

CURRICULUM VITAE
JULIE C ZINNERT

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PROFESSIONAL AND ACADEMIC BACKGROUND

A. PROFESSIONAL EXPERIENCE

2015-present Assistant Professor, Department of Biology, VCU, Richmond, VA
2009-2013 US Army Corps of Engineers, ERDC, Research Biologist, Alexandria, VA
2008-2009 Oak Ridge Institute for Science and Education (ORISE), Post-doctoral Research Fellow

B. OTHER APPOINTMENTS

2013-2015 Adjunct Instructor, Department of Biology, VCU, Richmond, VA
2012-present Affiliate Faculty, Rice Center, VCU, Richmond, VA
2010-2013 Affiliate Faculty, Department of Biology, VCU, Richmond, VA
2001-2008 Graduate Research Assistant, VCU, Richmond VA

C. EDUCATION

Ph.D. Integrative Life Sciences, Virginia Commonwealth University (VCU), May 2008
The relationship between leaf optical properties and physiological responses for stress detection in coastal plant species
M.S. Biology, Virginia Commonwealth University, 2004
Quantifying successional dynamics within the context of a restoration plan for a maritime forest
B.S. Biology, Virginia Commonwealth University, 2000, *cum laude*

RESEARCH

A. PUBLICATIONS (student co-author)

Peer-reviewed

2017

34. Harris AL, **Zinnert JC** and DR Young. 2017. Differential response of barrier island dune grasses to species interactions and burial. *Plant Ecology*, 218:609-619.
33. Thompson JA, **Zinnert JC** and DR Young. 2017. Immediate effects of microclimate modification enhances native shrub encroachment. *Ecosphere*, 8:e01687.
32. **Zinnert JC**, Stallins JA, Brantley ST and DR Young. 2017. Crossing scales: complexity of barrier island processes for predicting future change. *Bioscience*, 67: 39-52.
31. Via SM, **JC Zinnert** and DR Young. 2017. Multiple metrics quantify and differentiate responses of vegetation to a common explosives mixture. *International Journal of Phytoremediation*, 19: 56-64.

2016

30. Via SM, **Zinnert JC** and DR Young. 2016. Legacy effects of explosive contamination on vegetative communities. *Open Journal of Ecology*, 6: 496-508
29. Bissett SN, **JC Zinnert** and DR Young. 2016. Woody expansion facilitates liana expansion and affects physical structure in temperate coastal communities. *Ecosphere*, 7: e01383
28. **Zinnert JC**, Shiflett SA, Via SM, Bissett SN, Dows B, Manley P and DR Young. 2016. Spatio-temporal dynamics in barrier island upland vegetation: the overlooked coastal landscape. *Ecosystems*, 19: 685-697.
27. **Zinnert JC**, Brantley ST, and DR Young. 2016. Correspondence: Bistability and the future of barrier islands. *Nature Climate Change*, 6.5-6
26. Via SM and **JC Zinnert**. 2016. Impacts of explosive compounds on vegetation: a need for community scale investigations. *Environmental Pollution*, 208: 495-505.

2015

25. Feagin, RA, Figlus J, **Zinnert, J**, Sigren J, Martínez ML, Silva Casarín R, Smith WK, Cox D, Young D, Carter G. 2015. Going with the flow or against the grain? The promise of vegetation for protecting beaches, dunes, and barrier islands. *Frontiers of Ecology and Environment*, 13: 203-210.
24. Via SM, **Zinnert JC** and DR Young. 2015. Differential effects of two explosive compounds on seed germination and seedling morphology of a native coastal shrub, *Morella cerifera*. *Ecotoxicology*, 24: 194-201.

2014

23. Shiflett SA, **Zinnert JC** and DR Young. 2014. Coordination of leaf N, structure, photosynthetic capacity and hydraulics in the face of environmental controls enhances evergreen expansive potential. *Trees Structure and Function*, 28: 1635-1644.
22. Ali A, **Zinnert JC**, Balasubramaniam M, Yanhui P, Chung S-M and CN Stewart. 2014. Physiological and transcriptional responses of *Baccharis halimifolia* in Comp B (RDX/TNT) amended soil. *Environmental Science and Pollution Research*, 21: 8261-8270.
21. Bissett SN, **Zinnert JC** and DR Young. 2014. Linking habitat and associations of woody vegetation and vines on two Mid-Atlantic barrier islands. *Journal of Coastal Research*, 30: 843-850
20. Shiflett SA, **Zinnert JC** and DR Young. 2014. Conservation of functional traits leads to shrub expansion across a chronosequence of shrub thicket development. *Trees Structure and Function*, 28:849-858.
19. Guglielmo L*, Azzaro F*, Baviera C*, Bergamasco A*, Bissett S, Brugnano C*, Caruso G, Decembrini F*, Garey A, Granata A*, Gugliandolo C*, Lentini V*, Lo Gullo MA*, Maugeri T*, Pansera M*, Raimondo F*, Rodriguez Valdes LP*, Smock L, Spanò A*, Trifilò P*, Vick J, Young D, Zagami G*, **Zinnert J** and R Minutoli*. 2014. Multidisciplinary ecological assessment of the Alcantara River (Sicily, Italy) using bioindicators. *Marine and Freshwater Research*, 65:283-305 * international collaborators
18. Via SM, **Zinnert JC** and DR Young. 2014. Impacts of explosives contaminated soil on physiology of an evergreen shrub, *Morella cerifera*. *Environmental and Experimental Botany*, 99: 67-74

2013 and earlier

17. **Zinnert JC**, Shiflett SA, Vick JK and DR Young. 2013. Plant functional traits of a shrub invader relative to sympatric native shrubs. *Ecosphere*, 4:art119
16. Shiflett SA, **Zinnert JC** and DR Young. 2013. Seasonal patterns of light availability and light use of broadleaf evergreens in a deciduous forest understory: potential mechanisms for expansion. *Open Journal of Ecology*, 3: 151-160.
15. Shiflett SA, **Zinnert JC** and DR Young. 2013. Changes in composition and structure during restoration of maritime communities. *Journal of the Torrey Botanical Society*, 140:89-100.
14. **Zinnert JC**, Via SM, and DR Young. 2013. Distinguishing natural from anthropogenic stress in plants: physiology, fluorescence and hyperspectral reflectance. *Plant and Soil*, 366: 133-141.
13. **Zinnert JC**. 2012. Plants as phytosensors: physiological responses of a woody plant in response to RDX exposure and potential for remote detection. *International Journal of Plant Sciences*, 173: 1-11.
12. Aguilar C*, **Zinnert JC**, Jose Polo M* and DR Young. 2012. NDVI as an indicator for changes in water availability to woody vegetation. *Ecological Indicators*, 23: 290-300. * *international collaborators*
11. **Zinnert JC**, Nelson JD, and AM Hoffman. 2012. Effects of salinity on physiological responses and the photochemical reflectance index in two co-occurring coastal shrubs. *Plant and Soil*, 354: 45-55.
10. **Zinnert JC**, Shiflett SA, Vick JK, and DR Young. 2011. Woody vegetative cover dynamics in response to recent climate change on an Atlantic Coast barrier island: a remote sensing approach. *Invited publication, Geocarto International Special Issue "Remote Sensing of Coastal System Dynamics"*, 26: 595 – 612.
9. Young, DR, ST Brantley, **JC Zinnert** and JK Vick. 2011. Landscape position dynamics in a coastal barrier island landscape. *Ecosphere*, 2 (6), Article 71, 1-12
8. Brantley ST, **Zinnert JC** and DR Young. 2011. Application of hyperspectral vegetation indices to detect variations in leaf area index in high LAI temperate canopies. *Remote Sensing of Environment*, 115: 514-523.
7. **Naumann, JC**, JE Anderson and DR Young. 2010. Remote detection of plant physiological responses to TNT soil contamination. *Plant and Soil*, 329: 239-248.
6. **Naumann JC**, Bissett SN, Young DR, Edwards J, and JE Anderson. 2010. Diurnal patterns of photosynthesis, chlorophyll fluorescence and PRI to evaluate water stress in the invasive species, *Elaeagnus umbellata* Thunb. *Trees*, 24:237–245.
5. **Naumann, JC**, DR Young and JE Anderson. 2009. Spatial variations in salinity stress across a coastal landscape using vegetation indices derived from hyperspectral imagery. *Plant Ecology*, 202: 285-297.
4. **Naumann, JC**, JE Anderson and DR Young. 2008. Linking physiological responses, chlorophyll fluorescence and hyperspectral imagery to detect salinity stress using the physiological reflectance index in the coastal shrub, *Myrica cerifera*. *Remote Sensing of Environment*, 112: 3865-3875.
3. **Naumann, JC**, DR Young and JE Anderson. 2008. Leaf fluorescence, reflectance, and physiological response of freshwater and saltwater flooding in the evergreen shrub, *Myrica cerifera*. *Environmental and Experimental Botany*, 63: 402-409.

2. **Naumann, JC**, DR Young and JE Anderson. 2007. Linking leaf chlorophyll fluorescence properties to physiological responses for detection of salt and drought stress in coastal plant species. *Physiologia Plantarum*, 131: 422-433.
1. **Naumann, JC** and DR Young. 2007. Structure and composition of a maritime forest and seed bank. *Journal of the Torrey Botanical Society*, 134: 89-98.

Conference Proceedings

5. Anderson J, Gray D, Nelson, J, Edwards J, **Zinnert J**, Shuart W and K Slocum. 2012. Empirical measurements and modeling of the optical properties of case I and highly stratified, enriched non-case I waters. *Proceedings of SENSIAC*.
4. Massaro, RM, **Zinnert JC**, Anderson JA, Edwards JE, Crawford E, and DR Young. 2012. LIDAR Flecks: Modeling the influence of canopy type on tactical foliage penetration by airborne, active sensor platforms. *Proceedings of SPIE*, Vol. 8360 836008-1
3. **Zinnert (Naumann) JC**, Nelson JD, Vick JK†, Hoffman AM†, and DR Young. 2011. Rethinking chlorophyll responses to stress: fluorescence and reflectance remote sensing in a coastal environment. *Proceedings of the 4th International Workshop on Remote Sensing of Vegetation Fluorescence*.
2. Nelson J, **Zinnert (Naumann) J**, Anderson J, Mendoza E, and D Young. 2011. Remote lifetime imaging: advanced technology for vegetation fluorescence sensing. *Proceedings of the 4th International Workshop on Remote Sensing of Vegetation Fluorescence*.
1. **Naumann JC**, Rubis KT and DR Young. Fusing chlorophyll fluorescence and plant canopy reflectance to detect TNT contamination in soils. *Proceedings of SPIE*, DOI: 10.1117/12.851220.

Other publications

2. **Zinnert, JC**. 2011. Stability in times of uncertain change. *LTET Newsletter*, Fall #2.
1. **Naumann, JC**. 2004. Maritime forest restoration on the Delmarva. *Adkins Arboretum Native Seed*, Volume 9 (3).

In revision

1. Brown JK, **Zinnert JC** and DR Young. Emergent interactions influence functional traits and success of dune building ecosystem engineers. *Journal of Plant Ecology*, pending minor revisions

In prep

5. Multiple authors. An ecological niche for Terrestrial Lidar Systems. *Frontiers in Ecology and Environment*.
4. Multiple authors. Long-term changes in species linked to global change. *Ecosystems or Ecosphere*
3. Brown JK, **Zinnert JC** and DR Young. Resource allocation drives variable mechanisms of survival after sand deposition.
2. Shiflett SA, **Zinnert JC** and DR Young. Functional traits of thicket-forming shrubs: contrasting strategies between exotic and native species lead to similarities in expansion. *Ecosphere*
1. Kirschner AS and **JC Zinnert**. Coastal grassland species vary in tolerance to stressors associated with climate change. *Plant Ecology*

B. GRANT SUPPORT

Funded (\$3,302,031 total)

17. Ford Foundation Postdoctoral Fellowship to Dr. Natasha Woods, 2017-2018 (\$45,000), The effect of seed vectors on maritime forest recovery on coastal barrier islands, Host
16. National Science Foundation, 2012 – 2018, *LTER VI: Drivers, dynamics and consequences of non-linear change in coastal barrier systems*, PI for VCU subcontract (\$210,000)
15. Related Supplemental Research to Award:
Research Experiences for Undergraduates (REU), (\$8,600)
Equipment Purchase (\$10,000)
13. Spanish Ministry of Economy and Competitiveness, 2015-2016, *Global monitoring system for snow areas in Mediterranean regions: trend analysis and implications for water resource management in Sierra Nevada*, Collaborator and remote sensing advisor with Dr. Maria Jose Polo (lead), University of Córdoba
12. Virginia Commonwealth University, Quest Global Impact Awards, 2014-2015 (\$14,381) *VCU-University of Córdoba (UCO) Collaboration-Development of a synthetic, complementary degree program focusing on science of the James and Guadalquivir river ecosystems*, Co-PI with Dr. Donald Young (lead) and Dr. Len Smock
11. US Army Corps of Engineers 6.1 Basic Research Program, 2013 – 2015 (\$795,000) *Spatial-temporal variability in vegetation hyperspectral indices to characterize terrain state*, PI
10. US Army Corps of Engineers 6.1 Basic Research Program, 2011 – 2013, (\$702,000) *Modeling the influence of canopy type on tactical foliage penetration by airborne, active sensor platforms*, Co-PI
9. US Army Corps of Engineers 6.1 Basic Research Program, 2010 – 2012, (\$735,000) *Characterization of vegetation photopigment decay for remote sensing of hazardous materials*, Co-PI
8. US Army Corps of Engineers 6.1 Basic Research Program, 2010 – 2012, (\$754,000) *Hyperspectral reflectance-derived fluorescence and thermal emissions of vegetation for the detection of hardened targets and buried underground facilitates*, Co-PI
7. ORISE Postdoctoral Research Fellowship, 2008 – 2009, (\$70,000) *Linking leaf optical properties to physiological responses for stress detection of canopy level photopigments*, PI
6. Graduate School Travel Grant, VCU, 2007, (\$500)
5. Graduate Student Association Travel Grant, VCU, 2007, (\$150)
4. Emerging Technologies Grant, VCU, 2005, (\$750) *Linking leaf to landscape: stress detection and remote sensing in coastal plants*
3. Graduate School Travel Grant, VCU, 2004, (\$500)
2. Graduate Student Association Travel Grant, VCU, 2004, (\$150)
1. Adkins Arboretum, 2003, (\$1,000) *Quantifying successional dynamics within the context of a reclamation plan for maritime forest*

Other Formal Collaborations

Established and maintain Nutrient Network (NutNet) site, 2015 – present

C. RESEARCH HIGHLIGHTS

8. Partners in crime: woody plants and liana delay forest succession in temperate coastal ecosystems, LTER Network Science, <http://us12.campaign-archive1.com/?u=d7494403ed9d8c97a5479f0d4&id=4bd8b90142> 2016
7. The overlooked coastal landscape: understanding changes in barrier island vegetation, LTER Network Science, <http://bit.ly/2cq02ft> 2016
6. From here to infinity: 3-D map plots every color farther than the eye can see, VCU News, http://news.vcu.edu/faculty-and-staff/From_here_to_infinity_3D_map_plots_every_color_farther_than_the, 2015
5. Leafy bloodhounds: plants might find land mines, Live Science, <http://www.livescience.com/47377-plants-sniff-out-land-mines.html>, 2014
4. Using Plants to Detect Buried Explosives, VCU News, http://www.news.vcu.edu/news/Using_Plants_to_Detect_Buried_Explosives, 2013
3. Want to navigate a mine field with your phone?, Style Weekly, <http://www.styleweekly.com/richmond/navigate-a-mine-field-with-your-phone/Content?oid=1826561>, 2013
2. TNT and plants: shrubs as toxin detectors, ESA News, <http://www.esa.org/esablog/ecologist-2/news-events/tnt-and-plants-shrubs-as-toxin-detectors>, 2009
1. Barton CVM. 2012. Advances in remote sensing of plant stress. *Plant and Soil*, 354: 41-44, *Journal Commentary*

D. PRESENTATIONS

Invited

16. **Zinnert JC.** 2017. Ecosystem state change in a coastal system: mechanisms and consequences. Association of Southeastern Biologists, Montgomery, AL.
15. **Zinnert JC.** 2016. Small scale physiological changes affect large scale ecosystem state change in coastal systems. Multiscale Plant Vascular Biology, Gordon Research Conference, Newry, Maine.
14. **Zinnert JC.** 2016. Ecosystem state change in a coastal system: interactions between vegetation and the physical environment. University of Cordoba, Spain
13. **Zinnert JC.** 2015. From leaf to landscape: cross-scale interactions in barrier islands. Department of Biology, University of North Carolina, Wilmington, NC
12. **Zinnert JC.** 2013. Environmental Landscape Imaging. Virginia Commonwealth University Imaging Symposium, Richmond VA
11. **Zinnert JC.** 2012. Plants as sentinels of environmental change: from hydrological processes to buried explosives detection. Department of Biology, Virginia Commonwealth University, Richmond VA
10. **Zinnert JC.** 2012. Light use efficiency and response to environmental stress: Invasion of shrubs into different communities. Mechanisms of Woody Expansion, Ecological Society of America meeting, Portland, OR
9. **Zinnert JC.** 2012. Plants as sentinels for environmental change. Virginia Coast Reserve Anheuser-Busch Coastal Research Center. Oyster, VA
8. **Zinnert (Naumann) JC.** 2011. Vegetation remote sensing for ecological applications and stress detection. University of La Rioja, Logroño, Spain

7. **Zinnert (Naumann) JC**. 2011. Using vegetation remote sensing to detect changes in hydrological processes. University of Córdoba, Spain
6. **Naumann JC**, DR Young and JE Anderson. 2009. Linking chlorophyll fluorescence, hyperspectral reflectance and plant physiological responses to detect stress using the photochemical reflectance index (PRI). Remote Sensing of Vegetation Processes, American Geophysical Union, San Francisco, CA
5. **Naumann, JC**. 2008. Plants under stress: physiological responses and remote detection. Connecticut College, New London, CT
4. **Naumann, JC**. 2008. Quantum efficiency in plant photosynthesis. Quantum Effects in a Biological Environment Workshop, DARPA, Arlington, VA
3. **Naumann, JC**. 2008. Remote sensing of stress in coastal plants. NASA. Greenbelt, MD
2. **Naumann, JC**, DR Young and JE Anderson. 2007. Linking fluorescence, reflectance and physiological responses to environmental stress. Workshop on Vegetation Stress Detection with Remote Sensing Imagery, Instituto de Agricultura Sostenible, Córdoba, Spain
1. **Naumann, JC**, DR Young and JE Anderson. 2007. Remote detection of environmental stress in a coastal shrub. 5th Annual CSBC Research Review, Virginia Commonwealth University, Richmond, VA

Contributed Conference (student co-author)

59. Aguilar C, **Zinnert JC**, Wood LK, Polo MJ. 2017. Annual and seasonal assessment of the hydrological signature of mountain areas in semiarid regions from the evolution of selected vegetation covers and derived indicators. International Association of Hydrological Sciences. Port Elizabeth, South Africa. - upcoming
58. Wood LK, **Zinnert JC**, Hays S, Young DR. 2017. Shrub expansion leads to biotic and abiotic changes in coastal grassland ecosystems. Association of Southeastern Biologists, Montgomery, AL.
57. Brown JK and **Zinnert JC**. 2017. Resource allocation drives variable mechanisms of survival after sand deposition. Association of Southeastern Biologists, Montgomery, AL.
56. Nettleton B and **Zinnert JC**. 2017. Keeping pace or losing ground: quantifying barrier island response to sea level rise. Association of Southeastern Biologists, Montgomery, AL.
55. Brown JK, **Zinnert JC** and DR Young. 2016. Emergent interactions influence functional traits and success of dune building ecosystem engineers. Multiscale Plant Vascular Biology, Gordon Research Conference, Newry, Maine.
54. Brown JK, **Zinnert JC** and DR Young. 2016. Competition affects functional trait responses of dune grasses to abiotic stressors. William and Mary Graduate Research Symposium, Williamsburg, VA.
53. Via SM, **Zinnert JC** and DR Young. 2015. Physiological and morphological responses to explosives contamination across plant functional groups. International Phytotechnologies Conference, Manhattan, KS. ***1st place student presentation award**
52. Dows BL, Thompson JA†, **Zinnert JC** and DR Young. 2015. Cross-scale analysis of alternate stable states associated with woody encroachment at the Virginia Coast Reserve. LTER All Scientists Meeting, Estes Park, CO.
51. **Zinnert JC**, Shiflett SA, Via S, Bissett SN, Dows BL, Manley PV and DR Young. 2015. Cross-island comparison of temporal variations in woody-grassland bistability at the Virginia Coast Reserve. LTER All Scientists Meeting, Estes Park, CO.

50. Brown JK, Harris AL, **Zinnert JC** and DR Young. 2015. Physiological and functional traits of dune building grasses influence topographic structure. LTER All Scientists Meeting, Estes Park, CO.
49. Via S, **Zinnert JC** and DR Young. 2015. Physiological filters to vegetation establishment on contaminated soil. Ecological Society of America, Baltimore, MD.
48. Bissett S, **Zinnert JC** and DR Young. 2015. Linking vines to woody hosts: Untangling the biotic influences in a physically dominated environment. Ecological Society of America, Baltimore, MD.
47. **Zinnert JC**, Brown J, Harris A, Thompson J and DR Young. 2015. Functional traits explain ecosystem engineering in dune building grasses. Ecological Society of America, Baltimore, MD.
46. Dows B, **Zinnert JC** and DR Young. 2015. Shrub encroachment and persistence: A case of biofeedback leading to stability after state change. Ecological Society of America, Baltimore, MD.
45. Moulton A and **JC Zinnert**. 2015. Functional type changes over a disturbance gradient of overwash sites on a Virginia barrier island. Ecological Society of America, Baltimore, MD.
44. Kirschner A and **JC Zinnert**. 2015. Grassland species vary in tolerance to stressors associated with climate change. Ecological Society of America, Baltimore, MD.
43. Kirschner A and **JC Zinnert**. 2015. Grassland species vary in tolerance to stressors associated with climate change. VCU Poster Symposium for Undergraduate Research and Creativity, Richmond, VA.
42. James Carrico, Cox B, Ericson R, Long R, Mangham K, Shivakumar N, **Zinnert JC**, McLeskey J, and T Pepperl. Potential microbe water filter using *Pinus taeda* xylem. VCU Poster Symposium for Undergraduate Research and Creativity, Richmond, VA.
41. **Zinnert JC**, Shiflett SA, Bissett SN, Dows BL, Manley PV, Via SM, and DR Young. 2014. Cross-scale interactions in barrier island land cover change. American Geophysical Union, San Francisco, CA.
40. Dows BL, Young DR, and **JC Zinnert**. 2014. Community barrier island change: what controls it? American Geophysical Union, San Francisco, CA.
39. Via SM, **Zinnert JC**, and DR Young. 2014. Explosives contaminated soil as a physiological filter against plant succession and establishment. International Phytotechnologies Conference, Heraklion, Crete.
38. Manley PV, Via SM, **Zinnert JC**, and DR Young. 2014. Before the blast: the interaction between plants and explosives. International Phytotechnologies Conference, Heraklion, Crete.
37. **Zinnert JC**, Shiflett SA, Bissett SN, Dows BL, Manley PV, Via SM. 2014. Cross-island comparison of temporal variations in shrub-grassland bistability at the Virginia Coast Reserve. Ecological Society of America, Sacramento, CA.
36. Dows BL, **Zinnert JC** and DR Young. 2014. Shrub expansion into coastal grasslands: Seed dispersal and environmental filters determine patterns of invasion. Ecological Society of America, Sacramento, CA.
35. Via SM, **Zinnert JC** and DR Young. 2014. After the dust has settled: Long term plant community impacts of explosive soil contamination. Ecological Society of America, Sacramento, CA.

34. Manley PV, Via SM, **Zinnert JC** and DR Young. 2014. Landmines: Plants as bio-indicators to what may lie beneath. Ecological Society of America, Sacramento, CA.
33. Shiflett SA, **Zinnert JC** and DR Young. 2013. Physiological mechanisms of shrub encroachment on the Virginia barrier islands: linking enhanced hydraulic capacity to efficient light capture and harvesting. Virginia Coast Reserve Anheuser-Busch Coastal Research Center. Oyster, VA
32. Shiflett SA, **Zinnert JC** and DR Young. 2013. Physiological mechanisms of shrub encroachment: linking enhanced hydraulic capacity to efficient light capture and harvesting. Department of Biology, Virginia Commonwealth University, Richmond VA
31. Shiflett SA, **Zinnert JC** and DR Young. 2013. Linking hydraulic properties, canopy structure, and light use to shrub expansion. Rice Center Symposium, Virginia Commonwealth University, Richmond VA
30. Via SM, **Zinnert JC** and DR Young. 2012. Physiological responses of *Morella cerifera* to varying concentrations of explosive soil contamination. Association of Southeastern Biologists, Charleston, WV
29. Shiflett SA*, **Zinnert JC** and DR Young. 2013. Physiology of *Myrica cerifera* is conserved across a barrier island chronosequence of shrub thicket development: a mechanism of shrub expansion. Association of Southeastern Biologists, Charleston, WV * **1st place ASB student research award**
28. Via SM, **Zinnert JC** and DR Young. 2012. From Cradle to Grave: The Impacts of RDX across three life stages of *Morella cerifera*. Ecological Society of America, Portland, OR
27. Shiflett SA, **Zinnert JC** and DR Young. 2012. Linking hydraulic properties, canopy structure, and light use to shrub expansion Ecological Society of America, Portland, OR
26. Vick JK, **Zinnert JC**, Shiflett SA and DR Young. 2012. Comparative functional mechanisms of co-occurring shrubs resulting in dominance of a thicket forming N-fixer. Ecological Society of America, Portland, OR
25. Manley PV, **Zinnert JC**, Massaro RD, Crawford ER, Bissett SN and DR Young. 2012. LiDAR analysis of spatial variations in shrub thicket canopies and light attenuation in coastal environments. Ecological Society of America, Portland, OR
24. Hokkanen M, Dows BL, **Zinnert JC** and DR Young. 2012. Sex and shrub expansion: The interplay of sex ratio, seed production, and environmental filtering in shrub expansion patterns on an Atlantic coast barrier island. Ecological Society of America, Portland, OR
23. Massaro, RM, **Zinnert JC**, Anderson JA, Edwards JE, Crawford E, and DR Young. 2012. LIDAR Flecks: Modeling the influence of canopy type on tactical foliage penetration by airborne, active sensor platforms. SPIE Defense, Security and Sensing Conference. Baltimore, MD
22. **Zinnert JC**, Aguilar C, Shiflett S, Polo MJ and DR Young. 2012. Biofeedback and terrestrial state change. Poster presentation at the VCR All Scientists Meeting. Oyster, VA.
21. **Zinnert JC**, Nelson JD, Via SM, Young DR. 2011. Why plants are the bomb: discriminating explosives from natural environmental stress. Ecological Society of America, Austin, TX
20. Bissett SN, **Zinnert JC**, Crawford ER, Massaro R, Anderson JE and DR Young. 2011. Penetrating the landscape: ecological application of LIDAR imagery. VCU Rice Center Symposium, Charles City, VA

19. **Zinnert (Naumann) JC**, Nelson JD, Vick JK, Hoffman AM, and DR Young. 2010. Rethinking chlorophyll responses in a coastal environment. 4th International Workshop on Remote Sensing of Vegetation Fluorescence, Valencia, Spain
18. Nelson JD, **Zinnert (Naumann) JC**, Anderson JA, and E Mendoza. 2010. Remote lifetime imaging – advanced technology for vegetation fluorescence sensing. 4th International Workshop on Remote Sensing of Vegetation Fluorescence, Valencia, Spain
17. Nelson JD, **Naumann JC**, Anderson JA, Fisher A, Butler A, and V Medina. 2010. Characterization of vegetation photopigment decay for remote sensing of hazardous materials. USACE ERDC review, NH
16. **Naumann JC**, Vick JK, Nelson JD, Hoffman A† and DR Young. 2010. Atypical chlorophyll responses to stress in a high light coastal environment. Ecological Society of America, Pittsburgh, PA
15. **Naumann JC**, Rubis KT and DR Young. 2010. Fusing chlorophyll fluorescence and plant canopy reflectance to detect TNT contamination in soils. SPIE, Orlando, FL
14. Brantley ST, **Naumann JC** and DR Young. 2009. Application of hyperspectral vegetation indices to detect variations in leaf area index in *Morella cerifera* and *Elaeagnus umbellata* shrub thickets. Association of Southeastern Biologists, Asheville, NC
13. **Naumann JC**, JE Anderson and DR Young. 2009. Remote sensing and plant physiological responses to TNT soil contamination. USACE ERDC Conference, Memphis, TN
12. Young DR, **Naumann JC** and JE Anderson. 2009. Remote sensing of plant stress in shrubs using combined fluorescence and canopy reflectance measurements. USACE ERDC Conference, Memphis, TN
11. Brantley ST, **JC Naumann**, JK Vick and DR Young. 2009. Detecting the potential effect of sea-level rise on woody plant physiology and carbon sequestration at Virginia Coast Reserve. LTER All Scientists Meeting, Estes Park, CO
10. **Naumann, JC**, DR Young and JE Anderson. 2009. Using plant canopies to detect TNT contamination in soil. Ecological Society of America, Albuquerque, NM
9. Shiflett SA, **Naumann JC** and DR Young. 2009. Initial community structure and seed bank potential for the restoration of maritime forest. Ecological Society of America, Albuquerque, NM
8. Bissett SN, **Naumann JC**, and DR Young. 2009. Adaptive characteristics of drought resistance and shade tolerance enhance invasive success of *Elaeagnus umbellata* Thunb. Ecological Society of America, Albuquerque, NM
7. **Naumann, JC**, DR Young and JE Anderson. 2008. Spatial variations in salinity stress across a coastal landscape. Ecological Society of America, Milwaukee, WI
6. **Naumann, JC**, DR Young and JE Anderson. 2007. Fluorescence remote sensing detection of freshwater and saltwater flooding in the evergreen shrub, *Myrica cerifera*. Integrative Life Sciences Symposium, Virginia Commonwealth University, Richmond, VA
5. **Naumann, JC**, ST Brantley, JK Vick and DR Young. 2006. Corticular photosynthesis, light attenuation, litter production, and physiological stress response in rapidly expanding shrub thickets at the Virginia Coast Reserve. LTER All Scientists Meeting, Estes Park, CO
4. **Naumann, JC**, DR Young and JE Anderson. 2006. Linking leaf optical properties to physiological responses for stress detection in coastal plant species. Botanical Society of America, Chico, CA

3. **Naumann, JC**, DR Young, and JE Anderson. 2005. Fluorescence remote sensing and stress detection in the invasive grass, *Phragmites australis*. Ecological Society of America, Montreal, Canada
2. **Naumann, JC**. and DR. Young. 2004. Quantifying successional dynamics within the context of a restoration plan for maritime forest. Southeastern Ecology and Evolution Conference at Georgia Tech and Graduate Research Symposium at Virginia Commonwealth University, Richmond, VA
1. **Naumann, JC** and DR Young. 2004. Successional dynamics within the context of a restoration plan for Atlantic maritime forest. Ecological Society of America, Portland, OR

E. WORKSHOPS AND TRAINING

VCU Grant Writing Academy, 2017
 VCU Mentoring Workshop, 2016
 Responsible Employee, Title IX with Peter Lake, 2015
 Unconscious Bias Workshop, 2015
 Microaggressions in the Workplace and Classroom, 2015
 Terrestrial Lidar Scanning Research Coordination Network, 2015 - present
 VCU Safe Zone Program, 2014
 Snow Products for Water Resources Management, NASA Remote Sensing, 2013
 HypIRI (Hyperspectral Infrared Imager), 2012
 Flood and Drought Monitoring, NASA Remote Sensing, 2012
 Buried Explosives Community of Practice, 2011-2013
 Vegetation Stress Detection with Remote Sensing Imagery, 2007

PROFESSIONAL SERVICE AND ACTIVITIES

A. ASSOCIATE EDITOR

Ecosphere, 2016-present
 Plant Ecology, 2016-present

B. INVITED PANELS AND WORKSHOPS

RESTORE Act Center of Excellence for Louisiana Proposal Peer Review, 2017
 NASA Earth Venture Suborbital-2 Review Panelist, 2014
 Coastal Barrier Island Network, 2014
 NASA Terrestrial Ecology Peer Review Panelist, 2013
 Geospatial Research and Engineering 6.1 Basic Research Program, Member 2011
 Scientific Committee, 4th International Workshop on Remote Sensing of Vegetation
 Fluorescence, 2010
 DARPA Quantum Effects in a Biological Environment, 2008
 DARPA Underground Technologies, 2008

C. COMMITTEES

Graduate Committee, VCU 2016-present

Geospatial Research and Engineering Broad Agency Announcement Reviewer, 2012
Promotion Review Committee, Graduate Representative, VCU, 2007
Plant Science Search Committee, Graduate Representative, VCU, 2006
Integrative Life Sciences Students Chair, VCU, 2005-2007
Graduate Organization of Biology Students, President, VCU, 2003-2004
University Council Committee, VCU, 2003-2004

D. REVIEWER

CRC Press, Estuarine, Coastal and Shelf Science, European Journal of Remote Sensing, Geomorphology, Geocarto International, Ecological Indicators, International Journal of Phytoremediation, Journal of Coastal Research, Journal of Environmental Management, Land Degradation and Development, Photosynthetica, Plant and Soil, PLOS One, Remote Sensing, Remote Sensing of Environment, Revista Biología Tropical, Science of the Total Environment, Sensors, Water, Soil, & Air Pollution

E. COMMUNITY OUTREACH

Plant Elementary Education Volunteer, Central Montessori School, 2012 – 2014
STEM mentor, Benjamin Cherian, Godwin High School, 2012
Results presented at the Metro Richmond STEM fair
Environmental Outreach Education, Virginia Commonwealth University, 2011, 2012
Plant Society Fundraiser (benefit for a local school), 2012
Rice Center Clean-Up Organizer, 2004

TEACHING EXPERIENCE

A. COURSES TAUGHT

Barrier Island Ecology, 2016
Women in Science, 2016
Women in Ecology, 2015
Cross-Scale Ecology, 2015
Ecology from Space, 2014
Plant Ecology, 2014
Quantitative Ecology, 2014, 2015, 2016
Plant Physiological Ecology, 2013, 2015
Shrub expansion: mechanisms and consequences, 2008
Remote Sensing in Ecology, 2010
Plant Stress Detection, 2012
Workshop Training, GIS, processing classifications and land change analysis, VCU Coastal Plant Ecology Laboratory, 2013
Collaborating instructor, VCU River Biodiversity and conservation: comparative study of the James and Alcantara rivers, 2011
Collaborator, VCU-Sicily field project on the Alcantara River, 2010, 2011
Graduate Teaching Assistant, VCU plant biology courses, 2001 – 2006

Invited Lectures

Remote Sensing, 2009, 2012
Physiological Ecology, 2008
Barrier Island Ecology, 2008, 2014
Quantitative Ecology, 2006

B. MENTORED STUDENTS (student co-author)

Graduate

Brown, Joseph (MS, PhD) 2014-present
Nettleton, Benjamin (MS) 2016-present
Wood, Lauren (PhD) 2016-present
Moulton, Ashley (MS) 2014-2017, Virginia Cooperative Extension, Chesterfield County
Harris, April (MS) 2014-2016, Natural Area Manager, Jefferson Memorial Forest
Thompson, Joseph (MS) 2014-2016, National Park Service
Manley, Paul (MS) 2012-2015, PhD Missouri University of Science & Technology
Dows, Benjamin (MS, PhD) 2011-2016
Bissett, Spencer (PhD) 2011-2016, Instructor, Virginia Commonwealth University
Hokkanen, Molly (MS) 2011 – 2013 – Middle School Science Teacher
Via, Stephen (MS, PhD) 2010-2016 *2015 International Phytotechnologies 1st
place student presentation award; Post-doc, Mt. Cuba Botanical Garden
Shiflett, Sheri (PhD) 2010 – 2013 *2013 ASB student research award; US Army
Corps of Engineers
Rubis, Kati (MS) 2009 – 2011 – The Nature Conservancy

Undergraduate

Bukari, Fariha 2016
Holmes, Grace 2016; NSF-REU
Price, Taylor 2015-2016; NSF-REU
Luong, Gary 2014-2015
Shivakumar, Nirmala 2013-2015; Xylem team for Engineers without borders
Kirschner, Audrey 2012-2015
Gomez, Juliana 2013-2014
Cruz, Rosa 2013
Murray, Meredith 2012
Starling, David 2010-2011
Austin, Jared 2009-2012
Hoffman, Ava 2010
Rubis, Kati 2009

C. GRADUATE THESIS COMMITTEE MEMBER

Elsemarie deVries, PhD, Advisor: L. Moore (UNC-CH)
Elizabeth Schold, MS, Advisor: L. Bulluck
Elizabeth Keilly, MS, Advisor: L. McCallister

Joseph Morina, PhD, Advisor: R. Franklin
Ellen Goodrich-Stuart, PhD, Advisor: C. Gough
Sagara, Benjamin, MS, Advisor: C. Gough,
Cynthia Scheuerman, MS, Advisor: C. Gough, Completed 2016
Andrew Kirk, MS, Advisor: D. McGarvey
Amy Schmid, MS, Advisor: C. Gough, Completed 2015

LIST OF COLLABORATORS (Past 48-months)

Aguilar, Cristina. University of Córdoba, Spain (active)
Atkins, Jeff. Virginia Commonwealth University, Richmond, VA (active)
Bachman, Charles. Rochester Institute of Technology, Rochester, NY
D'Odorico, Paolo. University of California Berkley, Berkley, CA (active)
Feagin, Rusty. Texas A&M, College Station, TX
Franklin, Rima. Virginia Commonwealth University, Richmond, VA (active)
Goldstein, Evan. University of North Carolina, Chapel Hill, NC (active)
Gough, Chris. Virginia Commonwealth University, Richmond, VA (active)
Hays, Spencer. Virginia Commonwealth University, Richmond, VA (active)
Jose Polo, Maria. University of Córdoba, Spain (active)
McCallister, Leigh. Virginia Commonwealth University, Richmond, VA (active)
Moore, Laura. University of North Carolina, Chapel Hill, NC (active)
Nichols, C. Reid. Southern Universities Research Association, Washington D.C.
Reif, Molly. US Army Corps of Engineers, ERDC-EL, Vicksburg, MS
Resler, Dan. Virginia Commonwealth University, Richmond, VA (active)
Shao, Guofan. Purdue University, West Lafayette, IN
Stallins, J Anthony. University of Kentucky, Lexington, KY (active)
Young, Donald. Virginia Commonwealth University, Richmond, VA (active)