

## EDUCATION      CORNELL UNIVERSITY, Ithaca, NY

### **Doctor of Philosophy, 2003**

Doctorate in the Department of Biological and Environmental Engineering with a concentration in Environmental Engineering. Research focus on the remediation of acid impaired natural waters.

### **Master of Engineering, 1994**

Master's degree in the Department of Agricultural and Biological Engineering with a concentration in Environmental Engineering. Research focus on treatment processes for increasing dissolved oxygen in water.

### **Bachelor of Science, 1990**

Bachelor's degree in the Department of Agricultural and Biological Engineering with a concentration in Environmental Engineering.

## EXPERIENCE

1999–Present

**THE CONSERVATION FUND**, Freshwater Institute, Shepherdstown, WV

### **Director of Engineering Services (2002–Present)**

#### **Environmental Engineer (1999–2001)**

Responsible for division management, employee development and mentoring, and successful completion of project deliverables. Core division work includes planning, design, and construction administration for fish culture facilities. Additional project work includes remediation of acid impaired waters, brownfield restoration, and applied research in these areas.

- ❖ Set program objectives, identify tasks and deadlines, and allocate internal and external resources to complete projects.
- ❖ Facilitate the design process and regulatory permitting process for clients, bringing together diverse stakeholders and assisting in developing solutions to engineering design, water use, water treatment, effluent discharge, and pathogen containment concerns.
- ❖ Manage project teams to execute the asset delivery process from concept to commissioning.
- ❖ Identify new programmatic areas and develop strategies and relationships that allow for program growth.
- ❖ Compile project results into conference presentations and peer-reviewed publications.

1995–1998

**CORNELL UNIVERSITY**, Ithaca, NY

### **USDA National Needs Fellow**

Responsible for managing multiple original research projects in the area of agricultural and biological engineering.

- ❖ Identify research needs and address those needs through investigation, actively publishing results in journals and at conferences.
- ❖ Provide teaching support by lecturing, developing labs, and grading students' work in an upper level engineering course.

- 1994–1995 **NYNEX**, New York, NY  
**Computer Network Administrator**  
Responsible for the operation and maintenance of a local area network. Administered all system operations including security, data backup, and file structures.
- 1992–1993 **CORNELL UNIVERSITY**, Ithaca, NY  
**Graduate Research Assistant**  
Responsible for the successful management of an original research project from experimental design to manuscript publication.
- 1991–1992 **NEW YORK COOPERATIVE FISH AND WILDLIFE RESEARCH UNIT**, Ithaca, NY  
**Research Aide**  
Responsible for executing and refining research laboratory procedures. Managed daily activities for research projects on fish nutrition and water treatment.

## **PROFESSIONAL LICENSURE**

### **REGISTERED PROFESSIONAL ENGINEER**

New York (Environmental), License No. 082498  
Pennsylvania (Environmental), License No. PE075198

## **PROFESSIONAL AFFILIATIONS**

### **AMERICAN SOCIETY OF AGRICULTURAL & BIOLOGICAL ENGINEERS**

International Standards Organization Technical Committee 234, 2007–Present

### **AQUACULTURAL ENGINEERING SOCIETY**

Director, 2009–Present  
Secretary/Treasurer (Officer), 2000–2006  
Webmaster, 1996–2003  
Biennial Conference Organizing Committee, 2001 and 2003  
Awards Committee, 2006–Present

### **ASSOCIATION OF CONSERVATION ENGINEERS**

Bylaws Committee, 2006–Present  
Membership Committee, 2006–Present

### **NATIONAL SOCIETY OF PROFESSIONAL ENGINEERS**

### **HYDRAULIC INSTITUTE**

Technical Standards Reviewer, 2007–Present

## HONORS

### AQUACULTURAL ENGINEERING SOCIETY

Meritorious Service Award, 2006  
Superior Paper Award (Best Journal Publication), 2001

### ASSOCIATION OF CONSERVATION ENGINEERS

Carl V. Anderson Project Engineering Award of Merit, 2005

### CORNELL UNIVERSITY

USDA National Needs Fellow, 1995–1998  
Outstanding Graduate Teaching Assistant, 1997  
Alpha Epsilon (National honor society)  
Gamma Sigma Delta (National honor society)  
Phi Kappa Phi (National honor society)  
Master of Engineering Program Fellow, 1992–1993  
Undergraduate Dean's List

## REVIEWER/REFEREE

### JOURNALS

Aquacultural Engineering, Elsevier Science  
Aquaculture, Elsevier Science  
North American Journal of Aquaculture, American Fisheries Society  
Water Research, Elsevier Science

### BOOKS

Encyclopedia of Aquaculture, John Wiley & Sons, Inc.  
Propagated Fish in Resource Management, American Fisheries Society

### PROPOSALS

Canada AquaNet Network of Centres of Excellence Competitive Grants Program  
USDA CSREES Small Business Innovation Research Program  
USDA National Research Initiative Competitive Grants Program  
USDOC Small Business Innovation Research Program  
Western Regional Aquaculture Center Competitive Grants Program

## INVITED

### PRESENTATIONS

The Fish Hatchery: A Conservation Tool (2005), Exploring the Ecology, Economics, and Public Policy of Water Resources and Fisheries – A seminar for federal judges and law professors, Foundation for Research on Economics and the Environment, Shepherdstown, WV.

Working with Non Governmental Organizations: A Case Study in Partnership – USFWS and TCF (2003), USFWS Advanced Leadership Development Program, Shepherdstown, WV.

## PUBLICATIONS

### REFEREED PUBLICATIONS

- Summerfelt, S. T., Sharrer, M., Gearheart, M., Gillette, K., & **Vinci, B. J.** (2009). Evaluation of partial water reuse systems used for Atlantic salmon smolt production at the White River National Fish Hatchery. *Aquacultural Engineering*, *41*, 78–84.
- Wolters, W., Masters, A., **Vinci, B. J.**, & Summerfelt, S. T. (2009). Design, loading, and water quality in recirculating systems for Atlantic salmon (*Salmo salar*) at the USDA ARS National Cold Water Marine Aquaculture Center (Franklin, ME). *Aquacultural Engineering*, *41*, 60–70.
- Masters, A. L., **Vinci, B. J.**, Brazil, B., Creaser, D. A., & Summerfelt, S. T. (2008). Performance characterization of influent and effluent treatment systems: A case study at Craig Brook National Fish Hatchery. *Aquacultural Engineering*, *38*, 66–76.
- Aitchison, T. F., Timmons, M. B., Bisogni, J. J., Piedrahita, R. H., & **Vinci, B. J.** (2007). Using oxygen gas transfer coefficients to predict carbon dioxide removal. *International Journal of Recirculating Aquaculture*, *8*, 21–42.
- Vinci, B. J.**, Summerfelt, S. T., Creaser, D. A., & Gillette, K. (2004). Design of partial water reuse systems at White River NFH for the production of Atlantic salmon smolt for restoration stocking. *Aquacultural Engineering*, *32*, 225–243.
- Davenport, M. T., Timmons, M. B., **Vinci, B. J.**, & Crum, M. K. (2001). Experimental evaluation of low head oxygenators. *Aquacultural Engineering*, *24*, 245–256.
- Timmons, M. B., **Vinci, B. J.**, Davenport, M. T., & Crum, M. K. (2001). A mathematical model of low head oxygenators. *Aquacultural Engineering*, *24*, 257–277.
- Out, L., Timmons, M. B., & **Vinci, B. J.** (2001). Characterizing bubble penetration from a falling stream. *Aquacultural Engineering*, *24*, 279–287.
- Summerfelt, S. T., **Vinci, B. J.**, & Piedrahita, R. H. (2000). Oxygenation and carbon dioxide control in water reuse systems. *Aquacultural Engineering*, *22*, 87–108.
- Timmons, M. B., Summerfelt, S. T., & **Vinci, B. J.** (1998). Review of circular tank technology and management. *Aquacultural Engineering*, *18*, 51–69.
- Vinci, B. J.**, Watten, B. J., & Timmons, M. B. (1997). Modeling gas transfer in a spray tower oxygen absorber. *Aquacultural Engineering*, *16*, 91–105.
- Vinci, B. J.**, Watten, B. J., & Timmons, M. B. (1996). Gas phase axial dispersion in a spray tower. *Aquacultural Engineering*, *15*, 1–11.

### BOOKS & BOOK CHAPTERS

- Summerfelt, S. T., & **Vinci, B. J.** (2008). Better management practices for recirculating aquaculture systems. In: C. S. Tucker & J. A. Hargreaves (Eds.), *Environmental Best Management Practices for Aquaculture* (pp. 389–426). Ames, Iowa: Blackwell Publishing.
- Timmons, M. B., Ebeling, J. M., Wheaton, F. W., Summerfelt, S. T., & **Vinci, B. J.** (2001). *Recirculating Aquaculture Systems*. Ithaca, NY: Cayuga Aqua Ventures.

## REFEREED CONFERENCE PROCEEDINGS

- Brazil, B., **Vinci, B.**, & Summerfelt, S. (2004). Fish culture system design for the future. In: P. Mazik (Ed.), American Fisheries Society Symposium 44 (pp. 635–644). Bethesda, MD: American Fisheries Society.
- Vinci, B. J.**, & Schmidt, T. W. (2001). Passive, periodic flushing technology for mine drainage treatment systems. Proceedings of the Eighteenth Annual National Meeting of the American Society for Surface Mining and Reclamation, Albuquerque, NM June 3–7, 2001, 611–625.
- Sibrell, P. L., Watten, B. J., Friedrich, A. E., & **Vinci, B. J.** (2000). ARD remediation with limestone in a CO<sub>2</sub> pressurized reactor. Proceedings of the Fifth International Conference on Acid Rock Drainage, Denver, CO May 21–24, 2000, 1017–1026.

## NON-REFEREED CONFERENCE PROCEEDINGS

- Summerfelt, S. T., & **Vinci, B. J.** (2003). Best waste management practices for recirculating systems. In: R. C. Summerfelt & R. D. Clayton (Eds.), Aquaculture Effluents: An Update on EPA Regulations and BMPs (pp. 111–133). Ames, Iowa: Iowa State, North Central Regional Aquaculture Center, University Publication Office.
- Summerfelt, S. T., & **Vinci, B. J.** (2003). Best waste management practices for coldwater recirculating systems. In Kunststoffanwendung in der Tierhaltung und Fischproduktion (pp. 64–68). Darmstadt, Germany: Kuratorium für Technik und Bauwesen in der Landwirtschaft e. V. (KTBL).
- Summerfelt, S. T., & **Vinci, B. J.** (2002). Best waste management practices for coldwater recirculating systems. In: T. T. Rakestraw, L. S. Douglas, & G. J. Flick (Eds.), Proceedings of the Fourth International Conference on Recirculating Aquaculture (pp. 375–381). Blacksburg, VA: Virginia Polytechnic Institute and State University.
- Summerfelt, S. T., Davidson, J., Waldrop, T., & **Vinci, B. J.** (2002). Evaluation of full-scale carbon dioxide stripping columns in a coldwater recirculating system. In: T. T. Rakestraw, L. S. Douglas, & G. J. Flick (Eds.), Proceedings of the Fourth International Conference on Recirculating Aquaculture (pp. 439–450). Blacksburg, VA: Virginia Polytechnic Institute and State University.
- Vinci, B. J.**, Summerfelt, S. T., & Bergheim, A. (2001). Solids control. Proceedings of the Aquacultural Engineering Society Workshop on Intensive Fin-Fish Systems and Technologies at the meeting of the World Aquaculture Society, 27–46.
- Vinci, B. J.**, Piedrahita, R. H., & Summerfelt, S. T. (1999). Carbon dioxide stripping options and design. Proceedings of the Aquacultural Engineering Society Workshop on Advances and Research in Aquacultural Engineering/Recirculating Systems at the meeting of the World Aquaculture Society, 44–51.
- Timmons, M. B., & **Vinci, B. J.** (1999). Gas transfer kinetics, a refresher. Proceedings of the Aquacultural Engineering Society Workshop on Advances and Research in Aquacultural Engineering/Recirculating Systems at the meeting of the World Aquaculture Society, 33–37.
- Vinci, B. J.**, & Timmons, M. B. (1997). Pipe friction losses. Proceedings of the Aquacultural Engineering Society Workshop on Design of Aquaculture Systems and Processes at the meeting of the World Aquaculture Society, 42–51.

**Vinci, B. J.**, Summerfelt, S. T., Timmons, M. B., & Watten, B. J. (1996). Carbon dioxide control in intensive aquaculture: Design tool development. In: G. S. Libey & M. B. Timmons (Eds.), Proceedings of the First International Conference on Recirculating Aquaculture (pp. 399–419). Ithaca, NY: Northeast Regional Agricultural Engineering Service.

## CONFERENCE ABSTRACTS

**Vinci, B. J.** (2007). Serial water reuse utilizing circular dual-drain tanks: Model and design application [abstract]. World Aquaculture Society Book of Abstracts, 956.

**Vinci, B. J.**, Hankins, M., Flannery, K., West, M., & Ostaudelafont, C. (2006). Performance characterization and verification of design methodology for a combined vacuum degasser/radon stripper at Nashua NFH [abstract]. Proceedings of the Association of Conservation Engineers Annual Meeting.

**Vinci, B. J.** (2006). Piping networks and pumping systems for aquaculture [abstract]. World Aquaculture Society Book of Abstracts, 991.

**Vinci, B. J.**, Creaser, D. A., Summerfelt, S. T., & Gillette, K. (2004). Application of natural rearing system criteria to water reuse system design at the White River NFH [abstract]. 60<sup>th</sup> Annual Northeast Fish and Wildlife Conference Book of Abstracts, 3–4.

Summerfelt, S. T., & **Vinci, B. J.** (2004). Water treatment processes to achieve the controlled environment [abstract]. 60<sup>th</sup> Annual Northeast Fish and Wildlife Conference Book of Abstracts, 3.

**Vinci, B. J.** (2004). Land-based aquaculture effluent treatment in the Northeast US [abstract]. World Aquaculture Society Book of Abstracts, 614.

**Vinci, B. J.** (2004). Computer spreadsheets for aquaculture systems design [abstract]. World Aquaculture Society Book of Abstracts, 613.

Julian, T. R., Timmons, M. B., & **Vinci, B. J.** (2004). Modeling alkalinity, pH, and carbon dioxide levels in recirculating aquaculture systems [abstract]. World Aquaculture Society Book of Abstracts, 294.

**Vinci, B. J.** (2003). Carbon dioxide control [abstract]. World Aquaculture Society Book of Abstracts, 306.

Summerfelt, S. T., & **Vinci, B. J.** (2003). Dissolved gas conditioning for mine water utilization [abstract]. World Aquaculture Society Book of Abstracts, 283.

**Vinci, B. J.**, & Summerfelt, S. T. (2000). End of pipe treatment [abstract]. Proceedings of the European Aquaculture Society, 744.

Schwartz, M. F., **Vinci, B. J.**, & Watten, B. J. (1999). Remediation of acid impaired waters: From idea to CRADA and beyond [abstract]. Proceedings of the Appalachian Rivers II Conference.

Summerfelt, S. T., Piedrahita, R. H., & **Vinci, B. J.** (1999). Dissolved gas management [abstract]. Proceedings of the Recirculation in Northern Climates Workshop.

Summerfelt, S. T., Piedrahita, R. H., & **Vinci, B. J.** (1998). Oxygenation and carbon dioxide control in water reuse systems [abstract]. Proceedings of the European Aquaculture Society.

- Watten, B. J., Timmons, M. B., **Vinci, B. J.**, & Summerfelt, S. T. (1998). Comparative performance of biofilm reactor types: Application of steady-state biofilm kinetics [abstract]. Proceedings of the Second International Conference on Recirculating Aquaculture, 355–358.
- Vinci, B. J.**, Watten, B. J., Summerfelt, S. T., & Timmons, M. B. (1998). Carbon dioxide control in intensive aquaculture [abstract]. World Aquaculture Society Book of Abstracts, 561.
- Summerfelt, S. T., Durant, M. D., **Vinci, B. J.**, Timmons, M. B., & Watten, B. J. (1997). Effect of chemical equilibrium on estimates of carbon dioxide stripping in packed columns [abstract]. World Aquaculture Society Book of Abstracts, 448.
- Vinci, B. J.**, Watten, B. J., Timmons, M. B., & Hankins, J. A. (1994). Evaluation of spraying towers for gas exchange [abstract]. World Aquaculture Society Book of Abstracts, 36.
- Vinci, B. J.** (1992). Dietary lysine requirement of Atlantic salmon [abstract]. Cornell University 12th Annual Natural Resources Symposium, 4.

### TRADE PUBLICATIONS

- Summerfelt, S. T., & **Vinci, B. J.** (2004). Avoiding water quality failures: Part II – Recirculating systems. World Aquaculture, 35(4), 9–11, 71.
- Summerfelt, S. T., & **Vinci, B. J.** (2004). Avoiding water quality failures: Part I – Carrying capacity and water flow in intensive aquaculture systems. World Aquaculture, 35(3), 64–66, 72.
- Davidson, J., Masters, A., **Vinci, B.**, & Summerfelt, S. (2004, July/August). Testing dual tank drains for improved waste removal at Craig Brook NFH. Hatchery International, 5, 22–23, 34.
- Summerfelt, S. T., & **Vinci, B. J.** (2003). Dissolved gas conditioning for mine water utilization. Global Aquaculture Advocate, 6(3), 38–39.
- Summerfelt, S. T., **Vinci, B. J.**, Timmons, M. B., & Watten, B. J. (1999, July). Stripping columns remove carbon dioxide from recirc systems. Recirc Today, 1, 24–26.
- Vinci, B. J.**, & Ciolkosz, D. E. (1998, December). The right choice: Should agricultural and biological engineering graduates seek a Ph.D. Resource, 5, 13–14.

### COMPUTER SOFTWARE

- Vinci, B. J.**, Timmons, M. B., Summerfelt, S. T., & Watten, B. J. (1998). Carbon Dioxide Control In Intensive Aquaculture (Version 2.1) [Computer software]. Ithaca, NY: Natural Resource, Agriculture, and Engineering Service.

### TECHNICAL REPORTS

- Ruth Burnett Sport Fish Hatchery Solids Management Evaluation Report (2009), Final Report to the Alaska Department of Fish and Game, Anchorage, AK (co-author).
- Harrison Lake National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2009), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).

- Dworshak National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2008), Final Report to the USFWS Pacific Region, Portland, OR (co-author).
- Influent Treatment Systems Evaluation Report, Blue Ridge Fish Hatchery, Inc. (2006), Final Report to APHIS Veterinary Services, Raleigh, NC (co-author).
- Allegheny National Fish Hatchery Engineering and Scientific Services for Facility Evaluation Report (2006), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- National Fish Health Research Lab Biosafety Laboratory Feasibility Study Report (2005), Final Report to the USGS Leetown Science Center, Kearneysville, WV (co-author).
- Nashua National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2004), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- North Attleboro National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2004), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- Green Lake National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2003), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- Northeast Fishery Center Water Treatment Feasibility and Conceptual Planning Report (2003), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- Pittsford National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2003), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- White Sulphur Springs National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2003), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- White River National Fish Hatchery Water Treatment Feasibility and Conceptual Planning Report (2002), Final Report to the USFWS Northeast Region, Hadley, MA (co-author).
- Elmendorf State Fish Hatchery Evaluation and Water Use/Water Treatment Recommendations Report (2002), Final Report to the Alaska Department of Fish and Game, Anchorage, AK (co-author).
- Fort Richardson State Fish Hatchery Evaluation and Water Use/Water Treatment Recommendations Report (2002), Final Report to the Alaska Department of Fish and Game, Anchorage, AK (co-author).
- Craig Brook National Fish Hatchery Effluent Water/Waste Treatment Options: Hell Bottom Swamp Alternative Report (2001), Final Report to the USFWS Northeast Region, Hadley, MA (author).
- Green Lake National Fish Hatchery Effluent Water/Waste Treatment Options Report (2001), Final Report to the USFWS Northeast Region, Hadley, MA (author).
- Craig Brook National Fish Hatchery Effluent Water/Waste Treatment Options Report (2000), Final Report to the USFWS Northeast Region, Hadley, MA (author).