**Exploring Bioactive Metabolites from Brazilian Biodiversity: Insights from Plants, Amphibians, and Microorganisms**  
Norberto P Lopes1, NPPNS Department of Biomolecular Sciences, University of São Paulo, Ribeirão Preto, SP, Brazil

**Introduction**. Brazil’s mega-biodiversity offers an extraordinary chemical reservoir for the discovery of secondary metabolites with pharmacological and ecological relevance. Classic examples include bradykinin from Bothrops jararaca venom, which inspired the development of ACE inhibitors, underlining the immense biotechnological value of natural products derived from the country's flora and fauna and have been stimulate a group of Brazilian Research.

**Aims**. This work aims to provide a comprehensive investigation of bioactive secondary metabolites derived from Brazilian plants, amphibians, and microorganisms. The goals are threefold: (1) catalog and chemically profile novel metabolites across diverse taxa; (2) evaluate their biological activities; and (3) integrate findings into strategies for biodiscovery, conservation, and drug development.  
**Methods**. Plants: Literature review and metabolomic data analysis focusing on Brazilian biomes, particularly Cerrado and Atlantic Forest using tools such as BrNPDB for compound identification and virtual screening. Microorganisms: Isolation and chemical characterization of endophytic strains and assessment of their secondary metabolite profiles. Amphibians: collection and analysis of amphibian skin secretions, targeting unique alkaloids and peptidic metabolites. **Results**. Preliminary findings include identification of structurally novel microrganisms metabolites with potent antimicrobial and cytotoxic activities; documentation of bioactive plant extracts, particularly from Cerrado species, showing antiproliferative and anti-inflammatory potential; and isolation of amphibian-derived metabolites with novel bioactivities linked to defensive or ecological functions.  
**Discussion**. Brazilian biodiversity harbors vast untapped chemical diversity, offering novel drug leads and strong potential for global biodiscovery.