

CURRICULUM VITAE

Delphis F. Levia, Jr.

OFFICE ADDRESS

Department of Geography & Spatial Sciences
University of Delaware
Newark, DE 19716-2541
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EDUCATION

Clark University, Worcester, MA
Ph.D. in Geography (2000)
Fields of Expertise: forest hydrology and biogeochemistry, biometeorology, forest ecology, bioimaging and microscopy, snow-vegetation interactions, snow chemistry, biomechanics, field methods and instrumentation, land degradation, environmental assessment
Ph.D. dissertation: *Winter stemflow leaching from deciduous canopy trees in relation to meteorological conditions and canopy structure*
Advisor: Professor Stanley Herwitz

University of Massachusetts, Amherst, MA
M.S. in Geography (1996)
Fields of Expertise: natural hazards, geomorphology
M.S. thesis: *The perception of floods associated with storm surges among the citizens of Scituate, Massachusetts*
Advisor: Professor David Alexander

Clark University, Worcester, MA
B.A. in Geography, *summa cum laude* (1994)
Senior thesis: *Mid-winter stemflow drainage from bigtooth aspen*

ACADEMIC APPOINTMENTS

Professor of Ecohydrology (2012- pr)
Primary Appointment, Department of Geography & Spatial Sciences
Joint Appointment, Department of Plant & Soil Sciences (2006-pr)
University of Delaware, Newark, DE

JSPS Research Fellow (June-July 2016)
Forestry and Forest Products Research Institute (FFPRI)
Tsukuba, Ibaraki Prefecture, Japan

Guest Professor (May-Aug 2014)
Hydrospheric Atmospheric Research Center
Nagoya University
Nagoya, Aichi Prefecture, Japan

Humboldt Fellow & Guest Professor (2012, sabbatical)
Chemisch-Geowissenschaftliche Fakultät
Friedrich Schiller Universität Jena
Jena, Thuringia, Germany

Associate Professor (2009-2012)
University of Delaware, Newark, DE

Assistant Professor (2003-2009)
University of Delaware, Newark, DE

Assistant Professor (2001-2003)
Southern Illinois University, Carbondale, IL

Visiting Assistant Professor (2000-01)
Clark University, Worcester, MA

**ADMINISTRATIVE
APPOINTMENTS**

Chair, Department of Geography (2015- pr)
University of Delaware, Newark, DE

Director, Environmental Science & Studies Programs (2010-2015)
University of Delaware, Newark, DE

University Faculty Assessment Scholar (2010- pr)
University of Delaware, Newark, DE

Associate Chair (2010-2011)
Department of Geography
University of Delaware, Newark, DE

**OTHER
APPOINTMENTS**

Reference Librarian (1999-2001)
Quinsigamond Community College, Worcester, MA

Research Assistant (1997)
Harvard University
Harvard Forest, Petersham, MA
Project title: Modeling the carbon budget of an old growth hemlock
(*Tsuga canadensis*) stand

HONORS & AWARDS

Humboldt Alumni Research Fellowship (awarded 2018, for research in 2020)

Excellent Article Award Winner, Japan Society of Hydrology and Water Resources (2018)
[article doi: 10.1016/j.jhydrol.2017.03.009, *Journal of Hydrology*]

Editor's Choice Award- Biotropica [article doi: 10.1111/btp.12349] (2017)

Japan Society for Promotion of Science (JSPS) Invitation Fellowship (2016)

Honorary Member- Delta Phi Alpha- National German Honor Society (2014)

Cover Photo for the Canadian Journal of Forest Research [Vol. 43, Issues 1-12] (2013)

Humboldt Research Fellowship for Experienced Researchers (2012)

Salzburg Global Seminar Fellow (2008)

Award for Excellence in Geography Programmatic Assessment (2008)

Phi Beta Kappa Honor Society (inducted 1994)

Gamma Theta Upsilon-Geographic International Honor Society (inducted 1992)

Strabo Prize for Intellectual Leadership, Exploration, & Creativity in Geography (1992)

TECHNOLOGY TRANSFER: LICENSING & PATENTING ACTIVITY

2013. Know-How License Agreement (Licensor: University of Delaware; Licensee: Automation Research Group. Pursuant to PCT Patent Application Nos.: PCT/US2010/034942 and PCT/US2012/024605). LaserBark™ automated tree measurement system.
2012. United States Patent and Trademark Office. United States Non-Provisional Patent Application No. 13/370,803. Methods and systems for identifying a point of interest on the periphery of an object.
2012. Russian Patent Office- International Searching Authority. International Non-Provisional Patent Application No. PCT/US2012/024605. Methods and systems for identifying a point of interest on the periphery of an object.
2011. United States Patent and Trademark Office. United States Provisional Patent Application No.: 61/441,502. Apparatus for defining a point of interest on the periphery of an object.
2010. United States Patent and Trademark Office. United States Non-Provisional Patent Application No. 12/780,517. Method and apparatus for measuring microrelief of an object.
2010. Korean Intellectual Property Office- International Searching Authority. International Non-Provisional Patent Application No. PCT/US2010/034942. Method and apparatus for measuring microrelief of an object.

2009. United States Patent and Trademark Office. United States Provisional Patent Application No.: 61/178,708. Method and apparatus for measuring microrelief of tree bark.

GRANTS AWARDED

2019. Alexander von Humboldt Foundation. Humboldt Alumni Research Fellowship. (Ref. No. USA-1144421-HFST-E). Relative effects of trees species and verticality on biogeochemical cycling within the forest canopy. Role: Fellow (Award total: €14,725)
2019. Deutscher Akademischer Austauschdienst (DAAD). Tracking the impact of abiotic and biotic stressors on the biogeochemistry of trees with morbidity: a greenhouse experiment. Role: Host. Fellow and international postdoctoral collaborator: Kerstin Nätke, Friedrich Schiller University of Jena
2019. Consejo Superior de Investigaciones Científicas (CSIC) (Spain). (Ref. No. LINKA20045). The impacts of forest management and climate change on rainfall partitioning: their effects on soil moisture and groundwater. Role: Host, collaborator. PI: Pilar Llorens, IDAEA-CSIC (€18,512)
2018. UNIDEL Foundation. GRAND CHALLENGES Interdisciplinary Grants Program. Innovative solutions to the global water crisis: promulgating grand strategies from ecohydrology. Role: PI. (\$85,025)
2018. Japan Society for Promotion of Science. Fund for the Promotion of Joint International Research (Ref No. 17KK0159). How does rain journey through the vertical canopy structure to the forest floor? - development of physical model using chemical analysis. Role: Host. Fellow and international senior collaborator: Kazuki Nanko, Forestry and Forest Products Research Institute (Award total: ¥10,200,000)
2016. Japan Society for Promotion of Science. Invitation Fellowship for Research in Japan (Ref. No. S16088). Study on rainfall redistribution by forest canopies using natural and simulated rainfall. Role: Fellow. (¥ 763,570)
2016. The Secretariat of State for Research, Development and Innovation (Spain). Ministry of Economy and Competitiveness (Ref. No. PRX15/00326). Papel de los flujos de trascolación en la modificación de las partículas atmosféricas a su paso a través de la cubierta forestal. Role: Host. Fellow and senior collaborator: Pilar Llorens, IDAEA-CSIC (€11,281)
2015. US National Science Foundation. Geography and Spatial Sciences (Ref. No. BCS-1459116). Doctoral Dissertation Research: Effects of forest fragment size, shape, and structure on rainfall redistribution and solute flux in urban settings. Role: PI. (\$15,513)
2013. US National Science Foundation. Research Infrastructure Improvement Program (Track 2, RII C2, Ref. No. IIA-1330238). Collaborative Research: North East Water Resources Network (NEWRnet). Role: Co-PI. (Project total: \$6,000,000; Award total to University of Delaware: \$2,000,000)

2012. US National Science Foundation. Geography and Spatial Sciences (Ref. No. BCS-1233592). Doctoral Dissertation Research: Synoptic climatological approaches to assessing subcanopy hydrologic and nutrient fluxes in a temperate deciduous catchment. Role: PI (Award total: \$13,805)
2012. Alexander von Humboldt Foundation. Humboldt Research Fellowship. (Ref. No. USA-1144421-STP). A pilot study to investigate the effects of the woolly beech aphid on the hydrology and biogeochemistry of German European beech forests. Role: Fellow (Award total: €28,738)
2010. US National Science Foundation. Critical Zone Observatories (Ref No. EAR-1039401). Ground truth vegetation characteristics for CZO LiDAR study. Role: Co-PI. (Award total: \$30,031)
2010. US National Science Foundation. Geography and Spatial Sciences (Ref No. BCS-1003047). Doctoral Dissertation Research: Inter- and intra-storm variability of dissolved organic carbon and nitrogen fluxes from a mid-latitude broadleaved deciduous forest canopy. Role: PI. (Award total: \$12,000)
2009. US National Science Foundation. Critical Zone Observatories (Ref No. EAR-0724971). Collaborative Research: Consequences of critical zone disturbance to carbon storage, transport, bioavailability, and sequestration. Role: Co-PI. (Award total: \$4,315,607)
2009. University of Delaware. Office of Educational Assessment. Assessing the efficacy of DLE (discovery learning experience) courses for undergraduate students. Role: PI. (Award total: \$10,000)
2009. Starrett Foundation and University of Delaware, Office of Economic Innovation and Partnership. Gap funding for the LaserBark™ automated tree measurement system. Role: PI. (Award total: \$51,000; Starrett Foundation: \$25,000; University of Delaware: \$26,000)
2008. US National Science Foundation. International Research and Education: Planning Visits and Workshops (Ref No. OISE-0822226). U.S.-Switzerland planning visit: Seeking a better understanding of canopy-snowpack interactions in relation to the avalanche hazard. Role: PI. (Award total: \$15,588)
2008. US National Science Foundation. Hydrologic Sciences (Ref No. EAR-0809205). Collaborative Research: Evolution of dissolved organic nitrogen (DON) from the headwaters to the catchment outlet: sources, variation with scale, and differences with DOC. Role: Co-PI. (Project total: \$540,634; Award total to University of Delaware: \$331,920)
2008. Association of American Geographers. AAG Research Grant. Dissolved organic carbon and nitrogen flux through the critical zone: effects of the canopy and litter layer. Role: PI. (Award total: \$1,200)
2007. Starrett Foundation. Microclimatology and biogeochemistry of a mid-Atlantic watershed located in southeastern Pennsylvania. Role: PI. (Award total: \$56,000)

2007. University of Delaware Research Foundation. Dissolved organic carbon and nitrogen flux through the critical zone: effects of the canopy and litter layer. Role: PI. (Award total: \$25,000)
2006. University of Delaware. Center for Teaching Effectiveness, General Education Initiative, Information Technologies- Instructional Grant. Schistosomiasis and gold mining: two PBL activities for *Conservation of Natural Resources* (Geog235). Role: PI. (Award total: \$8,711)
2002. Oklahoma Climatological Survey, University of Oklahoma. Mesonet Data Grant. Assessing climatic suitability of the northward expansion of *Solenopsis invicta* Buren (red imported fire ant) in Oklahoma under three global climate change scenarios. Role: PI. (Award total: \$9,000)
2002. Office of Research and Development Administration, Southern Illinois University, Carbondale. Faculty Research/Creative Grant. The development of a methodology to detect farmland prone to residential development near small towns. Role: PI. (Award total: \$9,641)
2002. Office of Research and Development Administration, Southern Illinois University, Carbondale. Award of an Undergraduate Research Fellow (Ref. No. 3022-165). Litterfall interception of *Liquidambar styraciflua* L. (sweetgum) fruit litter in southern Illinois. Role: PI. (Award total: \$5,400)
1999. US National Science Foundation. Doctoral Research Grant. Geography and Regional Science (Ref. No. SBR-9906545). Seasonality of leachate dynamics in broadleaved deciduous forest ecosystems in relation to global change and the increased frequency of mixed precipitation. Role: PI. (Award total: \$9,050)
1999. Massachusetts Water Resource Authority (MWRA), Commonwealth of Massachusetts. Chemical Analysis Grant. Seasonality of leachate dynamics in broadleaved deciduous forests in relation to global change and the increased frequency of mixed precipitation. Role: PI. (Award total: \$28,000)
1999. Pruser/Holzhauser Graduate Enhancement Research Grant. Graduate School of Geography, Clark University. Aboveground winter leachate dynamics from the woody surfaces of deciduous canopy trees in relation to canopy structure and meteorological conditions. Role: PI. (Award total: \$500)

COLLABORATIONS ON FOREIGN GRANT AWARDS

2019. Alexander von Humboldt Foundation. Humboldt Alumni Research Fellowship. (Ref. No. USA-1144421-HFST-E). Relative effects of trees species and verticality on biogeochemical cycling within the forest canopy. Role: Fellow. International host and collaborator: Beate Michalzik, Friedrich Schiller University Jena (Award total: €14,725)

2019. Deutscher Akademischer Austauschdienst (DAAD). Tracking the impact of abiotic and biotic stressors on the biogeochemistry of trees with morbidity: a greenhouse experiment. Role: Host. Fellow and international postdoctoral collaborator: Kerstin Nätke, Friedrich Schiller University of Jena
2019. Consejo Superior de Investigaciones Científicas (CSIC) (Spain). (Ref. No. LINKA20045). The impacts of forest management and climate change on rainfall partitioning: their effects on soil moisture and groundwater. Role: Host, collaborator. PI: Pilar Llorens, IDAEA-CSIC (€18,512)
2018. Japan Society for Promotion of Science. Fund for the Promotion of Joint International Research (Ref No. 17KK0159). How does rain journey through the vertical canopy structure to the forest floor? - development of physical model using chemical analysis. Role: Host. Fellow and international senior collaborator: Kazuki Nanko, Forestry and Forest Products Research Institute (Award total: ¥10,200,000)
2016. Spain. The Secretariat of State for Research, Development and Innovation. Ministry of Economy and Competitiveness (Ref. No. CGL2016-75957-R). Spatio-temporal patterns of water transfer in headwater Mediterranean catchments. Links between vegetation and hydrological response (*TransHyMed*). Role: Senior Collaborator. PI: Pilar Llorens, IDAEA-CSIC. (€100,000)
2016. Japan. Japan Society for Promotion of Science. Invitation Fellowship for Research in Japan (Ref. No. S16088). Study on rainfall redistribution by forest canopies using natural and simulated rainfall. Role: Fellow. International host and collaborator: Kazuki Nanko, Forestry and Forest Products Research Institute (FFPRI) (¥ 763,570)
2016. Spain. The Secretariat of State for Research, Development and Innovation. Ministry of Economy and Competitiveness (Ref. No. PRX15/00326). Papel de los flujos de trascolación en la modificación de las partículas atmosféricas a su paso a través de la cubierta forestal. Role: Host. Fellow and senior collaborator: Pilar Llorens, IDAEA-CSIC (€11,281)
2015. Spain. The Secretariat of State for Research, Development and Innovation. Ministry of Economy and Competitiveness (Ref. No. CGL2013-43418-R). EcoHyMed: Ecohydrology of Mediterranean headwater catchments. Links between vegetation and hydrological response in a changing environment. Role: Senior Collaborator. PI: Pilar Llorens, IDAEA-CSIC. (€122,210)
2015. Japan. Japan Society for Promotion of Science. Grant-In-Aid for Scientific Research (Ref, No. 15H05626). 3-D physical simulation on tree wetting and drying processes through multipoint raindrop measurements. Role: Senior Collaborator. PI: Kazuki Nanko, Forestry and Forest Products Research Institute (FFPRI) (¥17,290,000)

2012. Germany. Alexander von Humboldt Foundation. Humboldt Research Fellowship. (Ref. No. USA-1144421-STP). A pilot study to investigate the effects of the woolly beech aphid on the hydrology and biogeochemistry of German European beech forests. Role: Fellow. International host and collaborator: Beate Michalzik, Friedrich Schiller University Jena (Award total: €28,738)

PUBLICATIONS (student co-author color code: green = undergraduate; purple = graduate)

Books

Levia, D.F. (Editor), Carlyle-Moses, D.E. (Co-Editor), Iida, S. (Co-Editor), Michalzik, B. (Co-Editor), Nanko, K. (Co-Editor), and Tischer, A. (Co-Editor). 2019. *Forest-Water Interactions*. Ecological Studies Series, No. 240, Springer-Verlag, Heidelberg, Germany, In press. [ISBN: 978-3-030-26085-9 (Print); 978-3-030-26086-6 (eBook); DOI: 10.1007/978-3-030-26086-6]

Levia, D.F. (Editor), Carlyle-Moses, D.E. (Co-Editor) and Tanaka, T. (Co-Editor). 2011. *Forest Hydrology and Biogeochemistry: Synthesis of Past Research and Future Directions*. Ecological Studies Series, No. 216, Springer-Verlag, Heidelberg, Germany, 740 p. [ISBN: 978-94-007-1362-8 (Print); 978-94-007-1363-5 (eBook); DOI: 10.1007/978-94-007-1363-5]

Journal articles & other peer-reviewed publications

Levia, D.F.*, Nanko, K. *, Amasaki, H., Giambelluca, T.W., Hotta, N., Iida, S., Mudd, R.G., Nullet, M.A., Sakai, N., Shinohara, Y., Sun, X., Suzuki, M., Tanaka, N., Tantasirin, C. and Yamada, K. 2019. Throughfall partitioning by trees. *Hydrological Processes* 33(12): 1698-1708. [* equal contributors; we make no distinction between first and second authors] [DOI: 10.1002/hyp.13432]

Cayuela, C., **Levia, D.F.**, Latron, J. and Llorens, P. 2019. Particulate matter fluxes in a Mediterranean mountain forest: interspecific differences between throughfall and stemflow in oak and pine stands. *Journal of Geophysical Research- Atmospheres* 124(9): 5106-5116. [DOI: 10.1029/2019JD030276]

Nanko, K., Suzuki, S., Noguchi, H., Ishida, Y., **Levia, D.F.**, Ogura, A., Hagino, H., Matsumoto, H., Takimoto, H. and Sakamoto, T. 2019. Mechanical properties of Japanese black pine (*Pinus thunbergii* Parl.) planted on coastal sand dunes: resistance to uprooting and stem breakage by tsunamis. *Wood Science and Technology* 53(2): 469-489. [DOI: 10.1007/s00226-019-01078-z]

Nanko, K., Tanaka, N., Leuchner, M. and **Levia, D.F.** 2019 (invited). Throughfall erosivity in relation to drop size and crown position: a case study from a teak plantation in Thailand. In: Levia, D.F., Carlyle-Moses, D.E., Iida, S., Michalzik, B., Nanko, K. and Tischer, A. (Eds.), *Forest-Water Interactions*. Ecological Studies Series, No. 240, Springer-Verlag, Heidelberg, Germany: In press.

- Tamai, K., Boyer, E.W., Iida, S., Carlyle-Moses, D.E. and **Levia, D.F.** 2019 (invited). Forest Influences on Streamflow: Case Studies from the Tatsunokuchi-Yama Experimental Watershed, Japan and the Leading Ridge Experimental Watershed, USA. In: **Levia, D.F.**, Carlyle-Moses, D.E., Iida, S., Michalzik, B., Nanko, K. and Tischer, A. (Eds.), *Forest-Water Interactions*. Ecological Studies Series, No. 240, Springer-Verlag, Heidelberg, Germany: In press.
- Dowtin, A.L.** and **Levia, D.F.** 2018. The power of persistence. *Science* 360(6393): 1142. [DOI: 10.1126/science.360.6393.1142], [Media Coverage: Science Careers (from the journal *Science*, American Association for the Advancement of Science, AAAS), <http://www.sciencemag.org/careers/articles>]
- Näthe, K., **Levia, D.F.**, Tischer, A. and Michalzik, B. 2018. Low-intensity surface fire effects on carbon and nitrogen cycling in soil and soil solution of a Scots pine forest in central Germany. *Catena* 162: 360-375. [DOI: 10.1016/j.catena.2017.10.026]
- Näthe, K., **Levia, D.F.**, Tischer, A., Potthast, K. and Michalzik, B. 2018. Spatiotemporal variation of aluminium and micro- and macronutrients in the soil solution of a coniferous forest after low-intensity prescribed surface fires. *International Journal of Wildland Fire* 27(7): 471-489. [DOI: 10.1071/WF17178]
- Hudson, J.E.**, **Levia, D.F.**, **Wheeler, K.I.**, Winters, C.G., Vaughan, M.C.H., Chace, J.F. and Sleeper, R. 2018. American beech leaf-litter leachate chemistry: effects of geography and phenophase. *Journal of Plant Nutrition and Soil Science* 181(2): 287-295. [DOI: 10.1002/jpln.201700074]
- Iida, S., **Levia, D.F.**, Nanko, K., Sun, X., Shimizu, T., Tamai, K. and Shinohara, Y. 2018. Correction of canopy interception loss measurements in temperate forests: a comparison of necessary adjustments among three different rain gauges based on a dynamic calibration procedure. *Journal of Hydrometeorology* 19(3): 547-553. [DOI: 10.1175/JHM-D-17-0124.1]
- Shimizu, T., Kobayashi, M., Iida, S. and **Levia, D.F.** 2018. A generalized correction equation for large tipping-bucket flow meters for use in hydrological applications. *Journal of Hydrology* 563: 1051-1056. [DOI: 10.1016/j.jhydrol.2018.06.036]
- Cayuela, C., Llorens, P., Sánchez-Costa, E., **Levia, D.F.** and Latron, J. 2018. Effect of biotic and abiotic factors on inter and intra-event variability in stemflow rates in oak and pine stands in a Mediterranean mountain area. *Journal of Hydrology* 560: 396-406. [DOI: 10.1016/j.jhydrol.2018.03.050]
- Yazaki, K., Takanashi, T., Kanzaki, N., Komatsu, M., **Levia, D.F.**, Kabeya, D., Tobita, H., Kitao, M. and Ishida, A. 2018. Pine wilt disease causes cavitation around the resin canals and irrecoverable xylem conduit dysfunction. *Journal of Experimental Botany* 69(3): 589-602. [DOI: 10.1093/jxb/erx417]
- Karwan, D.L., Pizzuto, J.E., Alto, R., Marquard, J., Harpold, A., Skalak, K., Benthem, A., **Levia, D.F.**, Siegert, C.M. and Aufdenkampe, A.K. 2018. Direct channel precipitation and storm characteristics influence short-term fallout radionuclide assessment of sediment source. *Water Resources Research* 54(7): 4579-4594. [DOI: 10.1029/2017WR021684]

- Carlyle-Moses, D.E., Iida, S., Germer, S., Llorens, P., Michalzik, B., Nanko, K., Tischer, A. and **Levia, D.F.** 2018. Expressing stemflow commensurate with its ecohydrological importance. *Advances in Water Resources* 121: 472-479. [DOI: 10.1016/j.advwatres.2018.08.015]
- Levia, D.F.**, **Hudson, S.A.**, Llorens, P. and Nanko, K. 2017 (invited). Throughfall drop size distributions: a review and prospectus for future research. *WIREs-Water* 4(4): e1225, 18 p. [DOI: 10.1002/wat2.1225], [Issue cover image, DOI: 10.1002/wat2.1233], [Media Coverage: Advance Science News, <http://www.advancedsciencenews.com/throughfall-drop-size-distributions-review-prospectus-future-research/>], [Top 20 most downloaded articles in *WIREs-Water*]
- Wheeler, K.I.**, **Levia, D.F.** and **Hudson, J.E.** 2017. Tracking senescence-induced patterns in leaf litter leachates using parallel factor analysis (PARAFAC) modeling and self-organizing maps. *Journal of Geophysical Research- Biogeosciences* 122(9): 2233-2250. [DOI: 10.1002/2016JG003677]
- Näthe, K., **Levia, D.F.**, Steffens, M. and Michalzik, B. 2017. Solid-state ¹³C NMR characterization of surface fire effects on the composition of organic matter in both soil and soil solution from a coniferous forest. *Geoderma* 305: 394-406. [DOI: 10.1016/j.geoderma.2017.06.030]
- Siegert, C.M.**, **Levia, D.F.**, Leathers, D.J., Van Stan, J.T. and Mitchell, M.J. 2017. Do storm synoptic patterns affect biogeochemical fluxes from temperate deciduous forest canopies? *Biogeochemistry* 132(3): 273-292. [DOI: 10.1007/s10533-017-0300-6]
- Imamura, N., **Levia, D.F.**, Toriyama, J., Kobayashi, M. and Nanko, K. 2017. Stemflow-induced spatial heterogeneity of radiocesium concentrations and stocks in the soil of a broadleaved deciduous forest. *Science of the Total Environment* 599-600: 1013-1021. [DOI: 10.1016/j.scitotenv.2017.05.017]
- Hudson, J.E.**, **Levia, D.F.**, **Hudson, S.A.**, Bais, H. and Legates, D.R. 2017. Phenoseasonal subcanopy light dynamics and the effects of light on the physiological ecology of a common understory shrub, *Lindera benzoin*. *PLoS ONE* 12(10): e0185894, 20p. [DOI: 10.1371/journal.pone.0185894], [Media Coverage: <http://blogs.plos.org/ecology/2017/10/27/a-little-light-reading/>]
- Schooling, J.T., **Levia, D.F.**, Carlyle-Moses, D.E., **Dowtin, A.L.**, Brewer, S.E., Donkor, K.K., Borden, S.A. and Grzybowski, A.A. 2017. Stemflow chemistry in relation to tree size: a preliminary investigation of eleven urban park trees in British Columbia, Canada. *Urban Forestry and Urban Greening* 21: 129-133. [DOI: 10.1016/j.ufug.2016.11.013]
- Iida, S., **Levia, D.F.**, Shimizu, A., Shimizu, T., Tamai, K., Nobuhiro, T., Kabeya, N., Noguchi, S., Sawano, S. and Araki, M. 2017. Intrastorm scale rainfall interception dynamics in a mature coniferous forest stand. *Journal of Hydrology* 548: 770-783. [DOI: 10.1016/j.jhydrol.2017.03.009], [2018 Excellent Article Award Winner, Japan Society of Hydrology and Water Resources]
- Tanaka, N., **Levia, D.**, Igarashi, Y., Yoshifuji, N., Tanaka, K., Nanko, K., Tantasirin, C., Suzuki, M. and Kumagai, T. 2017. What factors are most influential in governing stemflow production from plantation-grown teak trees? *Journal of Hydrology* 544: 10-20. [DOI: 10.1016/j.jhydrol.2016.11.010]

- Siegert, C.M., Leathers, D.J. and **Levia, D.F.** 2017. Synoptic typing: interdisciplinary application methods with three practical hydroclimatological examples. *Theoretical and Applied Climatology* 128(3/4): 603-621. [DOI: 10.1007/s00704-015-1700-y]
- Yanoviak, S.P., Silveri, C., Stark, A.Y., Van Stan, J.T. and **Levia, D.F.** 2017. Surface roughness affects the running speed of tropical canopy ants. *Biotropica* 49(1): 92-100. [DOI: 10.1111/btp.12349], [Editor's Choice Award Winner, <http://biotropica.org/editors-choice-biotropica-491/>]
- Nanko, K., Hashimoto, S., Miura, S., Ishizuka, S., Sakai, Y., **Levia, D.F.**, Ugawa, S., Nishizono, T., Kitahara, F., Osone, Y. and Kaneko, S. 2017. Assessment of soil group, site and climatic effects on soil organic carbon stocks of topsoil in Japanese forests. *European Journal of Soil Science* 68(4): 547-558. [DOI: 10.1111/ejss.12444]
- Vaughan, M.C.H., Bowden, W.B., Shanley, J.B., Vermilyea, A., Sleeper, R., Gold, A.J., Pradhanang, S., Inamdar, S.P., **Levia, D.F.**, Andres, A.S., Birgand, F. and Schroth, A.W. 2017. High-frequency dissolved organic carbon and nitrate measurements reveal differences in storm hysteresis and loading in relation to land cover and seasonality. *Water Resources Research* 53(7): 5345-5363. [DOI: 10.1002/2017WR020491]
- Michalzik, B.*, **Levia, D.F.***, Bischoff, S., Nätke, K. and Richter, S. 2016. Effects of aphid infestation on the biogeochemistry of the water routed through European beech (*Fagus sylvatica* L.) saplings. *Biogeochemistry* 129(1/2): 197-214 [*equal contributors]. [DOI: 10.1007/s10533-016-0228-2]
- Siegert, C.M., **Levia, D.F.**, Hudson, S.A., Downtin, A., Zhang, F. and Mitchell, M.J. 2016. Small-scale topographic variability influences tree species distribution and canopy throughfall partitioning in a temperate deciduous forest. *Forest Ecology and Management* 359: 109-117. [DOI: 10.1016/j.foreco.2015.09.028]
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- Levia, D.F.** 2007. Schistosomiasis and gold mining: two PBL activities for *Conservation of Natural Resources* (Geog 235). Final Project Report. *Center for Teaching Effectiveness, University of Delaware*, General Education Initiative & Information Technologies, Newark, DE.

- Levia, D.F.** and Leclair, L.A. 2006. Winter needle conductance rates of *Pinus strobus* L. (eastern white pine): meteorological conditions and intraspecific variability. Final Project Report. *Delaware Water Resources Center*, Newark, DE.
- Levia, D.F.** 2003. Differential winter stemflow generation under contrasting storm conditions in a southern New England broadleaved deciduous forest. *Proceedings of the 60th Annual Eastern Snow Conference*, Sherbrooke, Quebec, Canada.
- Levia, D.F.** 2002. The development of a methodology to detect farmland prone to residential development near small towns. Final Project Report. *Office of Research Development and Administration, Southern Illinois University*, Carbondale, IL.
- Levia, D.F.** and Herwitz, S.R. 2002. Seasonality of leachate dynamics in broadleaved deciduous forest ecosystems in relation to global change and the increased frequency of mixed precipitation. Research Nugget Report. *National Science Foundation*, Alexandria, VA.
- Levia, D.F.** and Herwitz, S.R. 2002. Winter chemical leaching from deciduous tree branches as a function of branch inclination angle in central Massachusetts. *Proceedings of the 59th Annual Eastern Snow Conference*, Stowe, Vermont, USA.
- Herwitz, S.R. and **Levia, D.F.** 2001. Seasonality of leachate dynamics in broadleaved deciduous forest ecosystems in relation to global change and the increased frequency of mixed precipitation. Final Project Report. *National Science Foundation*, Alexandria, VA.
- Levia, D.F.** 2000. Winter stemflow leachate dynamics from deciduous canopy trees in relation to precipitation event characteristics. *Proceedings of the 57th Annual Eastern Snow Conference*, Syracuse, New York, USA.
- Ault, H.K., Herwitz, S.R. and **Levia, D.F.** 2000. Modeling the geometry of leafless canopy trees for the determination of total woody surface area and its influence on leachate chemistry. *Proceedings of the 9th International Conference on Geometry and Graphics*, Johannesburg, South Africa.
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MANUSCRIPTS IN REVIEW

- Dowtin, A.L., Levia, D.F.** and Legates, D.R. (submitted to *Urban Forestry and Urban Greening*) Comparisons of flux-based stemflow enrichment ratios for two *Quercus* spp. within the megalopolis of the eastern USA.
- Wheeler, K.I., Levia, D.F.** and Vargas, R. (submitted to *Oecologia*) Visible and near infrared hyperspectral indices explain more variation in lower-crown leaf nitrogen concentrations in autumn than summer.

Guo, L., Mount, G., **Hudson, S.**, Lin, H. and **Levia, D.F.** (submitted to *Geoderma*) Pairing geophysical techniques improves understanding of the near-surface Critical Zone: visualization and confirmation of preferential infiltration of stemflow along coarse roots.

Campellone, S.V., **Levia, D.F.** and Montalto, F.A. (submitted to *Ecohydrology*) Differences in sub-millimeter surface morphology and canopy interception storage capacities of *Gleditsia triacanthos* L. (honeylocust) in relation to canopy phenohase and position.

Lüpke, M., Leuchner, M., **Levia, D.F.**, Nanko, K., Iida, S. and Menzel, A. (submitted to *Hydrological Processes*) Characterization of differential throughfall drop size distributions beneath European beech and Norway spruce.

Seybold, E., Gold, A.J., Inamdar, S.P., Adair, C., Bowden, W.B., Vaughan, M.C.H., Pradhanang, S.M., Addy, K., Shanley, J.B., Vermilyea, A., **Levia, D.F.**, Wemple, B.C. and Schroth, A.W. (submitted to *Biogeochemistry*) Influence of land use and hydrological variability on seasonal dissolved organic carbon and nitrate export: insights from a multi-year regional analysis for the northeastern USA.

Guswa, A.J., Tetzlaff, D., Selker, J.S., Carlyle-Moses, D.E., Boyer, E.W., Bruen, M., Cayuela, C., Creed, I.F., van de Giesen, N., Grasso, D., Hannah, D.M., Hudson, J.E., Hudson, S.A., Iida, S., Jackson, R.B., Katul, G.G., Kumagai, T., Llorens, P., Lopes Ribeiro, F., Michalzik, B., Nanko, K., Oster, C., Pataki, D.E., Peters, C.A., Rinaldo, A., Sanchez Carretero, D., Trifunovic, B., Zalewski, M. and **Levia, D.F.** (submitted to *Water Resources Research*) Ecohydrology in the 21st century: a convergence of opportunities for global sustainability and social justice and equity.

INVITED LECTURES AND PRESENTATIONS

Levia, D.F. and Nanko, K. 2019. "Ecohydrology of forest ecosystems: retrospective and prospective reflections (or, what we know and where we should go)." Co-sponsored Colloquium by European Regional Centre for Ecohydrology (under UNESCO), Polish Academy of Sciences, and the Department of Applied Ecology at the University of Łódź, Łódź, Poland

Carlyle-Moses, D.E., Iida, S., Germer, S., Llorens, P., Michalzik, B., Nanko, K., Tischer, A. and **Levia, D.F.** 2019. "Stand-scale metrics for expressing stemflow commensurate with its ecohydrological importance." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria

Yerk, W., Campellone, S., **Levia, D.F.**, Fite, K., Hall, T., Montalto, F. (and many student volunteers and field technicians). 2018. "Shrubs and trees as stormwater infrastructure: a study of urban interception." Presented at the 2018 Philadelphia Flower Show, Philadelphia, Pennsylvania, USA

Levia, D.F. 2017. "What have we learned about precipitation partitioning and its effects on the hydrology and biogeochemistry of forested ecosystems?" Sponsored Colloquium by the Department of Geography, National Taiwan Normal University, Taipei, Taiwan

- Levia, D.F.** 2017. “Putting stemflow on the ‘radar screen’ of other scientists.” Sponsored Colloquium by the Forestry and Forest Products Research Institute (FFPRI), Tsukuba, Japan [by specific request following lecture at the University of Tokyo]
- Levia, D.F.** and Michalzik, B. 2017. “The importance of stemflow in the biogeochemical cycling of aphid infested European beech saplings.” Presented at the Humboldt Colloquium, “Global Research in the 21st Century: Perspectives of the U.S. Network”, Washington, DC, USA
- Levia, D.F.** and Nanko, K. 2017. “Quenching the world’s thirst: revelations of 176 million throughfall drops.” Presented at a Joint Data Science Workshop between the University of Delaware and the University of Tsukuba (Japan), Newark, Delaware, USA
- Nanko, K., Hashimoto, S. and **Levia, D.F.** 2017. “Finding factors of determination by machine learning: case studies of soil carbon and canopy interception.” Presented at Special Meeting on Deep Learning in Hydrology and Hydroengineering, Chiba Experiment Station, Institute of Industrial Science, University of Tokyo, Japan
- Levia, D.F.** 2016. “Putting stemflow on the ‘radar screen’ of other scientists.” Sponsored Colloquium by the Graduate School of Agricultural and Life Sciences, University of Tokyo, Tokyo, Japan
- Levia, D.F.** 2016. “How to write a highly cited scientific paper: some tricks of the trade.” Sponsored Colloquium by the Forestry and Forest Products Research Institute (FFPRI), Tsukuba, Japan
- Levia, D.F.** 2016. “Exurban to urban: understanding the nature of trees in cityscapes.” School of Civil, Structural and Environment Engineering Special Colloquium, University College Dublin, Dublin, Ireland
- Levia, D.F.** 2016. “Exurban to urban: understanding the nature of trees in cityscapes.” Department of Civil, Architectural, and Environmental Engineering Special Colloquium, Drexel University, Philadelphia, Pennsylvania, USA
- Nanko, K. and **Levia, D.F.** 2016. “Relationship between foliage wettability and throughfall drop size.” Presented at the Interdisciplinary German-Japanese Symposium Workshop on the Research Potential of Plant Traits: Methods, Models, Data and Integrative Analyses, Technical University Dresden, Dresden, Germany
- Levia, D.F.** 2015. “Why are forests important in our changing world?” Sponsored Colloquium by the Center of Ecological Research and Forest Applications (CREAF), Barcelona, Spain
- Levia, D.F.** 2015. “Why are forests important in our changing world?” Sponsored Colloquium by the Institute of Geography, Friedrich Schiller University Jena, Jena, Germany
- Levia, D.F.** 2015. “Research activities of the University of Delaware Ecohydrology Group.” Sponsored Colloquium by the Institute for Environmental Science, University of Koblenz-Landau, Landau, Germany

- Levia, D.F.** 2015. "Effects of forests on water and biogeochemical cycles." Environmental Science Seminar Series, Thompson Rivers University, Kamloops, British Columbia, Canada
- Levia, D.F.** 2015. "Why are forests important in our changing world?" Department of Geography Colloquium Series, University of Georgia, Athens, Georgia, USA
- Levia, D.F.** 2015. "Forest-water interactions." Interdisciplinary Science Learning Laboratories Lecture Series, Earth. Equity. Environment. Spring 2015, University of Delaware, Newark, Delaware, USA
- Levia, D.F.** 2014. "Water and forests: differential effects of climate and canopy structure." Sponsored Colloquium by the Graduate School of Agriculture, Kyoto University, Kyoto, Japan
- Levia, D.F.** 2014. "Trees as multi-faceted modulators of biosphere-atmosphere interactions." Sponsored Colloquium by the Forestry and Forest Products Research Institute (FFPRI), Tsukuba, Japan
- Levia, D.F.** 2014. "Trees as multi-faceted modulators of biosphere-atmosphere interactions." Sponsored Colloquium by the Hydrospheric Atmospheric Research Center, Nagoya University, Nagoya, Japan
- Levia, D.F.** 2014. "The interplay between canopy structure and climate: its influence on the hydrology and biogeochemistry of temperate forests." Department of Geography, Texas A & M University, College Station, Texas, USA
- Michalzik, B., **Levia, D.F.**, Bischoff, S., Nathe, K. 2014. "Aphid infestation affecting the biogeochemistry of European beech saplings." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Nanko, K., Hudson, S.A., **Levia, D.F.**, Hashimoto, S., Miura, S. and Kaneko, S. 2014. "Which factors determine soil organic carbon stock and throughfall drop size? Introduction of a recent multifactorial analysis, boosted regression trees (BRT)." Hydrospheric Atmospheric Research Center, Nagoya University, Nagoya, Japan
- Levia, D.F.** 2013. "Germany: a Humboldt Fellow's insights into its science and culture." Sponsored Guest Speaker at the Delta Phi Alpha, National German Honor Society, Delaware Saengerbund and Library Association, Newark, Delaware, USA
- Levia, D.F.** 2013. "Variability of throughfall and stemflow fluxes: some reflections of a Humboldt Fellow." Department of Geology & Geography, Georgia Southern University, Statesboro, Georgia, USA
- Levia, D.F.** and Michalzik, B. 2013. "Differential stemflow yield from European beech saplings: the role and respective importance of individual canopy structure metrics." European Geosciences Union Annual Meeting, Vienna, Austria

- Van Stan, J., Siegert, C., **Levia, D.** and Scheick, C. 2013. "Differential stemflow generation due to crown structural interactions with wind-driven rainfall." European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.** 2012. "Precipitation partitioning and the corresponding differences in subcanopy fluxes of water and solutes between throughfall and stemflow: implications for forestry and agriculture." Sponsored Colloquium by the Leibniz Institute for Agricultural Engineering Potsdam-Bornim, Potsdam, Germany
- Levia, D.F.** 2012. "Throughfall and stemflow: ecohydrological importance of deciduous forest canopies." Sponsored Colloquium by the Institute of Hydrology, University of Freiburg, Freiburg, Germany
- Levia, D.F.** 2012. "Throughfall and stemflow: ecohydrological importance of deciduous forest canopies." Jointly Co-sponsored Colloquium by the Institutes of Geography and Forestry and Forest Ecology, University of Göttingen, Göttingen, Germany
- Levia, D.F.** 2012. "The role of heterogeneous mixed deciduous forest canopies on altering water and solute fluxes to the forest floor." Sponsored Colloquium by the Institute of Ecology, Friedrich Schiller University Jena, Jena, Germany
- Levia, D.F.** 2012. "The role of heterogeneous mixed deciduous forest canopies on altering water and solute fluxes to the forest floor." Sponsored Colloquium by the Institute of Geography, Friedrich Schiller University Jena, Jena, Germany
- Levia, D.F.** and Michalzik, B. 2012. "A pilot study to investigate the effects of the woolly beech aphid on the hydrology and biogeochemistry of European beech forests." Humboldt Networking Meeting, Kiel, Germany
- Inamdar, S.P., Mitchell, M.J., **Levia, D.F.**, Scott, D. and Bais, H.P. 2011. "Hydrologic and biogeochemical controls on nitrogen exports from catchments: contrasting responses and models for two forested sites." American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Levia, D.F.** 2011. "Does tree species matter in the hydrology and biogeochemistry of a temperate deciduous forested watershed?" College of Earth and Environmental Science, Lanzhou University, Lanzhou, China
- Levia, D.F.** 2011. "The science of the water cycle and water conservation issues: an introduction." College of Earth and Environmental Science, Lanzhou University, Lanzhou, China
- Levia, D.F.** 2011. "What happens in a forest when it rains, and why is it important?" Science Café, Delaware EPSCoR, Newark, Delaware, USA
- Levia, D.F.** 2010. "Ecohydrological processes in temperate broadleaved deciduous forests." Department of Ecology and Evolutionary Biology, University of Pennsylvania, Philadelphia, Pennsylvania, USA

- Levia, D.F.** 2010. "Ecohydrology of forested catchments: a conspectus of past, present, and future research activities." Department of Geography, University of Alabama, Tuscaloosa, Alabama, USA
- Levia, D.F.** 2009. "Ecohydrology and biogeochemistry: synthesis of past research and future directions." College of Resources Science and Technology, Beijing Normal University, Beijing, China
- Levia, D.F.** 2009. "A synopsis of research activities of UD's Ecohydrology Group: past, present, and future." Department of Geography, University of Delaware, Newark, Delaware, USA
- Levia, D.F.** 2008. "Biometeorology of a beech-yellow poplar forest in northeastern Maryland in relation to stemflow inputs." Northern Delaware/Philadelphia Area Local Chapter, American Meteorological Society
- Levia, D.F.** and Mage, S.M. 2008. "The stemflow hydrology of a beech-yellow poplar forest in northeastern Maryland: implications for hydrology." Presented at the First International Hydrology Conference, Pennsylvania State University, State College, Pennsylvania, USA
- Klingaman, N.P., **Levia, D.F.** and Frost, E.E. 2006. "A comparison of several canopy interception models for a leafless mixed deciduous forest stand in the eastern United States." Tropical Research Group Colloquia, University of Reading, Reading, United Kingdom
- Levia, D.F.** 2004. "Biosphere-climate interactions in a southern New England broadleaved deciduous forest." Geography Colloquium Series, Ball State University, Muncie, Indiana, USA
- Levia, D.F.** 2003. "Forest biometeorology." Colloquium Series, Department of Geology, University of Delaware, Newark, Delaware, USA
- Levia, D.F.** 2001. "Winter stemflow leachate dynamics from deciduous canopy trees in relation to precipitation event characteristics." Colloquium Series, Southern Illinois University Ecology Consortium, Carbondale, Illinois, USA

SYMPOSIUM PRESENTATIONS

- Levia, D.F.**, Campellone, S. and Montalto, F. 2019. "Sub-millimeter surface morphology of *Gleditsia triacanthos* L. (honeylocust) associated with foliar and bark interception storage capacities." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Dowtin, A.L. and **Levia, D.F.** 2019. "Exploring new linkages between spatial variability in metropolitan land use and nutrient cycling in the urban forest." Presented at the American Association of Geographers Annual Meeting, Washington, DC, USA

- Imamura, N., **Levia, D.F.**, Nanko, K., Tanaka, N. and Ohte, N. 2019. "Geographic factors explain the variability of atmospheric deposition of sulfur and nitrogen onto coniferous forests." Presented at the 60th Annual Meeting of the Japan Society for Atmospheric Environment, Tokyo University of Agriculture and Technology- Fuchu Campus, Tokyo, Japan
- Pinos, J., Latron, J., Cayuela, C., Nanko, K., **Levia, D.F.** and Llorens, P. 2019. "Can drop characteristics explain differences in isotopic composition between open rainfall and throughfall?" Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Hilmi Saidin, Z., Onda, Y., Kato, H., Kurihara, M., Nanko, K. and **Levia, D.F.** 2019. "Vertical variation in the transport and fate of radiocesium through the canopy via branchflow and stemflow." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Hilmi Saidin, Z., Onda, Y., Kato, H., Kurihara, M., Nanko, K. and **Levia, D.F.** 2019. "Spatial variability of radiocesium deposition through the tree canopy via branchflow and stemflow." Presented at the Japan Geoscience Union Annual Meeting, Chiba, Japan
- Iida, S., Carlyle-Moses, D.E., Germer, S., Llorens, P., Michalzik, B., Nanko, K., Tischer, A. and **Levia, D.F.** 2019. "Quantifying stemflow to better express its ecohydrological significance." Presented at the Japan Geoscience Union (JpGU) Annual Meeting, Chiba, Japan
- Levia, D.F.**, Iida, S., Nanko, K., Sun, X., Shimizu, T., Tamai, K. and Shinohara, Y. 2018. "The importance of gauge calibration in quantifying canopy interception loss." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Dowtin, A.L. and **Levia, D.F.** 2018. "Flux-based enrichment ratios for stemflow used to characterize and quantify spatial distribution of subcanopy solute fluxes within urban forest fragments." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Hudson, J.E., **Levia, D.F.**, Franca, A., Yoshimura, K., Biddle, J. and Gottel, N. 2018. "Examining the reciprocal effects of stemflow and corticular bacterial communities and their differences within urban and rural forests." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Shimizu, T., Iida, S., Kabeya, N., **Levia, D.F.**, Tamai, K., Chann, S. and Shimizu, A. 2018. "Changing evapotranspiration in a natural Cambodian tropical seasonal forest under the effect of a strong El Niño." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Nanko, K., Tanaka, N., Leuchner, M. and **Levia, D.F.** 2018. "Effect of throughfall type on drop size distribution and soil erosion potential in a teak plantation in northern Thailand." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Hudson, S.A., Llorens, P., Siegert, C.M., Dowtin, A.L., Van Stan, J.T. and **Levia, D.F.** 2018. "Stemflow infiltration and soil water potential dynamics on a forested hillslope in the Mid-Atlantic, USA." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA

- Carlyle-Moses, D.E., Iida, S., Germer, S., Llorens, P., Michalzik, B., Nanko, K., Tischer, A. and **Levia, D.F.** 2018. "Righting a wrong: expressing stemflow commensurate with its ecohydrological importance." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Iida, S., Shimizu, T., Tamai, K., Kabeya, N., Shimizu, A., Ito, E., Ohnuki, Y., Chann, S. and **Levia, D.F.** 2018. "The importance of understory vegetation to evapotranspirational losses from a Cambodian deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, Washington, DC, USA
- Levia, D.F.**, Iida, S., Nanko, K., Sun, X., Shinohara, Y. and Sakai, N. 2018. "Disentangling the relative influence of canopy structure on stemflow: insights from a large-scale rainfall simulator and Bayesian statistics." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Nanko, K., **Levia, D.F.**, Iida, S., Sun, X., Shinohara, Y. and Sakai, N. 2018. "Importance of the canopy wet-up phase for throughfall drop generation revealed by use of a large-scale rainfall simulator." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Iida, S., **Levia, D.F.**, Nanko, K., Sun, X., Shinohara, Y. and Sakai, N. 2018. "Stemflow and canopy structure: revelations from the NIED large-scale rainfall simulator." Presented at the Japan Geoscience Union (JpGU) Annual Meeting, Chiba, Japan
- Iida, S., **Levia, D.F.**, Nanko, K., Sun, X., Shimizu, T., Tamai, K. and Shinohara, Y. 2018. "Effects of measurement errors among three tipping-bucket rain gauges on the evaluation of interception loss." Presented at the Japanese Society of Hydrology and Water Resources Annual Meeting, Mie University, Tsu, Japan
- Shimizu, T., Kobayashi, M., Iida, S. and **Levia, D.F.** 2018. "Application of practical and general calibration processes to large tipping-bucket flow meters." Presented at the 2018 Annual Meeting of the Japanese Association of Hydrological Sciences, Research Institute for Humanity and Nature, Kyoto, Japan
- Tucker, A.M., Rossi, L.F., Nanko, K. and **Levia, D.F.** 2018. "A network model for solute fluxes in stemflow." Presented at the Graduate Student Symposium, Department of Mathematical Sciences, University of Delaware, Newark, Delaware, USA
- Singla, B., Latron, J., Nanko, K., **Levia, D.F.**, Molina, A.J., Cayuela, C., Oromí, M. and Llorens, P. 2018. "Preliminary insights into the relationship between throughfall drop size and isotopic composition." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria

- Singla, B., Pinos, J.A., Latron, J., Nanko, K., **Levia, D.F.**, Molina, A.J., Cayuela, C., Oromí, M., Gallart, F. and Llorens, P. 2018. "Relationship between throughfall drop size and isotopic composition: Preliminary insights from an ongoing experiment in Mediterranean conditions (Vallcebre, North-Eastern Spain)." Presented at the 17th Biennial Conference ERB 2018 (Euro-Mediterranean Network of Experimental and Representative Basins), Innovative Monitoring Techniques and Modelling Approaches for Analyzing Hydrological Processes in Small Basins, Technische Universität Darmstadt, Darmstadt, Germany
- Llorens, P., Cayuela, C., Sánchez-Costa, E., Molina, A.J., Gallart, F., **Levia, D.F.** and Latron, J. 2018. "Spatio-temporal variability of stable isotopes (¹⁸O and ²H) in soil and xylem waters under Mediterranean conditions." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Llorens, P., Molina, A.J., Cayuela, C., Sánchez-Costa, E., Gallart, F., **Levia, D.F.** and Latron, J. 2018. "Variación espacio-temporal de los isotopos estables de agua en el suelo y en el xilema. Estimación del patrón de extracción de agua del suelo en pinares en una pequeña cuenca de montaña." Presented at the XIV Simposio Internacional Hispano-Portugues de Relaciones Hidricas en las Plantas, Madrid, Spain
- Levia, D.F.**, Imamura, N., Toriyama, J., Kobayashi, M. and Nanko, K. 2017. "Spatial heterogeneity of radiocesium in the soil of a broadleaved deciduous forest: the marked role of stemflow." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.**, Iida, S., Nanko, K., Sun, X., Shinohara, Y. and Sakai, N. 2017. "Use of a large-scale rainfall simulator reveals novel insights into stemflow generation." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Dowtin, A.L. and **Levia, D.F.** 2017. "Flux-based enrichment ratios of stemflow found to vary significantly within urban fragments and along an urban-to-rural gradient." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Dowtin, A.L. and **Levia, D.F.** 2017. "Hydrologic fluxes from mixed deciduous urban forest fragments in Wilmington, Delaware." Presented at the American Association of Geographers Annual Meeting, Boston, Massachusetts, USA
- Katsuyama, M., **Levia, D.F.** and Tani, M. 2017. "A worldwide groundwater isoscape: history of the water cycle stored in bottled water." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Wheeler, K.I., **Levia, D.F.** and Hudson, J.E. 2017. "Using parallel factor analysis modeling (PARAFAC) and self-organizing maps to track senescence-induced patterns in leaf litter leachate." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA [**OSPA Winner, Biogeosciences Section**]
- Cayuela, C., **Levia, D.F.**, Sánchez-Costa, E., Latron, J. and Llorens, P. 2017. "Particulate matter fluxes in throughfall and stemflow under oak and pine stands." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria

- Nanko, K., **Levia, D.F.**, Iida, S., Sun, X., Shinohara, Y. and Sakai, N. 2017. "Temporal sequencing of throughfall generation as revealed by use of a large-scale rainfall simulator." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Iida, S., **Levia, D.F.**, Nanko, K., Sun, X., Shinohara, Y. and Sakai, N. 2017. "Effects of rainfall intensity and tree species in stemflow production as revealed by a rainfall simulation experience." Presented at the 128th Annual Meeting of the Japanese Forest Society, Kagoshima University, Kagoshima, Japan
- Hudson, J.E., **Levia, D.F.**, Wheeler, K.I., Winters, C., Vaughan, M., Chace, J. and Sleeper, R. 2017. "American beech leaf-litter leachate chemistry: effects of geography and phenophase." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Michalzik, B., Bischoff, S., **Levia, D.F.**, Schwarz, M., Escher, P., Wilcke, W., Thieme, L., Kerber, K., Kaupenjohann, M. and Siemens, J. 2017. "Effects of silvicultural management intensity on fluxes of dissolved and particulate organic matter in 27 forest sites of the Biodiversity Exploratories." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Iida, S., Shimizu, T., Araki, M., Tamai, K., Kabeya, N., Shimizu, A. and **Levia, D.F.** 2017. "Evaluation of rainfall storage capacity in a mature forest of Japanese cedar." Presented at the 2017 Annual Meeting of the Japanese Association of Hydrological Sciences, Komazawa University, Tokyo, Japan
- Seybold, E.C., Gold, A., Inamdar, S., Pradhanang, S., Bowden, W.B., Vaughan, M., Addy, K., Shanley, J., Vermilyea, A., Sleeper, R., **Levia, D.**, Adair, C., Wemple, B. and Schroth, A.W. 2017. "Effects of land use on the timing and magnitude of dissolved organic carbon and nitrate fluxes: a regional analysis of high-frequency sensor measurements from forested, agricultural, and urban watersheds." Presented at the American Geophysical Union Annual Fall Meeting, New Orleans, Louisiana, USA
- Levia, D.F.**, Hudson, S.A., Llorens, P. and Nanko, K. 2016. "Disdrometers: a useful tool to measure throughfall drop size distributions." Presented at the Irish National Hydrology Conference 2016, Athlone, Co. Roscommon, Ireland
- Levia, D.F.**, Köhler, S., Jungkunst, H.F. and Gerold, G. 2016. "Mapping bark pH to better understand the cortisphere." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Wheeler, K.I., **Levia, D.F.** and Vargas, R. 2016. "Changes in autumnal leaf reflectance measurements of deciduous trees in relation to nitrogen resorption efficiencies." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Bischoff, S., **Levia, D.F.**, Nieschulze, J., Schulz, F. and Michalzik, B. 2016. "Long-term persistence of throughfall yield assessed by small footprint LiDAR data." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria

- Iida, S., **Levia, D.F.**, Shimizu, A., Shimizu, T., Tamai, K., Nobuhiro, T., Kabeya, N., Noguchi, S., Sawano, S., and Araki, M. 2016. "Rainfall interception at the intrastorm scale: insights from a mature coniferous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Rosier, C., **Levia, D.F.**, Van Stan, J.T., Aufdenkampe, A.K. and Kan, J. 2016. "Seasonal dynamics of the soil microbial community structure within the proximal area of tree boles: possible influence of stemflow." Presented at the Third Annual University of Delaware Microbial Systems Symposium, Newark, Delaware, USA
- Dowtin, A.L., White, H.W. and **Levia, D.F.** 2016. "Synergistic approaches to environmental research, planning, and implementation: how urban trees united the community, university, and city government in Wilmington, Delaware." Presented at the Annual Conference of the Association for Environmental Studies and Sciences, American University, Washington, DC, USA
- Näthe, K., Michalzik, B., **Levia, D.F.** and Steffens, M. 2016. "Ground-fire effects on the composition of dissolved and total organic matter in forest floor and soil solutions from Scots pine forests in Germany: new insights from solid state ^{13}C NMR analysis." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Hudson, J.E., Wheeler, K.I., **Levia, D.F.**, Winters, C., Inamdar, S.P., Vaughan, M. and Chace, J. 2016. "Leaf leachate chemistry: regional variation across three watersheds in the northeastern United States." Presented at Successes, Challenges, and Opportunities of Multi-State Collaborations Annual NEWRnet Meeting, Narragansett, Rhode Island, USA
- Iida, S., Nanko, K., Shinohara, Y., Sun, X. and **Levia, D.F.** 2016. "Dynamic calibration of tipping-bucket rain gages." Presented at the 2016 Annual Meeting of the Japanese Association of Hydrological Sciences, Hosei University, Tokyo, Japan
- Karwan, D.L., Pizzuto, J.E., Aalto, R., Marquard, J., Aufdenkampe, A.K., Harpold, A., Benthem, A., Skalak, K., **Levia, D.F.** and Siegert, C.M. 2016. "Short-term fallout radionuclide ratios and mass balance identify new suspended sediments of channel origin and importance of catchment flowpath." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.** 2015. "Planning and implementing an honors degree in environmental science curricula: a case study from the University of Delaware, USA." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.** and Germer, S. 2015. "A review of stemflow in forests and shrublands." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Levia, D.F.**, Michalzik, B., Bischoff, S., Näthe, K., Gruselle, M.C., Legates, D.R. and Richter, S. 2015. "Particulate matter in terrestrial solutions: insights from a European beech forest in Germany." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria

- Dowtin, A.L. and **Levia, D.F.** 2015. “Employing a dense monitoring network to quantify and characterize spatial variability of hydrologic and solute flux in urban forest fragments.” Presented at UrbanRain15:10th International Conference on Precipitation in Urban Areas, Pontresina, Switzerland
- Dowtin, A.L. and **Levia, D.F.** 2015. “Assessing the hydrological ecosystem services of metropolitan Wilmington, Delaware’s urban forest: initial findings from *in situ* observations.” Presented at the 2015 Annual Meeting of the Association of American Geographers, Chicago, Illinois, USA
- Hudson, S.A., **Levia, D.F.** and Nanko, K. 2015. “Examining the role of meteorological conditions on throughfall drop sizes.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Shinohara, Y., **Levia, D.F.**, Komatsu, H., Nogata, M. and Otsuki, K. 2015. “Application of three canopy interception models in a Japanese cedar (*Cryptomeria japonica* D. Don) forest before and after intensive thinning.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Michalzik, B., **Levia, D.F.**, Bischoff, S. and Nätke, K. 2015. “Aphid infestation affecting the biogeochemistry of European beech saplings.” Presented at the Annual Meeting of the German Soil Science Society (Deutsche Bodenkundliche Gesellschaft), Munich, Germany
- Siegert, C., **Levia, D.**, Dowtin, A., Hudson, S. and Linhoss, A. 2015. “Using sensitivity analysis and fine-scale field measurements to understand how canopy interception models function.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Hudson, J.E., **Levia, D.F.**, Hudson, S.A., Bais, H. and Legates, D.R. 2015. “Phenoseasonal variability of subcanopy PAR and the effects of photointensity and photoperiod on the physiological ecology of *Lindera benzoin*.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Tanaka, N., **Levia, D.F.**, Igarashi, Y., Yoshifuji, N., Tanaka, K., Tantasirin, C., Nanko, K., Suzuki, M. and Kumagai, T. 2015. “Factors governing stemflow production from plantation grown teak trees in Thailand.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Nanko, K., Hudson, S.A. and **Levia, D.F.** 2015. “Differences in throughfall drop generation processes in the presence and absence of foliage.” Presented at the 2015 Annual Conference of Japan Society of Hydrology and Water Resources, Tokyo, Japan
- Wheeler, K.I., Hudson, J.E., **Levia, D.F.**, Winters, C., Inamdar, S.P., Vaughan, M. and Chace, J. 2015. “Leaf leachate chemistry: regional variation across three watersheds in the northeastern United States.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA [**OSPA Winner, Hydrology Section**]

- Iida, S., Shimizu, T., Tamai, K., Kabeya, N., Shimizu, A., Nobuhiro, T. and **Levia, D.F.** 2015. "Dynamics of intensity of rainfall interception in a stand of mature Japanese cedar." Presented at the 2015 Annual Meeting of the Japanese Association of Hydrological Sciences, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
- Karwan, D., Pizzuto, J., Aalto, R., Marquard, J., Aufdenkampe, A., Benthem, A., Skalak, K., **Levia, D.**, and Siegert, C. 2015. "Short-term fallout radionuclide ratios and mass balance identify new suspended sediments of channel origin." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Vaughan, M., Schroth, A., Bowden, W., Shanley, J., Vermilyea, A., Sleeper, R., Gold, A., Pradhanang, S., Addy, K., Inamdar, S., **Levia, D.F.**, Rowland, R. and Winters, C. 2015. "Regional *in-situ* optical water quality sensor network quantifies influence of land use and seasonality on storm event nitrate and dissolved organic carbon loading." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Inamdar, S., Vaughan, M., Rowland, R., Winters, C., Addy, K., Schroth, A., Gold, A., Bowden, W., Vermilyea, A., Parr, T., Andres, S. and **Levia, D.F.** 2015. "'Hot moments' of carbon and nitrogen in streams: key insights from *in-situ*, high frequency optical sensors from the North East Water Resources Network (NEWRnet)." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Levia, D.F.** and Shiklomanov, A.N. 2014. "Stemflow acid neutralization capacity in a broadleaved deciduous forest: the role of edge effects." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Michalzik, B. and **Levia, D.F.** 2014. "Aphid infestation affecting the nutrient dynamics of European beech saplings." Presented at the Ecological Society of Germany, Austria, and Switzerland (GfÖ) Annual Meeting, Hildesheim, Germany
- Dowtin, A.L. and **Levia, D.F.** 2014. "Quantifying the hydrological ecosystem services of Wilmington, Delaware's urban forest: a field-based approach." Presented at the 2014 American Water Resources Association (AWRA) Annual Water Resources Conference, Tysons Corner, Virginia, USA
- Uber, M., **Levia, D.F.**, Zimmermann, B. and Zimmermann, A. 2014. "The influence of tree morphology on stemflow generation in a tropical lowland rainforest." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Rosier, C.L., **Levia, D.F.**, Van Stan, J.T. and Kan, J. 2014. "Seasonal dynamics of soil microbial community structure in the proximal area of tree boles: possible influence of stemflow." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Siegert, C.M., **Levia, D.F.**, Leathers, D.J., Van Stan, J.T. and Mitchell, M.J. 2014. "Identifying patterns of forest hydrologic and biogeochemical fluxes using weather map classification in a Mid-Atlantic deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA

- Tanaka, N., **Levia, D.F.**, Igarashi, Y., Nanko, K., Yoshifuji, N., Tanaka, K., Tantasirin, C., Suzuki, M. and Kumagai, T. 2014. "Throughfall under a teak plantation in Thailand: a multifactorial analysis on the effects of canopy phenology and meteorological conditions." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Hudson, S.A., Nanko, K. and **Levia, D.F.** 2014. "Throughfall drop size distribution in relation to leaf canopy state." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Olsoy, P.J., Mitchell, J.J., Glenn, N.F., **Levia, D.F.** and Clark, P.E. 2014. "Estimation of big sagebrush leaf area index with terrestrial laser scanning." Presented at the Society of Ecological Restoration Regional Conference: Collaborative Restoration 2014, Redmond, Oregon, USA
- Gold, A. J., Schroth, A.W., Inamdar, S.P., Addy, K., Bowden, W.B., Andres, S., **Levia, D.F.**, Vermilyea, A., Leathers, D.J., Garfield, M., Chace, J., Jerram, A., Vaughan, M. and Shanley, J.B. 2014. "North East Water Resources Network (NEWRnet): a real-time water quality sensor network to study impacts of climate variability for Delaware, Rhode Island and Vermont." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Levia, D.F.** 2013. "A successful programmatic structure and strategies to attract and educate students in earth and environmental sciences: an example from the University of Delaware, USA." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.**, Michalzik, B., Bischoff, S., Näthe, K., Gruselle, M.C. and Richter, S. 2013. "Geometric configurations of particulate matter in forest ecosystems: measurement and cross-scale modeling." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Frost, E.E. and **Levia, D.F.** 2013. "Boron stemflow chemistry in relation to species and season in a temperate deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Siegert, C.M., **Levia, D.F.**, Leathers, D.J. and Zhang, F. 2013. "Synoptic climatological approaches to assessing subcanopy hydrologic and nutrient fluxes in a temperate deciduous forest." Presented at the Northeastern Ecosystem Research Cooperative (NERC), Saratoga Springs, New York, USA
- Karwan, D.L., **Levia, D.F.**, Siegert, C., Pizzuto, J. and Aufdenkampe, A. 2013. "Beryllium-7 (^7Be) wet deposition variation with storm synoptic classification and canopy presence in the mid-Atlantic USA." Presented at Soil to Sea Geomorphology-2013 Meeting, Baltimore, Maryland, USA

- Friesen, J., Van Stan, J., Martin, K., Jarvis, M., Lundquist, J. and **Levia D.** 2013. "Evaluation of an instrumental method to reduce error in canopy water storage estimates via mechanical displacement." Presented at the European Geosciences Union Annual Meeting, Vienna, Austria
- Levia, D.F.** and Michalzik, B. 2012. "Alterations in the nitrogen dynamics of European beech trees infested by the woolly beech aphid." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Siegert, C.M., **Levia, D.F.** and Leathers, D.J. 2012. "Synoptic climatological approaches to assessing subcanopy hydrologic and nutrient fluxes in a temperate deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Karwan, D.L., **Levia, D.F.**, Siegert, C.M. and Pizzuto, J.E. 2012. "Beryllium-7 wet deposition in open precipitation and canopy throughfall." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Van Stan, J.T., Martin, K., Friesen, J., Jarvis, M.T., Lundquist, J.D. and **Levia, D.F.** 2012. "Instrumental method to reduce error in canopy water storage estimates via mechanical displacement." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Rosier, C.L., Aufdenkampe, A., Kan, J., **Levia, D.** and Van Stan, J. 2012. "Assessing the effects of canopy-derived nutrient fluxes on key soil ecosystem services." Presented at White Clay Wild and Scenic Watershed Summit, Stroud Water Research Center, Avondale, Pennsylvania, USA
- Frost, E.E. and **Levia, D.F.** 2012. "Hydrologic response of stemflow inputs to varying levels of tree mortality in a broadleaved deciduous forest." Presented at the 108th Annual Meeting of the Association of American Geographers, New York, New York, USA
- Siegert, C.M., **Levia, D.F.** and Leathers, D.J. 2012. "Using synoptic climatology to forecast forest subcanopy hydrologic flux." Presented at the 108th Annual Meeting of the Association of American Geographers, New York, New York, USA
- Van Stan, J.T., Siegert, C.M., **Levia, D.F.** and Scheick, C.E. 2012. "Effects of directional wind-driven rainfall on the spatial variability and magnitude of stemflow inputs to forest soils from co-dominant species of differing crown characteristics." Presented at the 108th Annual Meeting of the Association of American Geographers, New York, New York, USA
- Levia, D.F.**, Van Stan, J.T., Inamdar, S.P., Mitchell, M.J., Scheick, C.E. and McHale, P. 2011. "Aluminum solute chemistry in stemflow in relation to season and tree species in a mid-Atlantic broadleaved deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Frost, E.E. and **Levia, D.F.** 2011. "Hydrological and biogeochemical variation of stemflow from live, stressed, and dead codominant deciduous canopy trees." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA

- Van Stan, J.T., **Levia, D.F.**, Inamdar, S.P., Mitchell, M.J. and Leopri-Bui, M.D. 2011. "The effects of season and storm characteristics on throughfall solute washoff and leaching dynamics from a temperate broadleaved deciduous canopy." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Inamdar, S.P., Singh, S., Dhillon, G., Mitchell, M.J., **Levia, D.F.**, Scott, D. and Bais, H.P. 2011. "Seasonal patterns of stream water DOM composition- hydrologic and biogeochemical controls." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Inamdar, S.P., Singh, S., **Levia, D.F.**, Scott, D., Mitchell, M.J. and Bais, H. 2011. "Dissolved organic matter responses for extreme storm events: an indicator of things to come? Presented at the 2011 Gordon Research Conference on Catchment Science: Interactions of Hydrology, Biology, and Geochemistry, Lewiston, Maine, USA
- Van Stan, J.T., **Levia, D.F.**, Jarvis, M.T. and Friesen, J. 2011. "Reducing error associated with compression derived measurements of whole-tree rainfall interception within the Christina River Basin Critical Zone Observatory." Presented at the 2011 National CZO All-Hands Meeting, Tucson, Arizona, USA
- Inamdar, S.P., Singh, S., **Levia, D.F.** and Mitchell, M.J. 2011. "Fluorescence characteristics and sources of dissolved organic matter for stream water during storm events and baseflow." Presented at the 2011 National CZO All-Hands Meeting, Tucson, Arizona, USA
- Yoo, K., Aufdenkampe, A., Inamdar, S., **Levia, D.**, Michael, H. and Imhoff, P. 2011. "Short-term and long-term weathering and soil production: responses to land use changes." Presented at the 2011 National CZO All-Hands Meeting, Tucson, Arizona, USA
- Hicks, S., Aufdenkampe, A., Lazareva, O., Montgomery, D., Kaplan, L., Newbold, D., **Levia, D.** and Sparks, D. 2011. "A wireless environmental sensor network based on open-source electronics for the Christina River Basin CZO." Presented at the 2011 National CZO All-Hands Meeting, Tucson, Arizona, USA
- Sparks, D.L., Aufdenkampe, A., Lazareva, O., Hicks, S., Montgomery, D., Arscott, D., Kaplan, L., Newbold, D. and **Levia, D.** 2011. "Christina River Basin Critical Zone Observatory (CRB-CZO): Wireless Environmental Sensor Network." Presented at University of Delaware on the Hill (March 8), Washington, DC, USA
- Levia, D.F.**, Van Stan, J.T., Siegert, C.M., Inamdar, S.P., Mitchell, M.J., Mage, S.M. and McHale, P. 2010. "Atmospheric deposition and corresponding variability of throughfall and stemflow chemistry across temporal scales in a mid-Atlantic broadleaved deciduous forest." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Siegert, C. M. and **Levia, D.F.** 2010. "Microclimatological and physiological controls of stomatal conductance and transpiration of co-occurring seedlings with varying shade tolerance." Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA

- Van Stan, J.T., **Levia, D.F.**, Inamdar, S.P., Mitchell, M.J. and Mage, S.M. 2010. “Temporal variability of stemflow dissolved organic carbon (DOC) concentrations and quality from morphologically contrasting deciduous canopies.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Inamdar, S.P., Singh, S., Dutta, S., Mitchell, M.J., **Levia, D.F.**, Scott, D. and Bais, H. 2010. Storm-event patterns and sources of dissolved organic matter (DOM) for stream runoff in a forested, mid-Atlantic watershed. Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Singh, S., Inamdar, S.P., Finger, N., Mitchell, M.J., **Levia, D.F.**, Scott, D. and Bais, H. 2010. “Quality of dissolved organic matter (DOM) in watershed compartments for a forested mid-Atlantic watershed.” Presented at the American Geophysical Union Annual Fall Meeting, San Francisco, California, USA
- Levia, D.F.**, Van Stan, J.T., Siegert, C.M., Inamdar, S.P., Mitchell, M.J., Mage, S.M. and McHale, P. 2010. “Stemflow: a hydrological control on the input of canopy derived fluxes to forest soils.” Presented at the 2010 Latsis Symposium on Ecohydrology, Lausanne, Switzerland
- Van Stan, J.T., Stotts, S.N., **Levia, D.F.**, Pizzuto, J.E. and Sparks, D.L. 2010. “Christina River Basin Critical Zone Observatory: preliminary results from the vegetation survey for validation of airborne LiDAR imagery.” Presented at the 3rd National CZO Meeting, Boulder, Colorado, USA
- Aufdenkampe, A.K., Hicks, S., Montgomery, D.S., Arscott, D.B., Kaplan, L.A., Newbold, J.D., **Levia, D.F.** and Leathers, D.J. 2010. “Advanced sensor network for real-time observations of hydrological and biogeochemical processes in the Christina River Basin CZO.” Presented at the 3rd National CZO Meeting, Boulder, Colorado, USA
- Hellström, R.A., Higgins, A., Ferris, D., Mark, B. and **Levia, D.** 2010. “Impacts of complex terrain on evapotranspiration within a tropical alpine valley in the Peruvian Andes.” Presented at the 67th Annual Eastern Snow Conference, Hancock, Massachusetts, USA
- Levia, D.F.**, Van Stan, J.T., Mage, S.M. and Hauske, P.W. 2009. “Spatio-temporal variability of stemflow volume in a beech-yellow poplar forest in relation to tree species and size.” Presented at the American Geophysical Union Joint Assembly, Meeting of the Americas, Toronto, Ontario, Canada
- Van Stan, J.T., Jarvis, M.T. and **Levia, D.F.** 2009. “An automated instrument for measurement of bark microrelief.” Presented at the American Geophysical Union Joint Assembly, Meeting of the Americas, Toronto, Ontario, Canada [**OSPA Winner, Hydrology Section**]
- Siegert, C.M. and **Levia, D.F.** 2009. “An investigation into the transpiration and stomatal conductance rates of three co-occurring seedling species of varying shade tolerance.” Presented at the 105th Annual Meeting of the Association of American Geographers, Las Vegas, Nevada, USA

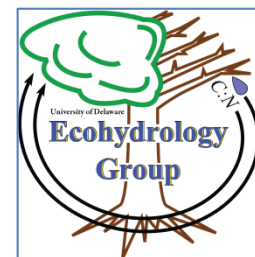
- Frost, E.E., **Levia, D.F.** and Willmott, C.J. 2008. "Variability of throughfall inputs in a southern Illinois broadleaved deciduous forest." Presented at the 104th Annual Meeting of the Association of American Geographers, Boston, Massachusetts, USA
- Levia, D.F.** and Quiring, S.M. 2007. "Assessment of student learning in a hybrid PBL capstone seminar." Presented at the 103rd Annual Meeting of the Association of American Geographers, San Francisco, California, USA
- Levia, D.F.** 2006. "Base cation solute enrichment of winter throughfall flux in a deciduous forest in relation to meteorological conditions." Presented at the 63rd Annual Eastern Snow Conference, Newark, Delaware, USA
- Levia, D.F.** 2006. "Intraspecific variation of base cation solute enrichment of winter throughfall flux in a deciduous forest." Presented at the 102nd Annual Meeting of the Association of American Geographers, Chicago, Illinois, USA
- Underwood, S.J. and **Levia, D.F.** 2006. "Solar radiation attenuation during fog episodes in the Central Valley of California." Presented at the 69th Annual Meeting of the Association of Pacific Coast Geographers, Eugene, Oregon, USA
- Levia, D.F.** 2005. "Geography in higher education: trends and issues." Panelist at the 101st Annual Meeting of the Association of American Geographers, Denver, Colorado, USA
- Levia, D.F.** and Underwood, S.J. 2005. "Hydrological research and the status of physical geography journals: increasing the impact of physical geography in the academy." Presented at the 101st Annual Meeting of the Association of American Geographers, Denver, Colorado, USA
- Levia, D.F.** and Frost, E.E. 2004. "Assessment of climatic suitability for the expansion of *Solenopsis invicta* Buren in Oklahoma using three general circulation models." Presented at the 100th Annual Meeting of the Association of American Geographers, Philadelphia, Pennsylvania, USA
- Levia, D.F.** 2003. "Differential winter stemflow generation under contrasting storm conditions in a southern New England broadleaved deciduous forest." Presented at the 60th Annual Eastern Snow Conference, Sherbrooke, Quebec, Canada
- Levia, D.F.** 2003. "Employing field experimentation methods during winter: an example of nitrate sequestration by corticolous macrolichens during winter precipitation events." Presented at the 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, USA
- Kidane-Miriam, T. and **Levia, D.F.** 2003. "Political ecology of land degradation in Ethiopia." Presented at the 99th Annual Meeting of the Association of American Geographers, New Orleans, Louisiana, USA
- Levia, D.F.** and Herwitz, S.R. 2002. "Winter chemical leaching from deciduous tree branches as a function of branch inclination angle in central Massachusetts." Presented at the 59th Annual Eastern Snow Conference, Stowe, Vermont, USA

- Levia, D.F.** 2002. “Detecting farmland prone to residential development in small towns.” Presented at the 98th Annual Meeting of the Association of American Geographers, Los Angeles, California, USA
- Levia, D.F.** 2001. “Influence of global change and species composition of a broadleaved deciduous forest on biogeochemical cycling.” Presented at the 97th Annual Meeting of the Association of American Geographers, New York, New York, USA
- Levia, D.F.** 2000 “Winter stemflow leachate dynamics from deciduous canopy trees in relation to precipitation event characteristics.” Presented at the 57th Annual Eastern Snow Conference, Syracuse, New York, USA
- Ault, H. K., Herwitz, S.R. and **Levia, D.F.** 2000. “Modeling the geometry of leafless canopy trees for the determination of total woody surface area and its influence on leachate chemistry.” Presented at the 9th International Conference on Geometry and Graphics, Johannesburg, South Africa
- Levia, D.F.** and Herwitz, S.R. 1999. “Nutrient cycling in deciduous forests during dormancy: implications of global change and increased frequency of mixed precipitation events.” Presented at Annual Meeting of the New England-Saint Lawrence Valley Geographical Society, Farmington, Maine, USA
- Levia, D.F.** 1998. “Farmland conversion and residential development in north central Massachusetts.” Presented at the 94th Annual Meeting of the Association of American Geographers, Boston, Massachusetts, USA

UD ECOHYDROLOGY GROUP

Current members:

Delphis F. Levia (PI)
 Kerstin Nätke (Visiting Fellow, Germany)
 Chuan Yuan (Visiting Fellow, China)
 Janice E. Hudson (Ph.D. student)
 Sean A. Hudson (Ph.D. student)



Former and affiliate members:

Carles Cayuela (Visiting Scholar, Spain)	Andrew S. Price (B.S.)
Asia L. Dowtin (Ph.D.)	Alexander C. Remar (M.S.)
Ethan E. Frost (M.S., Ph.D.)	Nathaly Rodriguez (B.S. student)
John C. Fry (M.S.)	Carl L. Rosier (Postdoctoral researcher)
Katherine T. Junghenn (B.S.)	William J. Ryan, III (M.S.)
Diana L. Karwan (Postdoctoral researcher)	Carrie E. Scheick (B.S.)
Patrick W. Kelley-Hauske (Non-degree)	Ilana N. Schnauffer (B.S.)
Michelle D. Lepori-Bui (B.S.)	Alexey N. Shiklomanov (B.S.)
Pilar Llorens (Visiting Fellow, Spain)	Courtney M. Siegert (M.S., Ph.D.)
Alyssa N. Lutgen (B.S.)	John T. Van Stan, II (M.S., Ph.D.)

Susanna M. Mage (B.S.)
Kazuki Nanko (Visiting Fellow, Japan)

Kathryn I. Wheeler (B.S.)
Fen Zhang (Visiting Scholar, China)

GRADUATE TEACHING EXPERIENCE

Graduate students:

Chair:

Janice E. Hudson (Ph.D. student)- physiological ecology of northern spicebush

Sean A. Hudson (Ph.D. student)- stemflow-soil interactions

Serve as committee member or external committee member or external examiner (*):

Jessica Czarnecki (M.S. student, Chemical Oceanography, University of Delaware)

Mohammad Abdul Qadir Khan (M.S. student, Data Science, University of Delaware)

Kevin Brinson (Ph.D. student, University of Delaware)

Alma D. Vázquez-Lule (Ph.D. student, University of Delaware)

Postdoctoral researchers completed:

Diana L. Karwan, Ph.D. (Assistant Professor, University of Minnesota)

Carl L. Rosier, Ph.D. (Postdoctoral researcher, Oklahoma State University)

Graduate students completed:

Served as committee chair:

Asia L. Downtin (Ph.D., 2018)

Employment: Assistant Professor, Michigan State University

Dissertation: *An investigation into the effects of forest fragment structure and spatial context on rainfall redistribution and solute flux within a city and along an urban to rural gradient*

Kerstin Näthe (Dr. rer. nat., 2018), Co-Chair, Friedrich Schiller University of Jena

Employment: German Environment Agency

Dissertation: *Effects of low-intensity prescribed surface fires on the cycling of organic matter and elements in coniferous forests in Germany*

Sean A. Hudson (M.S., 2016)

Employment: Ph.D. student, University of Delaware

Thesis: *The effects of meteorological conditions on throughfall drop size distribution under a broadleaved deciduous forest canopy in northeastern Maryland*

Janice E. Hudson (M.S., 2015)

Employment: Ph.D. student, University of Delaware

Thesis: *Understory variability of photosynthetically active radiation in a mid-Atlantic deciduous forest and its effects on *Lindera benzoin* L. Blume (northern spicebush)*

Courtney M. Siegert (Ph.D., 2013)

Employment: Assistant Professor, Mississippi State University

Dissertation: *Synoptic climatological approaches to assessing subcanopy hydrologic and nutrient fluxes in eastern deciduous forests*

Alexander C. Remar (M.S., 2013)

Employment: Lettis Consultants International, Earth science consultant

Thesis: *Multivariate geospatial detection and quantification of ecological thresholds corresponding to dispersion of *Castor canadensis* Kuhl. (North American Beaver) in central Massachusetts*

John T. Van Stan, II (Ph.D., 2012)

Employment: Associate Professor, Georgia Southern University

Dissertation: *Controls and dynamics of canopy-derived dissolved organic matter from co-dominant broadleaved deciduous canopies to the soil of a temperate catchment in the northeastern United States*

Ethan E. Frost (Ph.D., 2011)

Employment: Assistant Professor, Millersville University

Dissertation: *Hydrological and biogeochemical variation of stemflow from live, stressed, and dead *Fagus grandifolia* Ehrh. [American beech] and *Liriodendron tulipifera* L. [yellow poplar] trees in a mid-Atlantic broadleaved deciduous forest*

William J. Ryan, III (M.S., 2011)

Employment: The Academy of Natural Sciences, Senior Ecologist

Thesis: *Variation in stemflow volume and chemistry in black birch (*Betula lenta* L.) in relation to tree size and associated bark textural changes*

John C. Fry (M.S., 2010)

Employment: Marine Information Resources Corporation, Geospatial analyst

Thesis: *Analysis of floristic diversity of *Ailanthus altissima* Mill. Swingle (tree of heaven) and co-occurring native tree species in northeastern Maryland*

Courtney M. Siegert (M.S., 2009)

Employment: Assistant Professor, Mississippi State University

Thesis: *An investigation of transpiration of three co-occurring seedling species of varying shade tolerances*

John T. Van Stan, II (M.S., 2008)

Employment: Associate Professor, Georgia Southern University

Thesis: *Inter- and intraspecific variation of stemflow production from *Fagus grandifolia* and *Liriodendron tulipifera*: effects of bark microrelief and meteorological conditions*

Ethan E. Frost (M.S., 2006)

Employment: Assistant Professor, Millersville University

Thesis: *Throughfall variability in a southern Illinois broadleaved deciduous forest*

Emily D. Yates (M.S., 2003)

Employment: Chicago Botanical Garden, Co-Coordinator for Millennium Seed Bank Project, Chicago, IL

Thesis: *Recruitment of three non-native invasive plants into a fragmented forest of southern Illinois*

Served as a committee member or external examiner/committee member (*):

Chelsea G. Leiper (Ph.D., 2018, University of Delaware)

Sabatino V. Campellone (Ph.D., 2018, Drexel University)*

Richard (Doug) D. Rowland (M.S., 2016, University of Delaware)

Julie Schooling (M.Sc., 2014, Thompson Rivers University, BC, Canada)*

Aleksandra Muzylo (Ph.D., 2011, IDAEA-CSIC, Barcelona, Spain)*

Melanie A. Schimek (M.S., 2011, University of Delaware)

Nina Finger (M.S., 2010, University of Delaware)

Chad E. Lishman (M.Sc., 2015, Thompson Rivers University, BC, Canada)*

Adam J. McKee (M.Sc., 2010, Thompson Rivers University, BC, Canada)*

Mark N. Demitroff (M.S., 2007, University of Delaware)

Christopher A. Miehle (M.S., 2003, Southern Illinois University, Carbondale)

Vincent G. McGowan (M.S., 2001, Southern Illinois University, Carbondale)

ADVISEE AWARDS

& HONORS (while at UD)

Asia L. Downtin, Ph.D. advisee

NSF DDRI grant (Co-PI, 2015)

AWRA Richard A. Herbert Memorial Scholarship (2014)

Bill & Melinda Gates Foundation Millennium Scholars Award (2015)

2015 AWRA Outstanding Student Chapter Award (2015)

University Dissertation Fellowship (2015-2016)

College Block Fellowship (2016-2017)

University Scholar Award (2013-2014, 2014-2015)

Graduate Scholar Award (2012-2013)

University of Delaware Mather Research Grant (2013-2016)

AAG, Graduate Student, Professional Development Award (2018)

Janice E. Hudson, M.S./Ph.D. advisee

University Dissertation Fellowship (2018-2019)

Geography Research Award (2018)

Geography Teaching Assistantship Award (2018)

College Block Fellowship (2017-2018)

University of Delaware Mather Research Grant (2013)

AGU Outstanding Student Paper Award (Hydrology) (2015)

AGU Outstanding Student Paper Award (Biogeosciences) (2017)

Sean A. Hudson, M.S./Ph.D. advisee

University of Delaware Mather Research Grant (2014)

Geography Research Award (2016)

Alyssa N. Lutgen, Undergraduate advisee
Graduate School: University of Delaware
Delaware Water Resources Center Research Internship (2015)

Ilana N. Schnauffer, Undergraduate advisee
Willis Award (2017)
Delaware Water Resources Center Research Internship (2016)

Kathryn I. Wheeler, Undergraduate advisee
Graduate School: Boston University
US NSF Graduate Research Fellowship (2017)
AAUP, UD Chapter, Student Award (2017)
DENIN Environmental Scholar (2014)
NEWNet Summer Scholar (2015)
NOAA Hollings Scholarship (2015)
AGU Outstanding Student Paper Award (Hydrology) (2015)
AGU Outstanding Student Paper Award (Biogeosciences) (2017)

Katherine T. Junghenn, Undergraduate advisee
Graduate School: University of Maryland, College Park
Delaware Water Resources Center Research Internship (2013)
Outstanding Environmental Science Major (2015)

Alexey N. Shiklomanov, Undergraduate advisee
Graduate School: Boston University
Delaware Water Resources Center Research Internship (2013)
Outstanding Environmental Science Major (2014)

Courtney M. Siegert, M.S./Ph.D. advisee
NSF DDRI grant (Co-PI, 2012)
University Dissertation Fellowship (2012-2013)
University of Delaware Mather Research Grant (2012)
College Dissertation Fellowship (2011-2012)
Geography Research Award (2013)

John T. Van Stan II, M.S./Ph.D. advisee
AGU Outstanding Student Paper Award (Hydrology) (2009)
NSF DDRI grant (Co-PI, 2010)
Geography Research Award (2010)
University Graduate Fellowship (2010-2011)
University Dissertation Fellowship (2011-2012)

Alexander C. Remar, M.S. advisee
University of Delaware Mather Research Grant (2012)

Carrie E. Scheick, Undergraduate advisee
Delaware Water Resources Center Research Internship (2011)

Michelle D. Lepori-Bui, Undergraduate advisee
Delaware Water Resources Center Research Internship (2010)

Anna N. Bevan, Undergraduate advisee
Delaware Water Resources Center Research Internship (2009)

Ethan E. Frost, M.S./Ph.D. advisee
University Graduate Fellowship (2007-2008)
University Dissertation Fellowship (2008-2009)
Geography Research Award (2009)

Susanna M. Mage, Undergraduate advisee
Graduate School: Brown University
UDRF-REU, Undergraduate Research Scholar (2008-2009)

Gregory D. Marchesiello, Undergraduate advisee
NSF EPSCoR Science & Engineering Research Scholar (2007)

Lydia A. Leclair, Undergraduate advisee
Graduate School: University of California, Santa Barbara
Delaware Water Resources Center Research Internship (2005-2006)

Emily D. Yates, Master's advisee
Arey Award for Outstanding Master's Thesis (2004)

William C. Bollinger, III, Undergraduate advisee
Southern Illinois University Undergraduate Research Prize (2003)

COURSES TAUGHT (UNDERGRADUATE & GRADUATE)

Prior to University of Delaware:

Biosphere-Atmosphere Interactions

Earth's Biophysical Environments (traditional & web)

Environmental Impact Analysis

Forest Hydrology Field Methods

At University of Delaware:

Fall 2003: ENSC 425- *Environmental Field Methods* (Enrollment: 10)

Spring 2004: GEOG 652- *Seminar: Ecological Climatology* (Enrollment: 4)

Fall 2004: GEOG 235- *Conservation of Natural Resources* (Enrollment: 67), GEOG 451/651-
Microclimatology (Enrollment: 8)

Spring 2005: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 17)

Spring 2006: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 18)

Fall 2006: GEOG 235- *Conservation of Natural Resources* (Enrollment: 40), GEOG 451/651-
Microclimatology (Enrollment: 11)

Spring 2007: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 14)

Fall 2007: ENSC 425- *Environmental Field Methods* (Enrollment: 10), GEOG 631- *Watershed Ecology* (Enrollment: 7)

Spring 2008: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 11)

Fall 2008: GEOG 235- *Conservation of Natural Resources* (Enrollment: 39), GEOG 451/651- *Microclimatology* (Enrollment: 7)
Spring 2009: GEOG 342- *Bioclimatology* (Enrollment: 8)
Fall 2009: ENSC 425- *Environmental Field Methods* (Enrollment: 11), GEOG 431/631- *Watershed Ecology* (Enrollment: 10)
Winter 2010: GEOG 235- *Conservation of Natural Resources* (Enrollment: 15)
Spring 2010: GEOG 342- *Bioclimatology* (Enrollment: 4)
Spring 2011: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 13), GEOG 235- *Conservation of Natural Resources* (Enrollment: 12, Honors section)
Fall 2011: ENSC 425- *Environmental Field Methods* (Enrollment: 12)
Fall 2012: GEOG 451/651- *Microclimatology* (Enrollment: 12)
Spring 2013: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 30)
Fall 2013: GEOG 342- *Bioclimatology* (Enrollment: 15)
Spring 2014: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 25)
Fall 2014: ENSC 425- *Environmental Field Methods* (Enrollment: 10)
Spring 2015: ENSC 450- *Proseminar in Environmental Science* (Enrollment: 26)
Fall 2015: GEOG 600- *Prelude to Geography* (Enrollment: 8)
Winter 2016 (in Dominica): GEOG 235- *Conservation of Natural Resources* (Enrollment: 18)
Fall 2016: GEOG 600- *Prelude to Geography* (Enrollment: 6)
Fall 2017: GEOG 600- *Prelude to Geography* (Enrollment: 7)
Summer 2018: ENSC 425- *Environmental Field Methods* (Enrollment: 9)
Fall 2018: GEOG 600- *Prelude to Geography* (Enrollment: 8)
Summer 2019: ENSC 425- *Environmental Field Methods* (Enrollment: 9)

Undergraduate Student Directed Research Advisees:

Daniel R. Page (1999-2000)	Ethan E. Frost (2000-2002)
William C. Bollinger, III (2002-2003)	Robert A. Hrabik (2002-2003)
Michael J. Mihalik (2003-2004)	Mark P. Neimeister (2003-2004)
Noel Wubbena (2003-2004)	Nicholas P. Klingaman (2004-2005)
Lydia A. Leclair (2005-2006)	Gregory D. Marchesiello (2007-2008)
Susanna M. Mage (2008-2010)	Anna N. Bevan (2009-2010)
Michelle D. Lepori-Bui (2010-2012)	Carrie E. Scheick (2010-2012)
Andrew S. Price (2011-2012)	Katherine T. Junghenn (2012-2015)
Alexey N. Shiklomanov (2011-2014)	Grace Relf (2012-2014)
Paul J. Leininger (2014)	Nathaly Rodriguez (2013-2014)
Alyssa N. Lutgen (2015-2017)	Kathryn I. Wheeler (2014-2017)
Ilana N. Schnauffer (2015-2017)	

SPECIALIZED TRAINING

2015 AAG Department Leadership Workshop
 AAG Healthy Departments Initiative
 University of Connecticut, Storrs (2015)

Blue & Gold Academic Leadership Program (UD)
 Advanced training for university administrators
 Certificate of Completion (2012)

Introductory Problem Based Learning (PBL) Workshop
Certified PBL Fellow (June 2005)
Institute for Transforming Undergraduate Education (ITUE)
University of Delaware

Advanced PBL Workshop, "Taking PBL to the Next Level"
Winter 2006 Faculty Institute
University of Delaware

Advanced PBL Workshop, "Refining and Publishing PBL Problems"
Winter 2006 Faculty Institute
University of Delaware

Assessment Workshop
Winter 2008 Faculty Institute
University of Delaware

PROFESSIONAL AND UNIVERSITY SERVICE

Professional service

Editorial duties:

Series Editor, Ecological Studies- Analysis and Synthesis (Springer Nature)
Associate Editor (Ecohydrology, biometeorology), *Hydrological Processes* (Wiley)
Associate Editor (Plant-Soil Interactions), *Journal of Plant Nutrition and Soil Science* (Wiley)

Journal manuscript, book publisher, and proposal reviewer:

Journal manuscript reviewer for:

<i>Advances in Water Resources</i> (2)	<i>Hydrological Research Letters</i> (Japan)
<i>African Journal of Agricultural Research</i> (2)	<i>Hydrological Sciences Journal</i> (2)
<i>Agricultural and Food Science</i>	<i>Journal of Arid Environments</i>
<i>Agricultural and Forest Meteorology</i> (17)	<i>Journal of Environmental Informatics</i>
<i>Agriculture and Human Values</i>	<i>Journal of Environmental Quality</i> (2)
<i>Annals of Forest Science</i>	<i>Journal of Geography in Higher Education</i>
<i>Atmospheric Environment</i>	<i>JGR- Atmospheres</i>
<i>Biogeochemistry</i> (6) [Outstanding Reviewer]	<i>Journal of Hydrology</i> (26)
<i>Bioscience</i> (2)	<i>Journal of Vegetation Science</i>
<i>BMC Ecology</i> (2)	<i>Land Degradation and Development</i>
<i>Canadian Journal of Forest Research</i> (4)	<i>Optical Engineering</i>
<i>Catena</i>	<i>Physical Geography</i>
<i>Climate Research</i>	<i>Plant and Soil</i> (2)
<i>Earth Surface Processes and Landforms</i> (3)	<i>Proceedings of the Royal Society B: Biol Sci</i> (2)
<i>Ecohydrology</i> (7)	<i>Professional Geographer</i> (2)
<i>Environmental Engineering Science</i>	<i>Publications in Climatology</i>
<i>European Journal of Forest Research</i> (2)	<i>Sensors</i> (2)
<i>Forest Ecology and Management</i> (5)	<i>Silva Fennica</i>

Forests (2)
Functional Ecology (2)
Geoderma (3)
Global and Planetary Change
Hydrological Processes (22)

Urban Forestry and Urban Greening (2)
Water International
Water Resources Research (3)
WIRES-Water

Agency manuscript reviewer for:

US Environmental Protection Agency (US EPA)

Book/Encyclopedia reviewer for:

Encyclopedia of Water: Science, Technology, and Society (Wiley)
Rowman & Littlefield Publishers, Inc.

Proposal panelist for:

US National Science Foundation (4)

Proposal reviewer for:

Belmont Forum Grants Operations, Call for Mountains as Sentinels for Change
National Science Foundation, Hydrologic Sciences Program (8)
National Science Foundation, Ecosystem Science Cluster
National Science Foundation, Geography and Spatial Sciences Program (5)
Natural Environment Research Council (NERC), United Kingdom
U.S. Civilian Research & Development Foundation

External reviewer for promotion and/or tenure (number of cases): 6

External departmental reviews: 1

Professional consulting activities (selected):

-Consultant to New York City's DEP, role of urban trees in stormwater management schema
-Expert witness, hydrologic consultant on NJ flooding case, examined role of riparian vegetation on flood mitigation via evapotranspirational losses

American Geophysical Union:

Session Co-Convener (with Matthias Sprenger, John Van Stan, and Till Volkmann); Session title: *Methods and Process Interpretations in the Soil-Plant-Atmosphere Continuum* [2016]

Session Co-Convener (with Darryl Carlyle-Moses, John Van Stan, and Courtney Siegert); Session title: *Precipitation-Vegetation Interactions: Advances in Interception Loss, Throughfall, and Stenflow Research* [2015]

Session Co-Convener (with John Van Stan and Darryl Carlyle-Moses); Session title: *Precipitation Partitioning by Vegetation: Methods, Measurement, and Modeling of Hydrologic and Biogeochemical Dimensions* [2014]

Session Co-Convener (with Richard Keim, Rodrigo Vargas, Sara Rauscher); Session title: *Bridging Scales in Soil-Plant-Atmosphere Interactions I & II* [2013]

Session Co-Convener (with Richard Keim and Darryl Carlyle-Moses); Session title: *Interactions of Precipitation with Forest Canopies across Spatial and Temporal Scales: Measurements and Modeling* [2012]

Association of American Geographers:

Member, Publications Committee (2008-2011)

Chair, Cryosphere Specialty Group (2007-2009)

Member, Board of Directors, Cryosphere Specialty Group (2005- 2007)

Eastern Snow Conference:

Member, Research Committee (2007- present)

Local Arrangements Coordinator, 2006 Joint ESC/AAG CrSG Meeting, Newark, DE

Davos Atmosphere and Cryosphere Assembly 2013 (DACA-2013):

Session Co-Convener (with Peter Bebi [SLF, Davos, Switzerland] & Michele Freppaz [University of Turin, Italy]); Session title: *Forest-snow interactions*

Session Co-Chair (with Peter Bebi [SLF, Davos, Switzerland] & Michele Freppaz [University of Turin, Italy]); Session title: *Forest-snow interactions*

Outreach activities:

MADE CLEAR Climate Change Science Education Advisor

Duties: train informal educators about climate change science

Consulting expert, *The News Journal* (2003- present)

Duties: supply journalists with topical expertise for newspaper articles

Climatologist, Fair Hill Nature Center, Elkton, MD (2004- present)

Duties: maintain meteorological station on-site, Weather station presentation program

Member, Board of Directors, Fair Hill Nature Center, Elkton, MD (2004- 2007)

Duties: oversee operations, participate in fundraising & educational programs (k-12, adult)

Judge, State (Delaware) Geography Bee (2005-2006, 2010, 2014, 2017)

Duties: render a decision concerning the validity of a response when queries arose

Presenter, 2005 Water Festival at Bellevue State Park, DE

Duties: present information on field instrumentation to junior high students

Member, Conservation Commission, New Braintree, MA (1993-1996)

Duties: field site evaluation, wetlands delineation, administration of Wetlands Protection Act

University service

University of Delaware

University posts:

Assessment Faculty Fellow (2006- present)

Alpha of Delaware Chapter, Phi Beta Kappa, President (2009- 2010)

Alpha of Delaware Chapter, Phi Beta Kappa, Transcript Review Team (2006-2011)

Chair, Search Committee, Dept. of Geological Sciences Chair (2019-2020)
Chair, Search Committee, Dept. of Plant & Soil Sciences Chair (2015-2016)
Co-Chair, Distinguished Professorship Energy & Environment Search Committee (2015-16)
Committee on Undergraduate Records and Certification (2009- 2014)
Director of Environmental Science and Environmental Studies Programs (2010-2015)
Implementation Committee, Delaware Will Shine Strategic Planning Initiative (2015- 2016)
Member, Entrepreneurship Certificate Program Committee (2016-2017)
Middle States Accreditation Committee, Standard VII: Governance, Leadership and Administration (2019- present)
“Models for the New American Research University” Working Group (2014-2015)
Program Committee, Water Science & Policy Graduate Program (2012- present)
Undergraduate Tuition Budgeting Subcommittee (2018)
University Assessment Scholar (2010-2011)
University Library Committee (2012- 2014)
Working Group for Water Science & Policy Graduate Program (2010-2012)

College posts:

CEOE Assistant to the Dean Search Committee (2018)
CEOE College Cluster Hire Search Committee (2011)
CEOE DEOS Search Committee (2013)
CEOE Diversity Committee (2015- present)
CEOE Safety Committee (2012- 2017)
College of Arts & Sciences Faculty Senate (2003-2004, 2007-2009)

Departmental posts:

Associate Chair (2010- 2012)
Chair, Department of Geography (2015- present)
Coordinator for Physical Geography (2009- 2012)
Delaware Valley Geographical Association, Council Member (2003-2007)
DOUG Faculty Co-Advisor (2006-2007)
Environmental Science Advisor (2004- present)
Environmental Studies Advisor (2009- present)
Search Committee, Human geographer position (2014)
Search Committee, Human geographer position (2013)
Search Committee, Human geographer position (2011)
Undergraduate Career Advisor (2005-2008)

Departmental committees:

Academic Council, Interim Chair (Spring 2006)
Academic Council, Member (2009- 2012)
Chair, 4+1 BS/MS Program Committee for GIScience and Environmental Data Analytics
Four Year Faculty Review Committee (2015)
Graduate Program Committee, Member (2009)
Ph.D. in Geography Committee, Member (2005-2007)
Promotion and Tenure Committee (2009-2010)
Revision of Geography BA Major Committee, Member (2015-2016)
Second Year Faculty Review Committee (2012, 2015)
Social Events Planning Committee, Member (2003- 2005)

Southern Illinois University, Carbondale

Departmental posts:

Undergraduate Program Director (2001- 2003)

Undergraduate Advisor for Environmental Planning specialization (2001- 2003)

Preparer of Geography Undergraduate Assessment Report (2001- 2003)

Departmental committees:

Chair, GIScience Faculty Search Committee (Spring 2003)

Natural Resources Faculty Search Committee (Spring 2002)

Merit Pay Committee (Spring 2002)

PROFESSIONAL AFFILIATIONS

American Association of Geographers (AAG)

American Geophysical Union (AGU)

Council of Environmental Deans and Directors (CEDD)

Delaware Geographic Alliance (DGA)

Delta Phi Alpha- National German Honor Society ($\Delta\Phi\Lambda$)

Eastern Snow Conference (ESC)

European Geosciences Union (EGU)

International Association of Hydrological Sciences (IAHS)

Maryland State Beekeepers Association (MSBA)

Phi Beta Kappa, Alpha Chapter of Delaware ($\Phi\beta\kappa$)

University of Delaware, Institute for Transforming Undergraduate Education (ITUE)