UNIVERSITY AT ALBANY
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# Analysis and Data Science Seminar

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## Surveying Levin's Latent Platonic Spaces—Mathematical Objects from Biology?

Tuesday, November 18, 2025
3:00 P.M. in Catskill 130

Abstract.Michael Levin is a developmental biology and regenerative medicine scientist who discovered that various kinds of living material can be induced, solely via bioelectric perturbations, to develop persistent forms or behaviors never occurring in nature. He proposed a general viewpoint, "beyond teleology", where mysterious so-called "emergent" complex patterns or forms are, for scientists, more productively hypothesized to be caused by their pre-existence rather than being outcomes of detailed step-by-step processes. Simpler objects select attractors from a huge, non-physical, rationally and hierarchically structured "latent Platonic space". Levin thus extends, to evolution, biology and cognitive sciences, the idea that mathematics is discovered, not invented. Among Levin's labs' extensive research is that recent simulations produced life-like behavior in biology motivated extensions of game theory's prisoner's dilemma. I will survey some of his ideas and results, and suggest that they might lead us to helpful preliminary questions in mathematics.