UNIVERSITÄT ZU KÖLN

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ÖKOLOGISCHES KOLLOQUIUM

of the Institute of Zoology in person

in ComB, ground floor, room 0.040

Monday, October 12, 2026, 01:15 pm

Prof. Angélica L. González, Ph.D.

Department of Biology, Rutgers University, NJ, USA

Host: Prof. Dr. Patrick Fink

Elementary: From elements to traits and ecosystems

Chemical elements are the fundamental building blocks of life, yet their proportions vary widely across organisms and environments. This variation in elemental composition reflects the combined influence of evolutionary history, physiological constraints, and ecological context, and provides a powerful lens for understanding ecological processes across scales. In this talk, I will show how ecological stoichiometry links organismal physiology to species interactions, food webs, and ecosystem functioning. Focusing on elemental traits reveals key functional axes underlying ecological strategies and niche differentiation. I introduce a functional-stoichiometry perspective in which elements constrain the allocation of resources among competing functions such as growth, defense, and reproduction, generating trade-offs that shape ecological strategies. Using examples across taxa and systems, I examine how temperature and nutrient availability shape organismal carbon (C), nitrogen (N), and phosphorus (P), and in turn, influence growth, metabolism, and trophic interactions. Drawing on global syntheses, large-scale patterns, and experimental studies in natural microecosystems, including bromeliads and pitcher plants, I show how environmental gradients structure elemental composition and stoichiometric niches.

Gäste sind herzlich willkommen!
Die Mitarbeiter/innen der Ökologie

→ bei Rückfragen: 470-6084 (Eric von Elert)