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THE UNIVERSITY *of*
NEW MEXICO

PROFESIONAL INTERESTS

Hydrologic transport; Stream ecology and nutrient processing; Groundwater-surface water interactions; Environmental hydrogeology; Bioreactive and environmental tracers; Mathematical and computational modeling of hydrologic systems; Fluid mechanics and hydraulics.

EDUCATION

- 2013** **Ph.D. Water Resources Engineering**
Oregon State University
Advisor: Roy Haggerty (Ph.D. in Hydrology - Stanford University)
- 2008** **M.Sc. in Engineering – Water Resources**
National University of Colombia
Advisor: Luis A. Camacho (Ph.D. in Hydrology - Imperial College London)
- 2005** **B.S. Agricultural Engineering– Emphasis: Water Resources**
National University of Colombia

COURSES TAUGHT

- CE 442 Hydrology & Hydraulic Engineering. Fall 2013, 2014, 2015. University of New Mexico. Department of Civil Engineering.
- CE 598 Surface Water Quality Modeling. Spring 2015. University of New Mexico. Department of Civil Engineering.
- CE 542 Intermediate Hydrology. Spring 2014. University of New Mexico. Department of Civil Engineering.
- Open Channel Hydraulics and Pressurized Hydraulic Systems. From 2006 to 2008. National University of Colombia - School of Engineering.

PEER-REVIEWED PUBLICATIONS

(** indicates work with students)

- ****González-Pinzón, R.**, J. Mortensen, and D. Van Horn (2015), Comment on “Solute-specific scaling of inorganic nitrogen and phosphorus uptake in streams” by Hall et al. (2013), *Biogeosciences*, 12(8), 5365–5369, doi:10.5194/bg-12-5365-2015.
- **González-Pinzón, R.**, M. Peipoch, R. Haggerty, M. Ribot, E. Martí, and J. Fleckenstein (2015), Nighttime and daytime respiration in a headwater stream, *Ecohydrology*, doi/10.1002/eco.1615/.
- **González-Pinzón, R.**, A. S. Ward, C. E. Hatch, A. N. Wlostowski, K. Singha, M. N. Gooseff, R. Haggerty, J. W. Harvey, O. A. Cirpka, and J. T. Brock, (2015), A field comparison of multiple techniques to quantify groundwater–surface-water interactions, *Freshw. Sci.*, 34 (1), doi: 10.1086/679738.
- Lemke, D., **R. González-Pinzón**, Z. Liao, T. Wöhling, K. Osenbrück, R. Haggerty, and O. Cirpka (2014), Sorption and transformation of the reactive tracers resazurin and resorufin in natural river sediments, *Hydrol. Earth Syst Sc.*, 18: 3151-3163, doi:10.5194/hess-18-3151-2014.
- **González-Pinzón, R.**, R. Haggerty, and A. Argerich (2014), Quantifying spatial differences in metabolism in headwater streams, *Freshw. Sci.*, 33 (3): 798-811, doi: 10.1086/677555.
- **González-Pinzón, R.**, R. Haggerty, and M. Dentz (2013), Scaling and predicting solute transport processes in streams, *Water Resour. Res.*, 49, doi:10.1002/wrcr.20280.
- **González-Pinzón, R.**, and R. Haggerty (2013), An efficient method to estimate processing rates in streams, *Water Resour. Res.*, 49, doi: 10.1002/wrcr.20446.
- Briggs, M. A., L. K. Lautz, D. K. Hare, and **R. González-Pinzón** (2013), Relating hyporheic fluxes, residence times, and redox-sensitive biogeochemical processes upstream of beaver dams, *Freshw. Sci.*, 32(2), 622–641, doi:10.1899/12-110.1.
- Zarnetske, J. P., R. Haggerty, S. Wondzell, V. A., Bokil, **R. González-Pinzón** (2012), Coupled transport and reaction kinetics control the nitrate source-sink function of hyporheic zones, *Water Resour. Res.*, doi:10.1029/2012WR011894.
- **González-Pinzón, R.**, R. Haggerty, D. Myrold (2012), Measuring aerobic respiration in stream ecosystems using the resazurin-resorufin system, *J. Geophys. Res.*, 117, G00N06, doi:10.1029/2012JG001965.
- Camacho, Luis A., **R. González-Pinzón** (2008), Calibration and prediction ability analysis of longitudinal solute transport models in mountain streams, *J. Environ Fluid Mech.*, 8(5), 597-604.
- Rodríguez S., E. A., **R. González-Pinzón**, M. P. Medina, Y. A. Pardo, A. C. Santos (2007), A methodology for the development of flood hazard maps and zoning: A study case in the lower part of the Las Ceibas river basin (Neiva-Huila), *Avances en Recursos Hidráulicos*, Vol.16, pp. 65-78.

CONFERENCE PROCEEDINGS AND TECHNICAL REPORTS

(Manuscript and oral presentations where indicated)

(** indicates work with students)

- ****González-Pinzón, R.**, and C. Herrington, 2015, Doing Hydrology Backwards in New Mexico to Estimate a Statewide Water Budget, WRI Technical Completion Report No. A15-0027.
- **González-Pinzón, R.**, Camacho, L.A., 2009, Solute transport modeling and travel time estimation in mountain rivers, *7th International Symposium in Eco-Hydraulics*, Concepción, Chile.
- Camacho, L.A., Rodríguez, E.A., **González-Pinzón, R.**, Torres, J.A., Medina, M.P, Gelvez, R., 2009, Methodology for estimating the assimilative capacity of pollutant loads in mountain streams, *7th International Symposium in Eco-Hydraulics*, Concepción, Chile.
- **González-Pinzón, R.**, Camacho, L. A., 2008, SOLUTE TRANSPORT TOOL v1.0. A tool for the analysis of solute transport under steady flow, **manuscript and oral presentation**, *XXIII Latin-American Conference of Hydraulics*, Cartagena, Colombia.
- **González-Pinzón, R.**, Camacho, L. A., 2008, *Determination of the dispersive fraction behavior in characteristic mountain rivers*, **manuscript and oral presentation**, *XXIII Latin-American Conference of Hydraulics*, Cartagena, Colombia.
- **González-Pinzón, R.**, Camacho, L. A., Rodríguez, E. A., 2008, *Dispersive fraction behavior in characteristic mountain rivers*, **manuscript and oral presentation**, *XVIII National Seminar of Hydraulics and Hydrology*, Bogotá, Colombia.
- Camacho, Luis A., Rodríguez, E. A., Gelvez, R., **González-Pinzón, R.**, Medina, M., Torres, J., 2007, A methodology to characterize the self-purification capacity in mountain rivers, **manuscript and oral presentation**, *I International Conference – Water and Environment*, Bogotá-Colombia.
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ORAL AND POSTER PRESENTATIONS IN CONFERENCES

(** indicates work with students)

- ****Herrington, C.** and **R. González-Pinzón, 2015**, Estimating Dryland Water Fluxes by Doing Hydrology Backwards, 12th Annual RMSAWWA/RMWEA Student Conference, May 21, 2015, **oral presentation**, Las Cruces, NM.
- **González-Pinzón, R.**, A.S. Ward, K. Singha, M.N. Gooseff, C. Hatch, J.W. Harvey, R. Haggerty, A.N. Wlotowsk , O. Cirpka, J. Brock, 2014, A field comparison of techniques to quantify groundwater–surface water interactions, *AGU Meeting*, **oral presentation**, San Francisco (CA), USA.
- ****Herrington, C.**, J. Mortensen, R. **González-Pinzón**, 2014, Estimating evapotranspiration and precipitation using streamflow measurements, *AGU Meeting*, **poster presentation**, San Francisco (CA), USA.

- ****Herrington, C. and R. González-Pinzón, 2014, Estimating Precipitation and Evapotranspiration Rates using Streamflow Measurements, 59th New Mexico Water Resources Research Institute Conference, Nov. 18-19, 2014, Santa Fe, NM.**
- **González-Pinzón, R., M. Peipoch, R. Haggerty, M. Ribot, E. Martí, and J. Fleckenstein, 2014, Determining diel fluctuations of respiration in a headwater stream, *Joint Aquatic Sciences Meeting, oral presentation, Portland (OR), USA.***
- **González-Pinzón, R., Haggerty, R., 2013, An efficient method to estimate processing rates in streams, *AGU Meeting, poster presentation, San Francisco (CA), USA.***
- **González-Pinzón, R., Haggerty, R., 2012, Scaling and predicting solute transport in streams, *AGU Meeting, poster presentation, San Francisco (CA), USA.***
- Haggerty, R, **González-Pinzón, R,** Eugènia Marti, Alba Argerich, David Myrold, 2012, The resazurin-resorufin tracer for quantifying respiration and surface water-groundwater interactions in fluvial ecosystems, *AGU Meeting, poster presentation, San Francisco (CA), USA.*
- **González-Pinzón, R., Haggerty, R., 2012, Geomorphic controls on respiration in two headwater streams in Oregon (USA), *EGU Meeting, oral presentation, Vienna, Austria.***
- **González-Pinzón, R., Acker, S., Haggerty, R., Myrold, D., 2011, Quantitative measurement of stream respiration using the resazurin-resorufin system, *AGU Fall Meeting, oral presentation, San Francisco (CA), USA.***
- Briggs, M.A., Lautz, L.K., Gordon, R.P., McKenzie, J.M., **González-Pinzón, R.,** 2011, Using multiple natural and injected tracers to evaluate spatial and temporal patterns of hyporheic flux and biogeochemistry, *AGU Fall Meeting, oral presentation, San Francisco (CA), USA.*
- Zarnetske, J.P., Haggerty, R., Wondzell, S.M., Bokil, V.A., **González-Pinzón, R.,** 2011, Coupling Hyporheic Nitrification-Denitrification: Evaluating Net Nitrate Source-Sink Dynamics as a Function of Transport and Reaction Kinetics, *AGU Fall Meeting, oral presentation, San Francisco (CA), USA.*
- **González-Pinzón, R., Haggerty, R., Argerich, A., Briggs, M., Lautz, L., Lemke, D., Hare, D., 2010, Resazurin as a Proxy for Estimating Stream Respiration, *AGU Fall Meeting, poster presentation, San Francisco (CA), USA.***
- Argerich, A., Haggerty, R., and **González-Pinzón, R.,** 2010, Seasonal variation in phosphorus and ammonium uptake related to changes in transient storage characteristics, *AGU Fall Meeting, poster presentation, San Francisco (CA), USA.*
- Christiansen, C., **González-Pinzón, R.,** Argerich, A., Haggerty, R., Myrold, D., Martí, E., 2010, Resazurin transformation correlated to aerobic respiration in stream sediments, *NABS Conference, poster presentation, Santa Fe (NM), USA.*

OUTREACH, COLLABORATIVE PROJECTS AND SERVICE

- Ongoing** **Journal Reviewer:** Water Resources Research, Freshwater Science, Environmental Science and Technology, Journal of Hydrology, Journal of Geophysical Research, Environmental Earth Sciences.
- 2015** **Co-organizer** of the 2015 ASCE Rocky Mountain regional conference
- 2014** **Invited Speaker** at Colorado School of Mines
- 2014** **Invited Speaker** at New Mexico Institute of Mining and Technology
- 2014** **Invited Speaker** at Café Scientifique New Mexico
- 2014-** **Mentor:**
- 2013** •The Science, Technology, Engineering, and Mathematics Talent Expansion Program (STEP), School of Engineering, University of New Mexico.
- 2013-** **Convener of Scientific Meetings:**
- 2012** •American Geophysical Union Fall Meeting 2013: Groundwater-Surface Water Interactions: Physical, biological, and chemical relevance.
- American Geophysical Union Fall Meeting 2012: Groundwater-Surface Water Interactions: Dynamics Across Spatial and Temporal Scales.
- 2012** **Workshop at Penn. State University: State College (PA), USA** (Co-organizer). Techniques to quantify stream-groundwater exchange and shallow transport. **Collaborators:** Dr. Michael Gooseff (Colorado State Univ.), Dr. Kamini Singha (Colorado School of Mines.), Dr. Judson W. Harvey (USGS), Dr. Olaf Cirpka (Univ. of Tübingen), Dr. Roy Haggerty (Oregon St. Univ.), Dr. Christine Hatch (Univ. Massachusetts – Amherst), Dr. Adam Ward (Univ. of Iowa).
- 2012** **Visiting research stay at the Center for Advanced Studies of Blanes (CEAB): Catalonia, Spain**
Project: Determining diel fluctuations of in-stream respiration in autotrophic and heterotrophic streams using the resazurin-resorufin system. **Collaborators:** Ph.D.(c) Marc Peipoch (Univ. of Barcelona), Ph.D.(c) Miquel Ribot (Univ. of Barcelona), Dr. Eugènia Martí Rocca (CEAB), Dr. Roy Haggerty (Oregon St. Univ.).
- 2011** **Visiting research stay at the United States Geological Survey (USGS) National Center – Reston (VA), USA**
Project: The relationship of metabolically active transient storage to hyporheic flow paths in streams. **Collaborators:** Dr. Jud Harvey (USGS), Dr. Roy Haggerty (Oregon St. Univ.), Dr. Laurel Larsen (Univ. of California - Berkeley), Dr. Aaron Packman (Northwestern Univ.), Ph.D.(c) Jennifer Drummond (Northwestern Univ.).
- 2010** **Research stay at experimental site: Clear Run stream, Lander (WY), USA.**
Project: Influence of spatial and temporal hyporheic flux patterns on streambed biogeochemistry. **Collaborators:** Dr. Martin Briggs (USGS), Dr. Laura Lutz (Syracuse Univ.), Dr. Roy Haggerty (Oregon St. Univ.), Ph.D.(c) Dennis Lemke (Univ. of Tübingen).

RESEARCH GRANTS AND ACADEMIC HONORS

- 2015** Role: PI. FEW: Transforming linear societies into recycling societies through wastewater reuse for agriculture in arid regions. NSF (\$298,449).
- 2014** Role: PI. Doing hydrology backward in New Mexico to estimate a statewide water budget. New Mexico Water Resources Research Institute (\$29,904)
- 2012** Graduate Student Travel Award
Oral presentation at the annual meeting of the European Geophysical Union in Vienna, Austria. Presentation: Geomorphic controls on respiration in two headwater streams in Oregon, USA.
Awarded by: Oregon State Univ. Graduate School and program of Geography.
- 2011** Pathfinder Graduate Student Fellowships to Support Multi-site Research in Hydrology
Project: *The relationship of metabolically active transient storage to hyporheic flowpaths in streams.*
Awarded by: Consortium of Universities for the Advancement of Hydrologic Science CUAHSI.
- 2010** H.J. Andrews Graduate Research Grant Program
Project: *Scaling Metabolic Processes in Stream Ecosystems.*
Awarded by: H.J. Andrews Experimental Forest – U.S. Long Term Ecological Research.
- 2008** Opportunity Grant – Education USA
Bureau of Educational and Cultural Affairs’ grant to support highly qualified international students of limited means.
Awarded by: U.S. Department of State. Education USA.
- 2008** National Research Graduate Grant Program
Project: *Determination of the dispersive fraction behavior in characteristic mountain streams.*
Awarded by: National University of Colombia.
- 2007** II Iberoamerican meeting on Climate Change and Water Resources, La Antigua – Guatemala. Travel award
Awarded by: Spanish Agency for International Cooperation (AECI) and Iberoamerican Program for Science and Technology Development (CYTED).
- 2006-08** Excellent Graduate Student Grant
Awarded by: National University of Colombia.
- 2005** Second place in the national examination of higher education, Agricultural Engineering chapter.
Awarded by: Colombian institute for the fomentation of higher education (ICFES)
- 2000-05** Undergraduate Students Grant
Awarded by: National University of Colombia

PROFESSIONAL EXPERIENCE

- 2009–11 Teaching Assistant. Oregon State University. College of Earth, Ocean and Atmospheric Sciences:** The Solid Earth (GEO 101); Exploring the Deep: Geography of the World's Oceans (GEO 103); Earth System Science (GEO 202); Map and Image Interpretation (GEO 301).
- 2009 Engineer- Technical Coordinator.**
National University of Colombia & EAAB (Bogotá's Water Supply and Water Sewage Company).
Project: Dynamic water quality modeling of the Bogotá River.
Supervisor: Dr. Luis Alejandro Camacho Botero.
- 2008–09 Engineer- Technical Coordinator.**
National University of Colombia & CAR (Environmental Agency).
Project: Design of the water quality monitoring network for the Bogotá River.
Supervisor: Dr. Luis Alejandro Camacho Botero.
- 2006–08 Engineer- Research Assistant.**
National University of Colombia.
Project: Mathematical modeling of hydrological, hydraulic and water quality issues of two mountain rivers in the Bogotá Savannah.
Supervisor: Dr. Luis Alejandro Camacho Botero.

THESES

- 2013** Ph.D. Water Resources Engineering. Integrating solute transport, metabolism and processing in stream ecosystems.
- 2008** M.Sc. Water Resources Engineering. Determination of the dispersive fraction behavior in characteristic mountain rivers.
- 2005** Agricultural Engineer. Hydraulic intake and treatment structures for aqueducts.

SOFTWARE DEVELOPMENT

- 2008- Ongoing** SOLUTE TRANSPORT TOOL. A tool for the analysis of solute transport under steady-state flow. Currently, this software allows simulation, calibration and uncertainty analysis of solute transport using the advection dispersion equation (ADE), transient storage (TS) and aggregated dead zone (ADZ) models. The software has been developed in MATLAB (GUI).

LANGUAGES

I read, write and speak fluently in English and Spanish (native).