CURRICULUM VITAE

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GENERAL

Academic Degrees

- 1992: Ph.D. in Biology (Microbiology). University of Oregon.
- 1988: Master's of Arts. University of Oregon.
- 1986: Licenciatura con Grado (Master's in Science), Autonomous University of Barcelona, Spain

Academic Posts

- 1992 Post-Doc, University of Oregon.
- 1993-1995, Post-Doctoral Fellow. Max Planck Institute for Marine Microbiology, Germany
- 1996-1999, Associate Researcher. Max Planck Institute for Marine Microbiology, Germany
- 1998, Visiting Professor, Dept. of Chemistry, University of Las Palmas de Gran Canaria, Spain
- 2000- 2002, Assistant Professor, Department of Microbiology, Arizona State University.
- 2002- 2006, Associate Professor, Department of Microbiology/ School of the Life Sciences, ASU
- 2005-2006 Visiting Professor (CSIC) Centre d'Investigacions Marines (Barcelona, Spain)
- 2006, present, Professor, School of the Life Sciences, ASU
- 2011-present, Affiliated Scientist, Lawrence Berkeley National Laboratory, Berkeley, CA.

Academic Leadership

- 2006- 2010, Director, Graduate Program in Microbiology, ASU
- 2003-2013. Supervisory Board Member, NIH/EPA Superfund Project, University of Arizona
- 2006-2012 Editor, FEMS Microbiology Reviews

- 2008-2009 President, American Society for Microbiology, Arizona/Nevada Branch
- 2009-2011 Associate Dean (Facilities, School of Life Sciences)
- 2011-2013 Associate Dean/Director for Research and Training Initiatives, School of Life Sciences
- 2011-2016 ASU POC for the Lawrence Berkeley National Lab/ASU Co-laboratory
- 2014-2016 ASU POC for co-laboratory between ASU & Deutsches Elektronen-Synchrotron (DESY)
- 2015-present Founding Director, Center for Applied and Fundamental Microbiomics, ASU
- 2013- 2018 Dean of Natural Sciences, College of Liberal Arts and Sciences, ASU
- Research Centers Established at ASU:
  ASU REACH (Research and Education Advancing Children's Health), 2014
  Institute for Interdisciplinary Salivary Science Research, 2013
  ASU Center for Evolution and Medicine, 2014
  Center for Applied Structural Discovery, 2014
  Center for Molecular Design and Biomimetics, 2013
  Biodiversity Knowledge Integration Center (BioKIC) (2015)
  Center for Applied and Fundamental Microbiomics (2015)

Languages

Catalan (Reads, Speaks, Writes), Spanish (R, S, W), English (R, S, W), German (S, R, W), French, (S, R)

Awards and Honors

- Fulbright Scholar (1986-1988)
- Harold T. Bold Award in Phycology (1991)
- Max-Planck Society Post-Doctoral Stipend (1992-1994)
- 2002 Henry W. Menn Memorial Award, Skin Cancer Foundation
- Outreach efforts singled by NSF's director in Report to Congress (2004)
- 2004 Named "Faculty Exemplar" by ASU's President.
- 2009 American Society for Microbiology Distinguished Lecturer (2010-2012)
- 2010 Elected Fellow, American Academy of Microbiology
- 2013 Elected 2014 Neil Welker Award Lecturer in Prokaryotic Biology
- 2014 Named Virginia M. Ullman Professor for the Environment
- 2015 Inducted Honorary Member, Sigma Delta Pi (National Collegiate Hispanic Honor Society)
- 2018 Finalist, Arizona Governor's Innovation Award
- 2019 Lifetime Achievement Award in Biocrust Research

- 2020 Amer. Society for Microbiology AC White Award for Interdisciplinary Research and Mentorship
- 2021 Named Regents Professor by Arizona Board of Regents, highest academic rank in Arizona.
- 2021 Elected Fellow of the Ecological Society of America
- 2021 Elected Fellow of the American Geophysical Union
- 2023 Society for Ecological Restoration's Sperry Award for contributions to restoration science

RESEARCH

Research Funding

Current:

- NSF (sole PI; 2021-2025; $1,112,000). Role Of Non-Phototrophs In The Growth And Fitness Of Biological Soil Crusts
- NSF (co-PI; 2019-2021; $4,508,000). Long-Term Ecological Research Site: Long-Term Research at The Jornada Basin
- NSF- ERC (Co-PI; 2020 – 2024; $23,845,438) Engineering Research Center for Bio-Mediated and Bio-Inspired Geotechnics Phase 2.
- ABOR-TRIF (PI; 2022-2025; $956,778) Deploying sustainable technologies for suppression of fugitive dust and maintenance of fertility in fallow agricultural fields

Past:

- DFG (German Science Foundation). 4 -year project Grant (1995-1999): "Molecular and traditional cyanobacterial biodiversity in hypersaline environments"
- EU Biotechnology Panel, 3-year grant (1996-1999): "Biodiversity: cyanobacteria, systematic and applied aspects". €300,000
- USDA (2000-2003). Microscale Carbon and Nitrogen cycling in biological desert crusts. $120,000
- NASA (2000-2002): Ecogenomics: molecular biological analyses of hypersaline microbial communities. $120,000
- NASA (with 7 other PI's): (2000-2003). Evolution of microbe-based ecosystems: desert springs as analogues for the early development and stabilization of ecosystems. $1,317, 666
- NASA (2003-2005): Genomic approaches to the Geomicrobiology of intertidal evaporites ($103,000)
- Ministry Of Science & Education (Spain)-Faculty Mobility Program Fellowship, 2005 (€40,000)
- NRI – USDA (one co-PI; 2003-2006). Microscale Carbon and Nitrogen cycling in biological desert crusts (renewal). $280,000
- NSF-BIO (2002-2008): Prokaryotic diversity of biological soil crusts in arid lands of North America. $491,000
- NSF-BIO (2005-2009). Fungal populations in biological soil crusts ($34,867)

- NSF-GEO (2003-2009). Mechanism of carbonate dissolution by cyanobacteria ($504,000)
- NASA (with 1 co-PI; 2005-2009). Geomicrobiology and fossil biosignatures of cold spring carbonates, Mono Lake and the Pleistocene Lahonton Basin (CA) ($399,146)
- SFAZ-SRG (7 co-PI; 2007-2009) Cyanobacteria for generating solar-powered carbon neutral and cost-effective biodiesel $2,200.000
- NSF-GEO (with 2 co-PI; 2005-2009) Biogeochemistry Of Desert Crust Communities: Organic Carbon And Trace Metal Dynamics ($389,331)
- NSF-BIO (sole PI; 2007-2011): ROA Microbial Distributions in North American Biological Soil Crusts: Exploring the Great Divide $32,000
- NSF-EDU (14 co-PIs; 2005-2009) Minority Graduate Education at Mountain State Alliance ($10,000,000)
- NRI - US Dept. of Agriculture- (sole PI; 2007-2011). Functional Constraints in Microscale Carbon and Nitrogen Cycling by Biological Soil Crusts. $365,000
- NSF-BIO (sole PI; 2007-2013): Microbial Distributions in North American Biological Soil Crusts: Exploring the Great Divide $650,000
- DOE (co PI; administered through LBNL). LDRD Biological arid soil crust carbon cycling (BASiC-C) $1,500,000.
- US/IL Binational Science Foundation (coPI; 2011-2013). US$117,000 ($30,000 to ASU)
- Smithsonian Tropical Res. Inst. /ASU Collaborative (2011-2013). $146,100
- NSF-GEO (PI; 2012-2016). Intracellular metal pumping in mineral excavation by microbes $449,861.
- European Union, Marie Curie Postdoctoral Scholarship Support (co-PI; €23,000; approx. US$30,000); 2013-2016
- NSF-BIO (sole PI; 2012-2016) Regulation of microbial sunscreen biosynthesis. $715,682
- DoD/DoE/EPA (coPI; 2013-2018). Achieving dryland restoration through the deployment of enhanced biocrusts to improve soil stability, fertilization and native plant recruitment $2,200K ($860K to ASU)
- NSF-BIO (co-PI; 2013-2018) Photodegradation in Deserts: litter optical and structural consideration $1,002,500
- NSF- ERC Engineering Research Center for Bio-Mediated and Bio-Inspired Geotechnics. (Co-PI; 2016 - 2020 $925.000 to own project).
- Zymergen (sole PI; 2021-2022; $122,042). Partnership - UV absorbers made by cyanobacteria.

Endowments & Industry Partnerships

- Swette's Fusion Fund: Designer Organisms and Fuel Cells for Biohydrogen Production (co-PI, 1 of 3; 2007-2011): $3,000,000 approx.

- British Petroleum: (7 co-PI; 2007-2009) Cyanobacteria for generating solar-powered carbon neutral and cost-effective biodiesel $2,500.000

Patents

- U.S. Patent No. 5461070. 1995 (with WH Gerwick, R.S Jacobs, RW Castenholz, KJS Grace,PJ Proteau and J. Rossi). Indole alkaloids useful as UV protective and anti-inflammatory agents.

- Garcia-Pichel, F. and Gaxiola, R. (2021; provisional No 63/218470). Agricultural compositions and methods of using the same

- Garcia-Pichel (2022; provisional No. 2952332-000016-US1). Soil Restoration Composition and Methods of Use Thereof.

Publications

H-index = 76; Citations =20K

Scholarly journals (peer-reviewed only)

1. **Garcia-Pichel**, F. (1989). Rapid bacterial swimming measured in swarming cells of *Thiovulum majus* J. Bacteriol. 171: 3560-3563.

2. **Garcia-Pichel**, F. and R.W. Castenholz (1990). Comparative anoxygenic photosynthetic capacity in 7 strains of a thermophilic cyanobacterium. Arch. Microbiol. 153: 344-351.

3. **Garcia-Pichel**, F. and R.W. Castenholz (1991). Characterization and biological implications of scytonemin, a cyanobacterial sheath pigment. J. Phycol. 27: 395-409

4. **Garcia-Pichel**, F., N.D. Sherry and R.W. Castenholz (1992). Evidence for a UV sunscreen role of the extracellular pigment Scytonemin in the cyanobacterium *Chlorogloeopsis* sp. Photochem. Photobiol. 56:17-26.

5. **Garcia-Pichel**, F. and Castenholz R.W. (1993). Occurrence of UV absorbing, mycosporine-like, compounds among cyanobacterial isolates and an estimate of their screening capacity. Appl. Environ. Microbiol. 59:163-169.

6. **Garcia-Pichel**, F., C. Wingard, RW Castenholz (1993) Evidence regarding the UV sunscreen role of a mycosporine-like compound in the cyanobacterium *Gloeocapsa* sp. Appl. Environ. Microbiol. 59:170-176.

7. Proteau, P. J., W. H. Gerwick, F. **Garcia-Pichel** and R.W. Castenholz. (1993) The structure of Scytonemin, an ultraviolet sunscreen pigment from the sheaths of cyanobacteria. Experientia 49: 825-829

8. **Garcia-Pichel**, F, M. Mechling and R. W.Castenholz (1994) Diel migrations of microorganisms in a hypersaline microbial mat. Appl. Environ. Microbiol. 60: 1500-1511

9. **Garcia-Pichel**, F. (1994). A model for internal self-shading in planktonic microorganisms and its implications for the usefulness of sunscreens. Limnol. Oceanogr. 39:1704-1717.

10. **Garcia-Pichel**, F (1995). A scalar irradiance microprobe for the measurement of UV radiation at high spatial resolution. Photochem. Photobiol. 61:248-254

11. **Garcia-Pichel**, F. and B. Bebout (1996) Penetration of ultraviolet radiation into shallow water sediments: high exposure for photosynthetic microbial communities. Mar. Ecol. Progress Series 131: 257-262

12. **Garcia-Pichel**, F. (1996). The absorption of ultraviolet radiation by microalgae: simple optics and photobiological implications. Sci. Mar. 60: 73-79

13. Bebout B. and F. **Garcia-Pichel** (1996). Ultraviolet B induced cyanobacterial migrations in a hypersaline microbial mat. Appl. Environ. Microbiol. 61:4215-4222

14. **Garcia-Pichel**, F and J. Belnap. (1996). Microenvironments and microscale productivity of cyanobacterial desert crusts. J. Phycol. 32:774-782

15. **Garcia-Pichel**, F, L. Prufert-Bebout and G. Muyzer. (1996) Phenotypic and phylogenetic analyses show *Microcoleus chthonoplastes* to be a cosmopolitan cyanobacterium. Appl. Environ. Microbiol. 62 3284-3291

16. Karsten, U, and F. **Garcia-Pichel** (1996). Carotenoids and mycosporine-like amino acid compounds in members of the genus Microcoleus (Cyanobacteria): a chemosystematic study. System. Appl. Microbiol. 19 285-294

17. Camacho, A., F. **Garcia-Pichel**, E. Vicente and R. W. Castenholz (1996). Adaptation to sulfide and to the underwater light field in three cyanobacterial isolates from lake Arcas (Spain) FEMS Microbiol. Ecol. 21 293-301

18. Nübel, U., F. **Garcia-Pichel**, G. Muyzer (1997) PCR primers to amplify 16S rRNA genes from Cyanobacteria. Appl. Environ. Microbiol. 63 3327-3332

19. Büdel, B, U. Karsten and F. **Garcia-Pichel** (1997) Ultraviolet-absorbing scytonemin and mycosporine-like amino acid derivatives in exposed, rock inhabiting cyanobacterial lichens. Oecologia 112: 165-172

20. **Garcia-Pichel**, F. (1998). Solar Ultraviolet and the evolutionary history of cyanobacteria. Origins Life Evol. Biosphere 28: 321-347

21. **Garcia-Pichel**, F., U. Nübel and G. Muyzer (1998). The phylogeny of unicellular, extremely halotolerant cyanobacteria. Arch. Microbiol 169: 469-482

22. Karsten, U., J Maier, and F **Garcia-Pichel** (1998). Seasonal variation in UV-absorbing compounds in cyanobacterial mats from an intertidal mangrove flat. Aquat Microb Ecol 16:37-44

23. **Garcia-Pichel**, F., M. Kühl, U. Nübel, and G. Muyzer (1998). Salinity-dependent limitation of photosynthesis and oxygen exchange in microbial mats. J Phycol 35: 227-238

24. Nübel, U, F. **Garcia-Pichel**, M.Kühl and G Muyzer (1998). Quantifying microbial diversity: morphotypes, 16S rRNA genes, and carotenoids of oxygenic phototrophs in microbial mats. Appl Environm Microbiol 65:422-430

25. Sommaruga, R, and F. **Garcia-Pichel** (1999). UV- absorbing mycosporine-like compounds in planktonic and benthic organisms from a high-mountain lake. Arch. Hydrobiol 144:3 255-269

26. Nübel, U, F. **Garcia-Pichel**, M Kuhl, G Muyzer (1999) Spatial scale and the diversity of benthic cyanobacteria and diatoms in a salina. Hydrobiologia 401:381-391

27. Portwich, A., and F. **Garcia-Pichel** (1999) Ultraviolet and osmotic stresses induce and regulate the synthesis of mycosporines in the cyanobacterium *Chlorogloeopsis* PCC 6912. Arch Microbiol 172: 187-192

28. Wynn-Williams, D.D., H.G.M. Edwards and F **Garcia-Pichel**. (2000) Functional biomolecules of Antactic stromatolitic and endolithic cyanobacterial communities. Eur. J. Phycol. 34:381-391

29. Nübel, U, F. **Garcia-Pichel** and G Muyzer (2000) The halotolerance and phylogeny of cyanobacteria with tightly coiled trichomes (*Spirulina* Turpin) and the description of *Halospirulina tapeticola gen. nov. et sp. nov*. Int. J. System.Evol. Microbiol. 50: 1265-1277

30. Nübel, U, F. **Garcia-Pichel**, E Clavero and G Muyzer (2000) Matching molecular diversity and ecophysiology of benthic cyanobacteria and diatoms in communities along a salinity gradient. Environm. Microbiol. 2: 217-226

31. Portwich, A and F. **Garcia-Pichel** (2000) A novel prokaryotic UVB photoreceptor in the cyanobacterium *Chlorogloeopsis* PCC6912. Photochem. Photobiol. 71: 493-499

32. Edwards, HGM, F. **Garcia-Pichel**, EM Newton, DD Wynn-Williams (2000) Vibrational spectroscopy study of scytonemin, the UV-protective cyanobacterial pigment. Spectrochimica Acta, A: 56:193-200

33. Clavero, E, M. Hernández-Mariné, J. Grimalt and F. **Garcia-Pichel** (2000). Ecophysiology of salinity tolerance in diatoms from hypersaline environments. J Phycol 36 1021-1034

34. Pringault, O, and F. **Garcia-Pichel** (2000). Monitoring of oxygenic and anoxygenic photosynthesis in a unicyanobacterial biofilm grown on benthic gradient chambers. FEMS Microbiol. Ecol 33:251-258.

35. Abed, R, and F. **Garcia-Pichel** (2001). Long-term compositional changes after transplant in a microbial mat cyanobacterial community revealed with a polyphasic approach. Environ. Microbiol. 3: 53-62

36. **Garcia-Pichel**, F, A López-Cortés, U Nübel (2001) Phylogenetic and morphological diversity of cyanobacteria in soil desert crusts from the Colorado Plateau. Appl. Environ. Microbiol 67:1902-1910

37. **Garcia-Pichel** F and O Pringault (2001). Cyanobacteria track the water in desert soils. Nature *413, 380 - 381*

38. Clavero, E, **Garcia-Pichel**, F, Grimalt, J.O., Hernández-Mariné, M (2001) Behaviour of diatoms apparently adapted to salinity. The case of *Climaconeis scopulorioides* and *Amphora aff. hyalina* Nova Hedwigia 123:453-463

39. Abed R, **Garcia-Pichel** F, Hernández-Mariné, M (2002). Polyphasic characterization of moderately halophilic, moderately thermophilic, filamentous cyanobacteria of very narrow trichomes: *Halomicronema excentricum* gen. novum, sp. nova. Arch. Microbiol 177:361-370

40. Abed, R MM, Nimer Safi, Jürgen Köster, Jürgen Rullkotter and Ferran **Garcia-Pichel** (2002). Microbial Diversity of a Polluted Microbial Mat and Its Community Changes Following Degradation of Petroleum Compounds. Appl Enviorn Microbiol 68:1674-1683

41. López-Cortés, A, **Garcia-Pichel**, F, Nübel, U., and R Vázquez-Juárez (2002.) Cyanobacterial diversity in extreme environments in Baja california, Mexico: a polyphasic study. Int. Microbiol 4: 227-236

42. **Garcia-Pichel**, F. B. Wade and J Farmer (2002). Jet-suspended, calcite ballasted cyanobacterial waterwarts in a desert spring. J. Phycol 38:420-428

43. Abed, RMM, W Schoenhuber, R. Amann, F **Garcia-Pichel**. (2002) Picobenthic cyanobacterial populations revealed by RNA targeted *In situ* hybridization Environm. Microbiol. 4:375-382

44. Bebout, B, and 14 others (2002) Long term manipulations of intact microbial mats in a greenhouse collaboratory simulations of Earth-s present and past field environments. Astrobiol. 2: 383-400

45. Wade, B.D. and F **Garcia-Pichel** (2003). Evaluation of DNA extraction methods for molecular analyses of microbial communities in modern microbialites. Geomicrobiol. J. 40: 1-134

46. Portwich, A and F **Garcia-Pichel** (2003). Biosynthetic pathway of mycosporines in the cyanobacterium Chlorogloeopsis PCC 6912. Phycologia 42:384-392

47. **Garcia-Pichel**, F., Johnson, S.L, Youngkin,D. and Belnap,J. (2003). Small-scale vertical distribution of bacterial biomass and diversity in biological soil crusts from arid lands in the Colorado Plateau. Microbial Ecology 46:312-321

48. **Garcia-Pichel**, F, J. Belnap, S. Neuer, F Schanz (2003) Estimates of global cyanobacterial biomass and its distribution. Archive for Hydrobiology/Algological Studies 109: 213-228

49. Abed, R., Golubic, S., **Garcia-Pichel**, F., Camoin, G. and Lee Seong-Joo (2003). Identity and speciation in marine benthic cyanobacteria: The *Phormidium*- complex. Archive for Hydrobiology/Algological Studies, 109: 35-56

50. Abed, R, S. Golubic, F. **Garcia-Pichel**, and G Camoin (2003). Characterization of microbialite forming cyanobacteria in a tropical lagoon; Tikehau Atoll, French Polynesia. Journal of Phycology. 39: 862-873

51. **Garcia-Pichel**, F., Al Horani, F., Ludwig, R., Farmer, J., Wade, B. (2004) Balance between calcification and bioerosion in modern stromatolites. Geobiology 2:49-57

52. Pringault, O, **Garcia-Pichel**, F. (2004). Hydrotaxis of cyanobacteria in desert crusts. Microbial Ecology 47:363-373

53. **S**mith, S.M., Abed, R.M.M. and F. **Garcia-Pichel** (2004) Biological soil crusts of sand dunes in Cape Cod National Seashore, Massachusetts, USA. Microbial Ecology 28:200-208

54. Johnson, S.L., Budinoff, C.R., Belnap, J., **Garcia-Pichel**, F (2005). Relevance of ammonium oxidation in biological soil crust communities. Environmental Microbiology 7:1-12

55. Rothrock, M and F **Garcia-Pichel** (2005) Microbial diversity of benthic mats along a tidal desiccation gradient. Environmental Microbiology 7: 593-601

56. Elser JJ JH Schampel, F **Garcia-Pichel**, BD Wade, V Souza, L Eguiarte, A Escalante and JD Farmer (2005) Effects of phosphorus enrichment and grazing snails on modern stromatolitic microbial communities. Freshwater Biology 50;1808-1825

57. Reddy SG and F **Garcia-Pichel** (2004) *Dyadobacter crusticola* sp. nov. isolated from biological soil crusts in the Colorado Plateau, USA. Journal of Systematic and Evolutionary Microbiology 55 1295-1299

58. Nagy, M, Perez, A and F **Garcia-Pichel** (2005) The prokaryotic diversity of biological soil crusts in the Sonoran Desert of Arizona. FEMS Microbiol Ecol 54: 233-245

59. **Garcia-Pichel**, F, (2006) Plausible mechanisms for the boring on carbonates by microbial phototrophs. *Sedimentary Geology* 185: *205-213*

60. Chacon, E, E Berrendero. and F **Garcia-Pichel** (2006). Biogeological signatures of microboring cyanobacterial communities in marine carbonates from Cabo Rojo, Puerto Rico. *Sedimentary Geology* 185:215-228

61. Reddy, SG, and F **Garcia-Pichel** (2006) The community and phylogenetic diversity of biological soil crusts in the Colorado Plateau studied by molecular fingerprinting and intensive cultivation. Microbial Ecology 52: 345-357

62. Reddy, SG, M. Nagy and F **Garcia-Pichel** (2006) *Belnapia moabensis* gen. nov. et sp. nov., an oligotrophic bacterium from biological soil crusts in the Colorado Plateau, USA. *Int. J. Sys. Evol. Microbiol*., 2006, **56**, 51-58

63. Bates, S, Reddy S G, and F **Garcia-Pichel** (2006) Exophiala crusticola anam. nov. (affinity Herpotrichiellaceae), a novel black yeast from biological soil crusts in the western United States. International Journal of Systematic and Evolutionary Microbiology 56: 2697-2702.

64. Johnson, S.L., S. Neuer and F. **Garcia-Pichel** (2007) Export of nitrogenous compounds due to incomplete cycling within biological soil crusts of arid lands. Environmental Microbiology. Vol. 9: 680-689.

65. Reddy, G.S.N. and **Garcia-Pichel**, F. (2007) *Sphingomonas mucosissima* sp. nov. and *Sphingomonas desiccabilis* sp. nov., from biological soil crusts in the Colorado Plateau, USA. Int. J. Syst. Evol. Microbiol, 57, 1028-1034.

66. Yeager, C M, Kornosky, J L, Morgan, R L, Cain, E C, Belnap. J, **Garcia-Pichel**, F and Kuske C R (2007). Three distinct clades of cultured heterocystous cyanobacteria constitute the dominant N-fixing members of biological soil crusts of the Colorado Plateau, USA. FEMS Microbiol Ecol 60 (1): 85-97

67. G. S. N. Reddy, R. M. Potrafka, and F. **Garcia-Pichel** (2007) *Modestobacter versicolor* sp. nov., an actinobacterium from biological soil crusts that produces melanins under oligotrophy, with emended descriptions of the genus Modestobacter and *Modestobacter multiseptatus* Mevs et al. 2000 Int J Syst Evol Microbiol 57(9): 2014 - 2020.

68. Soule, T., Stout, V., Swingley, W. D., Meeks, J.C. and F. **Garcia-Pichel** (2007) Molecular Genetics and Genomic Analysis of Scytonemin Biosynthesis in *Nostoc punctiforme* ATCC 29133. J Bacteriol. 189: 4465-4472

69. Chorover, J., R Kretschmar, F **Garcia-Pichel,** D Sparks (2007) Soil Biogeochemical Processes within the critical zone. Elements 3: 321-326.

70. Sa, E., **Garcia-Pichel**, F. Oms, O., Valles, F. Gasol, J.M. (2008) Paisaje submarino en un pinar mediterráneo. Investigación y Ciencia: 384 2-3

71. Reddy, G.S.N., and F. **Garcia-Pichel** (2009) Description of *Patulibacter americanus* sp. nov., isolated from biological soil crusts, emended description of the genus Patulibacter Takahashi et al. 2006 and proposal of *Solirubrobacterales* ord. nov. and *Thermoleophilales* ord. nov. Int J Syst Evol Microbiol 59: 87-94

72. Bates, S.T. and F. **Garcia-Pichel** (2009). A culture-independent study of free-living fungi in biological soil crusts of the Colorado Plateau: their diversity and relative contribution to microbial biomass Environmental Microbiology 11, 56-67

73. Beraldi-Campesi, H, Hartnett, H, Anbar, A, Gordon, G, and F. **Garcia-Pichel**, F (2009) Effects of biological soil crusts on soil elemental concentrations; implications for biogeochemistry and as traceable biosignatures of ancient life on land. Geobiology 7:348-359

74. Soule, T, Palmer, K, Gao, Q, Potrafka, R, Stout, V and F **Garcia-Pichel** (2009) A comparative genomics approach to understanding the biosynthesis of the sunscreen scytonemin in cyanobacteria BMC Genomics 10: 336. doi:10.1186/1471-2164-10-336

75. Soule, T., I.J Anderson., S.L. Johnson, S.T Bates, **Garcia-Pichel,** F (2009) Archaeal populations in biological soil crusts from arid lands Soil Biol Biochem 41 2069-2074

76. **Garcia-Pichel**, F and MF Wojciechowski (2009). The Evolution of a Capacity to Build Supra-Cellular Ropes Enabled Filamentous Cyanobacteria to Colonize Highly Erodible Substrates. PLoS ONE 4(11): e7801.

77. Soule, T., F. **Garcia-Pichel**, V. Stout (2009) Expression patterns associated with the biosynthesis of the sunscreen scytonemin in *Nostoc punctiforme* ATCC 29133. J Bacteriol 191: 4639-4646

78. Bates, S.T. Nash T.H., Sweat K. G and F. **Garcia-Pichel** (2010) Fungal communities of lichen-dominated biological soil crusts: diversity, relative microbial biomass, and their relationship to disturbance and crust cover. J Arid Environments 74: 1192-1199

79. Beraldi-Campesi, H and **Garcia-Pichel** (2010) Biogenicity of roll-up structures and their potential as biosignatures of ancient life on land. Geobiology **9**(1):10-23

80. **Garcia-Pichel**, F, Ramirez-Reinat E. Gao, Q (2010) Microbial excavation of carbonates powered by P-type ATPase-mediated transcellular calcium transport. PNAS *107: 21749-21754*

81. Bates, S.T. Nash T.H. F. **Garcia-Pichel** (2010) Fungal components of biological soil crusts: insights from culture-dependent and culture-independent studies. Bibliotheca Lichenologica 105: 197-210.

82. Gao,Q. and F. **Garcia-Pichel** (2011) A unique synthetase involved in the last biosynthetic step of the imino-mycosporine, shinorine, in *Nostoc punctiforme* ATCC29133. J Bacteriol 193:5923-5928

83. Gao, Q and F **Garcia-Pichel** (2011). Microbial Ultraviolet Sunscreens. Nature Reviews Microbiol. 9: 791-802

84. Starkenburg, SR, Reitinga K, Freitas T, Johnson SL, Chain, PSG, **Garcia-Pichel**, F, Kuske CR (2011). The Genome of the Cyanobacterium *Microcoleus vaginatus FGP-2,* a Photosynthetic 2 Ecosystem Engineer of Arid Land Soil Biocrusts Worldwide . J Bacteriol. 193: 4569-4570

85. Strauss, S L, Day T.A., **Garcia-Pichel** (2012) Nitrogen cycling in biological soil crusts across biogeography regions in the Southwestern United States. Biogeochemistry 108: 171-183

86. Rossi, F, Potrafka, R, **Garcia-Pichel**, F, and R. de Philippis (2012). Role of the exo-polysaccharides in enhancing hydraulic conductivity of biological soil crusts. Soil Biology and Biochemistry 46:33-40

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189. Soule T & **Garcia-Pichel, F** (2019). Cyanobacteria. *In* Schaechter, M. (Ed) Encyclopedia of Microbiology, 4d edition, Elsevier.

190. **Garcia-Pichel, F** and Belnap, J (2021). Cyanobacteria and algae. In Gentry, T Fuhrman J [Eds]. Principles and Applications of Soil Microbiology, Elsevier

Invited Seminars (last 15 years)

2004 Department Seminar Speaker. University of California, Merced
Invited Speaker, Workshop on Microbialites, Societé Géologique de France, Paris
Round Table: Desert Bacteria, during Microbial ecology Meeting (Cancun, Mexico)

2005 Carbon and Nitrogen Cycling in Soil, USDA-SOILS PROGRAM meeting, Wilmington, DE
Molecular Lessons learned in the Bacterial and Algal Systematics, University of Barcelona
Ecology Section of the Catalan Society for Biology, Monthly Seminar, Barcelona

2006 Invited speaker: International Society Microbial Ecology Meeting (Vienna, Austria)
Invited Speaker: Symposium on Photosynthetic Prokaryotes (Pau, France)
Invited Speaker: Soil Science Society of America Annual Meeting (Indianapolis, Indiana)

2007 Plenary Lecturer: Congress on Cyanophyte Reserch, Merida, Mexico.

2008 Seminar Speaker. Biogeochemistry IGERT, Cornell University
Seminar Speaker, ASU Civil Environmental Engineer Department

2009 Department Seminar Speaker Washington Univ., St. Louis
Department Seminar Speaker, Lafayette College, PE

2010 Department Seminar Speaker, UC Riverside
Department Seminar Speaker, University of Florence, Italy
Inaugural Plenary Speaker, International Workshop on Soil Crusts (Würzburg, FRG)
Opening Lecture, NorthWest Branch, ASM Annual meeting, Seattle.

2011 Opening Lecture, Mountain Branch, ASM annual meeting, Salt Lake City
Carbon Cycle Initiative Seminar, LB National Lab, Berkeley
Invited Speaker, "OMICS in Soil Science", Nanjing, China
Geological Society of America Meetings, Symposium Invited speaker
Opening Lecture, Missouri Branch, ASM annual meeting, St Louis
Opening Lecture, S Carolina Branch, ASM annual meeting, Aiken

2012 Opening Lecture, AZ/NV Branch, ASM annual meeting, Tempe
Department Seminar Speaker, Penn State University
Invited Lecture, Intl. Soc. Microbial Ecology meeting, Copenhagen, Denmark
Plenary Lecture, 3Intl. Symp. Photosynth. Prokaryotes Meeting, Porto, Portugal

2013 Plenary Lecture, CyanoPhyte Research Meeting, Cleveland
Plenary Lecture, Annual Spanish Crytogamic Botany Meeting, Las Palmas

2014 Neil Welker Award Lecture, Wind River, CO

2015 BAGECO (Bacterial Genomics and Ecology Congress), Opening Lecture, Milan (Italy)
Opening Lecture, Center for Genome Research & Biocomputing Fall Conference, Oregon St. U.
Department Seminar, Biology, UNM, Albuquerque

2016 Jornada LTER Annual All Hands meeting, Las Cruces, NM

2018 University of Colorado, Seminar Colloquium, Dept Ecol. & Evol.

2019 Plenary Lecture: Biocrust-4, Brisbane Australia
Plenary Lecture: Annual Meeting of the German Botanical Society, Rostock, Germany
Plenary Lecture: 21st Meeting of the Intl. Soc. for Cyanobacteria Research, Brisbane, Australia

2020 Plenary Lecture: Microbial Ecology of Arid areas in the Middle East, Abu Dhabi

2021 Invited talk: New Mexico Transportation and Construction Annual Meeeting (April 20)

Department Colloquium, Plant Biology, University of Graz (Austria) April 27

Invited Talk: Microbial Responses to Climate Change, NMSU (June 29)

2022 Invited Speaker: International Symposium for Photosynthetic Prokaryotes, Liverpoool (UK)

2023 Invited Speaker: Society for Ecological Restoration Annual Meeting (Darwin, Australia)
Seminar Speaker: Penn State Center for Microbiomes

TEACHING & MENTORING

Graduate Teaching Assistant (University of Oregon, 1990-1992)

- General Microbiology
- Limnology
- Evolutionary Biology
- Human Reproduction and Development

Courses developed or taught at Arizona State University

- Geomicrobiology. Newly developed, 1-semester, interdisciplinary, 3-credit, 400-level course (Spring 2000, 2001, 2002, 2003, 2005, 2007, 2013. 2014, 2015, 2016) . Offered in Microbiology and Geology.

- Biology of Microorganisms (MIC 220). 3 credit, Introductory Microbiology, (2005, 2006, 2008, 2009, 2010, 2012)

- Techniques in Molecular Biology. Core Curriculum Course, 1-semester, 2-credit (2000, 2001,Fall, shared teaching). Offered to Microbiology, Molecular and Cell Biology, as well as Molecular Biosciences & Biotechnology Majors

- Techniques in Molecular Biology Lab. Core curriculum Course, 1-semester, 2-credit (2000 , 2001, Fall, shared)

- The Biology of Cyanobacteria. 500 level, 1 semester, 1-2, credit course (2000,2001, 2002. 2003, 2006)

- Experiments in Biogeochemistry. Newly developed, 400-500 level, 3 credit, lab and field experiments (Fall 2002, shared teaching)

- Microbial Ecology Seminar, 2-credit Graduate weekly seminar. (Fall and Spring, 2000, 2001, 2002, Spring 2003, Fall, 2006, 2008)

- Microbiology Capstone Course (Independent Research Paper), ad hoc assignment of graduating seniors in Microbiology (every semester)

- Undergraduate Independent Research. Ad hoc, typically 1-2 students per semester, 3-5 credit hours.

- Communicating Microbiology, 1 credit course on effective strategies to present scientific information. (Spring, Fall, 2009, 2010)

- ELS 502. Environmental Lab Sciences field camp. (Mixed lecture and field exercises in environmental biology. 4 credit. Required for ELS graduate program. (Spring 2011)

- MIC469. Microbiomics Seminar: emergence of microbiome properties (Spring 2016, 2017, 2018)
- MIC 591 The human microbiome in space (Fall, 2019)
- MIC591 Methods in Microbiome Research (Fall 2020)
- MIC591 Methods in Microbiome Research (Fall 2021)
- Advanced Bacteriology Lab (Fall 2023)

Short courses (less than 1 month) and workshops taught as Visiting Instructor

- Summer Microbiology Field Course: Thermophiles of Yellowstone. University of **Oldenburg, Germany,** 1994
- Graduate Course: Enviromental UV Photobiology, University of **Gothenburg, Sweden**. 1996.
- Graduate Course: Methods in Molecular Microbial Ecology. University of **Helsinki, Finland**, 1998.
- Microsensors in Microbial Ecology Course. Max Planck Institute for Marine Microbiology, **Bremen Germany**, 1996 & 1998.
- Workshop: Molecular Methods for Cyanobacterial Ecology. Centro de Investigaciones Biologicas del Noroeste. LaPaz, Baja California Sur, **Mexico**, 2001
- Workshop: DNA Methodologies to Study Cyanobacterial Diversity. Within the frame of the 15th Symposium for Cyanophyte Research. University of **Barcelona, Spain**, 2001
- Instructor for "The Great Desert", a training workshop with field studies for high school teachers (U. **New Mexico**; July , 2003; www.lpi.usra.edu/education/EPO/ desert 2003/index.html
- Faculty, Microbial Diversity Summer Course, Marine Biological Laboratory, **Woods Hole , MA**, 2004
- Coastal Geomicrobiology, Doctoral Intensive Course, University of **Cadiz, Spain**, School of the Environment (2006)

GRADUATE EDUCATION HIGHLIGHTS

- A total of 27 Ph.D's and Master's students graduated under direct supervision (names in bold)
- Formally, 51 graduate students mentored
- All graduated Ph.D's are active in science as either professors, research scientists, or in industry.
- Currently mentoring 6 Ph.D students as Chair/Co-chair (all female,
- Graduate Programs included: Microbiology, Environmental Life Sciences, Plant Biology, Biology, Geology, Chemistry and Civil Engineering
- 2011, 2013 Finalist, ASU's Outstanding Mentor

GRADUATE STUDENTS (completed students in own lab are in bold)

Student	Degree (year)	Role	Major (University)	Presently at
L. Prufert-Bebout	Ph.D (1998)	Member	Microbiol (Århus)	NASA, Staff Scientist
Ulrich Nübel	Ph.D (1999)	Co-Chair	Microbiol (Bremen)	R. Koch Inst., Scientist
Andrea Mandalka	Masters (1999)	Chair	Microbiol (Bremen)	Deutsche Lufthansa
Rebecca Ludwig	Masters (1999)	Chair	Microbiol (Osnabrück)	
Anne Portwich	Ph.D (2000)	Chair	Microbiol (Bremen)	LSP, The Netherlands

Raeid Abed	Ph.D (2001)	Chair	Microbiol. (Bremen)	Prof, SQU, Oman
Hodon Ryu	Ph.D (2003)	Member	Civil Eng.	Asst Res. Prof, ASU
Moria Nagy	MS (2004)	Chair	Microbiology	Rock Valley College (IL)
Shahin Lavasani	Ph.D (2004)	Member	Microbiology	Industry
Chris Bartholomew	Ph.D. (2004)	Member	Microbiology	Chandler Reg. Hosp.
Ryan Sponseller	Ph.D (2005)	Member*	Biology	Prof., U. Alabama
Ken Voglesonger	PhD (2005)	Member	Geology	Prof. NE Illinois
M.J. Rothrock,	Ph.D (2005)	Chair	Microbiology	Scientist, USDA
H. Mohammed	Ph.D (2005)	Member	Plant Biology	Oregon St. U., Postdoc
Shannon Johnson	Ph.D (2005)	Chair	Microbiology	Scientist, Los Alamos NL
Brian Eddie	Master's (2007)	Member	Microbiology	Scientist, Naval Res. Lab
Jessica Mohler	Master's (2007)	Member	Biology	
Wes Swingley	Ph.D (2007)	Chair*	Microbiology	Prof. N Illinois U
Brad de Gregorio	Ph D (2007)	Member	Geology	US Naval Res Lab
Tanya Soule	Ph.D (2008)	Co-Chair	Microbiology	Assoc. Prof, Purdue U.
Joseph Manfrida	Ph.D (2006)	Member	Microbiology	Unknown
Jenniffer Ridell	Ph.D (2009)	Member	Plant Biology	Post-Doc, U Wash.
Yifei Wu	Ph.D (2009)	Member	Mol Cell. Biol	UA Coll Med
Jill Lockard	Master's (2009)	Member	Geology	Unknown
Jeff Havig	Ph.D (2009)	Member	Geology	Unknown
Hugo Beraldi	Ph.D (2009)	Chair	Microbiology	Assoc. Prof., UNAM
Scott Bates	Ph.D (2009)	Co-Chair	Plant Biology	Mc Neal Prof. Purdue U.
Tanya Botchard	Master's (2009)	Member	Microbiology	Unknown
Sarah Strauss	Ph.D (2010)	Co-chair*	Plant Biology	Asst. Prof., U. Florida
Edgardo Ramirez	Ph.D (2010)	Chair	Microbiology	Grand Canyon U, Prof
Jamie Howard	Ph.D (2010)	Member	Plant Biology	Post-Doc, NM State
Jessica Amacher	Ph.D (2011)	Member	Biology	Argonne National Lab
Jorge Nuñez	Ph.D (2012)	Member	Geology	NASA
Katie Alexander	Ph.D (2012)	Member	Chemistry	Industry
Jon Badalamendi	Ph. D (2013)	Member	Microbiology	Scientist, U Minessota
Natalie Myers	MS (2013)	Chair	Microbiology	Instructor, Mesa CC
Yev Marusenko	PhD (2013)	co-Chair	ELS	Industry
Ankita Kothari	Ph.D (2013)	Chair	Mol Cell Biol	Berkeley Natl. Lab
Ippsita Dutta	PhD (2015)	Member	Mol Cell Biol	India
Kirsten Whittney	MS (2015)	Member	Geology	ASU, PhD program
Brandon S Guida	PhD (2016)	Chair	Microbiology	UA Coll. Med., postdoc
Fca. de Martini	PhD (2016)	Member	ELS	Asst.Prof. Maricopa CC
Benjamin McNeille	MS (2016)	CoChair	Sustainability	
Kira Sorochkina	MS (2017)	Chair	Plant Biology	U. Florida PhD program
Brian St Clair	PhD (2017)	Member	ELS	Yachai Univ., Ecuador
Ana Giraldo Silva	PhD (2019)	Chair	ELS	Asst Prof. U. Navarre
Vanessa Fernandes	Ph.D (2020)	Chair	Microbiology	Asst. Prof, Florida Intl. U.
Daniel Roush	Ph.D (2020)	Chair	Microbiology	Industry
Julian Yu	PhD (2020)	Member	ELS	Heliae
Donald Glaser	PhD (2022)	Member	Chemistry	
Alexander Tomes	PhD (2020)	Member	ELS	
Kevin Klicki	Ph.D. (2021)	Chair	Mol & Cell Biol	Industry
Corey Nelson	Ph.D (2021)	Chair	Env. Life Sciences	Universidad de Alicante
Marisol Juárez	PhD (2021)	Member	Geology	Post-Doc, UNM
Kassandra Dudek	PhD (2021)	Member	Env. Life Sciences	Faculty, NEC, Turks
Luis G. de Salceda	MSc. (2022)	Chair	Microbiology	Heliae
Jonathan Zaloumis	PhD (2021)	Member	Geology	Postdoc, ASU
Desmond Hanan	PhD (2025)	Member	Geological Sci.	
Julie Bethany	Ph.D (2022)	Chair	Env. Life Sciences	
Michael Breed	MSc. (2024)	Member	Microbiology	
Patrick Kut	Msc (2023)	Chair	Mol. and Cell Biology	ASU
Susan Albor*	PhD (2027-28)	Chair	Microbiology	

*only for part of their time in graduate school

CURRENT STUDENTS (in own lab in bold)

Student	Degree (year)	Role	Major
Thuong Cao	PhD (2024)	co-Chair	Chemistry
Jonathon Hileman	PhD (2024)	Member	Microbiology
Edauri Navarro-Pérez	PhD (2024)	Member	ELS
Christopher Vito	PhD (2025)	Member	ELS
Guillermo Ortiz	PhD (2025)	Member	ELS
Britney Litvar	PhD (2027)	Member	ELS
Ana Heredia	PhD (2026)	Chair	Microbiology
Finlay Thomas	PHD(2025)	Char	Microbiology
Sarah Koger	PhD (2028)	Chair	Biology
Mary Sanchez	PhD (2028)	Chair	ELS

Post-Doctoral Mentoring

- Olivier Pringault 2000 — now at Mediterranean Institute for Ocenography, France
- Laura Torrentera 2003 — now at Lake Washington Inst. Technology
- Sathyanarayana Reddy 2004 — now at Center for Cellular and Mol. Biol., Hyderabad, India
- Elizabeth Chacon-Baca 2004 — now at Universidad Autonoma de Nuevo Leon, Mexico
- Cosmin Sicora, 2008 — now at Center for Biological Research Jibou, Romania
- Qunjie Gao, 2010 — unknown
- Tanya Soule, 2008 — now professor at Purdue University
- Dörte Hoffmann 2009 — now at University of Kiel, German
- Estelle Couradeau 2012 — now professor at Penn State University
- Chongfeng, Bu, 2012 — now professor at Northwest A&F University, China
- Patricia Ferreira, 2012 — now at Merck, Frankfurt, Germany
- Juan Maldonado Ortiz, 2012 — now at Biodesign Institute (ASU)
- Rene Guénon, 2013 — now professor at University of Reims, France
- Sergio Velasco Ayuso, 2013 — now at U. Buenos Aires, Argentina
- Huansheng Cao, 2017 — now professor at Duke University-Shanghai
- Ana Giraldo Silva, 2019 — now professor at Rice University
- Daniel Roush, 2020 — Industry
- Kevin Klicki — Industry
- Corey Nelson — University of Alicante
- Brian Scott — current
- Soumyadev Sarkar — current

SERVICE

National & International Level

- Editor, FEMS Microbiology Reviews, 2006-2014

- President (and past president elect). American Society for Microbiology, AZ-NV Branch (2007-2009)
- Elected Member: "International Subcommittee for Taxonomy and Nomenclature of Phototrophic Bacteria". Reviews and assesses newly proposed or described taxa of oxygenic and anoxygenic phototrophic bacteria, reporting to the General Committee (1998-present)
- Member, NASA Astrobiology Task Force. Expert Panel that evaluates the performance of the National Astrobiology Institute, Associated Universities and NASA's Exobiology small-grant program. Reports to and advises NASA-headquarters (2000-2002)
- Member, MEPAG. NASA'S Expert panel to provide guidance for payload in future Mars missions (2002-2003).
- External Advisory Committee. University of Arizona Superfund project (2004-2014)
- Editorial Board: International Microbiology
- Organizing Committee, 15th Symposium for Cyanophyte Research, Barcelona, 2001
- Co-Organizer; "Biogeochemistry of stromatolites and microbial mats". Special Session at the Annual Meeting of the American Society for Limnology and Oceanography (2003)
- Co-Organizer: Session on "Desert Microbes" within the 2004. Interational Society for Microbial Ecology meeting, Cancun, Mexico
- Panelist for NSF's "Microbial Observatories" (2002, 2003, 2004)
- Panelist for NIH's Special Grants Program (2002, 2008)
- Panelist for NASA's ASTED Grants Program (2006)
- Panelist for NASA's Astrobiology Institutes Program (2012)
- Organizer 14th Workshop on Cyanobacteria (2016)
- Editorial Board, Aridlands (Cambridge University press)

Institutional Level

- Associate Director for Research and Training Initiatives (2011-2012), School of Life Sciences
- Associate Dean for Facilities (2009-2012), School of Life Sciences.
- Chair, Steering Committee of the Interdisciplinary Microbiology Graduate Program (2007-2009)
- Cohort Director of NSF funded WAESO- Bridges to the doctorate program for minority graduate education (Phase III) (2005, 2006, 2007)
- Chair, SoLS Safety Committee (2007-2008)
- Chair, School's Committee for Adjunct and Affiliate Appointments (2004-2005)
- Member, College of Liberal Arts and Sciences Committee on Academic Awards (2001- 2003)
- Chair, Departmental Search for "Director of Research and Academic Support Services" (2001)

- Appointed Member, SoLS Strategic Planning Committee (2004).

- Member: Search Committee for 3 Associate Directors in the new School of the Life Sciences (2003).

- Elected Member, Dean's Search Committee for Director of SoLS (2003-2004)

- Member, Dean's Committee for the Reorganization of the Life Sciences Departments. (2002-2003)

- Co-convener. Organizational meetings of the Faculty of Organismal, Integrative and Systems Biology in the School of the Life Sciences (2002-2003)

- Chair, SoLS Search Committee for positions in Biogeochemistry and Microbial Ecology (2003)

- Member SoLS Search Committee for 3 positions in Bioenergy (2006)

- Mentor, Mountain State Alliance for Minority Graduate Education. (Organization seeking to facilitate the enrollment and success of minority students in graduate programs in science and engineering), ongoing

- Organizer: CLAS Interdisciplinary Faculty Seminar Series: Biotic/abiotic Interactions in Biogeochemical Cycling (2001-2002).

- Organization of Institute's Expeditions to Mexico, MPI, (1997, 1998)

- Chair, SoLS Search Committee for positions in MIcrobiomics (2017)

- Chair, SoLS Search Committee for positions in Microbiomics (2018)

- Chair, SoLS Search Committee for positions in Microbiomics (2019)

- Chair, SoLS Search Committee for positions in Microbiomics (2022)

- Chair, Schhol of Molecula Scienees Search Committee for positions in Microbiomics (2023)

- Host of sabbatical researchers

    - Dr. A. López-Cortés (CIBNOR, Mexico). Exchange scientist, 1998, 1999
    - Prof. S. Golubic (Boston Univ., USA) Sabbatical, 1999
    - Prof. Ferdinand Schanz, Univ. of Zurich, Switzerland (Sept, 2001)
    - Prof. Laurie Caslake (Lafayette College), 2008-2009
    - Prof. Pilar Mateo (University of Madrid), 2008
    - Prof. Weibo Wang (Wuhan Botanical Garden) 2013
    - Xiaobing Zhao, (Chinese Academy of Sciences, Urumqi, Xinjiang) 2014
    - Erit Nir 2023

Community & Outreach

- Board of Directors, McDowell Sonoran Conservancy (2016-2019)

- Co-PI in Project "Minority Graduate Education at Mountain State Alliance" to enhance successful graduate education of minority students, funded by NSF (2004-2009)

- Development of public-oriented science outreach web-pages:
    - Geomicro Home: http://lsweb.la.asu.edu/fgarcia-pichel
    - Desert Microbe Webpage and Database: http://lsweb.la.asu.edu/fgarcia-pichel/dsm/

- Collaboration on outreach book on the ecology of the Cuatro Cienegas Basin Biosphere Reserve sponsored by the National Geographic Society (2004)

- Instructor in, The Great Desert, a training workshop with field studies for high school teachers (U. New Mexico; July 13-19, 2003; www.lpi.usra.edu/education/EPO/ desert 2003/index.html)

- Faculty. Marine Biological Lab, Woods Hole. MA. Microbial Diversity Course. Summer 2004

- Instructor in, Life at the Extremes, a training workshop with field studies for high school teachers (by Lunar and Planetary Institute; July 13-19, 2005; www.lpi.usra.edu/education) (2005)

- Podcast: http://askabiologist.asu.edu/podcasts/content_logs/vol22_log_aab_podcast.html
  http://askabiologist.asu.edu/podcasts/content_logs/vol38_log_aab_podcast.html
  http://www.sciencemag.org/content/340/6140/1595.2.full

Media Interviews

BBC's Science Today (aired, Sept 2001)

KVVA-Radio (in Spanish; aired Feb, 2003)

Local Telemundo TV Channel (in Spanish) "Risks from bacteria in playgrounds"

Science Friday, NPR (http://www.sciencefriday.com/segment/03/29/2013/the-secret-life-of-the-sonoran-desert.html)

Australian Broadcasting Corporation (http://www.abc.net.au/rn/scienceshow/stories/2010/2811699.htm)

New York Times, http://www.nytimes.com/2014/09/23/science/on-warmer-planet-range-of-soil-microbes-may-change.html?_r=0

KJZZ-Radio Phoenix, http://kjzz.org/content/257729/microbes-adapt-heat-sun-changing-color

Arizona PBS: https://azpbs.org/horizon/2019/05/keeping-topsoil-on-the-ground/

Arizona Republic/AZ Central (2020) https://www.azcentral.com/in-depth/news/local/arizona-science/2020/12/08/biocrust-could-curb-dust-storms-and-erosion-yet-disappearing/6142802002/?fbclid=IwAR2eIgxkrPckxf8YSiydEVGdK0xFZ4ogfLpnf239qEtigYNiA5xvVv89eNk
Arizona Republic /AZ Central (2023) https://www.azcentral.com/story/news/local/arizona-environment/2023/03/17/fallow-fields-worsen-dust-hazards-asu-tests-bio-inspired-solutions/69994771007/

Arizona PBS (2023): https://azpbs.org/horizon/2023/05/solar-farms-to-regenerate-soil-biocrusts/

AGU's EOS (2023): https://eos.org/articles/solar-panels-nurse-desert-soil-back-to-life