



Metadata and Open Science

Future of Research Outcomes



Steve Pinchotti

Chief Executive Officer
Altum

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Research Outcomes are Building Blocks



- Research outcomes are the building blocks of our society
- Researchers learn from each other
- Outcomes are used to explore new areas of science and research

Why Share Research Outcomes?



- Discovery sharing
- Funding is limited
- No need to reinvent the wheel
- The pace of scientific discovery will accelerate
- Imperative in a pandemic to find cures

Research Outcome Sharing



- Early days of research sharing
- Need to improve the way all research artifacts are made available
- Researchers will spend less time replicating experiments and verifying results

Innovation Advancement



- Infrastructure is needed to advance technology and innovation
- Goods, services, people, & information move faster and improve when infrastructure is more mature



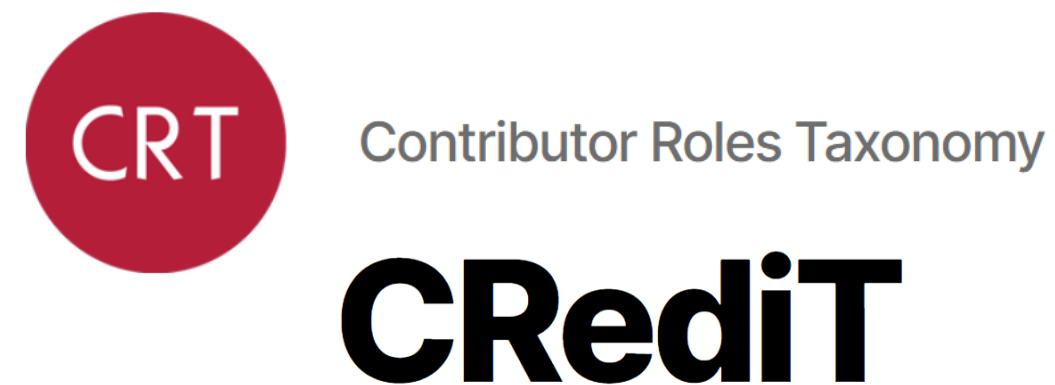
Research Outcome Sharing at Scale



- Research outcome sharing will evolve
- Sharing datasets, samples, software, & algorithms will be as easy as sharing a manuscript
- Need interoperable protocols, metadata standards, Open APIs



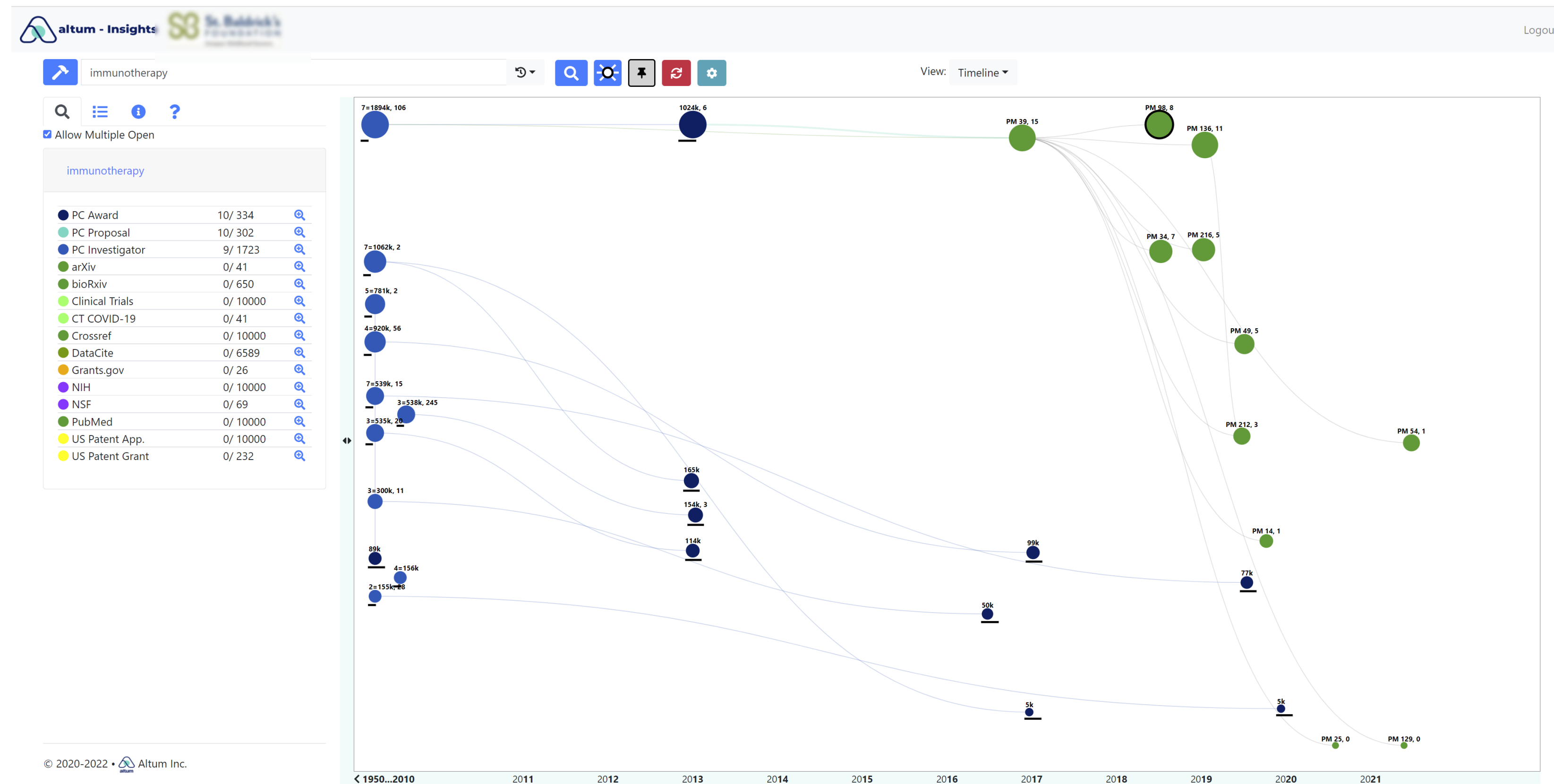
The Infrastructure of the Research Ecosystem



- Research infrastructure continues to evolve and improve
- Persistent identifiers are critical for global metadata
- Standardization and adoption will accelerate research
- Data will be more consistent

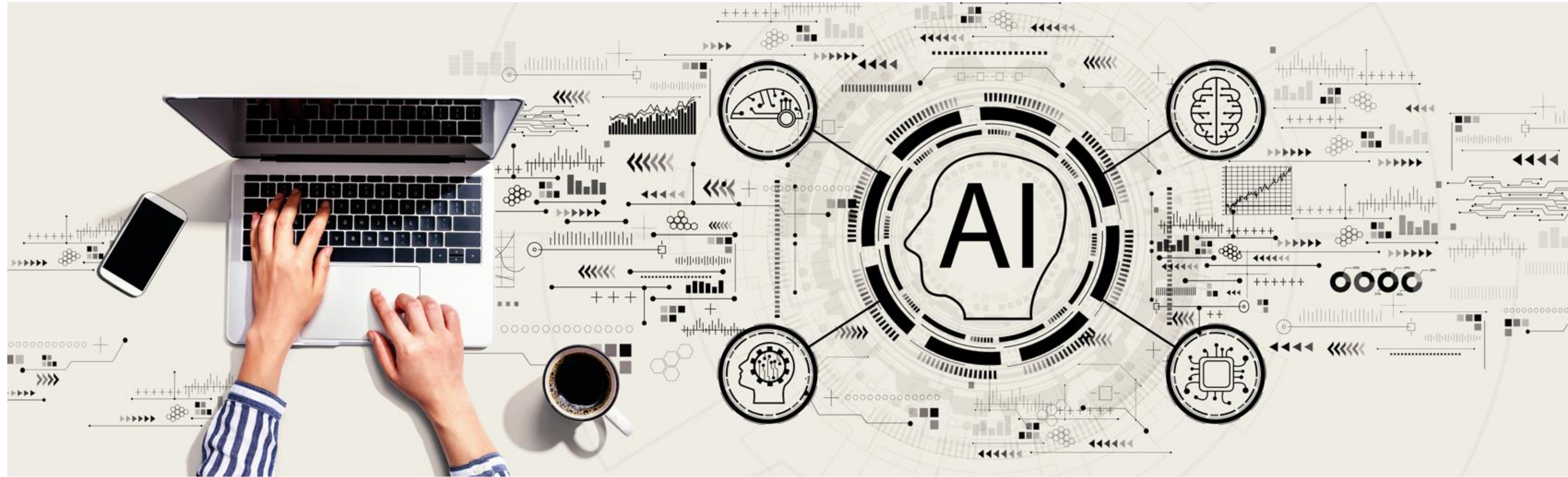


Altum Insights



- Insights and other products aim to link research and impact
- Insights initially developed for Dr. Fauci's team
- Expedites analysis for research organizations

Future is Artificial Intelligence / Machine Learning



- Next generation of products and websites will be more capable
- Will spend less time aggregating and searching for information
- AI / ML technologies will integrate with workflow streams and provide expedited decision-making
- Open infrastructure will enable a global research ecosystem that will save millions of researchers time and money



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Thank you.

Steve.Pinchotti@altum.com

@StevePinchotti