

Independent cosmologist with over 40 years of research, challenging mainstream paradigms through the Cosmic Onion Model and Cosmological Relativity. Developed innovative frameworks unifying Quantum Field Theory with Special and General Relativity, offering precise predictions for physical constants and new insights into spacetime dynamics. Recent discoveries include an exact fine-structure constant formula, refined CODATA precision, and quantum harmonic diagrams, with implications for dark energy and cosmic evolution, aligning with DESI survey findings. Extensive experience in database design and data acquisition systems, enhancing capabilities for managing large-scale cosmological datasets.

Education

- Cypress College, Mathematics and Sciences, 1970s
- University of California, Irvine (UCI), Computer Science (incomplete), 1970s
 - Early academic contributions: Reprogrammed educational software in math and physics as a high school student at UCI.

Key Contributions in Cosmology

- **Exact Fine-Structure Constant Formula (2022):** Derived a precise formula, reducing uncertainty and revealing quantum coupling dynamics, including wave-function collapse into the Higgs field at specific time quanta (11th-12th and 23rd-24th in a 24-time quantum cycle).
- **Refined CODATA Precision (2021):** Reverse-engineered CODATA 2018 dataset, achieving at least two more digits of precision for physical constants (e.g., speed of light with relative uncertainty of $5e-16$ vs. CODATA's $1.5e-10$), enhancing cosmological parameter accuracy.
- **Quantum Harmonic Diagrams (2024):** Developed a tool illustrating quantum wave numbers as phase-pattern fingerprints, simplifying Quantum Field Theory and enabling precise measurements of the universe's age (e.g., $4.34298391676e17$ seconds/meter, potentially to 8–9 digits with lab support).
- **Quantum Unities Framework (2024):** Proposed the universe maps to integer multiples of quantum length, time, and \hbar (all equaling 1), challenging flat spacetime and supporting DESI findings of time-varying dark energy.
- **So called Constants actually follow rules of covariance (2023):** Suggesting $(G, Z_0 \text{ \& } \mu_0) \propto t^{-2}$, potentially eliminating the need for dark matter/energy by redefining cosmic expansion dynamics.

Professional Experience

- **Independent Researcher, TrueCosmology.info, 1980–Present**
 - Founded platform to share cosmological research, publishing models and calculations.
 - Developed Physics Calculator integrating physics equations with a custom database, enabling precise computations of physical constants.
- **Data Systems Developer, Torus Tech, 2018–2020**
 - Developed real-time data acquisition software for engineering applications.
 - Designed data acquisition and control systems for scientific experiments and prototype inventions, supporting high-precision measurements in physics research. Created automated spectrum analyzers generating 3D graphs revealing harmonic patterns.
- **Software Engineer, Panasonic Aerospace, 1990–1995**
 - **Panoramic:** a utility for DBAs to get an overview of all databases across several servers: database/table storage requirements, browse-able summary of database objects with a concise presentation of keys and table columns. Quickly revealing the degree of efficiency or lack thereof.
 - **Created a monitoring tool for SQL Reporting Services (SRS):** quick histogram window of reports (pending, just started, finished okay, or errored-out) showing parallel execution across several backend database servers, one-click drill down showing overlapped execution on individual servers and one-more-click showing execution log details for each report's execution history. This tool helped reveal serious record locking issue which was log jamming report processing on Oracle.
- **Database Software Engineer, Parker Aerospace, 1995–2000**
 - Created a comprehensive database system for tracking test procedures, managing large datasets with a well-designed schema.
- **Software Engineer, Tulon, 1985–1990**
 - Developed TulTrack, a tracking system for drill bit repointing, collecting extensive measurement attributes across thousands of data points.
- **Independent Consultant, Various Clients, 1980–2010**
 - Developed scheduling systems for Orange County and invoicing systems for small business, showcasing versatility in database and systems design.

Technical Skills

- **Programming Languages:** Several Assembly languages, APL, C, J, Pascal, Fortran, PL/I, SQL, LabView, VHDL
- **Database Systems:** Expertise in designing and managing relational databases for scientific and industrial applications

- **Data Acquisition:** Proficient in real-time data collection and control systems for experimental physics

Conferences and Community Engagement

- 52nd Stanford Linear Accelerator Summer Session, 2024: Contributed to DESI survey interpretations, presenting a 2D-Great Circle slice of the universe; theme: “The Art of Precision.”
- PASCOS Conference, UC Irvine, 2023: Engaged with astrophysicists and string theorists to promote the Cosmic Onion Model.
- Orange County Astrophysics SIG, 2018–Present: Active member fostering scientific dialogue and rigorous discourse.

Publications and References

- “[Our Cosmos = Holographic 4D-Spherical Standing Wave](#)”, Proceedings of the Natural Philosophy Alliance, 20th Annual Conference of the NPA, 10-13 July, 2013
- “[Is Physics = 4D Space~Time Geometry + Mathematics?](#)”, Foundational Questions Institute Essay Contest (2015)
- [Blog Post on Fine-Structure Constant Formula](#), TrueCosmology.info, 2022-08-03.
- “[What if we knew 123 years ago what we know now?](#)”, Foundational Questions Institute Essay Contest (2023)
- “Foundations of Cosmological Relativity: Redefining Space-Time & Constants,” TrueCosmology.info/announcements, 2024.
- “[Resolve Dark Energy: Proposed CODATA 2022 Values](#),” ResearchGate.net/publication/366408545, 2022.
- “The Cosmic Onion Model: A 4D Hyperspherical Framework for Unifying Quantum and Relativistic Theories,” TrueCosmology.info, 2023.
- “Exact Formula for the Fine-Structure Constant: Insights into Quantum Coupling and Prime Numbers,” TrueCosmology.info, 2022-08-03.
- “Quantum Unities and the Now-Manifold: Resolving Dark Energy Enigma in a 4D Polar Space~Time,” manuscript in preparation for arXiv submission, 2025.