

Isidro Bosch, Ph.D.

Professor of Biology
SUNY Geneseo
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I. EDUCATION

- Postdoctoral Fellow, Harbor Branch Oceanographic Institution
Ft. Pierce, FL (1989-1991)
- Ph.D. Biology, University of California Santa Cruz, 1989
- B.A. Aquatic Biology, Univ. of California. Santa Barbara, 1981

II. ACADEMIC EMPLOYMENT/EXPERIENCE HISTORY

- Sept. 2008 – Present: Professor, S.U.N.Y. College at Geneseo
- Sept. 1999 – 2008: Associate Professor, S.U.N.Y. College at Geneseo
- Sept. 1992 – Aug. 1999: Assistant Professor, S.U.N.Y. College at Geneseo
- Aug. 1991 – Aug. 1992: Postdoctoral Researcher, Laboratories of
Radiobiology and Environmental Health, U.C. San Francisco
- Dec. 1988 – Jul. 1991: Postdoctoral Fellow, Dept. of Larval Ecology
Harbor Branch Institution, Inc.
- Aug. 1989 - July 1991: Postdoctoral Fellow, Biology Department
Univ. of California Santa Cruz

III. COURSES TAUGHT

List of Courses Taught

- Biology First Year Experience (3 semesters)
- Biology of Vertebrates (1 semester)
- Principles of Ecology, introductory level (17 semesters)
- Biology of Invertebrates, introductory level, with lab (12 semesters)
- Aquatic Community Ecology; upper division lecture/lab course (4 semesters)
- Limnology, undergraduate/graduate level course with lab (2 semesters)
- Environmental Management (undergrad/grad, 1 semester)
- Introductory Biology Laboratory (freshman majors, 10 semesters)
- Senior Seminar (Molecular Ecology, Photobiology, Aquatic Resources; 7 semesters)
- Introduction to Research (9 semesters)

Awards Related to Teaching

- Harter Mentoring Award, SUNY Geneseo (2006)
- SUNY Chancellor's Award For Excellence in Teaching (2000)

IV. SCHOLARLY AND CREATIVE ACTIVITY

Refereed Publications (names in boldface are Geneseo undergraduates)

- Bosch, I., Makarewicz, J.C., Lewis, T.W., **Bonk E.A., Finiguerra, M., Groveman, B.** 2009. Management of agricultural practices results in declines of filamentous algae in the lake littoral. *J. Great Lakes Res.*, 35: 90-98
- Bosch, I., Makarewicz, J.C., **Bonk, E.A., Ruiz, C., and Valentino M.** 2009. Responses of Lake macrophyte beds dominated by Eurasian watermilfoil to best management Practices in agricultural sub-watersheds: Declines in biomass but not species Dominance. *J. Great Lakes Res.*, 35:99-108
- Shuskey, T., Bosch, I., **Ryczek C. and Cohen, B.** 2009. *In situ* experimental studies of Eurasian Watermilfoil (*Myriophyllum spicatum*) downstream from agricultural watersheds: Nutrient loading, foliar uptake, and growth. *J. Great Lakes Res.*, 35: 109-116
- Makarewicz, J.C., Lewis, T.W., Bosch, I., Noll, M.R., Herendeen, N., Simon, R.d., Zollweg, J., Vodacek, A. , 2009. The impact of agricultural best management practices on Downstream systems: Soil loss and nutrient chemistry and flux to Conesus Lake, New York, USA. *J. Great Lakes Res.* 35: 23-36.
- Makarewicz, J.C., P.E D’Aiuto, and I. Bosch. (2007). Elevated Nutrient Levels from Agriculturally Dominated Watersheds Stimulate Metaphyton Growth *J. Great Lakes Res.* 33: 437-448
- Li Y., A. Vodacek, N. Raqueno, R. Kremens, A.J. Garrett, I. Bosch, J.C. Makarewicz, and T. Lewis (2007). Circulation and stream plume modeling in Conesus Lake. *Env. Model. Assess.* 13:275-289
- D’Aiuto, P.E., J.C. Makarewicz and I. Bosch (2006). The impact of stream nutrient loading on macrophytes and metaphyton in Conesus Lake, USA. *Verh. Internat. Verein. Limnol.* 29: 1373-1376/
- Karentz, D., I. Bosch and D.M. Mitchell (2004). Limited Effects of Antarctic Ozone Depletion on Sea Urchin Development. *Marine Biol.*, 145:277-292
- Pearse, J. S. and I. Bosch (2002). Photoperiodic regulation of gametogenesis in the Antarctic sea star *Odontaster validus* Koehler: Evidence for a circannual rhythm modulated by light *Invertebrate Reproduction and Development* Vol 41:73-82
- Karentz, D, and I. Bosch (2001) . Influence of Ozone-Related Increases of Ultraviolet Radiation on Antarctic Marine Organisms. *Amer.Zool.*, 41:3-16
- Bosch, I, and M. Slattery (1999). Costs of extended brood protection in the Antarctic Sea star, *Neosmilaster georgianus*. *Marine Biology* 134:449-459 (Sept. 1999)

- Karentz, D., W. Dunlop and I. Bosch (1997). Spatial and Temporal Occurrence of UV-Absorbing Mycosporine-Like Amino Acids in Tissues of the Antarctic Sea Urchin *Sterechinus neumayeri* during 1991 Springtime Ozone Depletion. *Marine Biology*, #129: 343-54
- Pearse, J.S., and I. Bosch (1994). Brooding in the Antarctic: Ostergren had it nearly right. In "Echinoderms through Time". b. David, A. Guille, J-P. Feral and M. Roux, eds., pp 111-120. A. A. Balkema, Rotterdam.
- Shilling, Fraser, M. and I. Bosch (1994). Prefeeding embryos of Antarctic and Temperate echinoderms use DOM for growth and metabolic needs. *Marine Ecology Progress Series*, 109: 173-181.
- Slattery, M and I. Bosch (1993). Mating behavior of the brooding antarctic sea star *Neosmilaster georgianus*. *Invert. Reprod. and Devel.*, 24: 97-102.
- Bosch, I. (1992). Symbiosis between bacteria and oceanic clonal sea star larvae in the western North Atlantic Ocean. *Mar. Biol.*, 114, 495-502.
- Pearse, J.S., J.B. McClintock and I. Bosch. (1991). Reproduction of antarctic marine benthic invertebrates: timing, tempos and modes. *Amer. Zool.* 31: 65-80.
- Bosch, I. and J.S. Pearse (1990). Developmental types of shallow water asteroids in McMurdo Sound, Antarctica. *Mar. Biol.* 104: 41-46.
- Bosch, I. (1989). Contrasting modes of reproduction in two closely related antarctic sea stars of the genus *Porania*, with a description of unusual feeding and non-feeding larval types. *Biol. Bull.*, 177:77-82.
- Bosch, I., R. B. Rivkin and S. A. Alexander (1989). Asexual reproduction by oceanic planktotrophic echinoderm larvae. *Nature*, 337:169-170.
- McClintock, J.B., J.S. Pearse and **I. Bosch** (1988). Population structure and energetics of the shallow-water antarctic sea star *Odontaster validus* in contrasting habitats. *Mar. Biol.*, 99: 235-246.
- Bosch, I., K.A. Beauchamp, M.E. Steele and J.S. Pearse (1987). Development, metamorphosis, and seasonal abundance of embryos and larvae of the antarctic sea urchin *Sterechinus neumayeri*. *Biol. Bull.* 173:126-135.
- Olson, R.R., I. Bosch and J.S. Pearse (1987). Larval starvation hypothesis tested for the antarctic asteroid *Odontaster validus*. *Limnol. Oceanogr.* 32: 686-690.
- Pearse, J.S. and I. Bosch (1986). Are the feeding larvae of the commonest Antarctic asteroid really demersal? *Bull. Mar. Sci.* Vol. 39, 2:477-484.
- Rivkin, R.R., I. Bosch, J.S. Pearse and E.J. Lessard (1986). Bacterivory: a novel feeding mode for asteroid larvae. *Science*, 233:1311-1314.

Technical Reports (since 2000 only)

(Names in boldface indicate Geneseo undergraduate student co-authors)

- Bosch, I., **H. Dodge, A. Dumas** and **M. Stryker**. 2009. Continued Monitoring of Macrophyte Biomass and Filamentous Algal Cover in Conesus Lake. Report to the Livingston County Planning Department, 23 pp.
- Bosch, I. **L. Campana** and **P. Radlowski**. 2008. Macrophyte Biomass and Filamentous Algal Cover South of McPhersons Point After Diversion of the North Gully Tributary. Report to the Livingston County Planning Department, 21 pp.
- Ecologic, LLC and I. Bosch (2007). Conesus Lake SolarBee Pilot Test: 2007 Monitoring Results. Report to the Livingston County Planning Department, 47 pp.
- Bosch, I., **B. Groveman, E. Bonk** and **E. St. James** (2006). Population Status of the Milfoil Weevil and its Possible Impact on Eurasian Watermilfoil in Conesus Lake One Year After Weevil Augmentation. Report to the Conesus Lake Association 18 pp
- Bosch, I., E. Beary, **S. Lombardi** and M. Arnold (2005). Baseline Studies of Macroinvertebrate Communities Living in Deep-Water Sediments of Conesus Lake, N.Y. (July 2005). Report to the Livingston County Planning Department. 40 pp
- Makarewicz J.C. , and I. Bosch (2004). Conesus Lake Limnology:2004. 1. Stream Chemistry and Zooplankton 2. Metaphyton Cover in Selected Watermilfoil Beds 3. Abundance of Zebra Mussel Veliger Larvae. Submitted to the Livingston County Planning Department. 55 pp
- Bosch, I., J.C. Makarewicz, **E. Mis, D. Johnson**, and **M. Wagner** (2002). Distribution and Biomass of Macrophytes in Six Large Beds Adjacent to Streams with High Nutrient Loading (Conesus Lake, Summer 2001). Report to the Livingston County Planning Department. 25 pp.
- Bosch, I., J.C. Makarewicz, **J.P. Emblidge, D.A. Johnson** and **M.D. Valentino**. 2001. Population Studies of Eurasian Watermilfoil (*Myriophyllum spicatum*) and Zebra Mussels (*Dreissena polymorpha*) in Conesus Lake, N.Y. (Summer 2000). Report to the Livingston County Planning Department. 37 pp.
- Makarewicz, J.C., I. Bosch and T. W. Lewis (2001). Soil and nutrient loss from selected Watersheds of Conesus Lake. Report to the Livingston County Planning Department. 25 pp.
- Makarewicz, J.C., I. Bosch and T. W. Lewis (2001). Water Chemistry of the North and South Basins of Conesus Lake. Report to the Livingston County Planning Department. 27 pp.
- Bosch, I., J. C. Makarewicz, **J. Duncan, P. Thorn** and **M. Martin** (2000). Distribution and standing crops of Submersed macrophytes in Conesus Lake, N.Y. Report to the Livingston County Planning Department. 52 pp.

Conference Presentations and Seminars (Since 2004)

- Oral Presentation, North American Echinoderm Conference July 2008
- Conference Presentations, International Association of Great Lakes Research (oral presentation and poster 2007; oral presentation 2005) (juried abstracts)
- Antarctic Symposium Presentation, Univ. of California, Santa Cruz, 2006 (invited)
- Seminar, Hobart and William Smith, Department of Biology 2004 (invited)

External Grants Funded

(Project Director or Co-PD on all grants listed)

- U.S. Department of Agriculture (2005- '08). Demonstration Study of Nutrient Management Effects on Lake Water Quality (\$ 213,000)
- U.S. Department of Agriculture (2002- '05) Demonstration Study of Nutrient Management Effects on Lake Water Quality (\$ 146, 000)
- National Geographic Society (2003). Studies of UV effects on sea urchin larvae in the Mediterranean (\$19, 600)
- Grants, Livingston Co. (1999-2007), Conesus Lake Research (~\$60,000)
- Grant, National Science Foundation, Office of Polar Programs, 1996-99 (Effects of UV-B on Antarctic Invertebrate Larvae) (\$146,000)

Honors and Awards Related to Scholarly and Creative Activity

- Presidents Award for Research and Creativity, SUNY Geneseo (2009)
- Research and Scholarship Award, SUNY Research Foundation (2006)
- Spencer J. Roemer Professorship (1999-2002)

V. SERVICE***Department and College Service (since last promotion only)***

- Biology Budget and Facilities Committee, (since 2004)
- Biology Internship Coordinator (since 2000)
- Biology Personnel Committee, (Chair 2001 2009; Subcommittee Chair 4 times)
- Biology Executive Committee (2002-05; Chair '05)
- Biology Curriculum Committee (1994-2001)
- Biology Undergraduate Committee (1998-2001)
- Search Committees (Bio faculty 2007 as chair; Technical Support Professional for CIT, Women's Basketball Coach)
- Program Review Committee (Environmental Science SUNY Brockport 2005)
- Geneseo Professional Leave Review Committee (2004-07)
- Geneseo College Senate (3rd term 2005-2007); Faculty Affairs Committee
- Geneseo Teaching and Learning Center Advisory Board (2001-2004)
- Geneseo Faculty Awards, Teaching Excellence Selection Committee (2000, 2003-04)
- Geneseo Sports Hall of Fame Committee (since Sep. 2000)
- Geneseo General Education Committee (1999-2002)

Community Service Related to Profession (since 2000)

- President, Board of Directors, Cornell Cooperative Extension of Livingston County (member since Dec. 2005)
- Board of Directors, College Science, Technology, Engineering Program, Monroe Community College (Since 2008)
- Invited Speaker, Livingston County Chamber of Commerce SUNY Day (2004)
- Invited Speaker, Antarctic Exploration, for Geneseo Torch Club (2004)
- Invited Speaker and Instructor, Frontiers in Science: Polar Regions Monroe County BOCES Program (2001-present, two programs/yr)
- Invited Speaker on Antarctica for Livonia Elementary Schools (annually since 1997)
- Invited Speaker on Antarctica & Conesus Lake for the Conesus Lake Association Annual Meeting (since 2007), Geneseo Kiwanis, Geneseo Rotary, Geneseo College Council, Livingston County Planning Department, Livonia Rotary, Perry Kiwanis

Service to the Discipline (Since 1999)

- Guest Editor, *Journal of Great Lakes Research* (2008-2009)
- Session Co-Organizer (2005, 2007), Watershed Research, 48th & 50th Conference, International Assoc. of Great Lakes Research, Univ. of Windsor; Penn State Univ.
- Session Co-Organizer, Antarctic Marine Biology, U.C. Santa Cruz (2006)
- NSF Panel Reviewer Centers for Ocean Science Education Excellence (2005)
- Lybbie Hyman memorial Scholarship Committee, Society for Integrative and Comparative Biology (1999-2007; Chair 2004-2007),
- Science Consultant, Block and Byrd's *Earth and Sky*, NPR Radio Series (1997-2003)
- Scientific S.C.U.B.A. Diving Control Board Member, National Science Foundation, Office of Polar Programs (1994-2003)
- Organizing Committee, North American Echinoderm Conference (2001)
- Peer review for marine science journals (e.g. *Invertebrate Biology*, *Marine Biology*, *Biological Bulletin*, *Journal of Marine Biology and Ecology*, *Evolution and Development*)