

# **Miles Silman**

**Director of the Center for Energy, Environment and Sustainability and Professor of Biology at Wake Forest University**

Winston-Salem, NC, US

Silman has been a leader in the sustainability movement since beginning his doctoral research more than 20 years ago.

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## **Biography**

As an ecologist, Miles R. Silman is an avid outdoorsman who is drawn to the wildest places left on earth. He is interested in how biodiversity is distributed across the globe both in space and through time which leads him to explore why some places are highly diverse and other places less so, looking at the ecosystem as whole, to understand the roles of species interactions such as herbivory, predation, competition, and partnerships that structure the world we see and inhabit.

Silman's main study area is the New World tropics, especially in the highest biodiversity and most wild forests left on Earth in the Western Amazon and Andes. Here Silman has been working for the last 25 years to not only understand, but also protect the planet's last best forests. This is a landscape of trackless forest, large predators, and indigenous peoples still in isolation.

The work has involved paleoecology—finding remote lakes in the Andes and Amazon and packing in equipment to remove mud and look at the plants that have lived there over the past 10,000-1,000,000 years—as well as extensive forest inventories of plants and animals. His current work seeks to turn this basic knowledge about the way nature functions into solutions for pressing problems of global change, such as deforestation, illegal gold mining, and climate change.

Silman's conservation projects include work on tropical agriculture, soils remediation after gold mining, and monitoring and assessing deforestation using drones developed in his lab at Wake Forest. A major effort has been to take what we know about Andean and Amazonian carbon cycles – the way plants store and release carbon in the environment – and the controls on biodiversity, to use in innovative, private- and public-sector, ecosystem service projects that change land use by generating revenue for conservation and creating economic and social value for people living in the region.

His teaching philosophy is “take them with you” either to the intellectual spaces an academic inhabits, or the geographical spaces that we work in. To that end he has taken over 120 Wake Forest undergraduates on month-long field courses to his sites in the Andes and Amazon of Peru, as well as annual field trips to the coast and mountains of North Carolina.

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## **Areas of Expertise**

Tropical Ecology, Tropical Biodiversity, Community Ecology, Plant Evolution, Plant Ecology, Techniques in Mathematical Biology, Advanced Ecology, Sustainability, Climate Change

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## **Affiliations**

Center for Energy Environment and Sustainability (CEES) : Founding Director

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## **Education**

**Duke University**  
Ph.D. Zoology

**University of Missouri-Columbia**  
B.A. Biology

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## **Accomplishments**

### **Andrew Sabin Family Foundation Presidential Chair in Conservation Biology**

The Andrew Sabin Family Foundation Presidential Chair in Conservation Biology will enhance environmental education and research at Wake Forest and prepare upcoming leaders in the field.

### **Center for Energy, Environment and Sustainability**

Silman is the founding director of the CEES at Wake Forest which focuses on creating a community of scholars dedicated to sustainability as broadly defined. The center has the ideal of not only knowing, but also doing, and translating knowledge into solutions to real-world solutions.

### **Center for Amazonian Scientific Innovation**

Silman serves as the associate director for science for the Center for Amazonian Scientific Innovation at WFU. The Center serves as an international research hub for Peruvian and foreign scientists and affiliates to develop transformative solutions to promote sustainable use of tropical landscapes, combat environmental destruction and improve human health in the Amazonian province of Madre de Dios (MDD) in Peru.

### **Amazon Conservation Association**

Silman serves on the board of the leading conservation organization in the western Amazon and Andes.

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