Lewis Rhodes Labs
David Follett
Cassandra Roth
David Fair
Dr. Pamela Follett MD, MPH
Knowledge Gap Pioneers
Molecule to Mind Modeling

Expertise
Analytically linking molecular & neuronal dynamics to cognitive function

Knowledge Gap

Breakthroughs
- System level neuronal modeling
- Brain wave theory

Degree of Cognitive Function

Level of Abstraction

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Bridging the Knowledge Gap

System Level Developmental Model
- Non-deterministic, self-organizing
- Neuron algorithms derived from published molecular mechanisms
- Brain wave mathematics
  - Relate processing to spatial/temporal wave topology

Proof points: Hypoxic/Ischemic brain injury
- Model predicts
  - Adaptive response to molecular injury leading to loss of cognitive function
  - Prediction of brain wave alterations and relation to magnitude of clinical presentation
  - Novel therapeutic opportunities
- Follett et al. *J Child Neurol*, 2009

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Partnering

Molecule to Mind Research insights:
- Cognitive state formation and transitions
- Brain Wave – Cortex dynamics
- Data representation
- Critical role of noise in cognitive processing

Inclusion of Molecule to Mind primitives will revolutionize cognitive modeling

Desired partners:
- Cognitive model thought leaders
Contact Information

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