

PLM2026 plenary lecture

Linguistics in transdisciplinary dialogue: EBRAINS as a digital infrastructure for brain research in Europe

Cezary Mazurek (Poznań Supercomputing and Networking Center)

Scientific progress is usually associated with new discoveries, theories and technologies. Less often we ask how scientific methods and the languages we use to describe reality evolve, and how this evolution changes the way reality is investigated and understood.

The leitmotif of the Poznań Linguistic Meeting 2026 invites us to look for productive parallels beyond language. The digital transformation of science raises a broader methodological question: can digital research environments become spaces where such parallels are revealed across scientific disciplines? This question becomes particularly relevant as scientific challenges increasingly extend beyond the boundaries of individual disciplines, each developing its own concepts, methods, metaphors and ways of describing reality.

Understanding the human brain – one of the greatest scientific challenges of the twenty-first century – provides perhaps the most demanding opportunity to examine this question. No single discipline, method or representational approach is sufficient to capture its complexity. Progress increasingly depends on bringing together evidence collected across multiple spatial and temporal scales, experimental modalities and computational models, as well as perspectives from neuroscience, computer science, physics, psychology, cognitive science and linguistics.

Building on the experience of the EBRAINS Research Infrastructure, we ask whether digital research environments can transform science in ways that go beyond the integration of data, models and computational methods. Can they also provide a shared context for transdisciplinary dialogue, where productive parallels emerge across disciplinary languages, allowing concepts, methods, metaphors and representations to co-evolve, creating the conditions for the evolution of scientific inquiry?