

WHITNEY C. BLACKBURN-LYNCH, Ph.D., P.E.

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Lexington, KY 40505

(859) 608-1175

EDUCATION

University of Kentucky, Lexington, KY

PhD, Biosystems and Agricultural Engineering, December 2015

Dissertation: Development of Techniques for Assessing and Restoring Streams on Surface Mined Lands

Coursework Completed, October 2014

Relevant Course Work: Fluvial Hydraulics, Open Channel Flow, Stream Restoration, Sediment Transport, Hydrogeology, Biogeomorphology, Watershed Management, Watershed Sedimentation, Microbiology for Engineers, Low Impact Development, Groundwater and Seepage, Preparing Future Faculty, Grant Writing

International Seminary for Interfaith Studies, New York, NY

Graduation/Ordination as an interfaith minister, June 2012

Relevant Course Work: Hinduism, Taoism, Buddhism, Christianity, Judaism, Goddess Worship, Native American Traditions, Weddings, Funerals, Spiritual Counseling, Baby Blessings, Healings, Rituals, Sermon writing, Non-violent Communication, Addiction, Discovering your Empath, Worshipping with Children, The Vedas, Becoming a Death Doula, Being and Caring, Understanding the Metaphysics of the Ten Commandments, Becoming a Spiritual Disciple

Duke University, Durham, NC

M.S. Environmental Engineering, December 2000

Thesis: Vertical Transport of Zinc in Soil Amended with Municipal Biosolids

Relevant Course Work: Sludge Management and Disposal, Solid Waste Engineering, Hazardous Waste Engineering, Soil Resources, Environmental Soil Chemistry and Contamination, Watershed Hydrology, Water Quality Management, Environmental Policy, Global Environmental Economics, General Environmental Engineering, Fluid Mechanics, Thermodynamics, Introduction to Circuits, Statics and Strengths of Materials, Dynamics

Berea College, Berea, KY

B.A. Mathematics, May 1998

Relevant Course Work: Calculus I, II, III, Differential Equations, Numerical Analysis, Operations Research, General Chemistry, Intermediate Physics, Introduction to Biology, Logic, Introduction to Sociology, Pascal

WORK EXPERIENCE

University of Kentucky, January 2016- Present

Civil Engineering

161 Oliver H Raymond Building

Lexington, KY 40506

(859) 257-4281

Lecturer

Reg Soulyerette, Chair

- Prepared and presented lectures on watershed management and hydrology for the required Water Resources class.
- Developed and graded homework assignments and exams.
- Aided in Course development for the First Year Engineering Experience.
- Helped develop content for lectures, exam questions, design projects, etc.
- Taught introductory engineering through the use of the Engineering Grand Challenges, Arduino, MATLAB, and hands-on design projects.

University of Kentucky, August 2015- January 2016

Forestry Department

Cooper Building

Lexington, KY 40506

(859) 257-2099

Adjunct Instructor

Christopher Barton, Professor

- Prepared and presented lectures on watershed management and hydrology
- Developed laboratory component to give students practical and hands on experience of what a watershed manager/hydrologist will do in the work world.
- Developed and graded homework assignments and exams.

Bluegrass Community and Technical College, January 2015-August 2016

Natural Sciences Division, Physics and Astronomy

234 K Oswald Building

Cooper Campus

Lexington, KY 40546

(859) 246-6445

Adjunct Lab Instructor

Marilyn Akins, Area Coordinator

- Develop laboratory experiments to explain concepts from physics classes in a hands-on, active way.
- Explain laboratory experiment as well as concepts to students.
- Set up and perform laboratory experiments with students.

University of Kentucky, August 2012-August 2015
Biosystems and Agricultural Engineering Department
CE Barnhart Building
Lexington, KY 40546
(859) 257-3000

Research Assistant

Carmen Agouridis, Advisor

- Collect and analyze data for the Guy Cove Stream Restoration project.
- Clean and calibrate field equipment.
- Determine sinks and sources of water in the reconstructed stream in the Guy Cove Watershed.
- Bulk density testing
- Develop hydrographs using provided rainfall data and known flow data
- Aid other students in conducting their research experiments.
- Gather information and research for extension publications.
- Developed and led laboratory sections for the introduction to Biosystems Engineering course.

University of Kentucky, August 2012-August 2016
Center for Academic Resources and Enrichment Services
104 McVey Hall
Lexington, KY 40506
(859) 323-6347

Small Group Leader/Tutor

Vernida Emerson, Supervisor

- Tutored students in College Algebra, Calculus I, II, III and DE, Trigonometry, Calculus I and II for biologists, Physics, Chemistry, Statics and Dynamics.
- Developed study materials for the above listed classes.
- Prepared test preparation games and worksheets.
- Answered questions to help students understand problems arising in the above referenced course work.

Environmental Resource Management Consultants, February 2008-August 2012
921 Beasley Street
Suite 145
Lexington, KY 40509
(859) 381-1000

Senior Environmental Engineer

Mike Ricci, President

- Preparation of permit applications for surface coal mining operations.
- Development of innovative surface runoff control methodologies.
- Designs ponds, hollowfills and backfill plans, including running models for hydrology and stability.

- Manage projects, tracking costs and assigning tasks to other engineers and technical assistants. Development, submittal and corrections to Surface Coal Mining permits for active operations.
- Development of rating curves approved by the Kentucky Division of Mine Permits for the use of rock-filled open channel spillways.
- Forensic Hyrdologic studies and reports for legal cases involving severe flooding and flood routing.
- Aid in work on large impounding structures in the areas of geotechnical and hydrology.

Commonwealth of Kentucky, August 2001-January 2008

Division of Mine Permits

2 Hudson Hollow

Frankfort, KY 40601

(502)-564-2320

Environmental Engineer II

Paul Ehret, Director

- Reviewed Surface Coal Mining Permits
- Developed Acre Fee Calculation worksheet to be used by all reviewers in the division
- Ensured that hydrology modeling and designs were correct for ponds
- Reviewed stability modeling and design plans for hollowfills and backfill material.
- Trained new engineers and technical reviewers on pond, hollowfill and diversion regulations

Hall & Associates, Inc. Summer 1999 & January 2001-June 2001

103 Fieldview Road

Versailles, KY 40383

(859) 873-3331

Environmental Engineer

Ernest Hall, President

- Developed a better understanding of the of the engineering and consulting profession
- Worked on a SSES of the sewer system in Wurtland, KY
- Drafted a biohazard exposure policy for employees using OSHA guidelines
- Researched and began design for an Oil & Grease Program to meet pretreatment guidelines
- Developed skills using AutoCAD, Excel, Access

Duke University, Spring 1999-December 2000

Department of Civil and Environmental Engineering;

Box 90287

Durham, NC 27708

(919) 660-5200

Master's Researcher

Jeffry Peirce, Advisor

- Designed a laboratory experiment to monitor the movement of Zn in a biosolids amended soil
- Identified information and articles to help understand the results of the laboratory experiment
- Developed an understanding of the processes for the analysis of soil

Duke University, August 1999-December 2000
 Department of Civil and Environmental Engineering
 Box 90287
 Durham, NC 27708
 (919) 660-5200
Systems Administrator

Tod Laursen, Supervisor

- Prioritized computer problems and questions to efficiently complete all the tasks in a given time frame
- Monitored the security and use of the network to keep it running efficiently
- Provided assistance to professors and students on computer related questions and problems

Duke University, January 1999- January 2000
 Mathematics Department
 Durham, NC 27708
 (919) 660-5200
Laboratory Instructor

Lewis Blake, Supervisor

- Taught Calculus lab course for first year students
- Developed Quizzes and lab write-ups for students
- Graded homework, quizzes and lab reports

Berea College, Summer 1997-Summer 1998
 Mathematics and Computer Science Department
 Berea, KY 40404
 (859) 985-3563
Teaching Assistant and Undergraduate Researcher

Jan Pearce, Advisor

- Worked in the Mathematics Laboratory aiding students
- Graded Papers for Fundamentals of Mathematics and Linear Algebra
- Developed model for nerve agent exposure based on data from computer modeling
- Worked on generating a mathematical and physical model for atoms in a penning trap

PUBLICATIONS

Lumpp, Janet K., Whitney C. Blackburn-Lynch, Doug J. Klein, Laura M. Letellier, Jennifer L. Lovely, Neil F. Moore, and Julie G. Whitney, 2018. Instrumentation and measurement in a first-year engineering program. *IEEE Instrumentation & Measurement Magazine* 21(3): 20-35.
<https://doi.org/10.1109/MIM.2018.8360913>

Blackburn-Lynch, Whitney, Carmen T. Agouridis, and Christopher D. Barton, 2017. Development of Regional Curves for Hydrologic Landscape Regions (HLR) in the Contiguous United States. Journal of the American Water Resources Association (JAWRA) 53(4):903–928. <https://doi.org/10.1111/1752-1688.12540>

PRESENTATIONS

Poster Oklahoma State University Student Water Conference, March 2015

“Comparison of Regional Curves for Hydrologic Landscape Regions in the Continental U.S.”

Poster TFISE Research Showcase, December 2014

“Comparison of Regional Curves and Hydraulic Geometry Curves for Physiographic Provinces across the U.S”

Poster ASABE and CSBE | SCGAB Annual International Meeting, Montreal, Canada, July 2014

“Comparison of Regional Curves and Hydraulic Geometry Curves for Physiographic Provinces across the U.S”

Presentation ASABE and CSBE | SCGAB Annual International Meeting, Montreal, Canada, July 2014

“A Hydrologic Assessment of a Stream Created on Mined Lands”

Presentation KFTC Change in Appalachia Conference, Harlan, KY, April 2013

“Guy Cove Stream Restoration Project”

Graduation Address ISIS Graduation/Ordination Ceremony June 2012

“Living the Interfaith Ministry”

Presentation Berea College Alumni Weekend, Berea, KY, November 2011

“Using Operations Research for Fill Minimization”

Presentation KY-TN WEA Conference. Nashville, TN, May 2000

“Movement of Metals in a Biosolids Amended Soil”

Presentation KY-TN WEA Conference. Bowling Green, KY, May 1999

“Use of Electroosmosis in the Remediation of Hazardous Waste Sites”

Presentation Pi Mu Epsilon Student Conference. Miami, OH September 1997

“A Computer and Mathematical Model of Incinerated Toxic Agents”

Awards

“Outstanding Graduate Poster” Oklahoma State Student Water Conference, March 2015.

“Outstanding Student Presentation” KY-TN WEA Conference, May 1999.

SKILLS

Have working knowledge of Arduino, Pascal, HTML and C Programming languages. Have working knowledge of various computer programs including Maple, MATLAB, Mathematica, Microsoft Office, AutoCAD, Photoshop, SEDCAD, REAME, Adobe Acrobat, GIS, MODFLOW, ModelMuse, HEC-HMS, HEC-RAS, etc. Have a working knowledge of Linux, Windows and Macintosh Operating Systems.

PROFESSIONAL MEMBERSHIPS

Alpha Epsilon Honor Society	Induction April 2015
Spiritual Director’s International	September 2014-Present
American Society of Agricultural and Biological Engineers	December 2012-Present
American Society of Civil Engineers	September 2005-Present

PROFESSIONAL TRAINING

HEC-HMS Computer Workshop	June 2009
Introduction to HEC-RAS	June 2010

CERTIFICATIONS/LICENSES

Stream and Watershed Science Certificate	December 2014
Professional Engineer License (KY 24213)	June 2005
Fundamentals of Engineering Exam (North Carolina)	Certified EI March 2001
MSHA Impoundment Inspector Certification	August 2003-August 2008

OTHER SPIRITUAL TRAININGS

The Art of Conflict Management	Completed January 2018
Non-violent Communication	Completed June 2017
The Art of Spiritual Direction	Completed May 2016
Contemplation in Everyday Life	Completed May 2014
Mindfulness Meditation	Completed July 2013
Laughter Yoga Leader Training	Completed May 2013
Introduction to Shamanic Journey	Completed April 2012

MINISTRY EXPERIENCE

Pastoral Counseling, Sit several committees for Lexington Friends Meeting, Teach First Day School for the Youth at the Lexington Friends Meeting (part of the rotation of volunteers), Perform weddings, Perform memorial services, Lead Small Group Discussions, Taught Pre-school Sunday School Classes

COMMUNITY SERVICE

Coach LYSA U10/U8/U6/U5 soccer as needed. Litter Clean Up, Work Parties with Lexington Friends Meeting, Mindfulness Class

REFERENCES

Available upon request