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AREAS OF PRINCIPAL INTEREST

**Forest ecology, dynamics of invasive species,  
remote sensing of tropical ecosystems, GIS  
analysis and modeling.**

EXPERIENCE

Departamento de Biología, Universidad de Puerto Rico Mayagüez, PR. July 2004 to present. Associate Professor of Ecology. Duties: teaching and research.

Departamento de Biología, Universidad de Puerto Rico Mayagüez, PR. July 2001 to June 2004. Assistant Professor of Ecology. Duties: teaching and research.

USDA Forest Service, International Institute of Tropical Forestry, Rio Piedras, PR. February to July 2001. Karst Project Coordinator. Duties: Coordinate intra- and interagency activities to promote the conservation of, educate the public about, and conduct research on the ecosystems of the northern karst belt of Puerto Rico.

Department of Natural Resources & Environmental Sciences, University of Illinois, Urbana, Illinois June 1994 to February 2001. Assistant Professor of Forest Ecology. Duties: Research and teaching.

Humacao University College, University of Puerto Rico, Humacao, PR. August 1992 to June 1994. Assistant Professor. Duties: Research and teaching.

Section of Ecology & Systematics, Cornell University, NY. June '91 to June '92. Research Assistant. Duties: to study the invasion dynamics of an exotic tree in Puerto Rico.

USDA Forest Service, Institute of Tropical Forestry, Rio Piedras, PR. May '90 to June '91. Botanist. Duties: start two long-term ecological studies, coordinate improvements in research infrastructure, and supervised two employees.

USDA Forest Service, Southern Forest Experiment. January '90 to April '90. Botanist. Duties: assist in forest sampling during the 1990 PR forest inventory.

Department of Biology, University of PR, Rio Piedras, PR. August '88 to Dec. '89. Instructor. Duties: teaching.

Section of Ecology & Systematics, Cornell University, NY. August '84 to July '88. Full-time graduate student and Teaching Assistant.

USDA Forest Service, ITF, Rio Piedras, PR. June '84 to July '84. Biological aid. Duties: study of the vegetation of St. John, USVI.

Department of Biology, Ponce University College, Ponce, PR. January '84 to May '84. Duties: teaching

Department of Biology, University of PR, Rio Piedras and Ponce, PR. August '80 to May '84. Instructor. Duties: teaching.

## EDUCATION

Section of Ecology & Systematics, Cornell University, NY. Ph.D. in Ecology, August '92. Major in Plant ecology, and minors in Soil science and Animal nutrition.

Field of Botany, Cornell University, NY. Master in Botany, August '80. Major in Ecology and minor in Soil science.

Department of Biology, University of Puerto Rico, Mayaguez, PR. B.S. in Biology, May '77. Major in Botany.

## GRANTS & CONTRACTS

Hyperspectral imaging for biodiversity assessment of coastal and terrestrial ecosystems. NASA, 9/2009 to 8/2012. Funds approved: \$750,000.

Upgrading and Internet publication of the Herbarium of the Department of Biology at the University of Puerto Rico at Mayaguez. NSF, 7/2006 to 6/2009. Funds approved: \$290,000.

Geographical information system databases and vegetation maps of the Vieques, Laguna Cartagena, and Cabo Rojo National Wildlife Refuges, Puerto Rico. USDI, Fish & Wildlife Service. 5/2005 to September 2008. Funds approved: \$28,687.

PDA-based interactive field guide to the flora of the Guánica Forest. Colegio de Artes y Ciencias de UPR-Mayaguez. 8/2005 to 5/2006. Funds approved: \$4,945.

Remote sensing of fire severity in two conservation areas of western Puerto Rico: the Maricao State Forest and the Cabo Rojo Wildlife Refuge. Centro de Investigación y Desarrollo, UPR-Mayaguez. 1/2004 to 12/2004. Funds approved: \$5,000.

Endemism in the Puerto Rican Bank. Smithsonian Institution, Washington, DC. 6/2003 to 5/2004. Funds approved: \$8,990.

Phytosociology and tree species diversity in the old-growth forests of the Northern Karst of Puerto Rico. USDA, Forest Service, International Institute of Tropical Forestry, 10/2001 to 5/2004. Funds approved: \$30,000.

Land management in the tropics and its effects on the global environment. NASA, 8/15/95 to 8/14/00. Funds approved through subcontract: \$67,000.

Detection of open water areas in water conservation area 2A in the Florida Everglades. Project submitted to Tetra Tech, Inc., 1/1/98 to 12/30/99. Funds approved: \$25,000.

Forest fragmentation and defragmentation in east-central Illinois. Project submitted to the Illinois Agricultural Experiment Station, Department Natural Resources & Environmental Sciences, 1/2/98 to 9/30/2001. Funds approved: \$18,000.

Development of a new environmental history course: "People, crops, and capital". Hewlett Foundation, 1/1998 to 12/98. Funds granted: \$2,000.

Forest community dynamics of east-central Illinois. Illinois Agricultural Experiment Station, Department Natural Resources & Environmental Sciences, 1/1/95 to 30/9/98. Funds approved: \$70,000.

The secondary forests of the municipality of Humacao: a geographical information systems approach. Project submitted to the Resource Center for Science and Engineering of the University of Puerto Rico, 7/1/93 to 6/30/94. Funds approved: \$19,000.

## PUBLISHED PAPERS

**Chinae, J.D.** and Agosto, R. 2007. Forests surrounding the Joyuda Lagoon, Puerto Rico: 67 years of change. *Carib. J. Sci.* 43:142-147.

Dykstra, M.D., **J.D. Chinae**, A.G. Endress 2007. The influence of previous land use and path proximity on the distribution of *Alliaria petiolata* (Garlic Mustard) in Robert Allerton Park, Central Illinois, USA. *ICFAI Journal of Environmental Sciences* 1:7-21.

Weaver, P.L. and **Chinae, J.D.** 2003. Secondary Forests on the La Tinaja tract of the Cartagena Lagoon National Wildlife Refuge, Puerto Rico. *Caribbean J. Science* 39:273-285.

**Chinae, J.D.** and Helmer, E.H. 2003. Diversity and composition of tropical secondary forests recovering from large-scale clearing: results from the 1990 inventory in Puerto Rico. *Forest Ecology & Management* 180:227-240.

**Chinae, J.D.** 2002. *Tropical forest succession on abandoned farms in the Humacao Municipality of eastern Puerto Rico*. *Forest Ecology & Management* 167: 195-207.

**Chinae, J.D.** 2002. *Teledetección de bosques tropicales*. In: M.R. Guariguata & G.H. Kattan (eds.). *Ecología de bosques neotropicales*. Editorial Tecnológica, Cartago, Costa Rica.

Endress, B. and **Chinae, J.D.** 2001. *Landscape patterns of tropical forest recovery in the Republic of Palau*. *Biotropica* 33:555-565.

**Chinae, J.D.**, Acevedo Ortiz, P. and F. Axelrod 2000. *Lista de especies de traqueofitas de Punta Guayanés, Yabucoa, Puerto Rico*. *Caribbean Journal of Science* 36:141-145.

**Chinae, J.D.** 1999. *Changes in the herbaceous and vine communities at the Bisley Experimental Watersheds, Puerto Rico following Hurricane Hugo*. *Canadian Journal of Forest Research* 29:1433-1437.

**Chinae, J.D.** and L. Iverson 1997. *Forest cover of Champaign County, Illinois in 1993*. *Transactions of the Illinois State Academy of Sciences* 90:21-28.

**Chinae, J.D.**, B. Endress, and K. Smemo 1996. *Forest cover changes in Champaign County, Illinois between 1830 and 1993*. *Illinois GIS Mapnotes* 14:27-29.

Scatena, F.N., S. Moya, C. Estrada, and **J.D. Chinae** 1996. *The first five years in the reorganization of aboveground biomass and nutrient use following Hurricane Hugo in the Bisley Experimental Watersheds, Luquillo Experimental Forest, Puerto Rico*. *Biotropica* 28:424-440.

**Chinae, J.D.** 1995. *Production, dispersal, and dormancy of seeds of Albizia procera (Roxb.) Benth., a woody weed of pastures in Puerto Rico*. *Journal of Agriculture of the University of Puerto Rico* 79(3-4):163-171.

**Chinae Rivera, J.D.** (1993). *An annotated list of the flora of the Bisley Area, Luquillo Experimental Forest, Puerto Rico 1987-1992*. USDA Forest Service, General Technical Report SO-94.

**Chinae Rivera, J.D.** 1990. *Árboles introducidos a la Reserva de Guánica, Puerto Rico*. "Trees introduced to the Guanica Forest Reserve, Puerto Rico." *Acta Científica* 4(1-3):51-60.

**Chinae Rivera, J.D.** 1989. *Ceiba pentandra* (L.) Gaertn. *Silvics Manual of Tropical Species*, USDA Forest Service, SO-ITF-SM-29.

Weaver, P.L. and **J.D. Chinae Rivera** 1987. *A phytosociological study of Cinnamon Bay Watershed, St. John, U.S. Virgin Islands*. *Caribbean Journal of Science* 23(2):318-336.

## REPORTS

**Chinea, J.D.**, Van Bloem, S., Wolfe, B., Agosto Diaz, R. and Gilberto Martinez, J., 2008. "Terrestrial field data: Guanica spectral library," In: J. Goodman (ed) 2007 Puerto Rico hyperspectral mission: image acquisition and field data collection, University of Puerto Rico at Mayagüez, pp. 43-45, 2008.

**Chinea, J.D.** 1998. *Detection of change in open water area in Water Conservation Area 2A*. In: Data and Analysis Report – Status and Trends in the Everglades, June 1998, prepared by Tetra Tech, Inc., and submitted to the South Florida Water Management District, West Palm Beach Florida.

Schaefer, D.A., T.M. Aide, **J.D. Chinea**, N. Fetcher, M. Keller, S.Molina, J.A. Molinelli, J.R. Thomlinson, G.A. Toranzos, R.B. Waide, B.R. Weiner, J.K. Zimmerman, and X. Zou. 1997. *Land Management in the Tropics and its Effects on the Global Environment: the NASA Institutional Research Award*. NASA University Research Centers Technical Conference Symposium Proceedings pp. 665-670.

## ABSTRACTS

**Chinea, J.D.** *Landscape level distribution of tree species in the Humacao municipality, Puerto Rico*. Abstract submitted for the 5<sup>th</sup> World Congress of the International Association for Landscape Ecology, July-August '99, Snowmass, Colorado, USA.

**Chinea, J.D.**, K. Smemo, and B. Endress 1998. *Landscape level patterns of forest recovery and defragmentation at two tropical and one temperate sites*. 1998 Annual Meeting of the Ecological Society of America, Baltimore, August, 1998.

**Chinea, J.D.** 1998. *One hundred and seventy years of forest cover changes in Champaign County, Illinois*. 1998 meeting of the U.S.-International Association of Landscape Ecology, Michigan State University, East Lansing, Michigan. March, 1998.

Smemo, Kurt A., and **J.D. Chinea** 1998. *Factors controlling presettlement vegetation patterns in Champaign County, Illinois*. 1998 meeting of the U.S.-International Association of Landscape Ecology, Michigan State University, East Lansing, Michigan. March, 1998.

Endress, Bryan A., and **J.D. Chinea** 1998. *Upland land cover dynamics of the Ngeremeduu Bay Drainage Area (NBDA), Republic of Palau: 1947-1992*. 1998 meeting of the U.S.-International Association of Landscape Ecology, Michigan State University, East Lansing, Michigan. March, 1998.

Dykstra, M.D., **J.D. Chinea**, and A.G. Endress 1998. *Geographic information system (GIS) monitoring of landscape and ecological attributes of a natural area invaded by garlic mustard (Alliaria petiolata)*. 1998 meeting of the U.S.-International Association of Landscape Ecology, Michigan State University, East Lansing, Michigan. March, 1998.

**Chinea, J.D.**, B. Endress, and K. Smemo 1998. *Landscape level patterns of forest recovery and defragmentation at two tropical and one temperate sites*. 1998 Annual Meeting of the Ecological Society of America.

**Chinea, J.D.** 1997. *Spatial configuration and distribution of forest patches in Champaign County, Illinois: 1940-1993*. Proceedings of the 11<sup>th</sup> Central Hardwood Forest Conference. Columbia, Missouri.

**Chinea, J.D.** 1995. *Fifty eight years of natural forest recovery in the Municipality of Humacao, Puerto Rico*. 6/95 38th Symposium of the International Association of Vegetation Science, Rice University, Houston, TX.

**Chinea Rivera, J.D.** 1991. *Forest herbaceous vegetation one year after Hurricane Hugo at the Bisley Watersheds, Puerto Rico*. (Abstract) Bulletin of the Ecological Society of America 72(2):87.

Gresham, C., T. Williams, D. Lipscomb, N. Brokaw, E. Everham, and **J.D. Chinea Rivera** 1991. Changes in ecosystem structure as a result of hurricanes. (Abstract) Bulletin of the Ecological Society of America 72(2):128.

### INVITED PRESENTATIONS

*Factores ambientales e históricos determinantes de la composición y diversidad de los bosques del Cinturón del Carso de Puerto Rico*. 3er Simposio de Investigación de la Zona Kársica de Puerto Rico, Recinto de Bayamón de la Universidad Interamericana. 25/9/04.

*Estructura, composición y diversidad de los bosques más viejos del Cinturón del Carso de Puerto Rico*. 2do Simposio de Investigación de la Zona Kársica de Puerto Rico, Universidad Interamericana, Bayamón, 27/9/03.

*Structure, composition and diversity of the old-growth forests of the Karst Belt, Puerto Rico*. Monthly seminar at the International Institute of Tropical Forestry, USDA Forest Service, Rio Piedras, 26/9/03.

*Los bosques secundarios del Municipio de Humacao*. Monthly seminar at the Department of Biology, UPR-Rio Piedras, 7/5/03.

*Los bosques más viejos del Cinturón del Carso de Puerto Rico*. Seminario mensual, Department of Biology, UPR-Mayaguez, 27/2/03.

*Diversity and composition of tropical secondary forests recovering from large-scale clearing: results from the 1990 inventory in Puerto Rico*. Simposio LTER, UPR-Rio Piedras, 18/1/03.

*Los bosques más viejos del Cinturón del Carso de Puerto Rico*. 1er Simposio del Carso, Universidad Interamericana, Bayamón, 28/12/02.

*Tropical forest succession on abandoned farms in the Humacao Municipality of eastern Puerto Rico*. Monthly seminar at the International Institute of Tropical Forestry, USDA Forest Service, Rio Piedras, 4/00.

*Spatial configuration and distribution of forest patches in Champaign County, Illinois: 1940-1993*. 11<sup>th</sup> Central Hardwood Forest Conference, University of Missouri, Columbia, 1997.

*Forest Cover Changes in Puerto Rico, Palau, and Champaign County” at Geographic Modeling Systems (GMS) Lab and USACERL GIS Colloquium Series*, UIUC, November 19, 1997.

*Ecological considerations in plant collections*. Second Latin-American Botanical Workshop, Smithsonian Institution, Washington, DC. September, 1995.

## GRADUATE STUDENTS ADVISED

Maricelys Figueroa 2009-present. Plant collecting efforts and potential sources of new plant records for the flora of the Guanica Forest.

Janesse Colón 2007-present. Communities of herbaceous species in mangrove forests and an adjacent coconut plantation surrounding the Joyuda Lagoon, Cabo Rojo, Puerto Rico. MS thesis at UPR-Mayaguez.

Ramón Agosto 2005-2007. Sucesión secundaria en la Zona de Vida de Bosque Seco Subtropical en Puerto Rico. MS thesis at UPR-Mayaguez.

Braulio Quiñones 2003-2007. Bosques del valle del Rio Grande de Añasco. MS thesis at UPR-Mayaguez.

Andrea Arias 2002-2006. Dispersión de semillas bajo la sombra de árboles en el Refugio de Vida Silvestre de Cabo Rojo, Puerto Rico. MS thesis at UPR-Mayaguez.

Quenby Lum 1998-2000. *Prediction of forest cover changes in the Ngeremeduu Bay Drainage Area, Republic of Palau.* MS thesis at the University of Illinois, Urbana.

Bryan Endress 1995-1997. *Upland land cover dynamics of the Ngeremeduu Bay Drainage Area (NBDA), Republic of Palau: 1947-1992.* MS thesis at the University of Illinois, Urbana.

Kurt Smemo 1995-1997. *Presettlement forests of Champaign County, Illinois.* MS thesis at the University of Illinois, Urbana.

## PROFESSIONAL IMPROVEMENT

Introducción al proceso parlamentario. Centro de Enriquecimiento Profesional, UPR-Mayaguez, 30/9/03.

Orientación a profesores de nuevo ingreso. Centro de Enriquecimiento Profesional, UPR-Mayaguez, 14-16/8/01.

DNA sequence comparison, database search & visualization of proteins for curricular enhancement of undergraduate biology laboratories. Promise/Future, UPR-Mayaguez, 19/7/01.

Advancing teaching & learning: engaging students and faculty in assessment. Annual Faculty Retreat on Active Learning, University of Illinois, 2/12/99.

The basics of ArcView. Online course from ESRI. Completed on 1/25/99

A ten-week course on teaching at the college level. Sponsored by the College of Agricultural, Consumer and Environmental Sciences, University of Illinois, Urbana. Fall of 1997.

Tradition, innovation and technology. Annual Faculty Retreat on Active Learning, University of Illinois, Urbana, 2/6/97.

Individual differences: teaching for active learning. Annual Faculty Retreat on Active Learning, University of Illinois, Urbana. 1/19/96

Image processing and GIS: PCI EASI/PACE user's course. Toronto, Canada. 2/1995

Cooperative Learning Workshop. Sponsored by the Puerto Rico Alliance for Minority Participation. August 1993 at the Rio Piedras Campus of the UPR.

Proposal Writing Workshop (emphasizing on proposals to the National Science Foundation) by Dr. Liane Reif-Lehrer - April 1993. Rio Piedras, PR. Sponsored by the Resource Center for Science and Engineering and the Central Administration of the University of Puerto Rico.

Introduction to Supervision - Office of Personnel Management, USDA Forest Service, one week in December of 1990 at Rio Piedras, PR.

Introduction to Supervision - Dunn & Bradstreet short course November 29, 1990 at San Juan, PR.

Tectonic Evolution of the Caribbean - Chautauqua short course in February of 1989 at UPR, Lajas, PR. Sponsored by the Resource Center for Science and Engineering.

Patterns of Problem Solving - Chautauqua short course in March 1984 at UPR, Rio Piedras, PR. Sponsored by the Resource Center for Science and Engineering.

Numerical Methods in Vegetation Science - short course in the summer of 1983 in Rome, Italy. Sponsored by the "International Association of Vegetation Science.

Ecology of Microbial Communities - Chautauqua short course in 1982 at UPR, Rio Piedras, PR. Sponsored by the Resource Center for Science and Engineering.

### COURSES TAUGHT

Plant ecology, Applications of remote sensing and GIS to biology, General biology, Undergraduate seminar, Graduate seminar. At the Universidad de Puerto Rico Mayagüez, PR, 8/2001 to present.

Tropical forest ecosystems, Advanced forest ecology, GIS for natural resource management. At the University of Illinois, Urbana, IL, 8/94 to 12/2000.

Plant taxonomy, General botany, General ecology, Community ecology, Biology for non-majors. At the Humacao University College, 8/92 to 5/94.

Biology for non-majors, General biology. At the Ponce University College, University of Puerto Rico, 1/84 to 5/84.

General biology, Ecology of Puerto Rico, Biology for non-majors. At the Rio Piedras Campus of the University of Puerto Rico, 8/80 to 12/83.

### THESES

Invasion dynamics of the exotic legume tree *Albizia procera* (Roxb.) Benth. in Puerto Rico. 1992. Ph.D. thesis. Cornell University, Ithaca, NY

The forest vegetation of the limestone hills of northern Puerto Rico. 1980. MS thesis, Cornell University, Ithaca, NY.

### PROFESSIONAL SOCIETIES

Ecological Society of America  
Association for Tropical Biology & Conservation  
International Association of Vegetation Science  
Sociedad Latinoamericana de Botánica