Curriculum Vitae
Daniel Giménez

Environmental Sciences Department
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Education

Ph.D. (Soil Science/Soil Physics). University of Minnesota, 1995.

M.S. (Agrohydrology). Agricultural University of Wageningen (The Netherlands), 1989.

B. S. (Agronomy). National University of Tucumán (Argentina), 1982.

Employment and Appointments

Professor, Dept. Environmental Sciences, Rutgers University, 2017-present.

Special Graduate Faculty, School of Environmental Sciences, University of Guelph, 2012-present.

Director Graduate Program in Environmental Sciences, Rutgers University, 2011-present.

Associate Professor, Dept. Environmental Sciences, Rutgers University, 2004-2017.

Assistant Professor, Dept. Environmental Sciences, Rutgers University, 1998-2004.

Research Associate, USDA-ARS, Hydrology Laboratory, Beltsville, MD, 1995-1997.

Research Assistant, Dept. Soil, Water, and Climate. Univ. of Minnesota, 1990-1995.

Research Assistant, Dept. of Soil Science and Geology, Agricultural University of Wageningen, The Netherlands, 1989-1990.

Soil Conservationist, Department of Agriculture, Tucumán, Argentina, 1985-1987.

Teaching and Research Assistant, Faculty of Agronomy, National University of Tucumán, Argentina, 1982-1987.

Awards Fellowships and Honors

School of Biological and Environmental Sciences Research Excellence Award, 2009.

Soil Science Society of America Journal Citation of Excellence for Associate Editors, 2008.

Listed in *Who's Who in America*, 2002.

Teaching Fellow, Rutgers University, 1998-1999.

Certificate of Merit. USDA/ARS, 1996, 1997.

Member of the Honor Society of Agriculture Gamma Sigma Delta (Univ. of Minnesota Chapter), 1993.

Academic Achievements Award. Dept. Soil, Water, and Climate, Univ. of Minnesota, 1991.

Wageningenfonds Thesis Award 1990 (Soil and Water), 1990.

M.S. with Distinction, Agricultural University of Wageningen, 1989.

Dutch Government Fellowship, 1987-1989.

University Gold Medal, National University of Tucumán, 1982.

Classroom Teaching

Courses taught at Rutgers University:

- Soils and Society (undergraduate), Fall 2004-Fall 2011 (Except Fall 2006)
- Soil Physics (graduate), Fall 2000-present.
- Soils and Water (undergraduate), Spring 1999-present.
- Fundamental Concepts of Environmental Sciences I (25%) (graduate), Fall 1999-2001.

Lectures outside Rutgers University

- Norwegian University of Life Sciences, Ås, Norway. One of four lecturers in a 5-day intensive course (40-50 contact hours) on 'Multi-scale assessment of vadose zone hydrology', August 19-24, 2013.
- Universidad Nacional del Valle, Cali, Colombia. Invited lecturer, 4 lectures (graduate level), March 15-20, 2010.
- 17th Argentinean Soil Science Congress, Mar del Plata, Argentina. Invited lecturer in a short course (6 hours) on 'Pedotransfer Functions', April 2000.
- University of Mar del Plata, Argentina. Invited lecturer, 2 lectures (undergraduate level), May 1998.

Refereed Publications

Journal articles (* indicates member of Daniel Gimenez's research group)

In preparation

1. Miskewitz, R., D. Giménez, and M. Xie. Identification of preferential flow in subsurface horizons using wavelet decomposition. *Soil Sci. Soc. Am. J.*
2. Qin*, M, D. Giménez, and R. Miskewitz. Estimation of soil water content profiles from surface measurements using wavelet analysis. *J. Hydrol.*
3. Kannepalli, S., P.S. Strom, U. Krogmann, R. Miskewitz, D Giménez. Leachate constituent concentrations and loads from pilot-scale wood mulch stockpiles. *Waste Manage*.
4. Patterson*, M., D. Giménez, and R. Kerry. Using ERT-derived data clusters of two sizes to inform a 3-D flow model: effect of inversion and flow rate. *Vadose Zone J*.
5. Heck, R., P. van Straaten, V. Subroy*, and D. Giménez. Entropy characterization of the Ugandan Busumbu residual phosphate rock weathering profile based on thin section morphology. *Catena.*
6. Mome Filho*, E.A., D. Giménez, R. Heck, and M. Cooper. Evaluation of soil surface roughness across scales using a multifractal parameterization. *Soil Tillage Res.*

Submitted, in press or published

1. Campos Oliveira*, T., D, Giménez, and M. Cooper. Multifractal analysis of pore systems in relation to water retention and texture for surface and subsurface horizons along a toposequence. *Geoderma* (under revision)
2. Bedmar, F.; D. Giménez, J. C. Costa, and P. Daniel. Persistence of acetochlor, atrazine and s-metolachlor in surface and sub-surface horizons of two Typic Argiudolls under no-tillage. *Environ. Toxicol. Chem.* (accepted).
3. Hirmas, D., and D. Giménez. A geometric equation for representing morphological field information in horizons with compound structure. *Soil Sci. Soc. Am. J.* ***81***:863–867.
4. Cássaro, F.AM, A. N. Posadas, D. Giménez, and C. M. P. Vaz. Pore-size distributions of soils derived using a geometrical approach and multiple resolution microCT images. *Soil Sci. Soc. Am. J.* ***81***:468–476.

5. Mohammed, A. K., D. R. Hirmas, D. Giménez, R. D. Mandel, and J. R. Miller. A digital morphometric approach for quantifying ped shape. *Soil Sci. Soc. Am. J.* ***80***:.1604-1618.

6. Caplan*, J.S., D. Giménez, V. Subroy*, R. J. Heck, S. A. Prior, G. B. Runion, and H. A. Torbert. Nitrogen mediates the effect of CO_2 on soil pore structure. Submitted to *Glob Change Biol.* ***23***, 1585–1597.

7. Kerry, R., P. Goovaerts, D. Giménez, and P. Oudemans. Investigating temporal and spatial patterns of cranberry yield in New Jersey fields. *Precision Agric.* ***18***: 507–524.

8. Palta, M. M., J. G. Ehrenfeld, D. Giménez, P.M. Groffman, and V. Subroy*. 2016. Soil texture and water retention as spatial predictors of denitrification in urban wetlands. *Soil Biol. Biochem.* ***101***: 237-250.

9. Kannepalli, S., P. F. Strom, U. Krogmann, V. Subroy*, D. Giménez, and R.Miskewitz. 2016. Characterization of wood mulch and leachate/runoff from three wood recycling facilities in New Jersey, USA. *J Environ. Manage.* ***182***: 421-428.

10. Kerry, R., P. Goovaerts, D. Giménez, P. Oudemans, and E. Muñiz. 2016. Investigating geostatistical methods to model within-field yield variability of cranberries for potential management zones. *Precision Agric.* doi 10.1007/s11119-015-9408-7.

11. Eck, D.V., M. Qin*, D.R. Hirmas, D. Giménez, and N.A. Brunsell. 2016. Relating quantitative soil structure metrics to saturated hydraulic conductivity. *Vadose Zone J*. doi:10.2136/vzj2015.05.0083.

12. Aparicio*, V., J. L. Costa, H. S. Rozas, D. Giménez, and F. García. 2015. Comparing nitrate-N losses through leaching by field measurements and nitrogen balance estimations. *Commun. Soil Sci. Plan.* ***46*:**1229–1243.

13. Subroy* V., D. Giménez, M. Qin, U. Krogmann, P. F. Strom, and R. J. Miskewitz. 2014. Hydraulic properties of coarsely and finely ground woodchips. *J. Hydrol.* ***517***: 201-121.

14. Bedmar*, F.; J.L. Costa; D. Giménez and P. Daniel. 2013. Comparison of two methods for obtaining indices to estimate the risk of leaching of pesticides into two soil profiles. *Agriscientia* ***30***: 69-78.

15. Hirmas, D., D. Giménez, V. Subroy*, and B. F. Platt. 2013. Fractal distribution of mass from the millimeter- to decimeter-scale in two soils under native and restored tallgrass prairie. *Geoderma* ***207-208***: 121–130.

16. Eck, D.V., D. R. Hirmas, and D. Giménez. 2013. Quantifying soil structure from field excavation walls using multistripe laser triangulation. *Soil Sci. Soc. Am. J.****77***: 1319-1328.

17. Subroy*, V., D. Giménez, D. Hirmas, and P. Takhistov. 2012. On determining soil aggregate bulk density by displacement in two immiscible liquids. *Soil Sci. Soc. Am. J.* ***76***: 1212-1216.

18. Yoon*, S.W. and D. Giménez. 2012. Entropy characterization of soil pore systems derived from soil water retention curves. *Soil Sci.* ***177***: 361-368.

19. Parsekian, A. D., L. Slater, and D. Giménez. 2012. Application of ground-penetrating radar to measure near-saturation soil water content in peat soils. *Water Resour. Res.* ***48***, W02533, doi:10.1029/2011WR011303.

20. San Miguel*, C., D. Giménez, U. Krogmann, and S.W. Yoon*. 2012. Impact of land application of cranberry processing residuals, leaves and biosolids pellets on a sandy loam soil. *Applied Soil Ecology* ***53***: 31-38.

21. Bedmar*, F., J.L. Costa, P.E. Daniel, and D. Giménez. 2011. Sorption of acetochlor, s-metolachlor and atrazine in surface and subsurface soil horizons of Argentina. *Environ. Toxicol. Chem.* ***30***: 1990-1996.

22. Cássaro*, F.A.M, L. F. Pires, R. A. Dos Santos, D. Giménez, and K. Reichardt. 2008. Funil de Haines modificado: Curvas de retenção de solos próximos à saturação. *Rev. Bras. Ciênc. Solo* ***32***: 2555-2562.

23. Pachepsky, Y.A., D. Giménez, A. Lilly, and A. Nemes. 2008. Promises of Hydropedology. CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources. ***3-40***: 1-19.

24. Chun*, H.C., D. Giménez, and S.W. Yoon*. 2008. Morphological characterization of aggregates sizes from soils under contrasting management. *Geoderma* ***146***: 83-93.

25. Han*, H., D. Giménez, and A. Lilly. 2008. Textural averages of saturated soil hydraulic conductivity predicted from water retention data. *Geoderma* ***146:*** 121-128.

26. Bedmar*, F., J.L. Costa, and D. Giménez. 2008. Column tracer studies in surface and subsurface horizons of two Typic Argiudolls. *Soil Sci.* ***173:*** 237-247.

27. Pozdnyakova, L, D. Giménez, and P. Oudemans. 2005. Spatial analysis of cranberry yield at three scales. *Agron. J.* ***97:*** 49-57.

28. Bedmar*, F., J.L. Costa, E. Suero, and D. Giménez. 2004. Transport of atrazine, metribuzin and bromide in three soils of the humid pampas of Argentina. *Weed Technol.* ***18***: 1-8.

29. Posadas*, A., D. Giménez, R. Quiroz, and R. Protz. 2003. Multifractal characterization of soil pore systems. *Soil Sci. Soc. Am. J.* ***67***:1361-1369.

30. Giménez, D., J.L. Karmon*, A. Posadas*, and R. Shaw. 2002. Fractal dimensions of mass estimated from soil aggregates. *Soil Tillage Res.* ***64***: 165-172.

31. Pozdnyakova, L., P. Oudemans, M.G. Hughes, and D. Giménez. 2002. Spatial detection and quantification of phytophtora root rot effects on cranberry yields. *Comput. Electron. Agric.* ***37***: 57-70.

32. Giménez, D., W.J. Rawls, Ya. Pachepsky, and J.P.C. Watt. 2001. Prediction of a pore distribution factor for textural and mechanical parameters. *Soil Sci.* ***166***: 79-88.

33. Pachepsky, Ya., W.J. Rawls, and D. Giménez. 2001. Comparison of soil water retention at field and laboratory scales. *Soil Sci. Soc. Am. J.* ***65***: 460-462.

34. Posadas*, A., D. Giménez, M. Bittelli, C.M.P. Vaz, and M. Flury. 2001. Multifractal characterization of soil particle size distributions. *Soil Sci. Soc. Am. J.* ***65***: 1361-1367.

35. Sarli, G.O., R.R. Filgueira, and D. Giménez. 2001. A new method for measuring bulk density of porous materials and its application to soil samples (In Spanish). *Ciencia del Suelo* ***19***: 75-78.

36. Sarli, G.O., R.R. Filgueira, and D. Giménez. 2001. Bulk density measurement of soil aggregates using a volume displacement method in two non-mixing liquids. *Soil Sci. Soc. Am. J.* ***65***: 1400-1403.

37. Giménez, D., W.J. Rawls, and J.G. Lauren. 1999. Scaling of saturated hydraulic conductivity. *Geoderma* ***88***: 205-220.

38. Timlin, D.J., L.R. Ahuja, Ya. Pachepsky, R.D. Williams, D. Giménez, and W.J. Rawls. 1999. Use of Brooks-Corey parameters to improve estimates of saturated hydraulic conductivity from effective porosity. *Soil Sci. Soc. Am. J.* ***63***: 1086-1092.

39. Giménez, D., R.R. Allmaras, D.R. Huggins, and E.A. Nater. 1998. Fractal dimensions of mass, surface, and fragmentation of soil aggregates produced by tillage. *Geoderma* ***86***: 261-278.

40. Gish, T.J., D. Giménez, and W.J. Rawls. 1998. Impacts of roots on groundwater quality. *Plant Soil* ***200***: 47-54.

41. Pachepsky, Ya., W.J. Rawls, D. Giménez, and J.P.C. Watt. 1998. Use of penetration resistance and group method of data handling to improve soil water retention estimates. *Soil Tillage Res.* ***49***: 117-126.

42. Rawls, W.J., D. Giménez, and R. Grossman. 1998. Use of soil texture, bulk density, and slope of the water retention curve to predict saturated hydraulic conductivity. *Trans. ASAE* ***41***: 983-988.

43. Giménez, D., R.R. Allmaras, D.R. Huggins, and E.A. Nater. 1997. Prediction of saturated hydraulic conductivity-porosity dependence using fractals. *Soil Sci. Soc. Am. J.* ***61***: 1285-1292.

44. Giménez, D., R.R. Allmaras, E.A. Nater, and D.R. Huggins. 1997. Fractal dimensions for volume and surface of interaggregate pores-scale effects. *Geoderma* ***77***: 19-38.

45. Giménez, D., E. Perfect, W.J. Rawls, and Ya. Pachepsky. 1997. Fractal models for predicting soil hydraulic properties: a review. *Eng. Geol.* ***48***: 161-183.

46. Pachepsky, Ya., J.C. Ritchie, and D. Giménez. 1997. Fractal modeling of airborne altimetry data. *Remote Sensing Environ.* ***61***: 150-161.

47. Wu, L., R.R. Allmaras, D. Giménez, and D.R. Huggins. 1997. Shrinkage and water retention characteristics in a fine-textured Mollisol compacted under different axle loads. *Soil Tillage Res.* ***44***: 179-194.

48. Logsdon, S.D., D. Giménez, and R.R. Allmaras. 1996. Fractal characterization of aggregate-size distribution: The question of scale invariance. *Soil Sci. Soc. Am. J.* ***60***: 1327-1330.

49. Giménez, D., C. Dirksen, R. Miedema, L.A.A.J. Eppink, and D. Schoonderbeek. 1992. Surface sealing and hydraulic conductance under varying-intensity rains. *Soil Sci. Soc. Am. J.* ***56***: 234-242.

50. Booltink, H.W.G., J. Bouma, and D. Giménez. 1991. Suction crust infiltrometer for measuring hydraulic conductivity of unsaturated soil near saturation. *Soil Sci. Soc. Am. J.* ***55***: 566-568.

Book Chapters

51. Giménez, D. and D. Hirmas. 2016. Macroporosity. *In*: Lal, R., ed., *The Encyclopedia of Soil Science*. p. 1388-1391.Vol. 2, 3rd Ed. CRC Press, Boca Raton, FL. Revised and expanded from the second edition-2005.

52. Hirmas, D.R., D. Giménez, E. A. Mome Filho*, M. Patterson*, K. Drager, B.F. Platt, and D.V. Eck. 2016. Quantifying soil structure and porosity using three-dimensional laser scanning. pp. 19-35. *In*: Hartemink, A.E. and B. Minasny, eds., *Digital Soil Morphometrics*. Progress in Soil Science Series. Springer.

53. Muñiz, E., R. K. Shaw, D. Giménez, C. A. Williams, and L. Kenny*. 2016. Use of ground penetrating radar to determine depth to compacted layer in soils under pasture. pp. 411-421. *In*: Hartemink, A.E. and B. Minasny, eds., *Digital Soil Morphometrics*. Progress in Soil Science Series. Springer.

54. Kerry, R., P. Goovaerts, D. Giménez, and P. Oudemans. 2013. Investigating geostatistical methods to model within-field yield variability of cranberries. pp. 305-312. *In*: Stafford, J.V., ed., *Precision Agriculture '13*, Papers presented at the 9th European Conference on Precision Agriculture, Lleida, Spain, July 2013. Wageningen Academic Publishers, Wageningen, The Netherlands.

55. Kerry, R., D. Giménez, P. Oudemans, and P. Goovaerts. 2009. Investigating the potential of geostatistical methods for defining management zones for potential farming of cranberries at two scales. pp. 265-278. *In*: P. M. Atkinson and C.D. Lloyd, eds., *GeoENV-VII - Geostatistics for Environmental Applications*. Springer-Verlag, Berlin, Germany.

56. Tarquis, A.M., D. Giménez, A. Saa, M.C. Diaz, and J.M. Gasco. 2003. Scaling and multiscaling of soil pore systems determined by image analysis. pp. 19-33. *In*: Ya. Pachepsky, D. Radcliffe, and H.M. Selim, eds., *Scaling Methods in Soil Physics*. CRC Press, Boca Raton, Fl.

57. Giménez, D. 2002. Macroporosity. pp. 799-801. In: Lal, R., ed., *The Encyclopedia of Soil Science*. Marcel Dekker, New York. NY. Revised in 2005.

58. Giménez, D., W.J. Rawls, and J.G. Lauren. 2000. Scaling of saturated hydraulic conductivity. pp. 115-130. In: Ya. Pachepsky, J.W. Crawford, and W.J. Rawls, eds., *Fractals in Soil Science.* Elsevier, Amsterdam. (also published in *Geoderma* ***88***: 205-220).

59. Gish, T.J., D. Giménez, and W.J. Rawls. 1998. Impacts of roots on ground water quality. pp. 419-432. In: J.E. Box, ed., *Roots Demographics and their Efficiencies in Sustainable Agriculture, Grasslands and Forest Ecosystems.* Kluwer Academic Press, Dordrecht. (also published in *Plant Soil* ***200***: 47-54).

60. Menenti, M., J.C. Ritchie, K.S. Humes, R. Parry. Ya. Pachepsky, D. Giménez, and S. Leguizamon. 1996. Estimation of aerodynamics roughness at various spatial scales. pp. 39-58. *In*: J.B. Stewart, E.T. Engman, R.A. Feddes, and Y. Kerr, eds., *Scaling Up in Hydrology Using Remote Sensing*. John Wiley and Sons, London.

Non-Refereed Publications

Journal Articles

1. Yoon*, S. Y., D. Giménez, A. Nemes, H.-C. Chun*, Y. S. Zhang, Y. K. Sonn, S. S. Kang, M. S. Kim, Y. H. Kim, and S. K. Ha. 2011. Use of the quantitatively transformed field soil structure description of the US National Pedon Characterization Database to improve soil pedotransfer function. *Korean J. Soil Sci. Fert.* **44**: 944-958.

2. Chun*, H.-C., D. Giménez, S.Y. Yoon*, C. W. Park, Y. H. Moon, Y. K. Soon, and B. K. Hyun. 2011. Review of soil structure quantification from soil images. *Korean J. Soil Sci. Fert.* **44**: 517-526.

3. Chun*, H.-C., D. Giménez, S. Y. Yoon*, R. Heck, T. Elliot, L. Ziska, K. George, Y.K. Sonn, and S. K. Ha. 2010. Three dimensional measurements of pore morphological and hydraulic properties. *Korean J. Soil Sci. Fert.* **43**: 415-423.

4. Emnova E., R.L. Tate, D. Giménez, O. Daraban, and A. Budac. 2008. Impact of soybean seeds inoculation by levan-producing bacteria *Pseudomonas aureofaciens* on soil invertase and levansucrase activities at reduced soil water content and elevated copper levels. *Academic Journal of the Faculty of Agriculture* ***51***: 127-134.

5. Giménez, D., R.L. Tate, E. Emnova, L. Bulat, T. Nagacevschi, O. Daraban, and A. Budac. 2008. Rhizosphere soil properties after soybean seed inoculation by levan-producing strain *Pseudomonas aureofaciens*. *Academic Journal of the Faculty of Agriculture* ***51***: 141-146.

6. Posadas, A., D. Giménez, and R. Quiroz. 2004. Multifractal analysis of the spatial variability of saturated hydraulic conductivity in a stratified soil (In Spanish). *Revista de Investigación de Física*, **5**: 36-43.

7. Pachepsky, Ya., D. Giménez, S.D. Logsdon, R.R. Allmaras, and E. Kozak. 1997. On interpretation and misinterpretation of fractal models. *Soil Sci. Soc. Am. J.* **61**: 1800-1801.

Book Chapters and Conference Proceedings

8. Krogmann, U., D. Giménez, R. Miskewitz, S. Kannepalli, V. Subroy, and P.F. Strom. 2013. An investigation of quantity and quality of runoff from wood mulch stockpiles. Proceedings of the 14th

International Waste Management Landfill Symposium. Sept 30- Oct. 4, S. Margherita di Pula/Italy, published by CISA, Padova/Italy.

9. Aparicio, V, J.L. Costa, and D. Giménez. 2011. Comparison of pore volume velocity and chemical dispersivity estimated with three transport models using field data of Bromide transport in an Argiudol of southeastern Buenos Aires Province, Argentina. (In Spanish). X Jornadas de Investigación en la Zona No Saturada del Suelo, Oct. 19-21, Salamanca, Spain. Vol. X - ZNS'11. Available online at www.zonanosaturada.com/zns11/publications.html. Accessed July 9, 2016.

10. Bedmar, F, J.L. Costa, D. Giménez, and P. Daniel. 2011. Transport of atrazine through non disturbed columns of surface and subsurface soils of southeastern Buenos Aires Province, Argentina. (In Spanish). X Jornadas de Investigación en la Zona No Saturada del Suelo, Oct. 19-21, Salamanca, Spain. Vol. X - ZNS'11. Available online at www.zonanosaturada.com/zns11/publications.html. Accessed July 9, 2016.

11. Parsekian, A., L. Slater., and D. Giménez. 2011. Near-saturation dielectric properties of peat soil with entrapped free-phase gas determined using ground penetrating radar. Society of Exploration Geophysicists (SEG) Expanded Abstracts 30, 3745; doi:10.1190/1.3627984.

12. Aparicio, V, J.L. Costa, and D. Giménez. 2010. Chemical dispersivity in an Argiudol of southeastern Buenos Aires. pp. 450-456. First International Congress of Flatlands Hydrology, Sept. 21-24, 2010, Azul, Argentina.

13. Giménez, D., and A. Posadas. 2001. Fractal analysis applied to the soil system (In Spanish). 17th Argentinean Soil Science Congress. Mar del Plata, Argentina, April 11-14.

14. Pachepsky, Ya., D. Giménez, J.W. Crawford, and W.J. Rawls. 2000. Bibliography on applications of fractals in soil science. pp. 273-295. *In*: Ya. Pachepsky, J.W. Crawford, and W.J. Rawls, eds., *Fractals in Soil Science*. Elsevier, Amsterdam.

15. Pachepsky, Ya., D. Giménez, J.W. Crawford, and W.J. Rawls. 2000. Conventional and fractal geometry in soil science. pp. 7-18. *In*: Ya. Pachepsky, J.W. Crawford, and W.J. Rawls, eds., *Fractals in Soil Science.* Elsevier, Amsterdam.

16. Pozdnyakova, L., P. Oudemans, M.G. Hughes, and D. Giménez. 2000. Spatial detection and quantification of phytophtora root rot effects on cranberry yields. pp. I-295-I-302. *Proc. of the Second International Conference on Geospatial Information in Agriculture and Forestry*, Lake Buena Vista, Fl, June 10-12. (also published in *Comput. Electron. Agric.* **37**: 57-70).

17. Giménez, D, W.J. Rawls, Ya. Pachepsky, and J.P.C. Watt. 1999. Characterization of soil structure in relation to saturated hydraulic conductivity. pp. 1019-1028. *In*: M.Th. van Genuchten, F.J. Leij, and L. Wu, eds., *Proc. Int. Workshop on the Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media*, Univ. of California. Riverside, CA, Oct. 22-27, 1997.

18. Timlin, D. J., L.R. Ahuja, Ya. Pachepsky, R.D. Williams, D. Giménez, and W.J. Rawls. 1999. Brooks-Corey pore size distribution index to estimate of saturated conductivity from effective porosity. pp. 1029-1036. *In*: M.Th. van Genuchten, F.J. Leij, and L. Wu, eds., *Proc. Int. Workshop on the Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media*, Univ. of California. Riverside, CA, Oct. 22-27, 1997.

19. Rawls, W.J., Ya. Pachepsky, D. Giménez, and R. Elliot. 1999. Development of STATSGO pedotransfer functions using group method of data handling. pp. 1333-1342. *In*: M.Th. van Genuchten, F.J. Leij, and L. Wu, eds., *Proc. Int. Workshop on the Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media*, Univ. of California. Riverside, CA, Oct. 22-27, 1997.

20. Allmaras, R.R., D. Giménez, and S.M. Copeland. 1998. Predicting macroporosity and saturated hydraulic conductivity from soil water retention and penetration resistance. pp. 49-68. *Bouyoucos Conference on Agroacoustics,Third Symposium*.The University of Mississippi, Tishomingo, MS, Nov. 4-5.

21. Giménez, D., and W.J. Rawls. 1996. Characterization of soil spatial variability with fractals. pp. 130-139. *In*: *Proceedings of the ARS Workshop on Real-World Infiltration*, Pingree Park, CO, July 22-25. Information Series No 86. Colorado Water Resour. Res. Institute, Colorado State University, Fort Collins, CO.

22. Giménez, D., R.R. Allmaras, D.R. Huggins, and E.A. Nater. 1994. Fractal characterization of tilled layers to predict saturated hydraulic conductivity. Vol 1, pp. 555-560. *Proceedings of the 13th ISTRO Conference*. Aalborg, Denmark, July 24-29.

23. García, J.R., Bleckwedel, C., D. Giménez, M.R. Cáceres, and A.M. Pietroboni. 1993. Degradation of agricultural soils in eastearn Tucuman (In Spanish). pp. 1280-1283. *XII Congreso Latinoamericano de la Ciencia del Suelo*. Salamanca, Spain, Sept. 18-15.

Other Publications

1. Murphy, S., D. Giménez, L.S. Muldowney, and J.R. Heckman. 2012. Improving Soil Quality by Increasing Organic Matter Content. Rutgers NJAES Cooperative Extension FS1137. Available online at http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1137. Accessed July 9, 2016.

2. Murphy, S., D. Giménez, L.S. Muldowney, and J.R. Heckman. 2012. Soil Organic Matter Level and Interpretation. Rutgers NJAES Cooperative Extension FS1136. Available online at http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1136. Accessed July 9, 2016.

3. Murphy, S., D. Giménez, L.S. Muldowney, and J.R. Heckman. 2012. Soil Organic Matter. Rutgers NJAES Cooperative Extension FS1135. Available online at http://njaes.rutgers.edu/pubs/publication.asp?pid=FS1135. Accessed July 9, 2016.

4. Gimenez, D., D. Kluchinski, S. Murphy, and L. S. Muldowney. 2010. Assessment of Soil Disturbance on Farmland. Report to the New Jersey State Agriculture Development Committee. Rutgers New Jersey Agricultural Experiment Station, New Brunswick, NJ, 19 pp. Available on line at http://www.state.nj.us/agriculture/sadc/farmpreserve/postpres/rutgerssoildisturbancereport.pdf. Accessed June 25, 2016.

5. Joseph, S., D. Giménez, and J. L. Hoffman. 2010. Dielectric Permittivity as a Function of Water Content For Selected New Jersey Soils. Digital Geodata Series DGS10-1. Available online at http://www.nj.gov/dep/njgs/geodata/dgs10-1.htm. Accessed July 9, 2016.

6. Giménez, D. 2002. On the variability of near saturation water flow in soil. *New Jersey Flows (NJWRRI)* **3**: 6.

Research Reports

1. Krogmann, U., P.F. Strom, D. Giménez, R. J. Miskewitz, S. Kannepalli, V. Subroy, H. Tang, M. Quin, and T. O. Manning. 2014. An Investigation of Quantity and Quality of Runoff from Stockpiles of Recycled Materials. Final report to the NJ Department of Environmental Protection. 243 p.

2. Giménez, D. and S. Murphy, S.Y. Won, and L. S. Muldowney. 2010. Evaluating and Promoting the NJ-NRCS Draft Interim Soil Management Standard. Final Report to the Natural Resources and Conservation Service (NRCS). 51 p.

3. Giménez, D. and S. Murphy. 2006. Assessing the Quality of Selected Soils from the Piedmont and Coastal Plain Regions of New Jersey. Final Report to the Natural Resources and Conservation Service (NRCS). 48 p.

Conference Presentations (2011-2016)

1. Dathe, A., A. Nemes, E. Bloem, M. Patterson, D. Giménez, Júlia Szõc, J. Koestel, and N. Jarvis. 2017. Spatial variability of soil water conductivities obtained with classical laboratory methods and their relation to electrical resistivity measurements. General Assembly of the European Geosciences Union, April 23-28, Vienna, Austria.
2. Nemes, A., A. Dathe, M. Patterson, D. Gimenez, J. Koestel, E. Bloem, N. Jarvis and H. French. 2016. Decimeter-scale 3-D heterogeneity of soil physical, hydraulic and pore-geometry properties in a Norwegian field soil. ASA-CSSA-SSSA 2016 International Annual Meetings, November 6-9, Phoenix, AZ.
3. Patterson, M., D. Gimenez, R. Kerry, L. Slater. 2016. Analysis of the impact of effective hydraulic properties on the modelling of heterogeneous water flow. ASA-CSSA-SSSA 2016 International Annual Meetings, November 6-9, Phoenix, AZ.
4. Qin, M., D. Giménez, D., and M. Cooper. 2016. Estimating the hydraulic properties of two soil profiles under pasture and forest land use in southeastern amazonia. ASA-CSSA-SSSA 2016 International Annual Meetings, November 6-9, Phoenix, AZ.
5. Qin, M., D. Giménez, D., and M. Cooper. 2016. Wavelet Decomposed Soil Water Dynamics in Relation to Soil Pore Geometry along Two Toposequences in Brazil. Hydropedology and Nature Resources in the Earth's Critical Zone for a Sustainable World, August 16-19, 2016; Beijing, China.
6. Dathe, A., M. Patterson, A. Nemes, D. Giménez, J. Koestel, M. Qin, H. K. French, E. Bloem, P. M. Fernandez, and N. Jarvis. 2016. Multiple Scale Field Experiment to Determine Parameter Values for Modeling Water Transport in Unsaturated Soils. Computational Methods in Water Resources, June 20-24, University of Toronto, Canada.
7. Hirmas, D., M. Steffens, P. Sullivan, C. Zhang, and D. Giménez. 2016. Coupling Multistripe Laser Triangulation with Hyperspectral Imaging Visnir Spectroscopy to Elucidate the Feedbacks between Soil Structure, Hydrology, and Organic Matter. General Assembly of the European Geosciences Union, April 17-22, Vienna, Austria.
8. Patterson, M., Daniel Giménez, A. Nemes, A. Dathe, H. French, E. Bloem, J. Koestel, and N. Jarvis. 2016. Characterization of Soil Heterogeneity across Scales in an Intensively Investigated Soil Volume. General Assembly of the European Geosciences Union, April 17-22, Vienna, Austria.
9. Patterson, M., D. Giménez, R. Kerry, P. Goovaerts. 2016. Analysis of the Impact of Soil Heterogeneity on the Spatial Variation of Unsaturated Flow. General Assembly of the European Geosciences Union, April 17-22, Vienna, Austria.
10. Qin, M., D. Gimenez, and M. Cooper. 2016. Relating soil pore geometry to soil water content dynamics decomposed at multiple frequencies. General Assembly of the European Geosciences Union, April 17-22, Vienna, Austria.
11. Giménez, D., D. Hirmas, and A. Mohammed. 2015. Investigating the Potential of National Cooperative Soil Survey Information for Advancing Soil Science. ASA-CSSA-SSSA 2015 International Annual Meetings, November 15-18, Minneapolis, MN.
12. Mohammed, A., D. Hirmas, D. Giménez, and R. Mandel. 2015. A Digital Morphometric Method for Quantifying Ped Shape. ASA-CSSA-SSSA 2015 International Annual Meetings, November 15-18, Minneapolis, MN.

13. Patterson, M., D. Giménez and D. Hirmas. 2015. Investigation of Crack Development during Evaporation Experiments Using 3-D Laser Scanning. ASA-CSSA-SSSA 2015 International Annual Meetings, November 15-18, Minneapolis, MN.
14. Qin, M., D. Giménez, and M. Cooper. Dynamics of Wavelet-Decomposed Soil Water Content Signals in Relation to Soil Pore Characteristics. ASA-CSSA-SSSA 2015 International Annual Meetings, November 15-18, Minneapolis, MN.
15. Ingram, B., P. Goovaerts , R. Kerry, and D. Giménez. 2015. 3D Lisa: A Flexible Program for Calculating the Local Moran's I Illustrated with Data from a CAT Scan of a Soil Core. Pedometrics 2015, 14-18 Sept., Córdoba, Spain.
16. Mome Filho, E. A., R. Heck, D. Giménez, and M. Cooper. 2015. Scale-Variability of Surface Microtopography on a Highly Stable Soil Under Simulated Rainfall. Soil Interfaces for Sustainable Development, July 5-10, Montreal, Canada.
17. Eck, D., D.R. Hirmas, D. Giménez, M. Qin, and N. Brunsell. 2014. Potential for Linking Saturated Hydraulic Conductivity and Quantitative Characterization of Soil Architecture at NEON Field Sites. ASA-CSSA-SSSA 2014 International Annual Meetings, November 2-5, Long Beach, CA.
18. Mohammed, A., D. Hirmas, D. Giménez, and A. Nemes. 2014. Investigating Relationships Between Soil Morphology, Classification, and Hydraulic Properties. ASA-CSSA-SSSA 2014 International Annual Meetings, November 2-5, Long Beach, CA.
19. Patterson, M. and D. Giménez. 2014. Lab Scale Model Simulations of Unsaturated Flow Using Hydraulic Property Clusters. ASA-CSSA-SSSA 2014 International Annual Meetings, November 2-5, Long Beach, CA.
20. Qin, M., D. Giménez and R. Miskewitz. 2014. Application of Wavelet Transform to Predict Soil Volumetric Water Content from Surface Measurements. ASA-CSSA-SSSA 2014 International Annual Meetings, November 2-5, Long Beach, CA.
21. Wang, R., J. W. Hempfling, D. Giménez, B. B. Clarke and J. A. Murphy. 2014. Use of Medium-Fine Sands for Topdressing Velvet Bentgrass and Annual Bluegrass Putting Greens. ASA-CSSA-SSSA 2014 International Annual Meetings, November 2-5, Long Beach, CA.
22. Giménez, D., A. Nemes, and D.R. Hirmas. 2014. An Index of Soil Structure Derived from WaterRetention and Particle-Size Distribution. 20th World Congress of Soil Science, Jeju, Korea. 8-13 June 2014.
23. Giménez, D., G.B. Runion, J.S. Caplan, B. Clough, S.A. Prior, and H. A.Torbert. 2013. Changes in Soil Structure Resulting From Elevated Carbon Dioxide and Nitrogen Levels in a Pasture System. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.
24. Giménez, D., A. Nemes, D.R. Hirmas, and S. Kvaerno. 2013. Using Water Retention Data and Particle Size Distribution to Characterize Soil Structure Using the European Hydropedological Data Inventory. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.
25. Hirmas, D.R., D. Giménez, N. Brunsell, and A. Nemes. 2013. Response of Soil Effective Porosity to Prevailing Climates. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.
26. Miskewitz, R., D. Giménez. 2013. Identification of Preferential Flow Using Wavelet Decomposition. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.
27. Campos Oliveira, T., D. Giménez, and M. Cooper. 2013. Multifractal Analysis of Pore Systems along a Topo Sequence under Natural Forest. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.

28. Hirmas, D.R., and D. Giménez. 2013. Investigating Fractal Distribution of Mass from the Millimeter- to Decimeter-Scale in Two Kansas Soils. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.

29. Aparicio, V., J. L. Costa, H. Sainz Rozas, D. Giménez, and F. García. 2013. Comparing N-NO3- Losses Through Leaching Measured in the Field and Estimated Using A Nitrogen Balance. ASA-CSSA-SSSA 2013 International Annual Meetings, November 3-6, Tampa, Florida.

30. Grunat, D. A. M. Wehrer, L. Slater, and D. Giménez. 2012. Improved Understanding of Effects of Soil Saturation on Spectral Induced Polarization. The Geological Society of America Annual Meeting, November 4-7, Charlotte, NC.

31. Palta, M. M., D. Giménez, and J. Ehrenfeld. 2012. Soil Texture and Water Retention as Spatial Predictors of Denitrification in Urban Wetlands. Ecological Society of America Annual Meeting, August 5-10, Portland, OR.

32. Rahimy P., D. Giménez, D., M.H. Young, and R.J. Heck. 2012. Quantifying the Influence of Wetting and Drying on the Microstructure of Soil Crust Using Fractal Analysis of CT Imagery. Soil Science Society of Canada, June 3-7, Quebec, Canada.

33. Giménez, D. and S.Y. Yoon. 2012. Using Entropy to Quantify Soil Structure from Water Retention and Texture Data. General Assembly of the European Geosciences Union, April 22-27, Vienna, Austria.

34. Duhour, A. E., F.R. Momo, D. Giménez, R.J. Heck, and M.J. Massobrio. 2012. Análisis Bi- and Tridimensional de Estructuras Edáficas Producidas por Lombrices. XIX Latin American Congress of Soil Science, April 16-20, Mar del Plata, Argentina.

35. Giménez, D., S. Joseph, and R. Miskewitz. 2011. Applications of Wavelets to the Prediction of Soil Moisture Profiles. ASA-CSSA-SSSA 2010 International Annual Meetings, Oct. 16-19, San Antonio, TX.

36. Parsekian, A., L. Slater, and D. Giménez. 2011. Dielectric Properties of Peat with Biogenic Free Phase Gas. 2011. The Geological Society of America Annual Meeting, Oct. 9-12, Minneapolis, MN.

37. Giménez, D. 2011. Quantifying Soil Structure at the Micro- and Meso Scale. 2011. 2011 International Symposium on Soil Management and Conservation for Climate Change, June 8, Suwon, Korea.

38. Subroy, V. and D. Giménez. 2011. Measuring and Predicting Properties of Recycled Wood Materials for Leachate Estimates. 93rd Annual Meeting, NJ Water Environment Association, Student Poster Competition, Atlantic City, NJ.

Grants and Contracts

"Treatment of Wood Mulch Runoff/Leachate", New Jersey Department of Environmental Protection, $299,097, 2016-2018, (PI: Peter Strom, Co-PIs: U. Krogmann, D. Giménez, and R. Miskewitz).

"Quantifying Soil Structure to Augment the Relevance of Laboratory-Based Soil Hydraulic Properties for Environmental Modelling", Norwegian Research Council (Forskningsrådet), 8.492.000 NOK (cca. 1.4M $US), 2015-2019, (PI: A. Nemes, Co-PI, D. Giménez, H. French, University of Life Sciences of Norway, Ås, Norway, N. Jarvis, Swedish University of Agricultural Sciences, Uppsala, Sweden, and C. Farkas, Bioforsk, Ås, Norway).

"Effects of Climate Change on Soil Hydraulic Properties", CGIAR Research Program on Water, Land, and Ecosystems, $164,000, 8/12-12/15 (PI: D. Giménez).

"A Summer Course in Hydrogeology: Linking Academic Interests in Subsurface Challenges across the Atlantic", Norwegian Centre for International Cooperation in Education (SIU), $30,000, 2013, (PI: D. Giménez -USA- and H. French -Norway).

"Development of a Real-Time Drought Assessment Tool Using NJ Meteorological Data", New Jersey Department of Environmental Protection, $ 73,957, 2/11-12/12 (PI: D. Giménez, Co-PI: R. Miskewitz).

"Interdisciplinary Graduate Education in Environmental Science and Engineering", U.S. Department of Education, $699,786, 9/10-8/13 (PI: D. Giménez, Co-PI: J. Reinfelder and D. Fennell).

"An Investigation of Quantity and Quality of Runoff from Stockpiles of Recycled Waste Materials", New Jersey Department of Environmental Protection, $ 581,483, 9/09-2/13 (PI: U. Krogmann, Co-PI, P. Strom, D. Giménez and R. Miskewitz).

"Calibration of Water Content Reflectrometer Probes and Analysis of Soil Water Content Data Collected by the Office of the New Jersey State Climatologist", New Jersey Department of Environmental Protection, $37,620, 4/08-5/09 (PI: D. Giménez).

"Fate and Behavior of Alkylphenol Ethoxylates in Land-Applied Alkaline-Stabilized Biosolids", NJ Agricultural Experiment Station, $25,000, 1/08-6/09 (PI: D. Gimenez, Co-PI: P.F. Strom and A. Adewunmi).

"Use of Alternate Methods for Assessing Mobility of Organic and Inorganic Pollutants Bound on Soils", New Jersey Department of Environmental Protection, $140,000, 7/07-8/09 (PI: W. Huang, Co-PI: D. Giménez).

"Mitigation of Water Stress in Agricultural Soils by Bio-Indicators", NATO Collaborative Linkage Grant, € 25,800, 3/07-2/09 (PIs: R. L. Tate (USA) and E. E. Emnova (Moldova), Co-PI: D. Giménez).

"A Quantitative Approach to Linking Temporal Variations of Groundwater Level with Nitrogen Cycling in New Jersey Wetlands", New Jersey Water Resources Research Institute, $30,000, 1/07-12/07 (PI: D. Giménez, Co-PI: J. Ehrenfeld).

"Developing Research and Outreach Tools for Cranberry Production: Integrating Remote Sensing and Hydrological Modeling", Blueberry and Cranberry Program Enhancement Grant, $30,000 7/06-6/07 (with P. Oudemans).

"Interdisciplinary Graduate Education in Environmental Science and Engineering", U.S. Department of Education, $691,430, 8/06-7/09 (PI: D. Giménez, Co-PI: D. Fennell and A. Robock).

"Evaluating and Promoting the NJ-NRCS Draft Interim Soil Management Standard", U.S. Department of Agriculture-NRCS, $74,981, 7/06-6/08 (PI: D. Giménez).

"Characterization of Changes in Soil Structure along an Urban-Rural CO2 / Temperature Gradient", U.S. Department of Agriculture Specific Cooperative Agreement, $9,954, 6/06-5/07 (PI: D. Giménez).

"Assessing the Impact of Horse Manure and Composted Manure on Soil and Water Quality", State Equine Initiative, $51,000, 9/06-6/08 (PI: D. Giménez, Co-PI: S. Murphy).

"Rhizobacterial Exopolysaccharides on Environmental Security", NATO Science Programme, $15,833, 1/03-12/05 (PIs: R. L. Tate (USA) and E. E. Emnova (Moldova), Co-PI: D. Giménez).

"Assessing the Quality of Selected Soils from the Piedmont and Coastal Plain Regions of New Jersey", NRCS-USDA Specific Cooperative Agreement, $80,000, 10/03-9/06 (PI: D. Giménez, Co-PI: S. Murphy).

"Assessing the Maturation of Putting Green Root Zone Mixes Under Two Microenvironments", U.S. Golf Association, $89,994 (PI: J. Murphy, D. Giménez, Co-PIs: C. Clark, S. Murphy).

"Palmyra Dredge Project", Burlington County, $468,000, 1/03-6/03 (PI: H. Janes, Co-PI; D. Giménez, R. Haber).

"Three Dimensional Characterization of Soil Structure", Research Council Grant (Rutgers), $1,373, 7/02-6/03. (PI: D. Giménez).

"Measurement and Prediction of Hydraulic Properties Needed to Model Groundwater Quality in Southern New Jersey", NJWRRI, $30,000, 7/02-2/04 ((PI: D. Giménez, Co-PI: A. Baehr, T. Reilly).

"Predicting Saturated Hydraulic Conductivity for Putting Green Root-Zone Mixes", Rutgers Center for Turfgrass Science, $30,000, 9/02-8/05 (PI: D. Giménez).

"The Rutgers University Dredge Material Evaluation and Utilization Program", Strategic Resource and Opportunity Analysis (SROA), Rutgers University, $25,000 (PI: A. Maher, Co-PI: H. Janes, D. Giménez).

"Longer Term Assessment of Putting Green Root Zone Mixes Under Two Microenvironments," U.S. Golf Association, $90,000, 2/01-1/04 (PI: J. Murphy, Co-PI; S. Murphy, D. Giménez, B. Clark).

"Soil-Water Relations to Soil Structure Imposed by Tillage and Traffic," USDA Specific Cooperative Agreement, $12,300, 7/00-9/01 (PI: D. Giménez).

"Measuring Water Content in Putting Green Root Zone Mixes with Time Domain Reflectometry (TDR)," Rutgers Center for Turfgrass Science, $6,000, 9/00-8/01 (PI: D. Giménez).

"Scaling of Saturated Hydraulic Conductivity and Dye-Stained Flow Pathways", NJWRRI, $25,000, 3/00-3/01 (PI: D. Giménez).

"Organic Wastes: Effect on Soil Quality", New Jersey Agricultural Experiment Station SARE, $59,500, 7/99-6/01 (with U. Krogmann).

"Scaling Soil Hydraulic Properties for the SGP97 Experimental Area", NASA, 8/99-8/02, $155,456 (PI: W. Rawls, Co-PI: Y. Pachepsky and D. Giménez).

Student Advising and Mentoring

Graduate students (course work and research): Matthew Amato (M.S., 2016-ongoing); Mohsin Alhilo (Ph.D., 2016-ongoing); Mingming Qin (Ph.D., 2012-ongoing); Matthew Patterson (Ph.D., 2012-ongoing); Adewale Adewunmi (co-advise with P. Strom, Ph.D., 2015); Vandana Subroy (M.S., 2013); Virginia Aparicio[§] (co-advise with J. L. Costa, Ph.D., 2012); Hyenchung Chun (Ph.D., 2009); Sung Won Yoon (Ph.D., 2009); Francisco Bedmar[§] (co-advise with J. L. Costa, Ph.D., 2009); Han Han (M.S., 2005); Hyenchung Chun (M.S., 2004). [§] Ph.D. conferred by the University Nacional de Mar del Plata (Argentina).

Visiting graduate students (research): Edison Mome Fihlo (University of São Paulo, Brazil; 1 year, 2014-2015); Edouard Sagues (Ecole d'Ingénieurs de Purpan - Graduate College of Agriculture - Toulouse University, France; 6 months in 2013); Thalita Campos Oliveira (University of São Paulo, Brazil; 6 months in 2012); Fabio Cassaro (University of São Paulo, Brazil; 1 year, 2000-2001).

MS students (coursework and essay): Monica Hiratha Bertachi (2016); Haibo Tang (2016); Heather Gosack (2014).

Post-Doctoral Associate: Dr. Adolfo Posadas (1999-2001).

Ph.D. Qualifying Examination Committees (2001-present): A total of 14 students, including 13 students from the graduate programs in Environmental Sciences, Ecology and Evolution, and Plant Biology of Rutgers University, and 1 student from the Environmental Science Program at the University of Guelph.

Graduate Final Examination Committees (2000-present): A total of 14 Ph.D. dissertation committees and 11 M.S. final exams, including two students (1 M.S. and 1 Ph.D.) from the University of São Paulo and 1 Ph.D. student from the University of Mar del Plata (Argentina).

Undergraduate students-Research support (hourly): Natalie Pabon (2014); Mayble Abraham (2009-2011); Samuel Joseph (2008-2009, 2011); Gerard Driscoll (2008); Janice Karmon (1998-2001).

Undergraduate students-Honor Thesis: Abdel Alfahham (George H. Cook Scholar, 2013); Kimberly Shoback (George H. Cook Scholar, 2013); Amina Sultan (Douglas Scholars Program, 2003); Robyn Mikita (George H. Cook Scholar, 2004); Amina Sultan (Program SUPER-Douglas College; 2001); Deanna Brinkman (University of Minnesota; 2001).

External Evaluator of Ph.D. Dissertations: Jorge Sanz-Gómez (University of Seville, Spain; 2015); Pablo Pavón Domínguez (University of Córdoba, Spain; 2012).

Host of Visiting Scientists

Dr. Laura Fernanda Simões da Silva (University of São Paulo, Brazil; 2 months in 2016); Dr. Joshua Caplan (Short Term Scholar, 6 months in 2015); Dr. Raquel Stucchi Boschi (University of São Paulo, Brazil; 1 month in 2015); Dr. Daniel Hirmas (sabbatical leave from the University of Kansas, 4 months in 2014); Dr. Jose Luis Costa (Instituto Nacional de Tecnologia Agropecuaria, Argentina; 2 months in 2007); Dr. Roberto Filgueira (Universidad Nacional de La Plata, Argentina; 4 months in 2006); Dr. Tania Tominaga (University of São Paulo, Brazil; 1 year, 2000-2001).

Major Service to University and School

Member of one Mentoring Committee, Rutgers Cooperative Extension, NJ Agricultural Experiment Station, 2015-2020.

Member of the Physical and Mathematical Sciences and Engineering Area Committee, Graduate School New Brunswick, 2014-present.

Member of the Ad hoc Faculty Strategic Planning Committee for Brazil, 2012-2014.

Member elected of the Rutgers University Senate (GSNB), 2006-2009.

Member of the Senate Standing Committee on Instruction, Curricula and Advising, 2006-2009.

Academic Integrity Facilitator for the School of Environmental and Biological Sciences, 2008-present.

Rutgers University representative (with Prof. Lena Struwe) to the Organization of Tropical Studies (OTS), 2007-2011.

Member elected of the Teaching Effectiveness/Evaluation/Improvement Committee, 2005-2007.

Chair of a Grievance Committee, 2005-2006.

Appointed member of the Affirmative Action, Diversity and Equal Opportunity Committee, 2004-2006.

Elected member of the Rules of Procedure Committee, September 2002-2005.

New Brunswick Faculty Council (NBFC), September 2002-2004.

Member of the Library Committee of the NBFC, September 2002-2004.

Service to the Department

Member of two Faculty Mentoring Committees, 2007-2009 and 2009.

Member of a Search Committee for two Atmospheric Science faculty, 2005-2007.

Member of the Peer Evaluation Committee (PEC), 2005 and 2006.

Chair of the Graduate Program Admissions Committee, 2006-2012.

Member of the Graduate Program Admissions Committee, 2001-2012.

Member of the Faculty Search Committee for an Environmental Health Position, 2000-2001.

Member of the Faculty Search Committee for an Atmospheric Physicist, 2000.

Member of the Space Committee, 1998-present.

Service to the Profession

Chair Multistate Project NC1187, The Chemical and Physical Nature of Particulate Matter Affecting Air, Water and Soil Quality, 2013-2015. Led the team that wrote the proposal of the current project (approved on June 2015).

Member of the U.S. National Committee for the International Union for Soil Sciences (USNC/IUSS). This committee operates under the auspices of the Policy and Global Affairs Division of the National Research Council. 2009-2015.

External tenure and promotion reviewer for two U.S. universities.

Membership in Professional Organizations

European Geosciences Union, 2016-present.

American Geophysical Union, 1998-present.

American Society of Agronomy, 1996-present.

International Society of Soil Science, 1996-present.

Soil Science Society of America, 1996-present.

-Member, Don and Betty Kirkham Soil Physics Award Committee, 2003-2005.

-Member of the Methods of Soil Analysis Subcommittee, 2015-2016.

Editorship

Editor-in-Chief, *Soil Science*, January 2015-present.

Member of the Editorial Board of *Soil Science*, July 2014-December 2014.

Guest Editor of the *Soil Science* Special Issue in 'Complexity and Nonlinearity in Soil Science', Feb. 2012.

Technical Editor Division S-1 (Soil Physics), *Soil Science Society of America Journal*, 2012-2014.

Member of the Scientific Board, *Revista de Ciencias* of Universidad del Valle, Colombia, 2011-present

Associate Editor Division S-1 (Soil Physics), *Soil Science Society of America Journal*, 2003-2010.

Associate Editor of *International Agrophysics*, 2006-present.

Member of the Advisory Board of the publication *Trafficked Agricultural Soil Rheology*, 2005. Jorajuria, D. (Ed.), Universidad Nacional de La Plata, La Plata, Argentina.

Manuscript reviewer (5-8 manuscripts per year):

Agronomy Journal, Australian Journal of Soil Research, ASCE International Journal of Geomechanics, Ciencia del Suelo, Ecological Modelling, Environmental Modelling and Software, European Journal of Soil Science, Geoderma, International Journal of Multiphase Flow, Journal of Ecology (London), Journal of Environmental Quality, Journal of Geophysical Research, Journal of Hydrology, Journal of the American Society of Horticultural Science, Journal of Soil and Water Conservation, Life Support & Biosphere Sciences Journal, Pedosphere, PLOS ONE, Revista Scientia Agricola, Scientific Reports (Nature), Soil &Tillage Research, Soil Science, Soil Society of America Journal, Soil Technology, Transactions of the ASAE, Vadose Zone Journal, Water Resources Research.

Keynotes, Invited Participant and/or Organizer of Conferences and Workshops

Co-Convener of sessions at European Geosciences Union General Assemblies (EGU) in Vienna**:** *The impact of pesticides in life, water, sediment, air and soil resources*, 23–28 April 2017; *Scaling, Nonlinearity, and Complexity in Soils*, April 22-27 2012; and *Scaling, Nonlinearity, and Complexity in Soils and Surface Hydrology*, April 3-8 2011.

Keynote Speaker at the 2011 International Symposium on *Soil Management and Conservation for Climate Change*. June 8, 2011. Suwon, Korea.

Invited participant, international workshop on *Urban Wetland Ecology and Restoration*, December 12-19, 2008, Xiamen, China.

Organized three sessions and chaired two sessions on *Modeling and Measurement of Soil Structure* at the Annual Meeting of the America Society of Agronomy, Crop Science Society of Agronomy, and the Soil Science Society of Agronomy, Seattle, WA. Nov. 1-4, 2004.

Chaired a session on *Soil Structure* at the Annual Meeting of the America Society of Agronomy, Crop Science Society of Agronomy, and the Soil Science Society of Agronomy, Denver, CO, Nov. 2-6, 2003.

Invited participant, *Army Workshop on Soil Physics*, Santa Fe, NM, Aug. 27-29, 2003.

Session Chair of *Flow and Transport I* at the Annual Meeting of the America Society of Agronomy, Crop Science Society of Agronomy, and the Soil Science Society of Agronomy, Indianapolis, IN, Nov. 10-14, 2002.

Invited participant, symposium *Bridging Scales in Soil Physics*, Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science of America, Charlotte, NC, Oct. 21-25, 2001.

Keynote Speaker in the 17th Argentinean Soil Science Congress, Mar del Plata, Argentina, April 11-14, 2000.

Invited participant, Synchrotron Environmental Science Workshop Argonne National Laboratory, Argonne, IL, April 19-21, 1999.

Session Chair of *Gas and Heat Transport* at the Annual Meeting of the America Society of Agronomy, Crop Science Society of Agronomy, and the Soil Science Society of Agronomy, Anaheim, CA, Oct. 26-30, 1997.

Invited participant, workshop on *Characterization and Measurement of the Hydraulic Properties of Unsaturated Porous Media*. Riverside, CA, Oct. 22-27, 1997.

Invited participant, ARS workshop on *Real-World Infiltration*. Pingree Park, CO, July 22-25, 1996.

Invited Seminars

School of Environmental Sciences, University of Guelph, May 23, 2014.

Bioforsk. Norwegian Institute for Agricultural and Environmental Research (now NIBIO). Ås, August 26, 2013.

Department of Soil Science, Luiz de Queiroz College of Agriculture of the University of São Paulo (ESALQ/USP), May 7, 2013.

Department of Geography, The University of Kansas, March 15, 2013.

National Academy of Agricultural Science, Suwon, Korea, June 7, 2011.

Department of Earth and Environmental Sciences, Newark, Nov. 23, 2010.

Department of Soil Science, Luiz de Queiroz College of Agriculture of the University of São Paulo (ESALQ/USP), August 10, 2009.

Agricultural Instrumentation Laboratory, Brazilian Agricultural Research Corporation (EMBRAPA), São Carlos, Brazil, August 7, 2009.

Department of Earth and Environmental Sciences, Newark, Nov. 15, 2005.

Natural Resource Sciences and Landscape Architecture Program, University of Maryland, Oct. 2, 2003.

Department of Plant and Soils, University of Delaware, April 25, 2003.

Department of Land Resources Science, University of Guelph, March 17, 2003.

Environmental Laboratory, Engineer Development and Research Center, U.S. Army Corps of Engineers, Vicksburg, MS, September 12, 2002.

Department of Biological Sciences, Rutgers University, Newark, April 24, 2002.

National University of La Plata, Argentina, April, 19 2000.

Department of Environmental Sciences, Rutgers University, New Brunswick, July 17, 1997.

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