Biologie de l’extreme: en milieu alpine et en milieu marin”, University of Geneva, Geneva, and Cantonale Institute of Microbiology, Bellinzona, Switzerland, August 2007, Assessing *Frankia* populations in soil
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PROJECTS

Swiss National Science Foundation, Priority program "biotechnology": Detection of nucleic acids in heterogeneous environmental systems (1 Ph.D. student; 1 PostDoc; 3 years, 1993-95) (Co-PI)

ETH Research Foundation: *In situ* analysis of bacterial populations and processes in the gut of the earthworm *Lumbricus terrestris* (1 Ph.D. student; 3 years, 1993-95) (Co-PI)

Federal Office of Environment, Forests and Landscape (BUWAL): Development of detection protocols for recombinant and indigenous microorganisms in soil (1 Ph.D. student; 3 years, 1993-95) (Co-PI)

EU priority program IV, co-ordinated project HRAMI-2: *In situ* analysis of the community structure of toluene and *m*-xylene degrading, denitrifying bacteria in a Diesel oil contaminated aquifer (1 Ph.D. student; 2 years, 1995-96) (Co-PI)

Federal Office of Environment, Forests and Landscape (BUWAL) and Cantonal Office of Chemistry Basel: Quantification of microorganisms in heterogeneous environment by automated image analysis (1 Ph.D. student; 3 years, 1995-97) (Co-PI)

Swiss National Science Foundation, Priority program "Biotechnology": *In situ* characterization of microbial structures and functions by whole cell hybridization (1 Ph.D. student; 1 PostDoc; 3 years, 1996-99) (Co-PI)

Separately Sponsored Research Program at NJIT: Changes in *nifH* gene pool diversity as a measure for soil quality and contamination (\$21,988, 1 year, 1999-2000) (PI)

Meadowlands Environmental Research Institute: Automated image analysis as tool to analyze the impact of heavy metal availability on microbial communities in contaminated estuarine salt marshes (\$39,320, 1 year, 2000) (PI)

Separately Sponsored Research Program at NJIT: Effect of plant-microbe interactions on the fate of inorganic contaminants in urban salt marshes (\$20,488, 1 year, 2000-2001) (PI)

New Jersey Commission of Science and Technology: New Jersey Center for Micro-Flow Control (MFC): Development of MFC system hardware for micro- and nano-scale separation for colloidal and biological systems (\$2,680,000, 5 years, 2000-2005) (Co-PI, PI: N. Aubry (NJIT)); Contribution (together with S. Mitra, Chemistry): Microchip design for the detection of food-borne pathogens (\$175,715)

Chevron Environmental Management Company (through **Dan Raviv Assoc.**): Phytoremediation of PHC- and PAH-contaminated soils: A treatability study using *Spartina patens* (\$19,400 (+ \$100,000 for chemical analyses), 2 years, 2001-2003) (PI)

Meadowlands Environmental Research Institute: Effect of heavy metals on interactions between vesicular arbuscular mycorrhizal fungi (AMF) and *Spartina patens* in a restored urban salt marsh of the Hackensack Meadowlands (\$41,211, 1 year, 2002-2003) (PI)

Deans Excellence Funds at Rutgers: Biogeoscience Research Initiative (\$60,000, 2004) (Earth & Environmental Science Department, Co-PIs: D. Hahn (Biology/NJIT), E. Hamerlynck (Biology), L. Slater (Earth & Environmental Science) and N. Yee (Earth & Environmental Science))

DoD STTR Phase II 02-002: High resolution terahertz differential-absorption spectrometer (\$500,000, 2 years, 2004-2006) (PI: D. Zimdars, Picometrix, Inc.) (subcontracted to NJIT: \$250,000, 2 years, 2004-2006; PI: J. Federici, Physics, Co-PIs: R. Barat, Chemical Engineering, and D. Hahn)

Beckman-Coulter, Inc.: Integrating genomics CE laboratory hardware and fluidics automation within undergraduate and graduate coursework in the Department of Biology, Texas State University-San Marcos (\$244,795, 2 years, 03/01/2005-11/01/2006) (PI: M.R.J. Forstner, Co-PIs: C. Nice, D. Hahn)

Austin Community Foundation: Assessing effects of invasive plant species on structure and function of microbial communities, and consequences for restoration (\$6,500, 1 year, 06/01/2005-05/31/2006) (PI of this subproject) (PI: A. Zwarun, administered through Dept. Agriculture)

Orion Research and Management Services: Environmental quality assessment for aquatic species in the Texas Hill country with special emphasis on amphibians (\$8,600, 1.5 years, 01/09/05-12/31/06) (PI, Co-PI: M.R.J. Forstner)

Research Enhancement Program (Texas State University-San Marcos): Saprophytic growth of *Frankia* populations in soil (\$8,000, 1 year, 01/01/06-12/31/06) (PI)

Austin Community Foundation: Development of a monitoring design for the amphibian pathogen Chytrid fungus (\$5,000, 1 year, 06/01/2006-05/31/2007) (PI of this subproject) (PI: A. Zwarun, administered through Dept. Agriculture)

Austin Community Foundation: Assessing effects of invasive plant species on structure and function of microbial communities, and consequences for restoration (\$6,500, 1 year, 06/01/2006-05/31/2007) (PI of this subproject) (PI: A. Zwarun, administered through Dept. Agriculture)

Austin Community Foundation: Monitoring salmonellae as indicators for non-point source pollution (\$8,000, 1 year, 06/01/2006-05/31/2007) (PI of this subproject) (PI: A. Zwarun, administered through Dept. Agriculture)

Research Enhancement Program (Texas State University-San Marcos): Monitoring the amphibian pathogen Chytrid fungus (\$15,462, 1 year, 02/01/07-01/31/08) (PI, Co-PI: M.J.R. Forstner)

River Systems Institute: Serotyping of salmonellae isolated from turtles (\$2,975, 1 year, 02/01/07-01/31/08)

Pakistani Commission of Higher Education: Student exchange program (\$10,000, 1 year, 06/01/07-05/31/08) (PI)

US Fish and Wildlife Service: Recovery of species imminently threatened by extinction: the Houston toad (\$168,146, 1 year, 09/01/07-08/31/08) (Co-PI, PI: M.J.R. Forstner)

US Department of Agriculture/Texas Parks and Wildlife Department: Freshwater turtle trends in the Rio Grande/Rio Bravo and Brazos basin evaluating abundance and bioaccumulation. (\$53,346, 2.5 years, 09/01/07-12/31/09) (Co-PI, PI: R. Hudson, other Co-PIs: M.R.J. Forstner, M. Chumchal, R. Drenner, T. Rainwater)

TEACHING ACTIVITIES

1. Lectures

Soil Biology, developed for fall 2007 (Texas State University-San Marcos)

Microbial Ecology, course no. BIO-4446/5446 (Texas State University-San Marcos)

Aquatic Microbial Ecology, course no. BIO-7410 (Texas State University-San Marcos)

Molecular Techniques in Microbial Ecology, course no. BIO-7360-G (Texas State University-San Marcos)

General Microbiology, course no. 21-120-335 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT), together with Prof. David Kafkewitz)

Microbiology: Principles & Applications, course no. 26-120-604 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT), together with Prof. David Kafkewitz)

Microbial Ecology, course no. 26-120-516 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT))

Ecology of Microorganisms, course no. 21-120-473 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT))

2. Laboratory Courses

Research Experience, course no. BIO-5114/5214/5314 (Texas State University-San Marcos)

Research Experience, course no. BIO-7114/7214/7314 (Texas State University-San Marcos)

Topics in Ecology, course no. BIO-5319 (Texas State University-San Marcos)

Research in Biology, course no. 26-120-702 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT))

Problems in Biology, course no. 26-120-491 (Rutgers University-Newark, and New Jersey Institute of Technology (NJIT))

Environmental Microbiology, course no. WS 03-259 (Swiss Federal Institute of Technology (ETH), Zurich, Switzerland)

General Microbiology, course no. P200-108 (Wageningen Agricultural University, WAU)

3. Field Courses

Zurich North: Soils and Plants, course no. SS 85-614 (Swiss Federal Institute of Technology (ETH), Zurich, Switzerland)

4. International Courses

EERO course "Introduction of genetically modified organisms into the environment: biosafety aspects", Wageningen, The Netherlands, December 1991, Demonstration "*In situ* detection of mycelium and spores of Streptomyces in soil", and experimental bloc "Detection and identification of a *tsr*-marked GMO in soil".

EAWAG and ETH course "Third advanced course in microbial ecology", Limnological Research Center, Kastanienbaum, Switzerland, August/September 1996 with D. Hahn in the organizing committee. Seminar "*In situ* analysis of microbial populations by whole cell hybridization", manual and experimental bloc on the same topic.

EAWAG workshop "Sediments and biofilms: *In situ* approach to limnic systems analysis", Limnological Research Center, Kastanienbaum, Switzerland, September 2001. Seminar "*In situ* analysis of microbial populations", manual and participation on experimental bloc on the same topic.

Ecole doctorale en microbiologie workshop "Biologie de l'extreme: en milieu alpine et en milieu marin", University of Geneva, Geneva, and Cantonal Institute of Microbiology, Bellinzona, Switzerland, August 2003. Seminar "Assessing *Frankia* populations in plants and soil", manual and experimental bloc on the same topic.

Ecole doctorale en microbiologie workshop "Biologie de l'extreme: en milieu alpine et en milieu marin", University of Geneva, Geneva, and Cantonal Institute of Microbiology, Bellinzona, Switzerland, August 2005. Seminars "Introduction into Microbial Ecology" and "Molecular Tools in Microbial Ecology", manual and experimental bloc on the same topic.

5. Ph.D. Students advised

M. Sajjad Mirza Characterization of uncultured *Frankia* populations by 16S rRNA sequence analysis, Wageningen AU, The Netherlands, February 1993 (co-advisor)

Kathrin Fischer *In situ* analysis of bacterial populations in the gut of the earthworm *Lumbricus terrestris* L. by whole cell hybridization, ETH Zurich, Switzerland, September 1996 (co-advisor)

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- Kornelia Zepp** Analysis of *Frankia* populations by *in situ* hybridization with 23S rRNA targeted oligonucleotide probes, ETH Zurich, Switzerland, September 1996 (co-advisor)
- Annatina Hess** *In situ* analysis of the community structure of toluene and *m*-xylene degrading, denitrifying bacteria in a diesel oil contaminated aquifer, ETH Zurich, Switzerland, May 1998 (co-advisor)
- Andonis Chatzinotas** *In situ* characterization of microbial structures and functions by whole cell hybridization, ETH Zurich, Switzerland, March 2000 (co-advisor)
- Frank Schönholzer** Quantification of microorganisms in heterogeneous environments by automated image analysis, ETH Zurich, Switzerland, June 2000 (co-advisor)
- Anja Nickel** Analysis of uncultured *Frankia* populations in soil, ETH Zurich, Switzerland, June 2000 (co-advisor)
- David Burke** The interaction between the grass *Spartina patens*, N-fixing bacteria, and vesicular arbuscular mycorrhizae in a Northeastern salt marsh, Rutgers University, USA, October 2001 (advisor)
- Liisa Maunuksela** Plant growth promoting rhizosphere bacteria in forest soils: Analysis of *Frankia* populations in soils devoid of actinorhizal plants, University of Helsinki, Finland, December 2001 (co-advisor)
- Sandro Peduzzi** Interactions among sulfate-reducing and phototrophic sulfur bacteria in the chemocline of meromictic Lake Cadagno, Switzerland, ETH Zurich, Switzerland, January 2003 (advisor)
- Robert Lippincott** Evaluation of phytoremediation as a tool to clean-up petroleum hydrocarbon- and PAH-contaminated estuarine environments, NJIT, USA, April 2005 (advisor)
- Kallaya Suntornvongsakul** Interaction between *Spartina patens*, arbuscular mycorrhizae and bacteria in heavy metal contaminated salt marsh sediments, NJIT, USA, July 2005 (advisor)
- Allana Welsh** Evaluation of nitrogenase genes as markers in soil microbial community studies, Texas State University-San Marcos, USA, anticipated completion 2009 (advisor)
- Babur S. Mirza** Molecular analyses of *Frankia* species, Texas State University-San Marcos, USA, anticipated completion 2010 (advisor)
- James Gaertner** Pathogens in cold-blooded animals of the Hill country, Texas State University-San Marcos, USA, anticipated completion 2011 (advisor)
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6. Advisory Committee of Ph.D. Students

Suchismita Bhattacharya (NJIT, Environmental Science)

Jeong Seop Shim (NJIT, Environmental Science)

Andrea Giorgioni (NJIT, Environmental Science)

Elaine Brenner-Zalewski (NJIT, Environmental Science)

Jaruwan Talawat (Rutgers-New Brunswick, Microbiology)

Tish Robertson (Rutgers-Newark, Biology)

Rami T. El-Khatib (Rutgers-Newark, Biology)

Ling Yang (NJIT, Environmental Science)

Thipnakarin Boonfueng (NJIT, Environmental Engineering)

Jacob Jackson (Texas State University-San Marcos)

7. Diploma/Masters Students advised

Gijs de Bock Development of a standardized nodulation test system for selected *Frankia* strains on black alders, Wageningen AU, The Netherlands, 1987 (in Dutch)

Ronald Kersters Development of nucleic acids extraction protocols from soil, Wageningen AU, The Netherlands, 1989 (in Dutch)

Anneke Wolters Analysis of uncultured *Frankia* populations in soil by PCR, Wageningen AU, The Netherlands, 1989 (in Dutch)

Ingrid Zeegers Quantification of *Frankia* populations in soil by using molecular methods, Wageningen AU, The Netherlands, 1990 (in Dutch)

Laurens Vlaar Identification of a syntrophic bacterium by 16S rDNA sequence analysis, Wageningen AU, The Netherlands, 1990 (in Dutch)

Roland Durner Development of *in situ* hybridization protocols with digoxigenin-labeled oligonucleotide- and *in vitro* transcript probes in soil, ETH Zurich, Switzerland, 1992 (in German)

Stefan Kohler Analysis of uncultured *Frankia* populations in soil by molecular methods, ETH Zurich, Switzerland, 1994 (in German)

Ivo Keel Population dynamics of toluene-degrading bacteria under denitrifying conditions, ETH Zurich, Switzerland, 1995 (in German)

Martin Kayser Detection of toluene-degrading *Azoarcus* strains in Diesel-fuel contaminated aquifers, ETH Zurich, Switzerland, 1997 (in German)

Bettina Baumgartner Fate of naturally occurring and inoculated planctomycetes in soil under varying environmental conditions, ETH Zurich, 1998 (in German)

Annette Rust Fate of inoculated *Frankia* strains in soil under varying environmental conditions, ETH Zurich, 1998 (in German)

Thipnakarin Boonfueng Ni uptake and accumulation by *Spartina patens* in hydroponic culture, NJIT, 2001 (co-advisor, advisor: L. Axe, Civil and Environmental Engineering)

James Gaertner Occurrence of *Salmonella* sp. in turtles of the Hill country, Texas State University-San Marcos, 2007 (advisor, co-advisor: M. Forstner)

8. Advisory Committee of M.S. Students

Allana Welsh (Texas State University-San Marcos)

Mubina Merchant (Texas State University-San Marcos)

Sam Schwarzlose (Texas State University-San Marcos)

Brent Treadaway (Texas State University-San Marcos)

Varsha Radhakrishnan (Texas State University-San Marcos)

Elizabeth Crittenden (Texas State University-San Marcos)

Jessica Bolfig (Texas State University-San Marcos)

9. Visitors advised

Mauro Tonolla, University of Geneva, Switzerland, 2 weeks (1993)

Christof Holliger, EAWAG, Kastanienbaum, Switzerland, 2 weeks (1994)

Patrizia Ponti, University of Zurich, Switzerland, 2 weeks (1995)

Werner Liesack, Max-Planck-Institute for Terrestrial Microbiology, Marburg, Germany, 1 week (1996)

Liisa Maunuksela, University of Helsinki, Helsinki, Finland, 6 months (1997)

Ruth-Anne Sandaa, University of Bergen, Bergen, Norway, 3 months (1997)

Jeff Zimpfer, University of Illinois, Urbana-Champaign, USA, 2 months (1998)

Rolf Hesselmann, EAWAG, Dübendorf, Switzerland, 1 week (1998)

Tanja Niepel, National Research Center for Biotechnology (GBF), Braunschweig, Germany, 1 week (1998)

Jeff Zimpfer, University of Illinois, Urbana-Champaign, USA, 1 month (1999)

Jeff Zimpfer, University of Illinois, Urbana-Champaign, USA, 2 weeks (2000)

Eleonora Campanelli*, University of Bologna, Italy, 6 months (2001)

Mauro Tonolla, University of Geneva, Switzerland, 2 weeks (2001)

Annunziata Cozzelino*, University of Naples, Italy, 6 months (2001)

Jeff Zimpfer, University of Illinois, Urbana-Champaign, USA, 2 weeks (2001)

Sandro Peduzzi, University of Geneva, Switzerland, 1.5 year (2001-2002)

Maria del Carmen Villegas Hernandez, Instituto Politecnico Nacional, Tlaxcala, Mexico, 1 week (2007)

Ghulam Rasul, NIBGE, Faisalabad, Pakistan, 1 year (2007-2008)

* in collaboration with Piero Armenante (NJIT) and David Kafkewitz (Rutgers-Newark)

10. Short-Term Projects

Robert Lippincott (NJIT), Summer 2000, Summer Research Project (EVSC-790C-154)

Mark Piskaldo (NJIT), Fall 2000, Senior Undergraduate Project (BIOL-491-154)

Kashif Sandhu (Rutgers-Newark), Fall 2000, Senior Undergraduate Project (26-120-491)

Tish Robertson (Rutgers-Newark), Fall 2000, Graduate Student Lab Rotation: Inferring the activity of nitrogen-fixing bacteria using RT-PCR (26-120-509)

Robert Lippincott (NJIT), Summer 2001, Summer Research Project (EVSC-790C-154)

Randall Boriel (Rutgers-Newark), Fall 2002, Graduate Student Lab Rotation: PCR-based analysis of mycorrhizae in salt marsh sediment (26-120-509)

Mahesh K. Karwa (NJIT), Spring 2003, Independent Study (CHEM-705-154)

Pete Metivier (Rutgers-Newark), Spring 2003, Independent Study (EVSC-725-154)

Dante Descalzi (Rutgers-Newark), Spring/Fall 2003, BS Thesis in Biology: Comparative analysis of microbial populations in Ni-contaminated and non-contaminated marsh sediments

11. Lab Experience (up to 5 hours a week)

Adalberto Vazquez (Union Hill High School), ACS project SEED, Summer 1999

Sreelatha Akkapeddi (Biology undergraduate, NJIT), Fall 2001

Deepti Sanjai (Biology undergraduate, NJIT), Spring 2003

Manjula Miryalkar (Biology undergraduate, NJIT), Spring 2003

Pete Metivier (Ph.D. Environmental Science, Rutgers-Newark), Summer 2003

Deneah Johnson (Irvington Hill High School), ACS project SEED, Summer 2003

Meredith Gansner (Morristown High School), Summer 2003

SERVICE ACTIVITIES

A. University

- JAMP Committee, Texas State University (since September 2005)
- NJIT Honors College Faculty Council (September 2003 – August 2004)
- NJIT Faculty Advisory Board of the Otto H. York Center for Environmental Engineering and Science (CEES) (Chair: D. Watts) (January 2000 – August 2004)
- NJIT Environmental Studies and Sustainability Council (ESSC) (Chair: D. Watts) (January 2000 – August 2004)
- NJIT Screening Committee for the position of Director of the Council on Environmental Studies (Chair: W.C. Van Buskirk) (Spring 2000)

B. Department

- Mitte Chair Search Committee (since Fall 2006)
 - Rutgers-Newark M.S. Biological Science Comprehensive Exam Committee (June 2006)
 - Texas State Biology Department Graduate Committee (since May 2005)
 - Texas State Biology Department Safety Committee (since May 2005)
 - Texas State Biology Department Greenhouse Committee (since August 2005)
 - Rutgers-Newark M.S. Biological Science Comprehensive Exam Committee (January 2006)
 - Rutgers-Newark M.S. Biological Science Comprehensive Exam Committee (May 2005)
 - Ph.D. Environmental Science Qualifying Exam Committee, NJIT (May 2005)
 - NJIT Biology undergraduate advising (Summer 2003 – August 2004, together with F. Nadim and J. Golowasch, NJIT, Department of Mathematics)
 - NJIT Chemical Engineering Undergraduate Curriculum Committee: working group “Chemical kinetics & reactor design, bioengineering, process dynamics & control, process & plant (& product?) design” (Spring 2003)
 - Rutgers Biological Science/Ecology Track Qualifying Exam Committee (Chair: E. Knox) (January 2000 – August 2004)
 - NJIT Chemistry Faculty Search Committee (Chair: S. Mitra) (Winter/Spring 2003)
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Rutgers Biological Science/Ecology Faculty Search Committee (Chair: E. Bonder)
(Winter/Spring 2003)

Rutgers Biological Science/Ecology Faculty Search Committee (Chair: E. Kirby)
(Winter/Spring 2002)

NJIT Environmental Engineering Undergraduate Curriculum Committee (Chair: L. Axe)
(January 2002 – August 2004)

NJIT Environmental Science Undergraduate Curriculum Committee (Chair: G. Miller
Jonakeit) (Fall 2001/Spring 2002)

Rutgers Biological Science Undergraduate Curriculum Committee (Chair: G. Miller
Jonakeit) (Fall 2000)

C. Peer reviewing activity (papers, books, proposals)

1. Journals: Permanent activity: Applied and Environmental Microbiology (average 35 manuscripts yr⁻¹); Aquatic Microbial Ecology (10 manuscripts yr⁻¹)

Occasional activity (1-3 manuscripts yr⁻¹): Archives of Microbiology; FEMS Microbiology Ecology; FEMS Microbiology Reviews; Systematic and Applied Microbiology; Soil Biology & Biochemistry; International Journal of Systematic Bacteriology; Plant and Soil; Microbiology; Molecular Ecology; European Journal of Soil Biology; Journal of Bacteriology; Bulletin of Environmental Contamination and Toxicology; Re/Views in Environmental Science and Bio/Technology

2. Proposals: National Science Foundation (Biology, Engineering); U.S. Environmental Protection Agency; Swiss National Science Foundation; Meadowlands Environmental Research Institute (MERI); SDE/GWIS (Sigma Delta Epsilon/Graduate Woman in Science), Israel Science Foundation (ISF), Texas Academy of Science

3. Panels: U.S. Environmental Protection Agency, Fellowship Program “Terrestrial Systems Ecology” (4-F4, February 2004)

NSF Bioengineering and Environmental Systems, SBIR/STTR phase 1, “Sensors 1” (04SB1BT-21, March 2004)

U.S. Environmental Protection Agency, Fellowship Program “Terrestrial Systems Ecology” (6-F6, March 2005)

U.S. Environmental Protection Agency, Fellowship Program “Terrestrial Systems Ecology” (6-F6 and 6 F1, February 2006)

D. Editorial Activity

- 1999-2008 **Editorial Board** “Applied and Environmental Microbiology” (re-appointed 2001 and 2004 for second and third 3-year term, respectively) (published monthly by the American Society for Microbiology [ASM], Washington, DC)
- 2001-2005 **Advisory Board** “Re/Views in Environmental Science and Bio/Technology” (published by Kluwer Academic Publisher)
- Since 2000 **Executive Editor** “Aquatic Microbial Ecology” (published bimonthly by Inter-Research, Oldendorf, Germany)

E. Professional Societies

American Society for Microbiology (ASM) (since 1998)

International Society of Soil Science (ISSS) (since 1995)

RESEARCH VISITS

Institute of Microbiology, **Christian-Albrechts-University Kiel**, Germany (Prof. E. Stackebrandt, 2 months) (1988)

Department of Biological Sciences, **Warwick University**, England (Dr. E.M.H. Wellington, 6 months) (1990)

Department of Microbiology, **Technical University Munich**, Germany (Prof. K.-H. Schleifer, Dr. R.I. Amann, 2 weeks) (1990)