

CURRICULUM VITAE

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*Ph.D. Graduate Student in Forestry/ M.S. Graduate Student in Statistics
North Carolina State University*

Philosophy and life expectations

My objectives as a scientist are focused in several aspects of Forest Sciences. Primarily, my interests are on soils, ecophysiology, ecology, tree growth, site productivity, and site sustainability, and mostly the integration of these specific fields using practical modeling approaches.

My future challenges are to become a major scientist conducting research in my country or overseas. Major focus of my research will be on forest soils and nutrient cycling, where I would like to find approaches to characterize the sustainability of our ecosystems. In special, I would like to generate knowledge on areas of impact of silvicultural activities and fast growing plantations on the quality of our environment. In addition, I would like to conduct research that improves our understanding of silvicultural relationships and site productivity potential of fast growing plantations in Chile. As I realize about the huge change in technology, I have been gaining expertise and developing techniques that will integrate with my research the more advance statistical, numerical methods, programming techniques, digital technologies (geographic information systems) and remote sensing applications. These objectives will place a good opportunity to teach courses related with soils and silviculture and integrate undergraduate and graduate students on research issues on major interest for the forest community in Chile. I expect that my contribution in this field will help to create a better and more rational understanding of natural resources in my country. At the same time, I expect this input on students will generate new professionals with a better understanding of the environment and powerful and effective tools to analyze ecosystems behavior.

As one of my major goals, I am also interested to understand, characterize, and develop guidelines on maintenance of productivity for forest soils, plantations and native forest that are directly related with the sustainability of our natural resources, and the care of our environment under new certification requirements.

Education

- 2003-2005 Ph.D. Graduate Student in Forestry – Tree Physiology and Silviculture minor
M.S. Graduate Student in Statistics – Environmental minor
North Carolina State University
- 2003 Master in Science in Forestry. Minor Forest Soils and Silviculture.
North Carolina State University.
- 1993 Forestry Bachelor Title with Distinction.
School of Forestry University of Chile. CHILE
- 1998 Forest Engineer Title. Obtained with Maximum Distinction.
School of Forestry University of Chile. CHILE

Employment History

- 2000-2003 Research Assistant. North Carolina State University Forest Nutrition Cooperative
- 1996-1999 Soils and Forest Site Program Leader. Bioforest S.A.
- 1994-1996 Soil Mapping Project Leader. Bioforest S.A.
- 1993 Soil Mapping Project Professional. Forestal Valdivia S.A.

Research Projects

- 1998-1999 “Homogeneous Soil-Site Units”. Research project in the Coastal Range of Chile VII region with Statistical Analyses and GIS tools.
- 1998-1999 “Natural Regions Project” a definition of Edaphoclimatic Macro units between VI and X regions. Regional research project with GIS tools.
- 1996-1999 “Soil Mapping Project”. Fifteen Technical Reports about soil properties, potentials and constraints to the growth of plantations.
- 1995 “Eroded Land Recovery”. Influence of plantations in the quality of soils in the VII and VIII regions eroded areas.

Academic honors, prizes.

- 2003 First Prize Poster Presentation. “Environmental Constraints in Leaf Area Display for Radiata Pine Plantation in Chile”. Forestry Department. North Carolina State University.
- 2000-2002 Fulbright Scholarship
- 2000-2002 BARSAs. Scholarship

- 2000 Invited speaker honor at the ceremony of graduation of 1998 class. University of Chile – Faculty of Forestry.
- 1999 Distinction “Forest Science School”. From Faculty of Forest Sciences, University of Chile for the student who has held the highest grades obtaining his degree of Forest Engineer.
- 1987 Class Best Student of Forestry. Excellence academic honor from Chilean Wood Corporation (CORMA).

Academic Experience.

Teaching Assistantship “Forest Silviculture” FOR 304 Fall 2001. Instructor: Lee Allen. Forestry Department North Carolina State University.

Teaching assistantship for “Forest Soils” at Forest Science School, University of Chile. Santiago, Chile.

Teaching assistantship for Geology and Geomorphology at Forest Science School, University of Chile. Santiago, Chile

Teaching assistantship for “Computers Sciences” at Forest Science School, University of Chile. Santiago, Chile.

Presentation at Events

- 2002 Soil Science Society of America Meeting. Division S-7 Forest Range & Soils. Indianapolis, IN, USA. Session 13: Intensive Forest Soil Management for Productivity. Oral Presentation: “Productivity of a Second Rotation Loblolly Pine Plantations in Response to Intensive Culture”
- 2001 Fifth Annual NC State International Research Exposition. NC State campus, Raleigh. NC, USA.
- 2000 North Carolina State Forest Nutrition Cooperative. 21st Annual Meeting, Raleigh, NC, USA. Oral Presentation: “Impact of Intensive Culture on Productivity of a Second Rotation Loblolly Pine Plantation in Alabama”
- 1998 Workshop. “Silvicultural Relations for Forest Production”. North Carolina State University. Forest Nutrition Cooperative. Raleigh, NC, USA
- 1997 SILVOTECNA. IUFRO conference on “Site Productivity Management”, June 18th-19th, Concepción, Chile. Trial Presentations “Maximum Growth of Radiata pine in Coastal Sandy Soils”.

- 1995 IUFRO Symposium on Nutritional Management of Forest Plantations for South America. Poster Presentation. “Fertilización en Eucalyptus nitens y Eucalyptus delegatensis en suelos de Cenizas Volcánicas”, Valdivia. Chile 25-30 Abril 1995

Future Presentations at Events

- 2003 **Rafael Rubilar**, Steve McKeand, H. Lee Allen. Southern Forest Tree Improvement Conference. Oral presentation: Dominance and stand structure analysis on a GxE interaction trial.
- 2003 **Rafael Rubilar**, Steve McKeand, H. Lee Allen. Southern Forest Tree Improvement Conference. Poster presentation: Geographic information systems and virtual reality models to improve the analysis of genetic and silvicultural trials
- 2003 S.E. McKeand, J.G. Grissom, **R. Rubilar**, and H.L. Allen .Southern Forest Tree Improvement Conference. Co-author: Responsiveness of Diverse Families of Loblolly Pine to Fertilization: Eight-Year Results from SETRES-2.

Publications

In preparation

- 2003 Rubilar R., Allen H., Kelting D. Comparison of Biomass and Nutrient Content Equations for Loblolly Pine Successive Rotations at an Upper Coastal Plain Site. Biomass and Bioenergy.
- 2003 Rubilar R., Allen H., Richter D., Kelting D. Biomass and Nutrient Accumulation between Successive Loblolly Pine Plantations on an Upper Coastal Plain Site. Forest Ecology and Management.
- 2003 Rubilar R., Toro J., Vita, A. Three-year response of radiata pine plantations to weed control and fertilization after establishment on metamorphic soils of the Chilean Coastal Range. New Zealand Journal of Forest Research.
- 2003-2004 Rubilar R., McKeand S., Allen L. Geographic information systems and virtual reality models to improve the analysis of genetic and silvicultural trials
- 2003-2004 Rubilar R., McKeand S., Allen L. Dominance and stand structure analysis on a GxE interaction trial
- 2003-2004 Rubilar R., Allen H. Nutrient concentration patterns in bi-annual stemwood growth of a loblolly pine plantation at 18 years old. Forest Ecology and Management.

Published

- 2003 Rubilar, R. "Comparison of Biomass and Nutrient Content Equations for Loblolly Pine Successive Rotations at an Upper Coastal Plain Site". MSc. Thesis, North Carolina State University.
- 2003 Toro J.; Montes C. & Rubilar R. "Methods to increase productivity in Radiata pine and Eucalyptus plantations between VII and VIII regions. First IUFRO Latin-American Congress. "The Sustainability Management of Forest Resources, XXI century challenge", Valdivia. Chile.
- 1998 Rubilar, R. "Weed control and fertilization in Radiata pine plantations on Metamorphic soils of the VII region". Degree Forest Engineer Thesis. Santiago, Chile.
- 1995 Toro J.; Rubilar, R. "Eroded Land Recovery" .Technical Internal Report. Bioforest S.A.-Site Productivity Division. Valdivia, Chile.

Technical Non-Refereed Publications

- 1995-2000 Toro J.; Rubilar, R. Soil Mapping Reports. 21 Soil mapping description and technical reports for Arauco companies. Chile
- 1996-2000 Toro J.; Rubilar, R. Establishment Recommendations Reports. Yearly technical reports on recommendations for establishment of forest plantations for Arauco companies (F. Valdivia, Bosques Arauco, Forestal Celco). Chile
- 1996 Toro J.;Rubilar R. " Increase of Productivity of Eucalyptus Plantations in Forestal Chile S.A. and Bosques Arauco S.A.". Two internal reports with recommendations to increase productivity of Eucalyptus plantations. Chile
- 1999-2000 Rubilar, R; Toro, J. Bioedaphos V 1.0 and 2.0. Soil and Site Information GIS Software. Software development integrating Climatic, Geological, Geomorphologic and Soil Mapping Information in a user GIS friendly environment. (Original idea and code development)

Member Professional and Scientific Organizations

Soil Science Society of America. N°A1479

Forest Engineers Association of Chile.