

Curriculum vitae

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Professional Preparation

Eötvös University, Budapest, Hungary	Soil Ecology	PhD, 1981
Eötvös University, Budapest, Hungary	Biology	MSc, 1977
Eötvös University, Budapest, Hungary	Biology	BSc, 1974

Appointments 1991-present

Research Professor, Johns Hopkins University, 2015-present
Associate Research Professor, Johns Hopkins University, 2006- 2015
Research Associate, Smithsonian Environmental Research Center, 2008- present
Graduate Faculty, Purdue University, 2009-2015
Senior Lecturer, Dept. Earth and Planetary Sciences, JHU, 1998-2006
Associate Research Scientist, Dept. Earth and Planetary Sciences, JHU, 1998-2006
Instructor, Dept. Earth and Planetary Sciences, 1995-1998
Instructor, Advanced Academic Programs, JHU, 1993-2003
Postdoctoral Fellow, Dept. of Geography and Environmental Engineering, JHU, 1991-1993

Professional affiliations

Ecological Society of America
American Institute of Biological Sciences
American Geophysical Union
Soil Ecology Society

Publication List

Ma, Y., McCormick, M, Szlavecz, K, Filley, T. 2019. Controls on SOC stability and temperature sensitivity with increased aboveground litter input in deciduous forests at different successional stages. *Soil Biology and Biochemistry*, 134: 90-99. <https://doi.org/10.1016/j.soilbio.2019.03.020>

Hornung E., Taiti S. and Szlavecz K. (Eds) 2018. *Terrestrial Isopods in a Changing World*. ZooKeys Special Issue 801, pp 518 Pensoft Publishers, Sofia, Bulgaria

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Pouyat RV, K Szlavecz, ID Yesilonis. 2018. Human influences in urban soil development. In: Pickett STA (ed): *Science for the Sustainable City: Empirical Insights from the Baltimore School of Urban Ecology*. Yale Univ. Press *in press*

Szlavecz, K, C-H Chang, MJ Bernard, SL Pitz, L Xia, Y Ma, MK McCormick, T Filley, SA Yarwood, Cs Csuzdi 2018. Litter quality, dispersal and invasion drive earthworm community dynamics and forest soil development. *Oecologia* 188: 237-250. doi: 10.1007/s00442-018-4205-4

Djukic, I., et al., Early stage litter decomposition across biomes 2018. *Sci Total Environ* 628-629: 1369-1394. <https://doi.org/10.1016/j.scitotenv.2018.01.012>

Pitz SL, Megonigal JP, Chang CH, Szlavecz K. 2018. Methane fluxes from tree stems and soils along a habitat gradient. *Biogeochemistry*, <https://doi.org/10.1007/s10533-017-0400-3>

Chang, C-H, Johnston M., Görres, JH, Dávalos A, McHugh D, Szlavecz K 2017. Co-invasion of three Asian earthworms, *Metaphire hilgendorfi*, *Amyntas agrestis* and *Amyntas tokioensis* in the USA. *Biological Invasions* 20:843-848. <https://doi.org/10.1007/s10530-017-1607-x>

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Chang C-H, K. Szlavecz, J. Buyer 2017. *Amyntas agrestis* invasion increases microbial biomass in Mid-Atlantic deciduous forests. *Soil Biology and Biochemistry* 114:189-199

Csuzdi Cs, Chang, C-H, Pavlíček T, Szederjesi T, Esopi D, Szlavecz K. 2017. Molecular phylogeny and systematics of native North American lumbricid earthworms (Clitellata: Megadrili) *PLoS ONE* 12(8):e0181504

Epp Schmidt DJ, R.Pouyat, K. Szlavecz, H. Setälä, D.J. Kotze, I. Yesilonis, S. Cilliers, E. Hornung, M. Dombos, S.A. Yarwood 2017. Urbanization leads to the loss of ectomycorrhizal fungal diversity

and the convergence of archaeal and fungal soil communities. *Nature Ecology and Evolution* 10.1038/s41559-017-0123

Richard V. Pouyat, Heikki Setälä, Katalin Szlavecz, Ian D. Yesilonis, Sarel Cilliers, Erzsébet Hornung, Stephanie Yarwood, D. Johan Kotze, Miklós Dombos, Michael P. McGuire, Thomas H. Whitlow 2017. Introducing GLUSEEN: a new open access and experimental network in urban soil ecology. *J Urban Ecol* 2017; 3 (1): jux002. doi: 10.1093/jue/jux002

Chang C-H, B. A. Snyder, K Szlavecz, 2016. Asian pheretimoid earthworms in North America north of Mexico: An illustrated key to the genera *Amyntas*, *Metaphire*, *Pithemera*, and *Polypheretima* (Clitellata: Megascolecidae), *Zootaxa* 4179:495-529
DOI: <http://dx.doi.org/10.11646/zootaxa.4179.3.7>

Dombos, M., Kosztolányi, A., Szlavecz, K., Gedeon, C., Flórián, N., Groó, Z., Dudás, P. and Bánszegi, O. (2016), EDAPHOLOG monitoring system: automatic, real-time detection of soil microarthropods. *Methods Ecol Evol*. Accepted Author Manuscript. doi:10.1111/2041-210X.12662

Chang C-H, K. Szlavecz, J. Buyer. Species-specific effects of earthworms on microbial communities and the fate of litter derived carbon. *Soil Biology and Biochemistry*, 100:129-139. <http://dx.doi.org.proxy1.library.jhu.edu/10.1016/j.soilbio.2016.06.004>

Yesilonis, I., K. Szlavecz, R.V. Pouyat, D. Whigham, L. Xia 2016. Historical land use and stand age effects on forest soil properties. *Forest Ecology and Management* 370: 83-92.

Paudel S, GWT Wilson, T Longcore, B MacDonald, MK McCormick, K Szlavecz, SR Loss 2016. Belowground interactions with aboveground consequences: Invasive earthworms and arbuscular mycorrhizal fungi. *Ecology*, 97: 605-614 doi/pdf/10.1890/15-1085.1

Pouyat RV, ID Yesilonis, M Dombos, K Szlavecz, H Setälä, S Cilliers, E Hornung, J Kotze, S Yarwood 2015. A global comparison of surface soil characteristics across five cities: A test of the Urban Ecosystem Convergence Hypothesis. *Soil Science* 180: 136-145 doi: 10.1097/SS.0000000000000125

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Washington metropolitan area. *Landscape and Urban Planning* 142:7-17, doi:10.1016/j.landurbplan.2015.05.001

Beauchamp VB, Swan CM, Szlavecz K, Hu J 2015. Riparian community structure and soil properties of restored urban streams. *Ecohydrol.*, 8: 880–895. doi: 10.1002/eco.1644.

Burgess, J.L., Szlavecz, K., Rajakaruna, N., Lev, S. and Swan, C.M. 2015 Ecotypic differentiation of mid-Atlantic *Quercus* species in response to ultramafic soils. *Australian Journal of Botany* 63(4) 308-323 <http://dx.doi.org/10.1071/BT14274>

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Burgess, J.L., Szlavecz, K., Rajakaruna, N., Lev, S. and Swan, C.M. 2015. Vegetation dynamics and mesophication in response to conifer encroachment within an ultramafic edaphic system. *Australian Journal of Botany* 63(4) 292-307 <http://dx.doi.org/10.1071/BT14241>

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Ma, Y, Filley T, Szlavecz K, McCormick MK, 2013. Controls on wood and leaf litter incorporation into soil fractions in forests at different successional stages. *Soil Biology and Biochemistry*, 69: 212-222

Szlavecz K, C-H Chang, JL Burgess, Cs Csuzdi. Earthworms (Annelida: Clitellata) of Plummers Island, Maryland, USA, with description of a new species. *Proc. Biol. Soc. Washington*, 126:312-322 DOI: 10.2988/0006-324X-126.4.312

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Szlavec K., M. McCormick, L. Xia, J. Saunders, T. Morcol, D. Whigham, T. Filley, Cs, Csuzdi 2011. Ecosystem effects of non-native earthworms in Mid-Atlantic deciduous forests. *Biological Invasions* 15:1165-1182. doi: 10.1007/s10530-011-9959-0

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Pouyat RV, ID Yesilonis, K Szlavecz, J Russell-Anelli, V Giorgio, Cs Csuzdi, E Hornung, Z Korsós 2008 Response of Forest Soil Properties to Urbanization Gradients in Three Metropolitan Areas. *Landscape Ecology* 23: 1187-1203

Filley, TR, McCormick, MK, Crow, SE, Szlavecz, K., Whigham, D.F. Taylor, D.L. Johnston, CT, van den Heuvel, R.. Comparison of the chemical alteration trajectory of *liriodendron tulipifera* litter among forests with different invasive earthworm activity. , *J. Geophys. Res.*, 113, doi:10.1029/2007JG000542.

Pickett, S.T.A., M.L. Cadenasso, J.M. Grove, P.M. Groffman, L.W. Band, C.G. Boone, G.S. Brush, W.R. Burch, Jr., S. Grimmond, J. Hom, J.C. Jenkins, N. Law, C.H. Nilon, R.V. Pouyat, K. Szlavecz, P.S. Warren, M.A. Wilson (2008) Beyond urban legends: An emerging framework of urban ecology as illustrated by the Baltimore Ecosystem Study: *BioScience*. 58: 139-150.

Hornung, E., F. Vilicsics, K. Szlavecz 2007. Conservation biology categories for terrestrial isopods (Isopoda, Oniscidea) with special emphasis on successful colonizers. *Cons. Biol Lett. Hung.* 13: 47-58

Szlavec K. and Csuzdi Cs 2007. Land use change affects earthworm assemblages in Eastern Maryland, USA. *Eur. J. of Soil Ecology*, 43: 79-85

Groffman, P., R.V. Pouyat, M.L. Cadenasso, W.C. Zipperer, K. Szlavec, I.C. Yesilonis, L.E. Band, G.S. Brush. 2006. Land use context and natural soil controls on plant community composition and soil nitrogen and carbon dynamics in urban and rural forests. *Forest Ecology and Management*, 236: 177-192.

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Szlavec, K., S. A. Placella, R.V. Pouyat, P. M. Groffman, Cs. Csuzdi and I. Yesilonis· 2006. Invasive earthworm species and nitrogen cycling in remnant forest patches. *Applied Soil Ecology*, 32: 54-63

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Szlávecz, K.: Community organization and succession on marine rocky shores. - Stud. Biol. 12: Problems of coenological succession (G. Fekete ed.) p.189-201. Akadémiai Kiado, Budapest, 1985 (in Hungarian)

Török, J. & Szlávecz, K: Strategies of food search and feeding among animals - Current Problems in Biology, 34: 193-261, 1986 (in Hungarian)

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Submitted

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In preparation

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Conference presentations, abstracts (2005-present)

2019

Yesilonis et al. Soil Ecology Society Meeting. Toledo OH, May 28-31, 2019

2018

Yesilonis I, K Szlavec, JA Chun, SL Pitz, J Hom, A Szalay: B23I-2647: The effects of land cover on soil CO₂ flux in a temperate suburban neighborhood. AGU Fall Meeting, Washington, DC, December 10-14, 2018

Huang Y, I Yesilonis, K Szlavec, Soil disturbance and management affect microarthropod community. 20th Annual meeting of the Baltimore Ecosystem Study, Baltimore, MD, Oct-24-25, 2018

Szlavec K, Vilisics F, Toth Zs, Hornung E: Terrestrial isopods in urban environments: a global review. 20th Annual meeting of the Baltimore Ecosystem Study, Baltimore, MD, Oct-24-25, 2018

Zsolt Veszprem

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Szlavecz K. and Csuzdi, Cs. Land use change and earthworm communities in Eastern Maryland, USA. The 8th Int. Symp. on Earthworm Ecology. Krakow, Poland, Sep 4-9, 2006.

Szlavecz, K., Hornung E., Vilisics, F., Csuzdi. Cs., Korsos, Z. The soil ecosystem in urban areas: Soil biodiversity. 1st European Congress of Conservation Biology, Eger, Hungary, Aug 122-26, 2006.

Carroll, W, Lev, S M, Szlavecz, K., Landa, E R., Casey, R. Snodgrass, J WS Tires, Worms and Weathering: Investigating the Role of Earthworm Processes in Urban Soils Receiving Roadway Derived Contaminants *Eos Trans. AGU*, 87(36), *Jt. Assem. Suppl.*, Abstract B43A-27, 2006

Szlavec, K., A. Szalay, A. Terzis, R. Musaloiu-E., S. Small, J. Cogan, R. Burns, J. Gray, S. Ozer 2006. Building and end-to-end system for soil monitoring. *Eos Trans. AGU*, 87(36), Jt. Assem. Suppl., Abstract H32B-02, 2006

2005

Szlavec, K., J. Cogan, R. Musaloiu-E., S. Small, A. Terzis, A. Szalay. A wireless sensor for soil monitoring. *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., Abstract IN21B-1174. 2005

Yang, A., M. Vishniac, K. Szlavec. Growth of the Asian earthworm *Amyntas hilgendorfi* in laboratory and field conditions. BES Annual Meeting, Baltimore, 2005

Wong, C., L. Murawski, R.V. Pouyat, K. Szlavec, P. Marra, S. Lev, and R. Casey. Heavy Metal Variations in Residential Soil Communities Along an Urban to Rural Gradient BES Annual Meeting, Baltimore, 2005

Szlavec, K., K. Juhaszova, and P. Groffman. Invasive Soil Invertebrates and N-Cycling ESA Annual meeting August 8-12 2005, Montreal, Canada

Szlavec, K., R.P. Pouyat, I. Yesilonis, P. Groffman and Q. Holifield: The suburban landscape: patterns and processes in the soil. ESA Mid-Atlantic Ecology Conference, UMBC, Baltimore 2005.

Juhaszova, K. and K. Szlavec. Invasive terrestrial isopods and soil nutrient cycling_ESA Mid-Atlantic Ecology Conference UMBC, Baltimore, 2005

Invited talks, departmental seminars

2018

Szlavec K. Life under the city: The decomposer community of urban soils. Cornell University, March 16, 2018

Szlavec K. Land use change effect on the soil ecosystem. Friends School of Baltimore STEM Speaker Series, January 28, 2018

2017

Szlavec, K. Life Under Your Feet: Sensor Networks for Soil Ecology. The Subterranean Macroscopic: Sensor Networks for Understanding, Modeling and Managing Soil Processes NSF Workshop, Nov 1-2, 2017, Chicago, IL.

Szlavec, K., Hornung, E., Vilisics, F. Isopods in urban environments – an overview. 10th International Symposium on the Biology of Terrestrial Isopods, Budapest, Hungary, Aug 27-30, 2017.

Szlavec, K. The soil ecosystem in urban vacant lots. Center for Urban Environmental Research and Education, University of Maryland, Baltimore County, April 14, 2017.

2016

Szlavec, K. and Pavao-Zuckerman M. Life under the city: The decomposer community of urban soils. Ecological Society of America Annual Meeting, Fort Lauderdale, FL, August 8-13, 2016.

Szlavec, K. Wireless sensor network for monitoring soil moisture. Workshop organized by the White House Office of Science and Technology Policy, Washington DC, March 23, 2016

2015

Szlavec, K. Macroinvertebrates in urban soils: The global perspective Annual Meeting of the Entomological Society of America, Minneapolis, MN, November 15-18, 2015

Szlavec, K. Land use change affects soil invertebrate communities. University of Maryland College Park, September 15, 2015

Szlavec, K. Patterns of local and global urban soil biodiversity. Ecological Society of America Centennial meeting, Baltimore, August 9-14, 2015

Szlavec, K. Diversity and ecosystem services of urban soils. “Livable Communities through Urban Forestry“, CaseyTrees Conference, Washington D.C., August 6-7, 2015

Szlavec, K. Spatial variability of SERC forest soils: Confounding effects of land use, age and non-native soil fauna. Smithsonian Environmental Research Center, June 11, 2015

Szlavec, K. Effects of non-native earthworms on Mid-Atlantic forest soils. Maryland Native Plant Society, April 28, 2015

2014

Szlavec, K., R.V. Pouyat, S. Cilliers, Cs.Csuzdi, M. Dombos, E. Hornung, D.J. Kotze, S. Mishra, H. Setälä, D.E. Schmidt, S.A. Yarwood, I.D. Yesilonis. A multi-city comparison of urban soil ecosystem function. 1st Global Soil Biodiversity Conference, Dijon, France, December 2-4, 2014

2013

Szlavec K. Changing landscape affects the soil ecosystem: examples from Mid-Atlantic forests. SUNY Binghamton, Oct 25, 2013.

Szlavec K. Three generations of wireless sensor networks to monitor the soil ecosystem. AGU Fall meeting San Francisco, December 9-13, 2013, IN44A-04

Szlavec K. Homogenization, convergence and their impact on the soil ecosystem. Workshop: *The Soil Ecology of Urban Areas: Establishment of a Global Research and Education Network*. International Congress for Conservation Biology, Baltimore, July 25, 2013

Szlavec K. Monitoring soil conditions using wireless sensors and sensor networks. Global Urban Soil Ecology Network Workshop, Johns Hopkins University, Baltimore, July 26, 2013

Szlavec K. Native and introduced Isopoda of the Southeast. Invertebrate Symposium at the North Carolina Museum of Natural Sciences, Raleigh NC, March 9, 2013

2012

Szlavec K. Changing landscape affects the soil ecosystem: examples from Mid-Atlantic forests. University of Delaware, September 24, 2012.

Szlavec K. The changing landscape and earthworm communities in the mid-Atlantic region. Smithsonian Institution, National Museum of Natural History, Washington D.C. May 30, 2012

2011

Szlavec K. Ecosystem services of urban soil biota. ASA, CSSA and SSSA Annual Meeting, San Antonio, TX, October 17-19, 2011

Szlavec K. Disturbance and stress in urban soil ecosystems. 12th European Ecological Federation Congress. Avila, Spain, September 25-29, 2011

2010

Szlavec K. The urban soil ecosystem. Towson University, July 28, 2010

Szlavec K: An End-to-End System for Soil Monitoring for the Baltimore Ecosystem Study; Center for Urban Environmental Research and Education, UMBC, April 2, 2010

2009

Szlavec K. Urban Soil Fauna and Ecosystem Services: Examples from the Baltimore Ecosystem Study. Soil Ecology Society Biennial Meeting, Burlington, VT July12-15, 2009

2008

Szlavec K and Whigham D Invasive species effects in the Mid-Atlantic deciduous forest - Presentation at the Maryland Department of Natural Resources, Dec 12 2008.

Szlavec K and Terzis, A. 2008. Life under your feet: A wireless soil ecology network MIRTHE Summer All-Hands Workshop, Aug 1-8, JHU, Baltimore, MD.

Szlavec K. 2008. Environmental Sensor Networks. PRISM (Princeton Institute for the Science and Technology of Materials) University –Industry Research Symposium; March 17-18, 2008, Princeton University INVITED

Szlavec K 2008. The decomposer food web in urban environments. Baltimore Ecosystem Study Quarterly Research Meeting January 23, 2008

2007

Szlavec K. and A. Terzis. From Raw Measurements to Knowledge Discovery in Environmental Wireless Sensor Networks Microsoft eScience Workshop. Chapel Hill, NC. October 21, 2007

Szlavec K. The soil biota in the urban landscape. Cleveland State University, OH, April 27, 2007

Szlavec K Soil Moisture Sensors and Future Opportunities with Gas Sensors. BES Quarterly Science Meeting. June 27, 2007, Baltimore, MD.

2006

Life under your feet at SERC: Distribution and diversity of soil invertebrates. Smithsonian Environmental Research Center, Edgewater, MD. Nov 16, 2006.

Szlavec K. The soil ecosystem in human-dominated environments. UC Davis, CA, April 27, 2006

Structure and function of soil communities in urban ecosystems. University of Louisville, KY. April 21, 2006.

Diversity, redundancy, heterogeneity: three challenges in soil ecology. Dept. of Earth and Planetary Sciences, The Johns Hopkins University. April 10, 2006

The Baltimore Ecosystem Study and Soil Research. Maryland Public Television EnviroHealth Connections Winter Colloquium. Johns Hopkins School of Public Health, January 20, 2006

Szlavec, K. Building and end-to-end system for long-term soil monitoring. Microsoft Research Faculty Summit, Redmont, WA, July 16-19, 2006.

2005

Szlavec, K. and A. Terzis: Life Under Your Feet: WSN in Soil Monitoring. Microsoft Research Sensor Network Workshop. Redmond, WA 2005.

Diversity and abundance of soil invertebrates in urban ecosystems. Maryland Entomological Society, October 20, 2005

Soil invertebrates and their effects on soil processes. Dept. of Geography and Environmental Sciences, University of Maryland Baltimore County, 2005.

2004

Szlavec, K. Urban biodiversity: Challenges in a heterogeneous landscape Annual Meeting of the Entomological Society of America Salt Lake City UT 2004

Szlavec, K. Disturbance and soil faunal community dynamics: lessons from American and European cities. Annual Meeting of the Ecological Society of America, Portland, OR 2004

Life under our feet: The ecology of soil organisms. UC Berkeley, Intel Research Laboratory, 2004.

Soil fauna assemblages in the Farming System Project experimental plots. USDA Sustainable Agricultural Systems Lab, Beltsville, MD, 2004

Native and introduced invertebrates in urban and rural soils. Native Plant Society, 2004

2003

Szlavec, K., P.M. Groffman and R.V. Pouyat. Soil fauna and nutrient cycling in urban and rural riparian zones. Annual Meeting of the Soil Science Society of America, Denver, CO 2003

Szlavec, K and Cs. Csuzdi: Native and Introduced Earthworms in the Jug Bay Wetlands Sanctuary. JBWS Research Conference: Workshop for Coastal Decision Makers, May 2, 2003

2002

Szlavec, K. Soil food-webs in agro-ecosystems: The effect of different management practices. Center for Livable Future, Johns Hopkins University School of Public Health, 2002.

Szlavec K. Alien invertebrates in urban and rural forest soils. Dept. of Biology, Towson University, 2002

Szlavec K. Introduction and establishment of non native species: Terminological issues. Hungarian Society for Conservation Biology 2002

2001

Szlavec K. Beloved Isopoda: a Tribute to Marie Flasarova and Overview of Oniscidean Research. 5th International Symposium on the Biology of Terrestrial Isopods, Irakleio, Greece, 2001

Szlavec K. Diversity and abundance of earthworms in urban ecosystems. Patuxent Environmental Research Center, Laurel, MD, 2001

Establishment of soil invertebrates in urban habitats: a North American Case Study. Hungarian Zoological Society. 2001.

Grants and Awards

Current

(Amount in parentheses reflects Szlavec K's share)

- Synthesis of long-term studies of how multiple human and biophysical factors interact to drive ecological change of an urban ecosystem NSF 2018-2021, \$2,254,000 Szlavec K CoPI
- The enigma of *Lumbricus friendi*, the 'other' nightcrawler. Washington Biologists' Field Club 2019-2020, \$5000, Szlavec K PI
- Ecosystem services in urban greenspaces across biomes: the influence of plant functional types and soil biota on soil-derived ecosystem processes (PARKTRAITS), Finnish Academy of Sciences (via University of Helsinki) 2018-2022, EU 485,093

Pending

- Collaborative Proposal: MRA: Drivers, processes and impacts: the second wave of earthworm invasions from local to continental scales. NSF-MRA 2020-2024, Szlavec K PI. \$ 2.3M (600K)
- RCN: Building an international community to advance urban soil science. NSF 2019-2024, \$499,000, Szlavec K CoPI

Past

- Earthworm diversity at multiple scales: What can genetics tell us about the distribution of these important soil organisms? NSF EAGER-NEON 2016-2016, Szlavecz PI, \$286,197
- Baltimore Ecosystem Study LTER IV: Dynamic heterogeneity: Investigating outcomes and drivers of ecological change in urban ecosystems. NSF 2016-2018 Szlavecz CoPI, NSF, \$2,254,000 (\$20 000)
- Engineering Research Center (ERC) on Mid-Infrared Technologies for Health and the Environment (MIRTHE), NSF 2006-2016, Szlavecz Collaborator, Amount : \$9,822,341 (\$627,000)
- Interdisciplinary Scientific Data Management, NSF-OCI 2012-2016, Szlavecz CoPI, Amount \$1,000,000 (\$295,379)
- International Supplemental to NSF OCI: Biotic and Abiotic Drivers of Decomposition Rates: A Preliminary Comparison among Five Cities, Amount \$51,000
- Response of the Soil Ecosystem to the Changing Climate: *In Situ* Observations in Deciduous Forests Environment, Energy, Sustainability and Health Institute, Johns Hopkins University, Szlavecz PI, Amount: \$22,800
- End-to-End Data System for Sensor Networks, Microsoft Research, Szlavecz PI, Amount \$490,000 (\$240,000)
- Collaborative Research: Investigating the soil-earthworm-litter system controls on the stabilization of soil organic matter in Eastern deciduous forests, NSF 2008-2012, Szlavecz CoPI, Amount \$672,000 (\$199,919)
- IDBR: An End-to-End Sensor Based System for Environmental Monitoring, NSF 2008-2012, Szlavecz PI, Amount \$ 400,252 (\$221,995)
- MRI: Acquisition of Liquid Water Isotope Analyzer Capability for Advancing Hydrologic Research in the Baltimore Ecosystem Study LTER. NSF MRI 10/1/10 - 9/30/15 Szlavecz CoPI , Amount \$105,511
- The indirect effects of invasive earthworms on tree seedlings recruitments in deciduous forests, USDA 2007-2010, Szlavecz CoPI, Amount: \$287,509 (\$148,291)
- Biodiversity inventory of earthworms (Oligochaeta: Annelida) of Plummers Island, Maryland, Washington Biologists' Field Club, 2009-2010 Szlavecz PI, Amount \$1,800
- Data Intensive Science: Monitoring Soil Parameters *in situ*. Gordon and Betty Moore Foundation 2005-2010, Amount \$950,000 (\$150,000)
- Human Settlements as Ecosystems: Metropolitan Baltimore from 1792-2100. Phase II. NSF, 2004-2009, Szlavecz CoPI, Amount: \$4,920,000 (\$95,000)
- Wireless Sensor Network in Soil Ecology: a Pilot Study. Microsoft Research 2005, \$15,000
- Teaching: Kenan Award for Soil Ecology course development Amount \$4,000
- Teaching: Nomination for Excellence in Teaching Award
- Advanced scientific data analysis for environmental monitoring. The Seaver Institute \$10,000
- The Ecology of Invasive Soil Invertebrates. Hungarian Science Foundation (OTKA) 2003-2006

- Urban LTER: Human Settlements as Ecosystems: Metropolitan Baltimore from 1797-2004. National Science Foundation LTER 2001-2004 (\$5,000)
- SGER: Amount, Rate and $\delta^{13}\text{C}$ of Soil Organic Matter Production by *Armadillidium vulgare*. NSF 2001-2002 Amount \$90,000 (\$45,000)
- Undergraduate Mentoring in Environmental Sciences (suppl). NSF 2001-2003, \$2,500
- The Effect of Past and Present Human Activities on Soil Biodiversity. NSF-INT 2000-2003, \$23,000
- Soil Food Webs in Agro-ecosystems: The Effects of Different Management Practices. JHU School of Public Health, Center for Livable Future 2001-2003, \$15,000
- Visiting Fellowships to US and to Hungary. Science and Technology Foundation. 2001
- Kenan Awards for Ecology of a Changing Planet, Population Ecology
- The Role of Interactions of Saprophagous Invertebrates in Decomposition Processes, Hungarian Science Foundation 1991-94
- Computerized Data Acquisition and Analysis in Feeding Ecology Research II. Hungarian Science Foundation 1991-94
- Equipment Support for Research and Teaching in Zoology and Ecology. Ministry of Education, Hungary 1990-91
- Computerized Data Acquisition and Analysis in Feeding Ecology Research I., Hungarian Science Foundation 1988-90
- Student Excellence Fellowship, Hungary, 1976-77

Professional Activities

Conference, symposium, workshop organizer

- 10th International Symposium on Terrestrial Isopod Biology, Budapest, Hungary, August 30-Sep 3, 2017
- Symposium Co-organizer: Novel environments in cities: adaptation to urban conditions. Annual Meeting of the Ecological Society of America, Fort Lauderdale, FL, Aug 7-12 2016
- Session organizer: Urban Soil Ecology: A New Frontier. Annual Meeting of the Entomological Society of America, Minneapolis, MN, November 13-15, 2015
- Session Organizer: Urban Soil Biodiversity: A New Frontier in Ecological Science and Education. Ecological Society of America Centennial Meeting, Baltimore, MD, 9-14 August, 2015
- Workshop Organizer and Leader: Life Under the City: Assessment of Urban Soils. Ecological Society of America Centennial Meeting, Baltimore, MD, 9-14 August, 2015

- Workshop organizer: The 3rd International Workshop on Global Urban Soil Ecology and Education, January 10-18, 2015, Johns Hopkins University, Baltimore, MD
- Session Organizer: A New Research and Education Initiative: The Global Soil Ecological Urban Network. The 1st Global Biodiversity Conference, Dijon, France, 2-5 December 2014
- National Organizing Committee Member: 10th International Symposium on Earthworm Ecology and Evolution, Athens GA, June 2014
- Establishment of a Global Urban Soil Ecology and Education Network, Johns Hopkins University, July 26, 2013
- The Soil Ecology of Urban Areas. 26th International Congress for Conservation Biology, Baltimore, MD, July 25, 2013
- Workshop on Environmental Sensor Networks. Johns Hopkins University 2008
- Biodiversity and conservation values of urban habitat fragments. 1st European Congress on Conservation Biology, Eger, Hungary, 2006
- A Unique Urban Biogeochemistry, AGU Spring Joint Assembly, Baltimore, MD 2006
- Ecological Society of America Mid-Atlantic Chapter 1st Meeting, 2003
- Scientific Organizing Committee Member, 5th International Symposium on the Biology of Terrestrial Isopods, Irakleito, Greece, 2001
- BES/SCRPP Summer Urban Ecology Education Institute, June 1999, Baltimore
- Ecology of Terrestrial Isopods. 4th European Congress of Entomology, Hungary 1991
- Biodiversity in the Soil. MAEOE Annual Meeting, Baltimore, 1991

Editorial Board

- Guest Editor, Insect Special Issue: Soil Arthropods and Soil Health
- Associate Editor, Urban Ecosystems, 2016-present
- Editorial Board Member, Frontiers in Ecology and Evolution, 2015-present
- Guest Editor, Applied Soil Ecology Special Issue 2014-15
- Editorial Board member, Urban Naturalist, 2013-present
- Editorial Board Member, Environmental Science, 2002-2014
- Editor, Crustaceana Monographs, 2003
- English language editor for Acta Zoologica Hungarica 1988-89

Review panel

- NSF IGERT 2010
- NSF GLTG 2012
- NSF National Ecological Observatory Network (NEON) Preliminary Design Review Panel. 2006-2007

Proposal review

- National Science Foundation
- European Science Foundation
- Hungarian Science Foundation
- Natural Sciences and Engineering Research Council (NSERC) of Canada

- USDA-ARS CRIS Project Plan
- The Levelhume Trust
- Indo-US Bilateral Workshops/Symposia/Conferences
- DOE BER Terrestrial Ecosystem Science Program
- FWO: Research Foundation-Flanders (Belgium)
- NERC Science of the Environment (UK)

Manuscript Review

- Ecology, Soil Biology and Biochemistry, PEERJ, Frontiers in Ecology and Evolution, European Journal of Soil Biology, European Journal of Soil Science, Applied Soil Ecology, Biodiversity and Conservation, Ecosystems, Acta Oecologia, Environmental Research, Journal of Experimental Marine Sciences, Urban Ecosystems, Crustaceana Monographs, Ecography, Invertebrate Biology, Southeastern Naturalist, Northeastern Naturalist, Oikos, Behaviour, ZooKeys, Invasive Plant Science and Management, BioMed Central_Biology, Soil Science Society of America Journal, Annales Zoologic Fennici

Committees, other activities

- Faculty Search Committee, Environmental Science and Sustainability faculty, JHU EPS
- Faculty Search Committee, Teaching Professor, JHU EPS
- Program Committee, Global Environmental Change and Sustainability (GECS) major, Johns Hopkins University, 2015-present
- JHU EPS Field Fund Committee, 2015
- Program Committee, Advanced Academic Programs in Environmental Science and Policy, JHU, 2005-present
- Scientific Advisory Committee, Jug Bay Wetland Sanctuary, MD, 1997-2013
- Baltimore Ecosystem Study Project Management Committee, 2003-2005
- Baltimore Ecosystem Study Steering Committee, 2001-present
- Zoology Committee of the Hungarian Academy of Sciences, 1990-94

Education and Outreach

Courses

Courses currently taught

- 270.103. Introduction to Global Environmental Change (formerly Our Changing Planet); (enrollment: 70)
- 270.308. Population and Community Ecology (enrollment: 15-40)
- 270.332. Soil Ecology (enrollment (5-10)
- 270.495. Senior Thesis
- 270.507. Independent Study
- 270.667. Seminar in Soil Ecology

Courses taught in the past

- 270.210. Environmental Field Methods (enrollment 5-10)
- 270.103. Introduction to Global Environmental Change (formerly Our Changing Planet); (enrollment: 80-100)
- 360.236. Intersession: Ecuador and the Galapagos Islands (enrollment: 25-30)
- 270.322. GECS Fieldwork in Ecuador
- 270.231. Ecology of a Changing Planet (enrollment: 30-40)
- 420.611. Principles and Methods of Ecology (enrollment 20-25; taught simultaneously in Homewood and DC campuses)
- 420.626. Field Methods in Ecology (enrollment: 10-15)
- Habitats, Biodiversity, Extinction (enrollment: 20-25)
- Strategies of Feeding and Food selection of Animals
- Introductory Ecology

Guest lectures

- 271.304. Sustainable Food Systems
- 270.320. Global Change and Human Health
- 020.161. Biology Workshop
- 270.311. Geobiology
- 420.625. Chesapeake Bay: Ecosystem Ecology and Management
- 420.637. Biodiversity and Wildlife Conservation
- Field Methods in Geography (at UMBC)
- Landscape ecology (at UMBC)

Other Education and Outreach Activities

- Curriculum development for the ecological division of the Advanced Academic Program in Environmental Sciences and Policy, Johns Hopkins University
- Graduate Exam Board for the Center for Functional Anatomy and Evolution, JHU School of Medicine; Whiting School of Engineering
- Presentation in Friends School of Baltimore, January 2018
- Lead field trip for MICA (Maryland Institute College of Art) Design Studio class on urban landscapes, September 18, 2015
- Lead field trip on invasive species to the Maryland Native Plant Society, Smithsonian Environmental Research Center, June 17, 2015
- Lecture on The Quarknet Workshop for high school teachers (JHU Physics and Astronomy Dept): Sensor Systems to Measure the Carbon Cycle, July 31, 2012
- I regularly serve as OSPA judge at AGU
- Put together exhibit on carbon cycling for the US Science and Technology Festival (<http://www.usciencefestival.org/>), Washington D.C. 2010, 2012
- Invited to contribute to the Smithsonian Institution Soil Exhibit: Dig It: The Secrets of Soil”.
- Invited to serve as Advisory Committee Member: “Savage Yard” planned PBS series on backyard biodiversity
- Team Leader for Soil Invertebrates in Bioblitz events: Jug Bay Wetlands Sanctuary 2007; Patuxent River Park 2009; prepared Bioblitz reports, Piscataway National Park 2016
- Advisor for Jenny Harvey, middle school teacher and Summer Intern for the Baltimore Ecosystem Study
- Co-author of K 5-12 Instruction Book “Schoolyard Worms and Soils”
- Organizer and leader of several workshops for Baltimore City and County science teachers: e.g. “Biodiversity in the Soil”, “Animals in Urban Landscapes”, “Schoolyard Worms and Soils”, “Investigating Urban Soils”
- Lecture for Earthwatch participants on invasive earthworms. Smithsonian Environmental Research Center
- Participate in after-school and summer environmental programs for inner city children: KidsGrow, Green Career Ladder (organized by Parks and People Foundation, Baltimore)
- Examples of media coverage
 - <http://www.nature.com/nature/journal/v440/n7083/full/440402a.html>
 - <http://www.smithsonianmag.com/smithsonian-institution/earthworms-a-nightmare-for-americas-orchids-14692993/?no-ist>
 - <http://ecosystems.serc.si.edu/earthworm-invaders/>
 - http://www.jugbay.org/sites/www.jugbay.org/files/newsletter/Jug_Bay_Winter_08-09.pdf,
 - <http://krieger.jhu.edu/magazine/v9n2/big-data/>

- <http://pqasb.pqarchiver.com/washingtonpost/doc/409468970.html?FMT=ABS&FMTS=ABS:FT&date=May+4%2C+2003&author=&desc=Outside%3A+A+Monthly+Guide+to+the+World+Around+You>
- <http://www.sciencedaily.com/releases/2005/03/050326102702.htm>
- <http://pages.jh.edu/~jhumag/0901web/roly.html>

Advising and mentoring

Postdoctoral advisee

- Chih-Han Chang, 2016-present
- Jong Ahn Chun, 2011-2012
- Yulia Savva, 2008-2010

Graduate student advisees

- Ian Yesilonis PhD, 2018-present
- Xu Yang, PhD, 2013-present
- Scott L. Pitz PhD, 2009-present
- Chih-han Chang PhD, 2009-2015: The Second Wave of Earthworm Invasion: Interspecific Interactions, Soil Microbial Communities and Carbon Cycling, pp 173.
- Jerry L. Burgess PhD, 2007-2013: Geologic and Edaphic Controls on Serpentine Vegetation Dynamics, pp 226
- Lijun Xia PhD, 2006-2012: Physical and Biological Drivers of Forest Soil Carbon Cycling pp 164.

Graduate student advisory and thesis committee, second reader

- Yini Ma, PhD, Purdue University, 2008-2013
- Rebecca Kraft, PhD, JHU 2011-2012
- Namhey Lee, PhD, JHU 2010-2012
- Jordan Wolf, MSc, SUNY Syracuse, 2008-2009
- Whitney Carroll MSc, Towson University 2009-2010
- Vincent Giorgio MSc, SUNY Syracuse 2000-2001

Graduate student research training, independent study

- Darcy Ferrer, MSc, Advanced Academic Program in Environmental Science and Policy, JHU 2012
- Amir Poudel, MSc, Advanced Academic Program in Environmental Science and Policy, JHU 2009-2010

Undergraduate research and mentoring (total number over 60)

Current

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Past

NSF Research Experience for Undergraduate Students (11)

- Christian Canyon (GECS major), BES REU, Adam Dec (2014, JHU, Senior Thesis) Kenny Harvey (2012, Carleton College, physics major), Jennifer Conwell (2009, U South Carolina, physics major) Yun Cheng (2009, Brown University, chemical engineering major), Julia Klofas (2007, JHU), Josh Cogan (2007, JHU), Laura Murawski (2005 College of New Paltz), Chrisina Wong (2005, Occidental College), Katarina Juhaszova (2004, JHU), Sarah Placella (2001, JHU)

Baltimore Collaborative in Environmental Biology (4). NSF funded Undergraduate Mentoring in Environmental Biology (UMEB) program. Its goals were to enhance the opportunities of undergraduates from underrepresented groups to participate in environmental research. Each student worked with a mentor for two years.

- Mary Jane Valentino (1999-2000, Towson University) Janelle Harris (2001-2002 Towson University), Jennifer Stiltz (2001-2002, Towson University), Larissa Lang (2000, Morgan State University)

Provost's Undergraduate Research Award (PURA) sponsor (4)

- Scott Pitz (2003-04), Katarina Juhaszova (2004-2005), Josh Cogan (2005), Natalie Bray (2011)

Woodrow Wilson Fellowship Mentor (2)

- Dave Marvin (2002-2005) Lily Zhou (2006)

Other (40)

- Kieran Reilly, Erin Baggs (Applied Research Experience), Michaela Sten (Independent Study), Sofia Verheyen, Eli Ross, Sarah Ragen (GECS senior capstone project), Sarah Tejo (GECS senior capstone) Sarah Meeteer, Ziwei He, Jacob Rode, Zachary Ferguson, Kelly Baker, Helen Huang, Peter Houlihan, Natalie Bray, Aidan Fisher, Jason Hu, Meghan Zepp, David Rawitz, Justin Silverman, Sarah Frank, Tashi Rowe, Kelly Adams, Sayed Ali, Andrew Yang, Kyra Appleby, Katarina Juhaszova, Kim Townsend, Scott Pitz, Maggie Hurwitz, Ben Cook (SUNY Syracuse) Mike Drusano, Ashley King, Nikki Traylor-Knowles, Alex Kalejs, Hilda Williams, Charles Wheeler, Amanda Trostle, Alicia Slavis, Mary Bowler, Mike Peters, Nadia Asanchev, Jessica Reese, Elizabeth Chang

High school student research training and mentoring (7)

- Elliott Strahan (Friends School 2018, 2019) Katherine Johnston (Friends School 2016) Jack Baer (Friends School 2014), Zachary Weston-Farber (Friends School 2014), Thomas

Robbins (The Park School of Baltimore, 2012-2013) Beverly Lasan (Friends School 2012),
Samuel Keamy-Minor (Friends School 2012), Miriam Vishniac (Friends School, 2010)

List of Collaborators

Vanessa Beauchamp, Towson University
Sarel Cilliers, University of Potchefstroom, South Africa
Michel Cavigelli, USDA Beltsville Agricultural Research Center
Ryan Casey, Towson University
Michael S. Clark, Berea College
Csaba Csuzdi, Hungarian Natural History Museum
Miklos Dombos, Agronomy and Soil Science Institute, Hungary
Timothy Filley, Purdue University
Claire Gmachl, Princeton University
Peter Groffman, Cary Institute of Ecosystem Studies
John Hom, USDA Forest Service
Elisabeth Hornung, St. Stephen University, Hungary
Dan Kjar, Elmira College
Zoltan Korsos, Hungarian Natural History Museum
Johan Kotze, University of Helsinki
Steven Lev, Towson University
Peter Marra, Smithsonian National Zoo
Melissa McCormick, Smithsonian Environmental Research Center
Michael McGuire, Towson University
Sean McMahon, Smithsonian Environmental Research Center
Pat Megonigal, Smithsonian Environmental Research Center
Charles Nilon, University of Missouri-Columbia
Stuart Ozer, Microsoft Research
John Parker, Smithsonian Environmental Research Center
Steward T.A. Pickett, Cary Institute of Ecosystem Studies
Richard V. Pouyat, USDA Forest Service
Jeffrey Schultz, University of Maryland
Heikki Setälä, University of Helsinki
Chris Swan, UMBC
Chris Swarth, UC Merced
Andreas Terzis, Computer Science Department, School of Engineering, JHU, Google
Claire Welty, Center for Urban Environmental Research and Education, UMBC
Dennis Whigham, Smithsonian Environmental Research Center
Ian Yesilonis, USDA Forest Service
Stephanie A. Yarwood, University of Maryland