

#### Abstract:

The extraction and depletion of natural resources, along with the production of waste, pose significant environmental challenges for the mining industry. These challenges are exacerbated by linear supply chains that involve extraction, manufacturing, and disposal. The Circular Economy (CE) aims to mitigate these impacts by encouraging a consumption and production model that minimizes waste and pollution while being both regenerative and restorative. This presentation outlines the evolution of CE in Mineral Processing and Extractive Metallurgy (MP&EM), highlighting its current status. Process Systems Engineering (PSE) is identified as a crucial element in driving the transition toward sustainability, utilizing its core competencies in process design, integration, modeling, optimization, control, and planning. In the author's view, CE within the context of MP&EM is still in its early stages, with limited proactive initiatives at the core of the processes and a largely reactive focus outside the production processes. The author positions PSE as a vital tool for the future of the mining industry, supporting the implementation of CE practices.