THE UNIVERSITY OF VIRGINIA’S COLLEGE AT WISE
MISSION STATEMENT

The University of Virginia’s College at Wise, a public liberal arts institution, provides students with learning experiences that offer opportunities to develop the insight, competence, sensitivity, and integrity necessary for living enriched lives and for enriching the lives of others. Established in 1954 as a college of the University of Virginia, it is guided by the values of citizenship and altruism. Proud of its Appalachian heritage, the College continues to honor its commitment of service to Southwest Virginia, the nation, and the world. The College is guided by a legacy of teaching and scholarly excellence and by a dedication to quality in both the arts and sciences and professional programs. Above all, The University of Virginia’s College at Wise is a diverse community of people who believe that information can be transformed into knowledge and that teaching and learning create a foundation for wisdom.

Approved by the University of Virginia Board of Visitors on February 4, 2004. SCHEV staff reported approval to SCHEV Board on January 11, 2005. Reaffirmed by the University of Virginia Board of Visitors on June 5, 2014.
SUMMARY OF ACCOMPLISHMENTS

Scholar, teacher, mentor, farmer, poet, community organizer and public intellectual—Ryan Huish is Virginia’s own budding Wendell Berry. Beth Hirschman, winner of this same award, has praised her colleague calling him, “a pioneer and an inspiration” in understanding the potential of our beautiful and biodiverse commonwealth. In fact, he has made a career of building productive bridges between environmentalists and economists, between farmers markets and the hungry, between backyard garden enthusiasts and those like Ryan who understand the remarkable economic, environmental and social potential of the natural world. Because the field of ethnobotany is the study of human-plant interactions, Ryan Huish’s teaching, research, and service has led him to a multidisciplinary and collaborative career in which he researches and actively works to help others understand how plants can be used for food, medicine, metaphor, art, economics, and so much more. It is impossible to talk about knowledge integration as a separate category in Ryan’s career because sharing what he knows is such an integral part of his teaching, research, and service. Indeed, all four of Boyer’s areas of scholarship—teaching, discovery, integration of knowledge, and service—seem to be seamlessly merged together in Ryan’s mind and heart.

TEACHING

Ryan teaches a number of courses that fill the plant niche in the natural sciences and provide a conceptual bridge between the sciences and other disciplines. His personal mission as a professional educator is not only to transfer information but also to plant the seeds of desire in students and nurture important perspectives and skills, which will lead to a lifetime of learning and fruitful service to their families, professions, and communities. He does this through extensive interaction with the students in and out of class, on field trips, through research activities, mentoring, and advising.

An important part of his teaching philosophy centers on “fostering classroom dynamics that encourage active student-centered learning”. For example, in his General Botany course he and his students choreograph and perform an interpretive dance on the process of photosynthesis to the ambient electro-pop song “Photosynthesis” by Carbon Based Life Forms. Photosynthesis is one of the most important biochemical reactions to life on earth, yet it can be very complex and difficult to grasp. “Having students physically and repeatedly act out the parts of various molecules to visualize the mechanistic connections employs a different part of their brain”, Ryan explains. During a peer teaching evaluation of the interactive photosynthesis lectures and follow-up interpretive dance, fellow botanist, Bruce Cahoon, commented that his non-traditional teaching methods are “very effective.” Using his various pedagogical techniques, he inspires others to want to learn and apply knowledge. James Madison University botanist Conley McMullen states, “Ryan possesses a true gift for encouraging and enabling others in their pursuit of botanical knowledge, a talent that cannot be overstated.” Student evaluations praise him for his “boundless enthusiasm” and “joy” in teaching. Ryan’s intern at the Center for Appalachian Studies and former student, Jenni Gilliam, declared, “His passion for plants and dedication to teaching everyone to love and respect plants was so inspiring it changed my whole career path.”

Ryan wants his students to consume knowledge of the field literally and figuratively. A day in his class may include a trailside buffet of edible plants complete with a critically important lesson in recognizing the difference between a sprinkle of parsley and the closely related poison hemlock. He encourages them through class assignments to visit farmer’s markets and other community events to teach others, many of whom are among the nearly 6,000 people in Wise County who
struggle with food insufficiency, how to distinguish nutritious, edible weeds common in yards. Paying it forward intellectually and socially is part of every course with Ryan. His students learn to answer real questions and solve real problems. They see they have the potential of applying this knowledge to actually helping individuals and communities, whether it is the hemp production that can help save our local family farms (as one local argued at one of Ryan’s community forums), or making maple syrup, or the sustainable harvesting of valuable wild medicinal plants, all of which could improve our economy by promoting the native ecosystems that already thrive in our area.

Ryan’s personal pedagogical development is a melding of professional service, research, and on-the-ground practical application. As a member of the education and outreach committee for the international Society for Economic Botany and as a core team member with the Open Science Network in Ethnobiology (an NSF-funded Research Coordination Network in Undergraduate Biology Education), Ryan has tried to stay at the forefront of pedagogy in research and teaching. He co-wrote “Aligning plant identification curricula to disciplinary standards through the framework of student-centered learning” in an edited book, *Innovative Strategies for Teaching in the Plant Sciences* by Springer Publishing (Brosi and Huish 2014). His collaborative pedagogical research was published in another chapter of the same book, “The contribution of ethnobotany to teaching plant sciences: student and faculty perspectives” (Vougioukalou et al., 2014). More recently, he participated in a pedagogical conference by SENCER (Science Education for New Civic Engagements and Responsibilities) in Chicago, which he says has also had a strong influence on civic engagement in his teaching. Sinauer publishing even sought Ryan out and requested his “pedagogical review” of a new introductory biology textbook. These are a few examples of Ryan’s activities and efforts to continually improve pedagogical standards in his own classes, and in his professional field. Educator Conley McMullen confirms, “In a nutshell, Ryan’s teaching methods are exactly what science education is desperately trying to establish as the norm among our colleges and universities.”

**RESEARCH**

Ryan’s research interests incorporate an interdisciplinary approach to address basic and applied questions in ethnobotany, ecology, and plant conservation. He has a diverse and broad area of specialization including Tongan medical ethnobotany to the sustainable harvest and trade of Appalachian medicinal plants. He is actively involved in the documentation and preservation of local ethnobotanical folklore as well as the conservation of several rare Appalachian plants. His research also explores the untapped resource of maple syrup in the Southern Appalachians, and integrating hemp research to a transitioning economic horizon in Southwest Virginia through working with local tobacco farmers, industry, organic chemists, and other forms of community engagement. Although Ryan maintains a challenging teaching load and an active community service presence across the region, he is also a prolific researcher. Additionally, nearly all of his research projects have been supported through fellowships or grants, and have led to over 30 presentations at professional meetings. As a research colleague from James Madison University commented, “Although Ryan maintains what many would consider a challenging teaching load, he still manages to excel in his research activities. In fact, his productivity would be admirable even if his teaching expectations were less.”

Ryan’s medical botany research in the South Pacific Islands lead to him being the first researcher to discover the lifesaving potential of a native Tonga plant to prevent the devastating effects of the difficult-to-treat super bug, MRSA, an antibiotic resistant infection increasingly common in hospitals around the world. He is continuing this research with UVa-Wise students
and chemistry professors to isolate the biologically active compound(s) with the potential to become a pharmaceutical drug to help fight the oncoming plague of antibiotic resistance. It is noteworthy that Ryan focuses on the reality that his research justifies the priceless value of traditional folklore—which informed this discovery via ethnobotanical interviews with the traditional healers—and that he is taking measures to ensure the protection of intellectual property for the Tongan people. He is also the advisor to the Tongan Indigenous Pharmaceutical Society and has been approached by the Tongan community hospitals to help integrate his research into public health of the nation. He and a public health student recently received another grant for this project, which will include establishing a study abroad program in Tonga, integrating this research with local communities there and conducting additional research with them.

His work in the South Pacific expanded to include research and efforts in Tonga and Fiji with the sustainable harvesting and conservation of one of the most valuable medicinal plants in the world, the sandalwood tree. He showed that significant strength lies in the power of community-mediated conservation, which further supported the scholarly concept and value of local traditional cultures in effective environmental stewardship.

Similar ongoing research with local Appalachian ethnobotany is a focus of Ryan’s research now as he interviews community members with their traditional uses for plants. This represents biocultural heritage that is sadly being lost and insufficiently documented with each dying generation. Seeing the extreme value of these resources, Ryan has become impassioned with preserving not only the folklore, but the native plants and their habitats as well. This includes his collaborative research and community engagement with the sustainable harvesting and trade of Appalachian forest medicinal plants. His work with Appalachian ethnobotany and the sustainable harvesting of medicinal plants has led to collaboration with Appalachian Sustainable Development and Virginia Tech, with their “Appalachian Beginning Forest Farmer Coalition”. He has helped lead several workshops, forum discussions, and even a tour of his own farm for a forest farming management field day to help them understand how to identify, manage, and sustainably harvest economically valuable woodland medicinals. To help further this research and community outreach, Ryan is a co-principal investigator on two grant proposals that would total over $250,000 and a collaborator on another totaling $300,000. These grant proposal submissions were catalyzed in part by a UVA Appalachian Prosperity Project “springboard” grant ($5,000) he and his colleagues received, titled “Collaborative efforts in economic botany: Capitalizing on rich botanical resources and heritage in Appalachia”, focusing on non-timber forest products and hemp research/community engagement.

Another non-timber forest product Ryan is researching is maple syrup. There is a $400 million maple syrup industry in North America. Since successful maple tapping is intimately connected to and dependent on climate patterns, there is considerable concern with the increasing unpredictability in our climate. For almost five years now, Ryan has been studying the effects of climate change on sugar maple production and the resulting phytochemical and socioeconomic responses. Ryan works on a multidisciplinary team of researchers and community members in locations that represent the full distribution range of sugar maple—from Canada down to the Southern Appalachians. As part of their federal grant for just under $150,000 he and his team received for the Maple research, he helps lead community workshops and has been collaborating specifically with Native American groups producing maple syrup as well as meeting with government agencies and other interested stakeholders. This research is influencing the strategies of maple syrup producers in North America as many people are
looking to the Southern Appalachians to help predict future climate scenarios farther north and how they may adapt to complexities that are being influenced by climate change.

Industrial hemp is a potential cash crop that could become a substitute for the dwindling tobacco farming in the region. It uses similar machinery, land, and skills as what is needed to farm tobacco, and could really help diversify the local economy. Ryan was invited to collaborate with UVA to research industrial hemp in the state. Ryan’s role in this project is to help determine the best industrial hemp cultivars for Southwest Virginia through trial plantings and community engagement. He is also testing different agricultural practices and how they influence the product yield. Collaborating with local farmers, county extension agents, and geology and chemistry professors from UVa-Wise, Ryan’s team has planted over six acres of hemp on historical tobacco land in several counties in Southwest Virginia. His work is funded under the umbrella of a $1.1 million grant through UVA specifically for industrial hemp research. They have also received funding through the Virginia Department of Agriculture and Consumer Services ($10,000) and through a student fellowship program offered through UVa-Wise ($4000). Ryan has been involved with more than ten organized community discussion and outreach events over the past three years and has given many one-on-one consultations. He has become our local hemp consultant for community members from various backgrounds, again, connecting research to community engagement and application.

With these research projects, Ryan has mentored over 40 undergraduate researchers over the past 12 years, from a diversity of majors including biology, chemistry, environmental science, political science, economics, administration of justice, history, and theater. This includes mentoring in experimental design, data collection and analysis, oral presentation to professional and general audiences, and peer-reviewed publication. Many of his students have coauthored professional presentations or manuscripts, and as a result of his support these students have given more than twelve research presentations in the last three years. In all, Ryan has given over 35 professional conference presentations and over 50 community presentations.

Ryan does comprehensive and detailed field research, often with students actively engaged, and works with everyone from grassroots organizations to government organizations to document and explore the natural resources of Virginia. His conservation of native plants, foods, and medicines are vital to keeping Appalachian culture alive and may even make it possible for him to once again find a lifesaving medicinal plant—this time in our own backyard. His research and perhaps, even more importantly, the rich conversations that he is actively leading in communities across the region about the economic potential his research represents, may even contribute to an environmentally sustainable economic rescue for the coal depleted Appalachian area. As Philip C. Shelton, Professor of Biology, Emeritus, so eloquently stated, Ryan’s “enthusiasm, energy, knowledge and vision make him a valuable asset to the department, the college and the community.”

SERVICE
SERVICE TO THE COMMUNITY
Ryan’s service is far too extensive to cover in any real depth in such a short essay. He is seemingly everywhere, as comfortable in front of the county garden club ladies luncheon lecture as he is at an economic diversification meeting. His kindness and enthusiasm are always coupled with an understanding of the critical importance of cultural sensitivity and community building. His respect for others and his curiosity about the Appalachian culture have helped him to become a trusted part of the local community. Furthermore, as a farmer himself, Ryan comes into conversation with practical experience as well as his research expertise. He acts as an
informant and mentor for community members interested in maple sugaring, industrial hemp, or “forest farming” of Appalachian native ethnobotanicals through individual consultations and public presentations, forums, and workshops. He and his family have even opened their homestead as a demonstration forest farm for community education, tours, and workshops.

For Ryan, teaching does not stop at the college gates. He integrates his teaching expertise and student activities into the community service in creative ways that connect town and gown. For example, the students in his Local Flora class prepare and lead community workshops on local edible plants to lower income families in the area. They teach them proper identification skills as well as share information on preparation and nutritional values of the plants. Another example of curricular service for the community is that he requires his students to translate their course research paper to a younger audience and submit it to the editor for publication in the award-winning online children’s magazine, Youngzine. More than a dozen of these students’ articles have been published to a worldwide audience. His students have also organized and led community forums on various relevant topics.

Over the past year and a half, his research has been spotlighted in over eight local and regional newspaper articles, an NBC affiliate television news story, and three separate stories aired on National Public Radio, including one titled, “Economic Diversity: 8 Ideas with Momentum Inside Appalachia.” These stories serve as an informative bridge between his research and the community, and have resulted in additional community interaction. For example, upon reading the newspaper article, “Southwest Virginia explores herb, medicinal, forest product economics”, mentioning Ryan’s work, the Historical Society of Pound, VA invited him to give a presentation (“Reviving Historical Uses of Plants in Southwest Virginia for Cultural Preservation and Economic Potential”), which led to a discussion on collaborations with the historical society for documenting traditional uses of plants in the area. Ryan has given over 30 similar presentations in the community on his research. Other ways Ryan has rendered service to the community, besides research presentations, include the following examples.

- Panelist for the public community discussion “Innovative Agriculture Briefing with Senator Mark Warner”, July 2018
- Panelist for the New Economy Network: Sustainable Agriculture and Forestry, Gate City, VA (March 2018)
- Presenter and panelist for Industrial Hemp in Southwest Virginia, Natural Tunnel State Park, Duffield, VA (2018)
- Presenter at a GoVirginia meeting (economic diversification group) Abingdon, VA (2018)
- Panelist for AppalCEED Economic Series: Industrial Hemp in the Appalachian Mountains (2018)
- Counselor for a Boy Scouts of America Troop in Big Stone Gap, VA (2017–present).
- Hike guide for edible and medicinal plants for grade school students during “Heritage Days”, Rye Cove Memorial School, Scott County, VA (2017 and 2018)
- Planner and instructor for the Summer Biodiversity Institute (curricular development workshop for local middle and high school teachers) (2016, 2017, and 2018)
- Board member for The Clinch Coalition (2016–present)
- Advisor to the Tongan Indigenous Pharmaceutical Society (2011–present)

SERVICE TO THE COLLEGE
Ryan has also been active in curriculum reform in his department and an enthusiastic developer of new courses in the Natural Sciences Department. He also serves on multiple campus...
committees like the Academic Enhancement Committee, Institutional Review Board Committee, and Animal Care Committee that also help define best practices in faculty and student research on campus.

Not surprisingly, with Ryan’s interdisciplinary perspectives at a liberal arts college, he has been a much sought-after guest lecturer on campus. He has been invited to discuss culturally and economically valuable alternative plants in Marketing classes, and his international research on antimicrobial resistance in a Public Health class, and is collaborating with the Art departments at UVa-Charlottesville and UVa-Wise on how to use the strong fibers from his harvested hemp for paper making and, sculpture. He is also team-teaching a class, “End of the World: Perspectives in Science, Religion, and Popular Culture”, cross listed with Religion, Philosophy, Environmental Science, and Honors. The following is a list of additional selected examples of service Ryan has rendered to the college.

• Primary investigator and organizer for the Southwest Virginia Environmental Education and Research (SVEERS) Station (collaborative research infrastructure and platform for the region) (2018–present)
• Intern supervisor for the Center for Appalachian Studies at UVa-Wise (2018)
• Intern supervisor for Upward Bound (helping high school to college transition through research opportunities) at UVa-Wise (2017 and 2018)
• Panelist for the “Science and Ethics Question” discussion lead by Anthony Cashio, Assistant Professor of Philosophy, UVa-Wise (2017)
• Co-advisor to the UVa-Wise Environmental Club (2016–present)
• Supervisor for the work-study position, “Assistant Ecological Steward” (2016–present)
• Curator for the UVa-Wise Herbarium (2015–present)
• Member of the UVa-Wise wetlands committee (2015–present)

SERVICE TO THE PROFESSION
Ryan has also been active with his service to the international profession through peer-reviewing and editing research manuscripts, textbooks, and reference books, and through serving in professional societies in his field. The latter provided opportunities for him to contribute to ethnobiology pedagogical standards. Specific examples of this service include the following:

• Chair of the education session at the combined meetings of the Society of Ethnobiology and Society for Economic Botany, Cherokee, NC (2014)
• Member of the Education and Outreach Committee for the Society for Economic Botany (2011–2013)
• Core Team Member of the Open Science Network in Ethnobiology, NSF-funded working group of international educators focused on improving curriculum (2011–2013)

Ryan’s service, like his teaching and research, is grounded in the belief that an integration of knowledge into the community can and does change the world so he welcomes the opportunities to share his ideas with others and to learn from them. He is a representative of The University of Virginia’s College at Wise and of the commonwealth of Virginia of whom we can all be proud and fully deserves recognition with this outstanding faculty award.
PERSONAL STATEMENT

My earliest memories are of plants. Even as a young boy, I had a special sense of awareness and awe for what many simply saw as mundane plants all around us. This energy has stayed with me into adulthood and my passion is to help others catch the vision and comprehend at even some small level, the vast beauty, potential, and complexity of these humble yet magnificent organisms. I let Walt Whitman begin a discussion in class—“I believe a leaf of grass is no less than the journey-work of the stars.”—to open the scene and part the curtains of deeper awareness. The beautiful complexity of photosynthetic organisms is what originally filled our early atmosphere with life-sustaining oxygen by splitting water molecules; sparked the dawn of modern human civilization in the Fertile Crescent with agriculture; initiated globalization with the spice trade; solicited trade wars; manufactured compounds that humans converted to pharmaceuticals to keep my brother’s defected heart beating for 45 years and counting (over 25% of pharmaceuticals come from plants, yet less than 1% of plants have been studied for their potential!); inspired poetry and revelation; were carved out to make music and art; and have given us food, clothing, shelter, clean water, and the very air we breathe. Yet plants are still so much more than even this! Getting a glimpse of the exciting significance of plants can help spark student interest and passion for learning, which is very important to me as a professional educator.

My professional responsibilities are distributed across Boyer’s four areas of scholarship, with most of the emphasis being placed on teaching (50–60%), and then discovery (20–25%) and service (20–25%); knowledge integration has been interwoven between all these other responsibilities and would probably be broken down to around 10%. I feel there is so much overlap in these four areas that sometimes they seem almost one and the same.

My teaching philosophy can fundamentally be summarized through this paraphrase by Plutarch: ‘The mind is not a vessel to be filled, but a fire to be kindled.’ Having experienced both of these types of education—filling and kindling—as a student and now having taught and mentored undergraduates for over twelve years, I appreciate the difference between these teaching paradigms. Once the mind is kindled and enlightened, the real educational journey begins, fueling the deeper learning and application process. My personal mission as a professional educator is not only to transfer information but also to plant the seeds of desire in students and to help them acquire core competencies in biology to empower them with the knowledge, wisdom, and skills necessary to be contributing members of their profession, family, and the broader community, which aligns well with the mission of UVa-Wise.

My teaching philosophy and techniques are strongly influenced by my involvement with professional pedagogical activities at several levels. I have served on the education and outreach committee for the Society for Economic Botany and was one of a dozen members of the core team with the Open Science Network (OSN) in Ethnobiology. The OSN was a National Science Foundation funded group of educators focused on aligning pedagogical activities in the ethnobiology field to national standards published in Vision and change in undergraduate biology education: a call to action. My involvement with these groups has included such activities as conducting pedagogical research, participating in discussions on national curricular reform, giving professional presentations and helping to lead several pedagogical workshops at colleges around the country. My attendance at a pedagogical conference by SENCER (Science Education for New Civic Engagements and Responsibilities) had a significant influence on how I use community engagement to help the students learn in more meaningful and memorable ways. These activities—as well as ongoing practical implementation in the classroom—have
reinforced and expanded my teaching philosophy and methods, more closely aligning them with leading pedagogical research and standards.

My teaching methods are mindfully intended to foster a dynamic education that de-emphasizes autocratic lecturing, to kindle the flame, and to encourage effective student-centered learning and interaction among the students, instructor, and the greater community. In addition to traditional teaching methods, I incorporate a variety of other instructional activities, including class discussions and debates, interrupted case studies, concept mapping, kinesthetic learning, experiential learning, community engagement, service, authentic research and writing, and problem-based learning, that intentionally develop the high-level thinking skills of application, analysis, synthesis, and evaluation. These applied pedagogical principles and activities provide different modes of learning and help students be able to answer real questions and address real problems through learning, research, concept application, and service. They put their liberal arts education into action and draw from their other courses in an interdisciplinary way. They see they have the potential of applying their knowledge to help individuals and communities. I see the light in the students' eyes when they grasp the potential of this kind of learning and its broader perspectives (beyond the exam grade). As one student exclaimed in class one day after applying course concepts to community action, "Wow! This is really important! Like, really important!" The light turns on; they catch the vision. The flame lasts longer than just one semester.

For example, instead of simply writing essays and term papers to turn in to me for grading, and then it’s over—it's the next step that heats up the flame from orange to blue: service, real-life application, and the resulting passion. They lead forum discussions with community members, civic leaders, local government agencies, non-governmental agencies, and other professionals and decision makers on how to put up arms against several impending tree diseases in Appalachia that are threatening to be the next “Chestnut blights” in the region. For example, Sudden Oak Death may wipe out our oak trees in the eastern United States if quick action is not taken. Discussing the wide-ranging economic, sociocultural, and ecological catastrophes this could lead to through the resulting ripple effect is very provoking. Students are compelled to go beyond simple research-regurgitation to becoming impassioned protectors of the forest, motivated to really learn their stuff and apply their knowledge from our own class and other classes because the forum audience is going to be asking them questions and they have a serious interdisciplinary problem to solve; it's not just a hypothetical case study. Another example is seen from students working in the hemp research fields with farmers who are desperate for a new crop to replace their failing tobacco crops, and seeing the farmers’ excitement of the new crop in their fields giving them hope in saving their family farm. The students are more empowered to getting down and dirty and to learn all they can about the dynamic course concepts to help the community.

These course activities also improve concept retention and promote the development of creative processing, critical thinking, problem-solving and communication skills, emotional intelligence, compassion, and wisdom. They also help students to view learning as a dynamic and interconnected process (foundational to a good liberal arts education) and to apply their skills and knowledge in meaningful, productive ways—all of which are foundational to success in any career field and transfer to other areas of life.
ABBREVIATED CURRICULUM VITAE –RYAN D. HUISH

EDUCATION
B.S. Botany (minor Anthropology) with Honors, August 2004. Brigham Young University.

TEACHING EXPERIENCE
Associate Professor of Biology, The University of Virginia’s College at Wise, 2015–present
(Ethnobotany, Freshman Seminar, Principles of Biology, Ecology, Conservation Biology, Local Flora, General Botany, Medicinal Plants, Field Botany Research)
Assistant Professor of Biology, Hollins University, 2009–2015 Ethnobotany, Plants of Virginia, Plant Biology, Conservation Biology, Senior Seminar, Plants in Poetry and Art, Appalachia: People, Place, and Plants)
Lecturer and Research Mentor, Brigham Young University, 2003–2004 (Field Techniques in Ethnobotany, Field Facilitator and Mentor for undergraduates’ research in Tonga)

SELECTED PEER-REVIEWED PUBLICATIONS (*denotes student co-author)
SELECTED MANUSCRIPTS IN PROGRESS (*denotes student co-author)
Huish, R., J. Peters*, Dakota Taylor*, Ben Munson*. Comparative Analysis of Four Maple Species for Syrup Production in the South-Central Appalachian Mountains. *Journal of Agriculture, Food Systems, and Community Development.* (Accepted.)

SELECTED PEER-REVIEWED ABSTRACTS/PROFESSIONAL PRESENTATIONS
(presenting author(s) underlined, * denotes student co-author)
Huish, R. July 2011. Developing curriculum for improving ethnobiology education and field research through collaborative resource pooling, in workshop “Teaching strategies to promote active learning in ethnobotany.” Joint conference of the Society for Economic Botany, American Society of Plant Taxonomists, and the Botanical Society of America, St. Louis, MO.

SELECTED GRANTS AND AWARDS
Appalachian Prosperity Project Fellowship, Principal Investigator, “Collaborative efforts in economic botany: Capitalizing on rich botanical resources and heritage in Appalachia”, 2019, $5,000.
Abraham Raskin Award, “Leading graduate student in interdisciplinary studies with special interest in science education”, City University of New York, 2005.
LETTERS OF SUPPORT (EXCERPTED)

Since his arrival on campus in Fall of 2015…, Ryan has caught the eye of students, professors, and members of the community. My advisees are universally complimentary of his work in the classroom. …Very recently, a talented, upper-level, history major visited me in my office to talk about a conversation he had with Ryan in his Ethnobotany class. Seeking to connect the student’s interest in Appalachian history and culture with the content and requirements of the Ethnobotany course, Professor Huish suggested that the student explore a topic related to early 20th century coalfield immigrants and the [plants and traditional ethnobotanical knowledge] they brought to the region. This kind of interdisciplinary collaboration is a growing direction in higher education and one which Huish seems naturally inclined toward. Such unique talents, abilities, and interests promise to bring an exciting, new direction to our institution. As a researcher and scholar, Ryan has a clear record of accomplishment. I cannot overstate the importance of a scholar elevating himself to the point of reviewing the work of others for journals and other avenues of publication. Ryan has reached this point steadily producing focused works of merit within his field. He is an active writer of grants and was recently awarded a grant of nearly $150,000 as a part of a team exploring the climate effects on sugar maple. His numerous articles and conference presentations speak well to his talents and his ability to land on conference programs. His growing focus on Appalachian species will certainly result in his becoming a formative figure in the region.

-Dr. Brian D. McKnight, Professor of History/Founding Director, Center for Appalachian Studies, UVa-Wise

… The atmosphere is joyful, students laugh and joke, but I am pretty sure that the learning activity is very effective, as they will remember the details of this complex phenomena, and understand its dynamics for their entire life. … There is such an easiness in Ryan’s style of teaching, that students seem fascinated and absorbed in the science discussions, truly assuming active roles in learning, and becoming responsible for their own education. … Ryan cares a lot about his students and has a genuine interest in how students learn science. His enthusiasm is contagious and his teaching effectively engages students, while promoting critical thinking and active learning. I see Ryan as one of the best educators I was able to observe, and I am honored to have him as a colleague.

-Dr. Lucian Undreiu, Associate Professor of Physics, UVa-Wise

Mr. Huish has …has helped us with our Heritage Day program for the past two years. He takes our students on a walk through the outdoor classroom …, and teaches them how to identify the plants and trees in our area. He pointed out the plants that were poisonous. He also explained the uses of our local plants in such things as making teas and medicinal purposes. He brought examples of edible plants…. He discussed the process of making syrup and brought samples of maple syrup for the students to try. Mr. Huish brought some of his college students. I felt the interactions between his students and our students were very positive. It helped our students to realize there are careers available in the area. Our students thoroughly enjoyed his programs. We had several students who went to the library and asked for plant identification books. Mr. Huish has helped inspire our students’ interest in their natural environment. We greatly appreciate all the he has contributed to our Heritage Day Program.

-Lisa Rhoton, Teacher, Rye Cove Intermediate School, Scott County, VA

Dr. Huish taught at Hollins University my freshman year and I took an introductory ethnobotany course with him. His passion for plants and dedication to teaching everyone to love and respect plants was so inspiring it changed my whole career path. … [In] my senior year I contacted him and asked if I could complete my senior j-term internship with him and he was just as excited as
I was! He is truly an incredible boss and an unparalleled teacher. His love for botany and the natural world shines through everything he does and everything he says. Even if you’re not as passionate about plant life as Dr. Huish is, he’ll inspire you to love your own field with your whole being as he does. He helped me find a place for botany within my own field, he helped me complete my thesis both by allowing me to interview him and by introducing me to other ethnobotanists that could help, and followed up with me even when I didn’t work for him anymore and continued to look out for me. He provided guidance and advice that were indispensable to me in my last semester of college and I know I truly wouldn’t be where I am now if it weren’t for him. Dr. Huish has truly changed my life for the better and he continues to inspire me daily.

-Jennifer Gilliam, Hollins University, Class of 2018

Based on conversations that Ryan and I have had, I feel it safe to say that Ryan is a teacher of the first order, and his dedication to advancing science education at multiple levels is extraordinary. In addition to excelling at the university level, he has demonstrated a continued interest in sharing his knowledge of the natural world with the community at large. Ryan possesses a true gift for encouraging and enabling others in their pursuit of botanical knowledge, a talent that cannot be overstated. His enthusiasm comes across whenever discussing botany, and biology/science in general. More succinctly, Ryan brings to such discussions an air of openness, enthusiasm, and cooperation that is contagious and stimulating. He easily interacts with students, colleagues, and the general public; and this facilitates his ability to share botany with others. In a nutshell, Ryan’s teaching methods are exactly what science education is desperately trying to establish as the norm among our colleges and universities. His teaching statement should serve as a model for other young science educators to follow! … One of the common denominators that I’ve noticed in Ryan’s research, and one that has benefited me personally, is his willingness to collaborate with other scientists. He is not afraid to share his research and publications with others, not because he is incapable of performing the work himself, but because he is willing to sacrifice a bit of personal “glory” in order to benefit from the expertise of others. In other words, he does what it takes to assure that his manuscripts will be of the highest quality, as is his research upon which they are based. This has allowed him to publish in and/or submit articles to well-respected journals in his field. …As a true student-centered professor, Ryan's research continues to provide opportunities for students to experience working in a field setting, and will no doubt assist them in making future, sound judgments should they enter the realm of making policy decisions at the local, state, or national level. In other words, Ryan is establishing a fine reputation as a solid, forward-thinking researcher in the botanical sciences, specifically plant ecology and ethnobotany. Ryan is a gifted and expressive individual and from what I’ve seen, he is admired and respected as a mentor and friend. Due to these attributes, it has been easy for Ryan to find collaborators eager to work with him on his projects. I am quite impressed by the number of publications and presentations Ryan has produced. And, he has several more in the works. Additionally, he has enough ideas of future projects to keep him busy for years to come.

-Dr. Conley K. McMullen, Professor, Department of Biology, James Madison University

Dr. Huish’s syllabi are sufficiently detailed with clear learning objectives and the sample exams I reviewed are on topic and challenging with interesting question scenarios that link processes learned in class to “real-world” situations. I also appreciated the addition of a “Community Outreach and Civic Engagement” portion to the Local Flora course, an important aspect of learning botany since it is often useful to help the general public recognize the value of the botanical world that is all around them but often disregarded as “weeds” or “uninteresting.” Dr. Huish was hired to fill our botany position and from what I have observed, he is doing exactly that-teaching botany-and doing an excellent job of it.
Ryan is a botanist, working in a combined Department of Natural Sciences that includes biochemistry, biology, chemistry and environmental science degrees. Because we are a combined department the lines that separate the various disciplines are fluid, allowing us to combine and recombine in a variety of ways to pursue our mutual goals. Ryan has been extraordinarily adept at navigating that fluidity. He has proven to be equally adept at navigating the dynamics of the student-teacher and researcher-teacher roles. Ryan is the most centered man I have ever known. He is completely comfortable in his own skin, and there are no boundaries that I have ever seen between his teaching, his research, his service, his place in the community, his faith, or his family. Everything is connected, and every part of his life impacts every other part. He has a knack for illustrating those connections for his students in a way that inspires them and allows them to see how they are themselves connected to one another, to the college, and to their community. One example of how that has played out is illustrated by work done by Ryan, his students, and students who have conducted research with him studying differences between maple syrup produced from sap from different varieties of maples. The class then developed community outreach materials to educate local residents about the economics of maple syrup production. Most of our students come from the local coal field counties and are hyperaware of the dire economic picture their hometowns face as coal mining continues to disappear, so this project really resonated with them.  

-Dr. Margie Tucker, Professor of Chemistry, Chair of Natural Sciences Department (2018), UVa-Wise

During my early interactions with Dr. Huish, I learned about his communitarian and economic interests with respect to his scholarly expertise. Given the inevitable decline in our regional coal-based economy, I see his work as being particularly important and fortuitous. With his interests in hemp farming, maple syrup production, and medicinal plants, Ryan fills a critical niche as our College begins to embrace its role in fostering a more diversified and sustainable local economy. Indeed, he is in a position to make a real difference in Wise County and our region. Furthermore, I see great potential in Ryan as a model for interdisciplinary collaboration. It was for this reason, I invited him to serve on our economics faculty search committee.

-Dr. Francis Frey, Associate Professor of Business Administration, Chair of Business and Economics Department, UVa-Wise

In recent years, my work has intersected with Dr. Huish as he has worked to leverage his significant experience and expertise in support of regional economic diversification. I applaud his efforts to evaluate the region’s strengths and explore opportunities for economic crops and other existing natural resources in Southwest Virginia. He demonstrates a commitment to furthering the College’s engagement within the region and creating opportunities for students, both of which are key to the mission of our institution.

-Shannon Blevins, Associate Vice Chancellor, Office of Economic Development and Engagement, UVa-Wise.

Ryan Huish is a remarkable teacher and scholar who believes that his scholarship should provide a mechanism to teach as well. His inclusion of his students in his own research has made it possible for students to present their shared work at multiple discipline-specific conferences in the same sessions as experienced professors and scholars. In several cases, these scholarly presentations have led to students’ acceptances to graduate school... Ryan has exceeded all the expectations we have ... We are fortunate to have such a talented faculty member.

-Dr. Amelia Harris, Academic Dean and Associate Provost, UVa-Wise
Additional Documentation

Faculty at The University of Virginia’s College at Wise are evaluated annually. The college weighs faculty responsibilities according to: Teaching (50-60%), Scholarship (20-25%), and Service (20-25%). Dr. Huish has received excellent ratings by administration, faculty, and students during formal teaching assessments at UVa-Wise, as the excerpted comments illustrate:

Ryan’s teaching evaluations are replete with positive comments about his kindness and patience, and those are the two words that leap to my mind when I think of him. He is perhaps the kindest person I have ever known. In the classroom, that translates into a level of patience that endears him to students. At the same time, he is passionate about his subject and maintains an appropriate level of rigor … I enjoyed the class I attended immensely, and was impressed by Ryan’s ease as he taught- it was more of a conversation, and that relaxed style could not have happened if his students had not been genuinely interested in what he was telling them, or if Ryan had not been supremely confident in his own expertise. In a very quiet way, it was quite remarkable. …. He participated in a complete revamping of the introductory Biology labs during the summer before he officially began teaching here, and this past summer participated in re-vamping the entire Biology curriculum. … Ryan has excelled in all areas, teaching, scholarship and service, quite an accomplishment … He has established a robust and vigorous research program involving multiple students, and has the reputation of being an outstanding and humane teacher. Ryan accomplishes a great deal without ever feeling the need to draw attention to himself, and he is universally respected and admired by the people who know him.

-Dr. Margie Tucker, Professor of Chemistry, Natural Sciences Chair (2018), The University of Virginia’s College at Wise

Ryan is clearly a very gifted teacher. In all the course evaluations I reviewed, including one for Freshman Seminar, I found only glowing comments about his knowledge, the manner in which he imparted it, and how much students had learned in the class, as well as how kind he is. His peer review was equally positive.

-Dr. Amelia Harris, Academic Dean and Associate Provost, The University of Virginia’s College at Wise

Student Comments from Student Evaluations

General Botany, BIO 3290

- Loved this class and the professor. Felt cared about and learned a lot.
- Huish is great! I’m not sure how the class could improve.
- I think the photosynthesis dance and panel discussion contributed the most [to learning].
- Class discussions and an interactive classroom contributed most to my learning.
- He is fantastic, he knew the material, as well as, he actually TAUGHT! He lectures but teaches you, he provides ways to remember material and his power points are clear and concise.
- “[The] photosynthesis dance made the process easier to remember”
- I have really enjoyed this class. Dr. Huish made this class fun and I can tell he genuinely cares for all of us. PLANT NERDS FOR LIFE!
- Loved the class! I think Dr. Huish is a great teacher, very nice and intelligent. Treats students as adults rather than children. Easily one of the best professors at the school, and likely the best ecologist we have.
- Dr. Huish is an excellent professor. He is very passionate about his field of study. He is
very helpful in and out of class. I learned a great deal this semester and did well in this class with hard work.

Local Flora, BIO 3250
- The BEST prof. ever. The most kind and encouraging. Helped me learn a lot of new and useful information. I actually thought about becoming a botanist.
- Dr. Huish made the class very memorable and fun, I wish I could take a class like it in the spring. I won’t be able to go on a walk or drive the same ever again because I’ll know about the plants.
- Dr. Huish opened my eyes to the world around me in a different way than my other science courses have. I loved the class. Super fun. Super informative.
- Loved this class, wish it was a yearlong. Wish we could have gone into greater details with each family. Wish lab was twice a week! He teaches, we need more professors like him who teach instead of throwing material at you and expecting you to teach yourself. Couldn’t have had a more memorable experience learning valuable information.

Principles of Biology, BIO 1010
- Professor Huish was an excellent teacher who was willing to help students when they were struggling. He also empathized well when their life events were affecting their performance.
- Dr. Huish was one of the best professors I’ve had this semester. I would definitely recommend him to my friends. His teaching strategy was very effective and clear.
- Dr. Huish has been the perfect professor. He made biology both fun and exciting. Unlike other professors, he is patient and understanding when we do not know the answer. I would highly recommend him and encourage other
- Dr. Huish has been my favorite professor of my first semester here. I would definitely recommend him to other students.
- Dr. Huish is a great person. Very great teacher as well. Lectures are always clear, gives clear explanations. Generally cares about the student’s well-being, and doesn’t set you up to fail.
- Dr. Huish was a fantastic professor. He was always very kind and gave plenty of opportunities to correct our mistakes while still grading harshly enough to make sure we knew the material.
- Science is not my forte, and this was only a gen-ed requirement but I enjoyed this class very much.

Principles of Biology Lab, BIO 1011
- Science is not my forte, and this was only a gen-ed requirement but I enjoyed this class very much.
- This was my favorite class this semester! He was very helpful and we could all tell he loves his job.
- Dr. Huish made both lecture and lab exciting.
- Dr. Huish was amazing. He was very nice and helped me understand what he was doing. He also encouraged us to visit him in his office.
- Dr. Huish is an amazing professor; he really showed an elevated level of enthusiasm and support throughout this course!
- Dr. Huish is my favorite professor by far. He was always there to help me when I needed it. He did his best to teach us as much as he possibly could within the amount of time we had.
Introduction Biological Diversity, BIO 1020

• Dr. Huish is one of the most caring and dedicated professors when it comes to supporting and encouraging students to create their own success. It is a joy to be in his class and listen to him teach with such enthusiasm and passion.

• Dr. Huish was a great professor that I will always recommend to anyone that is taking bio.

Introduction to Biological Diversity Lab, BIO 1021

• Dr. Huish is one of the most caring and dedicated professors when it comes to supporting and encouraging students to create their own success. It was a joy to be in his class and listen to him teach with such enthusiasm and passion.

• This class is a great introduction to wildlife around our campus.

• Dr. Huish is one of my favorite professors due to his kindness and patience that he has for all students.

• Absolutely appreciated the time Huish wrapped my finger with a plant band aid because I got a huge thorn stuck in it.

• He eats a lot of plants.

Ethnobotany, NAS 1010

• Great professor and amazing class. If it was not for the fact that I was a graduating senior, I would seriously consider changing my major to Natural Sciences.

• Best science class I’ve taken her. Very positive professor. Taught relevant, useful information. Awesome experience.

• Professor Huish is such a kind and caring teacher. He loves his students and field of study which makes his class so meaningful.

• I hate science and he made this class extremely fun and affected my education in a very positive manner. He made a large impact on the way I feel about botany and I would love to take another class with him. He helps the learning process by answering all questions and using actual plants and hands-on techniques. Dr. Huish is an amazing professor.

• Amazing professor & excellent human being! Ryan Huish was simply born to be a botanist. Highly recommend him to everyone!

Freshman Success Seminar, SEM 1010 19

• The teacher helped contribute to my learning the most. He opened the door to us and showed us what the college has to offer.

• The professor was very nice and always prepared for class!

SELECTED PUBLIC MEDIA REPORTS

Maple

“Maple sugaring expected to decline drastically by century’s end”, Daily Hampshire Gazette, June 2019 (https://www.gazettenet.com/Maple-syrup-production-expected-to-decline-26455040)


“Climate change might leave a bad taste in your mouth. Literally.”, Public Radio International,
“A sweet maple harvest”, Appalachian Voices, February 2017 (http://appvoices.org/2017/02/10/a-sweet-maple-harvest/)
“Climate change is coming for your maple syrup”, Climate Central, March 2016 (http://www.climatecentral.org/news/climate-change-maple-syrup-20178)

Hemp

Spotlight on UVa-Wise hemp research in Southwest Virginia, WJHL (NBC affiliate, television news in the Tri-Cities TN/VA), April 24, 2018.
“Panel: Hemp has big potential”, Coalfield Progress, February 23, 2018. (http://www.thecoalfieldprogress.com/coalfield_progress/panel-hemp-has-big-potential/article_0718a1b2-1817-11e8-a005-bf78863df82e.html)
“Industrial Hemp Offers Hope to Appalachia’s Farmers and Environment”, The Appalachian Voice, April 2016 (http://appvoices.org/2016/04/19/industrial-hemp-appalachia/)

Appalachian Ethnobotany/Forest Farming

“Seeing the forest for the trees—Maintaining ecosystems: UVa-Wise professor works to sustainably farm forests”, Bristol Herald Courier, March 2018.
“How do your profits grow?”, Kingsport Times News, October 4, 2017