

# CJ Fearnley

## Explorer in Universe, Comprehensivist, Organizer



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## Summary

CJ Fearnley is an explorer in Universe, an organizer, a Linux-based Internaut, a philosopher, a mathematician, a designer, a synergeticist, and a comprehensivist. CJ received his BA in Mathematical Sciences and Philosophy from Binghamton University in 1989 where he was a Regents Scholar and has done graduate work at Drexel University and Temple University. He was profiled in the Winter 1999-2000 issue of Dome Magazine. CJ was named to the Philadelphia Business Journal's 2006 "40 Under 40" List as one of the region's most accomplished young professionals. He has been the guest on four episodes of the hour long TV program "Conversations with Harold Hudson Channer".

## Current Roles

- Co-Organizer, Comprehensivist Wednesdays, 3 months.
- Founder, Collaborating for Comprehensivism, 10 months.
- Co-Organizer, Math Counts, 6 years.
- Co-Organizer, Greater Philadelphia Thinking Society, 7 years.
- Founder, Executive Director, Synergetics Collaborative (SC), 17 years.
- Founder, President & CEO, LinuxForce, Inc., 16 years.
- Founder, Meeting Emcee at PLUG Central, Philadelphia Linux User Group (PLUG), 24 years.

## Organizations Founded

- Collaborating for Comprehensivism, 2019-.
- Philadelphia Eco-District Incubator, 2016-2020.
- Synergetics Collaborative (SC), 2002-.
- AdminForce Remote LLC, 2001-2002.
- LinuxForce Inc., 1999-.
- The Philadelphia Area Debian Society (PADS), 1999-2003.
- Philadelphia Linux User Group (PLUG), 1995-.
- The Bucky Fuller SpaceShip Earth Club, Binghamton University, 1988-1989.

## Web Presences

- CJ Fearnley Home Page
- Syntropy: CJ Fearnley's Blog
- Collaborating for Comprehensivism
- Synergetics Collaborative
- SynergeticsCollab YouTube Channel
- LinuxForce, Inc.
- Remote Responder
- Managing FOSS (Free and Open Source Software) for Business Results
- Philadelphia Eco-District Incubator
- Twitter
- Facebook
- LinkedIn

## Memberships

- Philadelphia Linux User Group (PLUG)
- Buckminster Fuller Institute
- Global Energy Network Initiative (GENI)
- The Long Now Foundation
- Rocky Mountain Institute
- The Nature Conservancy
- The International Living Future Institute
- Mission Blue Sylvia Earle Alliance
- Wikimedia Foundation
- Unmarried Equality
- Internet Archive
- Planned Parenthood
- Free Software Foundation
- Natural Resources Defense Council (NRDC)

## Formal Education

- 8.MechCx: AP<sup>®</sup> Physics C: Classical Mechanics with David E. Pritchard of the Massachusetts Institute of Technology, 2016.
- Modern & Contemporary American Poetry with Al Filreis of the University of Pennsylvania, 2015.
- Introduction to Complexity with Melanie Mitchell of the Santa Fe Institute, 2014.
- UT.9.01x Effective Thinking Through Mathematics with Michael Starbird of the University of Texas at Austin, 2014.
- Energy 101 with Michael E. Webber of the University of Texas at Austin, 2013.
- Introduction to Sustainability with Jonathan Tomkin of the University of Illinois at Urbana-Champaign, 2013.
- The Fiction of Relationship with Arnold Weinstein of Brown University, 2013.
- Global Sustainable Energy: Past, Present and Future with Wendell A. Porter of the University of Florida, 2013.
- Data Analysis with Jeff Leek of Johns Hopkins University, 2013.
- Design: Creation of Artifacts in Society with Karl T. Ulrich of the University of Pennsylvania, 2012.
- Listening to World Music with Carol Muller of the University of Pennsylvania, 2012.
- Model Thinking with Scott E. Page of University of Michigan, 2012.
- Introduction to Databases with Jennifer Widom of Stanford University, 2011.
- MBA for a Day, Fox School of Business, Temple University, 2006.
- Diagnostic Teaching (graduate), Drexel University, 1990.
- BA Mathematical Sciences and Philosophy, Binghamton University, 1989.
- Regents Scholar, 1985–1989.
- High School Diploma from Bethlehem Central High School, 1985.

## Informal Education (Intensive, but no formal acknowledgement)

- “Philosophy of Technology and Design” with Peter-Paul Verbeek of University of Twente.
- “BIO 250, HUMBIO 160: Human Behavioral Biology” with Robert Sapolsky of Stanford University.
- “Calc001x Pre-University Calculus” with Bart van den Dries, Roelof Koekoek, Wolter Groenevelt, & Fokko van de Bult of Delft University of Technology.
- “W3902 World History to 1500 CE” with Richard Bulliet of Columbia University.
- “The Art of Living” with R. Lanier Anderson, Kenneth Taylor, and Joshua Landy of Stanford University.
- “Mathematics: Making the Invisible Visible” with Keith Devlin of Stanford University.
- “MCDB 150: Global Problems of Population Growth” with Bob Wyman of Yale University.
- “ITAL 310: Dante in Translation” with Giuseppe Mazzotta of Yale University.
- “18.06: Linear Algebra” with Gilbert Strang of MIT.

## Informal Education (Casual Studies / auditing)

- “TrimTab Space Camp” at the Buckminster Fuller Institute.
- “Design Thinking: Ideation, Iteration and Communication” with Mike Johansson of RIT.
- “Tinkering Fundamentals: Motion and Mechanisms” with the Exploratorium.
- “2.02x: Mechanics of Deformable Structures: Part 1” with Simona Socrate of MIT.
- “SOC 103 Global Social Change” with Smitha Radhakrishnan of Wellesley College.
- “Design Thinking: Empathizing to Understand the Problem” with Jennifer Englert of RIT.
- “Exploring Stone Age Archaeology: The Mysteries of Star Carr” with Nicky Milner, Andy Needham, and Andy Langley of The University of York.
- “Lectures on Astronomy” with Carolin Crawford, Gresham College.
- “Science, Magic, and Religion” with Courtenay Raia of UCLA.
- “SOC 102 Global Inequality” with Smitha Radhakrishnan of Wellesley College.
- “Effective Fundraising and Leadership in Arts and Culture” with Ben Walmsley of University of Leeds.
- “The Conscious Mind - A Philosophical Road Trip” with Dan Lloyd of Trinity College.
- “Design Thinking for Innovation” with Jeanne M. Liedtka of University of Virginia.
- “Reclaiming Broken Places: Introduction to Civic Ecology” with Marianne E. Krasny of Cornell University.
- “Kinematics of Machines” with Asok Kumar Mallik of IIT Kanpur.
- “Ancient Philosophy: Aristotle and His Successors” with Susan Sauvé Meyer of UPenn.
- “Ancient Philosophy: Plato & His Predecessors” with Susan Sauvé Meyer of UPenn.
- “Intercultural Studies” with Haynes Collins, Jane Wilkinson, and Bethan Davies of University of Leeds.
- “Food As Medicine” with Helen Truby of Monash University.
- “Men in Black and Women in Red: Fashion, Art and Modernity in the 19th Century” with Lynda Nead of Grasham College.
- “Learn About Weather” with Helen Roberts of University of Exeter.
- “Sexing the Canvas: Art and Gender” with Jeanette Hoorn of The University of Melbourne.
- “2.01x: Elements of Structures” with Simona Socrate of MIT.
- “GeoS101x: Introduction to Deep Earth Science” with Kei Hirose of Tokyo Institute of Technology.
- “Building Materials and Construction (Civil Engineering)” with Dr. B. Bhattacharjee of IIT Delhi.
- “Anthropology of Current World Issues” with a team of nine anthropologists from The University of Queensland.
- “Wildlife Ecology. Environ Sci, Policy, and Management 114” with Justin Brashares of UC Berkeley.
- “Landscape Architecture (LDA) Lecture Series” from UC Davis.
- “8.03: Physics III: Vibrations and Waves” with Walter Lewin of MIT.
- “In the Studio: Postwar Abstract Painting” with Corey D’Augustine of The Museum of Modern Art.
- “Top 10 Social Issues for the President’s First 100 Days” with a team of 12 Social Policy experts from UPenn.
- “SOC 101 Global Sociology” with Smitha Radhakrishnan of Wellesley College.
- “Invitation to World Literature with David Damrosch on Annenberg Learner.
- “Product Design: The Delft Design Approach” Annemiek van Boeijen & Jaap J.J. Daalhuizen of Delft University of Technology.
- “Seeing Through Photographs” with Sarah Meister of The Museum of Modern Art.
- “AP Physics 2 - Part 1: Fluids and Thermodynamics” with Reid Whitaker & Matt Wilson of Rice University.
- “Horticulture 306, History of Horticulture” with Jules Janick of Purdue University.
- “MIT Calculus Revisited: Single Variable Calculus” with Herb Gross of MIT.
- “Exploring Our Oceans” with Jon Copley and Verity Nye of University of Southampton.
- “Intercultural Communication” with Steve Kulich, Hongling Zhang, and Ruobing Chi of Shanghai International Studies University.
- “Sustainable Agricultural Land Management” with George J. Hochmuth of University of Florida.
- “Geodesign: Change Your World” with Kelleann Foster of Penn State.

- “Miracles of Human Language: An Introduction to Linguistics” with Marc van Oostendorp of Universiteit Leiden.
- “Maps and the Geospatial Revolution” with Anthony C. Robinson of Penn State.
- “Digging Deeper: Making Manuscripts” with Dr. Orietta Da Rold, Dr. Suzanne Paul, Dr. Benjamin Albritton and Elaine Treharne of Stanford University.
- “Archaeology of Portus: Exploring the Lost Harbour of Ancient Rome” with Simon Keay, Graeme Earl, and Dragana Mladenovic of University of Southampton.
- “Introduction to Thermodynamics” with Margaret Wooldridge of University of Michigan.
- “Our Earth: Its Climate, History, and Processes” with David M. Schultz of The University of Manchester.
- “Calculus: Single Variable” with Robert Grist of UPenn.
- “Introduction to Communication Science” with Rutger de Graaf of the University of Amsterdam.
- “ATOC185x Natural Disasters” with John Gyakum & John Stix of McGill University.
- “Becoming a Resilient Person - The Science of Stress Management” with Clayton Cook of the University of Washington.
- “Nanotechnology: The Basics” with Vicki Colvin & Daniel Mittleman of Rice University.
- “Accountable Talk: Conversation that Works” with Jennifer Zoltners Sherer, Pam Goldman, and Lauren B. Resnick of the University of Pittsburg.
- “Nutrition, Health, and Lifestyle Issues and Insights” with Jamie Pope of Vanderbilt University.
- “Great Discoveries from the Ancient World” with Julian Bennett of Bilkent University.
- “A first course in Linear Algebra” with Norman Wildberger of the University of New South Wales.
- “Fundamentals of Human Nutrition” with Kristina von Castel-Roberts of the University of Florida.
- “World Civilization to 1500” with Sally Vaughn of the University of Houston.
- “Blue Planet: Introduction to Oceanography” with Edwin Schauble of UCLA.
- “Computer Science 101” with Nick Parlante of Stanford University.
- “Computer Vision” with Jitendra Malik of UC Berkeley.
- “Calculus Revisited: Single Variable Calculus” with Herb Gross of MIT.
- “18.01: Single Variable Calculus” with David Jerison of MIT.
- “3.091: Introduction to Solid State Chemistry” with Donald Sadoway of MIT.
- “RES.18-005: Highlights of Calculus” with Gilbert Strang of MIT.
- “7.014: Introductory Biology” with Graham Walker & Penny Chisholm of MIT.
- “5.111: Principles of Chemical Science” with Catherine Drennan & Elizabeth Vogel of MIT.
- “ECON 252: Financial Markets” with Robert Shiller of Yale University.
- “EEB 122: Principles of Evolution, Ecology and Behavior” with Stephen Stearns of Yale University.
- “Physics for future Presidents” with Richard Muller of UC Berkeley.
- “ENGL 310: Modern Poetry” with Langdon Hammer of Yale University.
- “8.01 Physics I: Classical Mechanics” with Walter Lewin of MIT.

## Publications

- “Changed Requirements Would Hurt Choices” in the 16 February 1988 issue of Pipe Dream.
- “Reading Synergetics: Some Tips” in Trintab, 1991.
- Published 29 columns on Unix/Linux in *The Databus* between 1993 and 1997.
- The R. Buckminster Fuller FAQ, internet publication, 1994.
- “Integrity: An Essay on God”, internet publication, 1997.
- Version 1.1 of the Buckminster Fuller FAQ, 1998.
- Version 1.2 of the Buckminster Fuller FAQ, 1999.
- Version 1.3 of the Buckminster Fuller FAQ, 1999.

- Version 1.4 of the Buckminster Fuller FAQ, 2002.
- Business Philosophy, 2003–2012.
- “The Triangle: A One-Page Primer”, internet publication, 2004.
- “Supercircles: Expanding Buckminster Fuller’s Foldable Circle Models” with Jeannie Moberly in *Proceedings of 2004 Bridges: Mathematics, Music, Art, Architecture, Culture*, 2004.
- “An Introduction to Linux and Open Source for Computer Consultants” in *Consulting Matters*, 2005.
- “Foldable Great Circle Geometries”, 2009.
- Buckminster Fuller and the Open Educational Resources Movement, blog essay, 2010.
- Thoughts on Brain, Mind, and Thinking inspired by Lehrer’s “How We Decide”, blog essay, 2010.
- A Cosmic Speculation about The Purpose of Humans in Universe, blog essay, 2010.
- Some thoughts on the nature and pervasiveness of existentialism, blog essay, 2010.
- The most important video course on-line: Physics C10/LS C70V at Berkeley, blog essay, 2011.
- Study Linear Algebra at MIT with Gilbert Strang, blog essay, 2011.
- Are Randomness and Uncertainty fundamental and pervasive?, blog essay, 2011.
- Society and Our Technology Built World, blog essay, 2011.
- Sugar is a chronic toxin, blog essay, 2011.
- A Big Picture, Conceptual Introduction to Biology: EEB 122, blog essay, 2011.
- An Enquiry Concerning Scientific Understanding, blog essay, 2011.
- The Pickwickian Sentiment, blog essay, 2012.
- Determinism and Randomness Always and Only Coexist, blog essay, 2012.
- Dante’s Great “Commedia” or Poetry as a way of Knowing, blog essay, 2012.
- The Importance of Model Thinking, blog essay, 2012.
- Models of Projective Geometry, blog essay, 2012.
- “Harmonic Perspective” with Jeannie Moberly in *Proceedings of 2012 Bridges: Mathematics, Music, Art, Architecture, Culture*, 2012.
- Addenda to My Conversation With Harold Channer, blog essay, 2014.
- “Perspectives on Borges’ Library of Babel” with Jeannie Moberly in *Proceedings of Bridges 2015: Mathematics, Music, Art, Architecture, Culture* (2015).
- The Objective, The Subjective, and The Nature of Design Science, blog essay, 2018.
- Robert Sapolsky’s Edutaining “Human Behavioral Biology”, blog essay, 2019.
- Addenda to My First 2019 Conversation with Harold Channer, blog essay, 2019.
- A Synopsis of “Operating Manual for Spaceship Earth” by Buckminster Fuller, blog essay, 2019.
- Addenda to My Second 2019 Conversation with Harold Channer, blog essay, 2019.
- Humanity’s Great Traditions of Inquiry and Action, blog essay, 2020.

- The Necessities and Impossibilities of Comprehensivism, blog essay, 2020.
- The Fundamental Role of Story in Our Lives, blog essay, 2020.
- The Comprehensive Thinking of R. Buckminster Fuller, blog essay, 2020.

## Linux and Free and Open Source Software (FOSS) Experience

Since 1993, CJ Fearnley has been a leader in the adoption and implementation of Linux and Free and Open Source Software (FOSS) in Philadelphia.

- UNIX SIG Leader at Philadelphia Area Computer Society (PACS), 1993–1997.
- 29 articles published in The Data Bus, the monthly newsletter of PACS, 1993–1997
  - Dec 1993: Getting Started with Linux
  - Jan 1994: Transitioning from the SLS to Slackware distribution of Linux
  - Feb 1994: A beginning ftp tutorial
  - Mar 1994: An introduction to the Awk programming language
  - Apr 1994: A general introduction to the X Window System; Linux 1.0 is released.
  - May 1994: An introduction to fvwm
  - Jun 1994: An introduction to vim, Vi IMproved
  - Jul 1994: The features of Linux from Michael K. Johnson’s “the Linux Information Sheet”
  - Aug 1994: “The Free Workstation”; The virtues of reading news.answers
  - Sep 1994: Software reviews; “Linux arrogance”; “Upgrading your Linux Kernel”; “Who Should (and who shouldn’t) Switch to Linux?”
  - Oct 1994: “A Survey of Linux CD-ROMS”; Khoros
  - Nov 1994: Sundry notes on Linux
  - Dec 1994: More notes on Linux
  - Jan 1995: “Highlights from the D.C. Linux Conference”
  - Feb 1995: “Cruising the Information Superhighway with a Unix Shell Account”
  - Mar 1995: “An introduction to the World Wide Web”; fdutils 4.1 and git 4.3.4
  - Apr 1995: IRC; Linux ’95 (a.k.a. Linux 1.2)
  - May 1995: “NetNews”; Linux 1.2, dosemu 0.60, bash
  - Jul 1995: “WWW, HTML and the Principle of Markup Languages”; Review of Larry Wall’s book “Programming Perl”
  - Sep 1995: “Programming X11 with the Tcl/Tk toolkit”
  - Oct 1995: “The Rise of Red Hat; The Demise of Slackware?”
  - Nov 1995: “REVIEW: Red Hat Commercial Linux 2.0”
  - Dec 1995: “Debian GNU/Linux: The User-Community Developed Distribution of Linux”; Announcing the formation of the Philadelphia Area Linux User’s Group (Philly-LUG) which became The Philadelphia area Linux User Group (PLUG)
  - Jan 1996: Linux development; Comparing gawk and mawk; PLUG
  - Feb 1996: Code freeze on the Linux 1.3.xx
  - Mar 1996: Review of First Conference on Freely Redistributable Software in Cambridge MA

- Jun 1996: A tale from Rags to Riches
- Dec 1996: Comparing the Yggdrasil Winter 1997 Linux Internet Archives and the September 1996 InfoMagic Developer’s CD sets
- Jan 1997: “Web Authoring”; Update on Yggdrasil CD; I Resign from PACS
- Founder, Philadelphia Linux User Group (PLUG), 1995–Present.
- Founder, LinuxForce, Inc., 1999–Present.
- Founder, The Philadelphia Area Debian Society (PADS), 1999–2003.
- An essay on “Synergetics and Linux”, 2002.
- A presentation on “Synergetics and Linux”, 2003.
- “Survey of Linux and Open Source Technologies and their Business Functions: An Introduction to Linux and Open Source for Computer Consultants”. 2004.
- “An Introduction to Linux and Open Source for Computer Consultants” published in the January 2005 issue of “Consulting Matters”, a publication of the Delaware Valley Chapter of the Independent Computer Consultants Association, 2005.
- “UNIX/Linux Overview For Law Enforcement Personnel” presentation to the FBI, 2005.
- Presentation “Survey of Linux and Open Source Technologies and their Business Functions: An Introduction for Information Technology Professionals”, 2006.
- Presentation “A Survey of FOSS Tools for Business Results”, 2009.
- Organize and contribute to the blog Managing FOSS for Business Results, 2009–2012.
- Essay: “Given 250,000 tools on the shelf, how do you manage them?”, 2009.
- Essay: “Seven Observations On Software Maintenance And FOSS”, 2009.
- Essay: “Licensing Considerations When Integrating FOSS and Proprietary Software”, 2010.

## Mathematics Experience

### Learning

- UT.9.01x Effective Thinking Through Mathematics with Michael Starbird of the University of Texas at Austin, 2014.
- “Calc001x Pre-University Calculus” with Bart van den Dries, Roelof Koekoek, Wolter Groenevelt, & Fokko van de Bult of Delft University of Technology.
- “Mathematics: Making the Invisible Visible” with Keith Devlin of Stanford University.
- “18.06: Linear Algebra” with Gilbert Strang of MIT.
- “Calculus: Single Variable” with Robert Grist of UPenn.
- “Calculus Revisited: Single Variable Calculus” with Herb Gross of MIT.
- “18.01: Single Variable Calculus” with David Jerison of MIT.
- “RES.18-005: Highlights of Calculus” with Gilbert Strang of MIT.
- BA Mathematical Sciences , Binghamton University, 1989.

### Organizing

- Member, V.P., President Math Club, Binghamton University, 1985–1989.
- Voting Member, Undergraduate Curriculum Committee, Math Department, Binghamton University, 1986-1988.
- AMS Special Session on Buckminster Fuller’s Synergetics and Mathematics on 15–16 March 2008.



- Co-Organizer, Math Counts, 2013–.
- Contribute to a book exploration of “The Lady Tasting Tea”.
- Organize a book exploration of How Mathematicians Think (Book Discussion).
- Organize a book exploration of History of Vector Analysis (Book Discussion).
- Co-Organizer for Math Counts, 2013–Present.
- Organize an exploration on Chaotic math - A look a dynamical systems.
- Organize an exploration on The Golden Ratio.
- Organize an exploration on The Art of Problem Solving: Exploring George Polya’s Heuristics.
- Organize an exploration on Math Chat: Algebra, Voting Systems, Logarithms, and why  $.999\dots = 1$ .
- Contribute to Math and Maps Talks and Discussions: A Math Counts and Geo Philly collaboration.
- Organize an exploration on Math Chat: The Mathematical Method, Calculus & Probability.
- Organize an exploration on Symmetry, Monstrous Moonshine, and the quest to classify Finite Simple Groups.
- Organize an exploration on Math Chat: Mathematical Cognition & The \$1,000,000 Math Problems.
- Organize an exploration on Book Discussion: Information Theory.
- Organize an exploration on Math Chat: Effective Thinking Through Mathematics, Puzzles, & NetLogo.
- Organize an exploration on The Vexing Mathematics of Democracy.
- Organize an exploration on Prime Numbers and Prime Factorization.
- Organize an exploration on How Randomness Rules Our Lives: The Human Side of Probability and Statistics.
- Organize an exploration on How to Model The Continuum; Or, What is Continuity?
- Organize an exploration on The Unimaginable Mathematics of Borges’ Library of Babel.
- Organize an exploration on Math Chat: Infinity, Dynamics, the Logistic Map, and Chaos.
- Organize an exploration on Infinity: Beyond the Beyond the Beyond.
- Organize an exploration on A Big Picture Discussion on Calculus.
- Organize an exploration on The Mathematician’s Mind: How is Mathematics Invented/Discovered?
- Organize an exploration on Prepare for Pólya: Polynomials, Power Series, the Theory of Equations, & Limits (exercise set).
- Organize an exploration on Problem-Solving with Pólya: How To Start Working a Problem.
- Organize an exploration on Problem-Solving with Pólya: Using Generalization, Specialization & Analogy.
- Organize an exploration on Fractals (exercise set).
- Organize an exploration on Combinatorics: The Science of Counting and Arrangements (exercise set).
- Organize an exploration on Problem-Solving with Pólya: Counting Geometrical Regions.
- Organize an exploration on Information, Order, Randomness, and Entropy (exercise set).
- Organize an exploration on Shapes, Spaces and Symmetry.
- Organize an exploration on Problem-Solving with Pólya: Getting Started with Euler’s Topology Formula.
- Organize an exploration on Problem-Solving with Pólya: Figuring Out Euler’s Topology Formula.
- Organize an exploration on Problem-Solving with Pólya: Exploring Solid Geometry & Euler’s Formula.
- Help organize an exploration on Ordering of Vertices in Graphs and The Experience of Mathematics.
- Organize an exploration on Combinations and Permutations (exercise set).
- Organize an exploration on On Proof and Progress in Mathematics.
- Organize an exploration on Exploring The Theory of Numbers with Pólya.
- Organize an exploration on Inductive Discovery in Number Theory.
- Organize an exploration on Exploring Integer Decompositions into Sums of Squares.
- Help organize an exploration on Fair Division and the Many Facets of Sperner’s Lemma.
- Organize an exploration on Counting with Generating Functions (Integer Partitions and more) (exercise set).
- Organize an exploration on Touring the Calculus Gallery: The Classical Wing (exercise set).
- Organize an exploration on Touring the Calculus Gallery: The Cauchy and Modern Wings (exercise set).
- Organize an exploration on Solving Basic Recurrence Relations with Generating Functions (exercise set).
- Organize an exploration on Solving Linear Homogeneous Recurrence Relations (exercise set).
- Organize an exploration on Power Series Expansions & the Basel Problem.
- Help organize an exploration on Can you hear the shape of a drum?
- Organize an exploration on Limits, the Theory of Equations, and The Basel Problem.
- Organize an exploration on Infinite Products, Trigonometric Identities and the Basel Problem.
- Organize an exploration on The Cotangent Function and A Solution to the Basel Problem.
- Organize an exploration on Integrating with  $\sin$ ,  $\arcsin$ , and  $\log$  to Solve the Basel Problem.
- Organize an exploration on The Role of Analogy in Euler’s Solution to the Basel Problem.
- Organize an exploration on Topological Surfaces from a Strip of Paper (feat. minimal length Möbius strip) (exercise set).
- Organize an exploration on Variations of the Möbius Band to Explore the Nature of Homeomorphism (exercise set).
- Organize an exploration on Exploring Homeomorphism through Experiments on the Möbius Band (exercise set).

- Organize an exploration on Topological Experiments: The Conical Möbius Band & the Klein Bottle (exercise set).
- Organize an exploration on Experiments in Topology: Dissecting The Klein Bottle (exercise set).
- Organize an exploration on Exploring the Topology of the Projective Plane (exercise set).
- Organize an exploration on Map Coloring; Martin Gardner’s Projective Plane & variations (exercise set).
- Organize an exploration on The Symmetry of the Projective Plane (and the curious property of twist) (exercise set).
- Organize an exploration on Using Twist to Understand the Topology of the Projective Plane & its Symmetry (exercise set).
- Organize an exploration on Betti Numbers and the Symmetry of the Projective Plane (exercise set).
- Organize an exploration on Deliberations in The Trial of the Punctured Torus.
- Organize an exploration on “On Picture-Writing”: An Introduction to Generating Functions.
- Organize an exploration on Catalan Numbers: A Magical Sequence in Many Guises (exercise set).
- Organize an exploration on Minggatu Numbers and Generating Functions; Catalan’s Triangle (exercise set).
- Organize an exploration on Exponential Generating Functions: Permutations, Derangements, & Stirling numbers (exercise set).
- Organize an exploration on Advanced Counting: The Eightfold Path for Placing Balls in Cells (exercise set).
- Organize an exploration on Generating Functions and Euler’s Memoir on the Sums of Divisors  $\sigma(n)$ .
- Organize an exploration on Generating Functions and Representing Integers as the Sum of Squares.
- Organize an exploration on Using Generating Functions to Connect Sums of Divisors and Sums of Squares.
- Organize an exploration on Generalization and Euler’s Most Extraordinary Formula for the Sum of Divisors.
- Organize an exploration on “On Harmonic Separation”: The Basic Idea and its History (exercise set).
- Organize an exploration on “On Harmonic Separation”: Geometric Constructions (exercise set).
- Organize an exploration on “On Harmonic Separation”: Analytic Geometry (exercise set).
- Organize an exploration on “On Harmonic Separation”: Practice and Significance (exercise set).
- Organize an exploration on The Principle of Inclusion and Exclusion and Applications to Number Theory (exercise set).
- Organize an exploration on Combinatorial Applications of the Principle of Inclusion and Exclusion (exercise set).
- Organize an exploration on Expansions of Power Series.
- Organize an exploration on Approximating the Perimeter of an Ellipse and the Surface Area of an Ellipsoid.
- Organize an exploration on Proofs of Upper Limits; The First Digit in Tables of Mantissas.
- Organize an exploration on Induction (guessing) in Mathematics (with examples in symmetry).
- Organize an exploration on The Pigeonhole Principle (exercise set).
- Organize an exploration on Ramsey Theory (exercise set).
- Organize an exploration on “Non-Euclidean Geometry”: Spherical Geometry (exercise set).
- Organize an exploration on The Mobility of Figures (Congruence in "Non-Euclidean Geometry") (exercise set).

## Chronology (1967–Present)

- 1967** Born Christopher J. (“CJ”) Fearnley in Troy, NY, USA, Earth.
- 1984** Chess Teacher, lessons to first graders.
- 1985** Graduate of Bethlehem Central High School, Delmar, NY.  
Member, V.P., President Math Club, Binghamton University, 1985–1989.
- 1986** Voting Member, Undergraduate Curriculum Committee, Math Department, Binghamton University.
- 1987** Organizer, President Chess Club, Binghamton University, 1987–1989.
- 1988** Published “Changed Requirements Would Hurt Choices” in *Pipe Dream*.  
Founder and organizer of the Bucky Fuller Spaceship Earth Club, Binghamton University.  
Summer Internship in System Design with LOTUS 1–2–3, NYS DOT Engineering R&D Bureau.
- 1989** Graduate from Binghamton University with a B.A. in Mathematical Sciences and Philosophy.  
Begin many in-between jobs: Clerical & Retail, Supervisor; Prepare book displays, Cashier, 1989–1991.  
Volunteer Shop Teacher’s Aide (K-6).
- 1990** Substitute Teacher, West Philadelphia Elementary Schools.
- 1991** Published an essay “Reading Synergetics: Some Tips” in *Trimtab*.
- 1992** Assist in preparation of FDA NDA for *Tagamet-CR<sup>R</sup>*, SmithKline Beecham.
- 1993** Begin exploring Linux with kernel 0.99.13 and the SLS distribution.

- Bookkeeper for WPMF Food Co-op, 1993–2000.
- Unix SIG leader at PACS (Philadelphia Area Computer Society), 1993–1996.
- Wrote 29 columns on Unix/Linux for *The Databus* (1993–1997).
- 1994** Publish version 1.0 of the The R. Buckminster Fuller FAQ.
- Promotion Analysis Administrator (customer and computer service), SmithKline Beecham.
- 1995** Help desk support and systems administrator for ISP Netaxs.
- Internet and Linux consultant for a number of organizations, 1995–1999.
- Debian Developer working on most, slang, mawk, gawk, & ucblog, 1995–1997.
- Initiate the Philadelphia area Linux User Group (PLUG).
- 1997** Publish the essay “Integrity: An Essay on God”.
- Chief of Engineering, Internet21, 1997–1999.
- 1998** Publish version 1.1 of the Buckminster Fuller FAQ.
- 1999** Publish version 1.2 of the Buckminster Fuller FAQ.
- Publish version 1.3 of the Buckminster Fuller FAQ.
- Founder, Philadelphia Area Debian Society (PADS), 1999–2003.
- Founder, CTO, VP of LinuxForce Inc., 1999–2002. President & CEO 2003–Present.
- Profile published in *Dome Magazine* in the Winter 1999–2000 issue, pp. 18–25.
- 2000** Merge Internet consulting business into LinuxForce Inc.
- 2001** Founder, CTO, and President of AdminForce Remote LLC, 2001–2003.
- 2002** Founder, organizer for the Synergetics Collaborative (SC), 2002–Present.
- Presentation “The Search for an Algebra or Calculus for Synergetics” at Synergetics Collaborative event.
- Presentation “Synergetics and Linux” at Synergetics Collaborative event.
- Publish version 1.4 of the Buckminster Fuller FAQ.
- 2003** Named President & CEO of LinuxForce Inc.
- Presentation “Linux and Synergetics” at PLUG.
- Help organize the SC symposium “A Fuller Explanation”.
- Profile published in the July–August 2003 issue of *BU Alumni Connect*.
- Publish my Business Philosophy, 2003–2012.
- Help organize the SC workshop “Buckminster Fuller’s Geodesic Structures”.
- 2004** Publish “The Triangle: A One-Page Primer”.
- Help organize the SC symposium Cosmic Fishing: Exploring Buckminster Fuller’s Synergetics.
- Help organize the SC workshop Tensegrity Structures.
- Peer-reviewed paper “Supercircles: Expanding Buckminster Fuller’s Foldable Circle Models” in the Proceedings of 2004 Bridges: Mathematical Connections in Art, Music, and Science.
- Presentations on “Supercircles” at Symposium on Cosmic Fishing, a seminar at the Math Department at Binghamton University, and at 2004 Bridges: Mathematical Connections in Art, Music, and Science.
- Document a 2004 Presidential Campaign Notebook.
- Maintain Buckminster Fuller In The News, 2004–2006.
- Invited presentation Survey of Linux and Open Source Technologies and their Business Functions: An Introduction to Linux and Open Source for Computer Consultants to Delaware Valley ICCA.
- 2005** Publish “An Introduction to Linux and Open Source for Computer Consultants” in *Consulting Matters*.
- Invited presentation “UNIX/Linux Overview For Law Enforcement Personnel” for the FBI.
- Presentation “Open Source Software for Higher Mathematics: An Overview of Available Tools ” to PLUG.
- Help organize the SC workshop Structure.

- Help organize the SC symposium on “Synergetics in the Arts” at the Noguchi Museum.
- 2006** Help organize the SC Seminar on “Field Structure Theory”.  
 Named to the Philadelphia Business Journal’s 2006 “40 Under 40” List.  
 Presentation Survey of Linux and Open Source Technologies and their Business Functions: An Introduction for Information Technology Professionals to PANTUG.  
 Help organize the SC workshop Applied Synergetics: Living Structures.  
 Help organize the SC Seminar on “Synergetics 3”.
- 2007** Interview with Cameron Reilly of “G’Day World”.  
 Help organize the SC workshop on “Quantum Building”.  
 Interview with Michael Riversong for The Tesla Academy Podcast Interview Series.  
 Help organize the 1<sup>st</sup> Design Science Symposium at RISD on “Synergetics and Morphology”.
- 2008** Co-organize an AMS Special Session on Buckminster Fuller’s Synergetics and Mathematics at the Courant Institute of Mathematical Sciences at New York University and give a presentation on “Explorations to Define a Theory of Foldable Great Circle Origami”.  
 Help organize the SC workshop on “Geodesic Structures: Build a Dome for Bucky’s Birthday”.  
 Presentation “Comprehensive Anticipatory Systems Administration: Thoughts About Eternally Regenerative Software Administration” to PLUG.
- 2009** Presentation “Exploring Foldable Great Circle Geometries” to ISAMA 2009.  
 Publish an abstract on “Foldable Great Circle Geometries” in the ISAMA 2009 issue of Hyperseeing.  
 Help organize the SC workshop “A Synergetics Sampler: Celebrating Buckminster Fuller’s 114th Birthday”.  
 Produce a video A Discussion on the “Whole Truth” and Integrity.  
 Launch a new website Remote Responder<sup>SM</sup>.  
 Publish a blog “Managing FOSS for Business Results”, 2009–2012.  
 Organize a seminar Managing Free and Open Source Software (FOSS) for Business Results.  
 Presentation “A Survey of FOSS Tools for Business Results” at the seminar.  
 Presentation “Managing FOSS for Business Results” at the seminar.  
 Help organize the 2<sup>nd</sup> Design Science Symposium at RISD on “Design Science: Nature’s Problem Solving” Method”.
- 2010** Help organize a SC special event “Revisit Bucky: Exploring Synergetics”.  
 Publish a blog “Syntropy: CJ Fearnley’s Blog”, 2010–Present.  
 Organize an exploration on Buckminster Fuller and the Open Education Resources Movement.  
 Essay Buckminster Fuller and the Open Educational Resources Movement.  
 Essay Thoughts on Brain, Mind, and Thinking inspired by Lehrer’s “How We Decide”.  
 Essay with creative fiction A Cosmic Speculation about The Purpose of Humans in Universe.  
 Essay Some thoughts on the nature and pervasiveness of existentialism.
- 2011** Organize a SC geometry activity and a seminar “Building on Dr. Marvin Solit’s Work”.  
 Essay The most important video course on-line: Physics C10/LS C70V at Berkeley.  
 Organize an exploration on Mathematics: The Loss of Certainty.  
 Essay Study Linear Algebra at MIT with Gilbert Strang  
 Essay Are Randomness and Uncertainty fundamental and pervasive?  
 Organize an exploration on Engineering Failures & Society.  
 Essay Society and Our Technology Built World.  
 Organize an exploration on Sugar is a Chronic Toxin.  
 Organize an exploration on The Most Important Science for Citizens & Leaders.

Essay Sugar is a chronic toxin.

Essay A Big Picture, Conceptual Introduction to Biology: EEB 122.

Organize an exploration on On the Nature, Being, and Logic of Science.

Essay An Enquiry Concerning Scientific Understanding.

Organize an exploration on Are Humans in a major evolutionary transition?

Help organize the 3<sup>rd</sup> Design Science Symposium at RISD on “Nature, Geometry, and the Symmetry of Space: Tetrahedron Discovers Itself and Universe”

Statement of Accomplishment for Introduction to Databases with Jennifer Widom of Stanford University.

**2012** Organize an exploration on Does Randomness Rule Our Lives?

Essay The Pickwickian Sentiment.

Organize an exploration on Is Single life trumping Marriage?

Essay Determinism and Randomness Always and Only Coexist.

Organize an exploration on Our Oceans: Science, Technology & Issues.

Organize an exploration on The Uniqueness and Evolution of Humans.

Essay Dante’s Great “Commedia” or Poetry as a way of Knowing.

Organize an exploration on Global Problems of Population Growth.

Organize an exploration on Contemporary Problems of Population Growth.

Essay The Importance of Model Thinking.

Statement of Accomplishment for Model Thinking with Scott E. Page of the University of Michigan.

Organize an exploration on The Nature of Technology.

Essay Models of Projective Geometry.

Publish “Harmonic Perspective” with Jeannie Moberly in Proceedings of Bridges 2012: Mathematics, Music, Art, Architecture, Culture (2012).

Presentation on “Harmonic Perspective” at the 2012 Bridges conference.

Publish website on Harmonic Perspective.

Contribute to a book exploration of “The Lady Tasting Tea”.

Organize an exploration on The Imminence and Implications of Immortality.

Organize an exploration on The Model Thinking Movement.

Presentation on “Education Automation Now and in the Future” at ReVIEWING Black Mountain College 4.

Presentation on “Synergetics and Model Thinking” at ReVIEWING Black Mountain College 4.

Organize an exploration on Shame, Vulnerability and Wholeheartedness.

Co-Organizer for Greater Philadelphia Thinking Society, 2012–Present.

Statement of Accomplishment with Distinction for Listening to World Music with Carol Muller of the University of Pennsylvania.

Statement of Accomplishment with Distinction for Computing for Data Analysis with Roger D. Peng of Johns Hopkins University.

Organize an exploration on How Mathematicians Think.

Statement of Accomplishment for Design: Creation of Artifacts in Society with Karl T. Ulrich of the University of Pennsylvania.

Organize an exploration on Averting Global Catastrophe.

**2013** Organize an exploration on The Essential Engineer.

Organize a book exploration of How Mathematicians Think (Book Discussion).

Organize an exploration on World History / Global Culture.

Organize an exploration on Design Thinking.

Statement of Accomplishment for Data Analysis with Jeff Leek of Johns Hopkins University.

Organize an exploration on The Past and Future of Human-Animal Relationships (Book Discussion).

Organize an exploration on Debt and the Moral Grounds of Economic Relations (Book Discussion).

Organize an exploration on Debt and the Origins of Money (Book Discussion).

Organize a book exploration of History of Vector Analysis (Book Discussion).

Organize an exploration on Can Energy Efficiency Help Solve Our National and Global Problems?

Organize an exploration on Debt: The First 5,000 Years (Book Discussion).

Organize an exploration on Are Culture, Art and Design better ways to change society?

Presentation on “Data Analysis in Linux” to the Philadelphia area Linux Users Group (PLUG).

Organize an exploration on The Evolutionary and Genetic Bases of Human Behavior.

Statement of Accomplishment with Distinction for Global Sustainable Energy: Past, Present and Future with Wendell A. Porter of the University of Florida.

Organize an exploration on Beyond the Tragedy of the Commons.

Co-Organizer for Math Counts, 2013–Present.

Organize an exploration on Global Energy Transformation.

Statement of Accomplishment with Distinction for The Fiction of Relationship with Arnold Weinstein of Brown University.

Organize an exploration on The Art of Living: Love and Reason in Plato’s Symposium.

Organize an exploration on The Art of Living: What Can We Learn From Shakespeare’s Hamlet?

Organize an exploration on Literature and our lives: the Fiction of Relationship.

Organize an exploration on Chaotic math - A look a dynamical systems.

Statement of Accomplishment for Introduction to Sustainability with Jonathan Tomkin of the University of Illinois at Urbana-Champaign.

Organize an exploration on The Biology of Learning.

Organize an exploration on The Art of Living: The Paradoxes of Faith and Existence.

Organize an exploration on The Golden Ratio.

Organize an exploration on The Biology of Learning (Repeat).

Organize an exploration on Financial Markets, Risks, & Crises.

Organize an exploration on The Art of Living: The Roles of Art and Science.

Certificate for Energy 101 with Michael E. Webber of the University of Texas at Austin.

Organize an exploration on Financial Markets, Risks, & Crises (Repeat).

Organize an exploration on The Art of Problem Solving: Exploring George Polya’s Heuristics.

**2014** Organize an exploration on The Art of Living: The Roles of Self and Community.

Organize an exploration on Brain Science and Human Behavior.

Organize an exploration on Brain Science and Human Behavior (Repeat).

Organize an exploration on Math Chat: Algebra, Voting Systems, Logarithms, and why  $.999\dots = 1$ .

Help organize the 4<sup>th</sup> Design Science Symposium at RISD on “STEM to STEAM thru Synergy: Bridging Morphology, Biomimicry, Sustainability, and Synergetics”

Organize an exploration on Technology and Invention in Finance.

Organize an exploration on The Art of Living: the How and Why of Living Our Lives.

Contribute to Math and Maps Talks and Discussions: A Math Counts and Geo Philly collaboration.

Organize an exploration on The Biology of Human Sexual Behavior.

Organize an exploration on The Biology of Human Sexual Behavior (Repeat).

Organize an exploration on Math Chat: The Mathematical Method, Calculus & Probability.

Organize an exploration on Teaming: New Ways of Learning, Working, Innovating, and Leading.

Organize an exploration on Design and the Sciences of the Artificial.

Organize an exploration on Symmetry, Monstrous Moonshine, and the quest to classify Finite Simple Groups.

Organize an exploration on The Biology of Morality: the roots of human aggression & empathy.

Organize an exploration on The Biology of Morality: the roots of human aggression & empathy (Repeat).

Organize an exploration on What are the best ways to change the world?.

Organize an exploration on Math Chat: Mathematical Cognition & The \$1,000,000 Math Problems.

Organize an exploration on What are the best ways to change the world? (Repeat).

Contribute to an exploration on Nuclear Weapons: Past, Present and Future.

Honor Code Certificate for UT.9.01x Effective Thinking Through Mathematics with Michael Starbird of the University of Texas at Austin.

Organize an exploration on Social Planning: Design Considerations for Changing Society.

Organize an exploration on Social Planning: Design Considerations for Changing Society (Repeat).

Certificate for Introduction to Complexity with Melanie Mitchell of the Santa Fe Institute.

Facilitate an exploration on Online Education: the Good, the Bad, the Future.

Organize an exploration on Book Discussion: Information Theory.

Organize an exploration on Insurance: Can it make our lives better?

Organize an exploration on Math Chat: Effective Thinking Through Mathematics, Puzzles, & NetLogo.

Organize an exploration on Innovation.

Organize an exploration on The Vexing Mathematics of Democracy.

Organize an exploration on African Culture as gleaned from the novel “Things Fall Apart”.

Organize an exploration on Intellectual Property vs. The Public Domain: Enclosing the Commons of the Mind.

Organize an exploration on Prime Numbers and Prime Factorization.

Organize an exploration on Copyright, Copying, Sampling, Mashups, Culture and the Public Domain.

Organize an exploration on The Global Demography and Biology of Abortion.

Organize an exploration on How Randomness Rules Our Lives: The Human Side of Probability and Statistics.

Organize an exploration on Opening the Commons of the Mind: Can We Free Our Culture From Onerous Ownership?

Organize an exploration on How to Model The Continuum; Or, What is Continuity?

Organize an exploration on Is Science About Ignorance and Ignorance A Science?

Invited guest on the TV program “Conversations with Harold Channer”: Part 1 and Part 2.

Organize an exploration on Islam and the World: A Dialogue Through The Ages.

Essay Addenda to My Conversation With Harold Channer.

Organize an exploration on The Evolution of Technology.

Organize an exploration on The Unimaginable Mathematics of Borges’ Library of Babel.

**2015** Organize an exploration on Chinese Buddhist Culture as gleaned from the novel “Monkey”.

Organize an exploration on Earth Goes Around Sun and Other False Idols of Scientific Religiosity.

Organize an exploration on Is Science About Ignorance and Ignorance A Science? (Repeat).

Organize an exploration on Math Chat: Infinity, Dynamics, the Logistic Map, and Chaos.

Organize an exploration on What is Evolution? (Assessing the Critique of Richard Lewontin).

Organize an exploration on Earth Goes Around Sun and Other False Idols of Scientific Religiosity (Repeat).

Organize an exploration on Infinity: Beyond the Beyond the Beyond.

Organize an exploration on The Paradox of Choice: Delusion or Greatness? A Burden or Freedom?

Organize an exploration on Are Science and Engineering One Inseparable, Essential Way of Knowing and Doing?

Organize an exploration on A Big Picture Discussion on Calculus.

Organize an exploration on What is Evolution? (Assessing the Critique of Richard Lewontin) (Repeat).

Organize an exploration on The Mathematician's Mind: How is Mathematics Invented/Discovered?

Organize an exploration on The Design Way: Humanity's First Tradition of Inquiry and Action.

Organize an exploration on Beyond Reductionism: The Biology of Complexity, Chaos & Emergence.

Organize an exploration on The Paradox of Choice: Delusion or Greatness? A Burden or Freedom? (Repeat).

Invited guest on Science 2.0: Science for the Rest of Us: Math Counts Meetup (audio).

Organize an exploration on Prepare for Pólya: Polynomials, Power Series, the Theory of Equations, & Limits (exercise set).

Organize an exploration on Imagining the Unimaginable in Borges' "Library of Babel".

Organize an exploration on Is Design a Big Deal? Are we lame gods in the service of prosthetic gods?

Organize an exploration on Problem-Solving with Pólya: How To Start Working a Problem.

Organize an exploration on Being Human in the Ethnosphere: What is the Value of Ancient Wisdom?

Organize an exploration on The Biology of Language.

Help organize an exploration on The Tolerance Dilemma.

Organize an exploration on Problem-Solving with Pólya: Using Generalization, Specialization & Analogy.

Publish "Perspectives on Borges' Library of Babel" with Jeannie Moberly in Proceedings of Bridges 2015: Mathematics, Music, Art, Architecture, Culture (2015).

Presentation on "Perspectives on Borges' Library of Babel" at the 2015 Bridges conference.

Organize an exploration on Being Human in the Ethnosphere: What is the Value of Ancient Wisdom? (Repeat).

Organize an exploration on Fractals (exercise set).

Organize an exploration on The Imperative of Ongoing Genesis: Ontology and Responsibility.

Organize an exploration on The Biology of Mental Illness: Schizophrenia and Depression.

Organize an exploration on Combinatorics: The Science of Counting and Arrangements (exercise set).

Organize an exploration on Service: Aspiring to Remake Our Worlds Together.

Organize an exploration on The Moral Bases of Economic Life.

Organize an exploration on Problem-Solving with Pólya: Counting Geometrical Regions.

Organize an exploration on The Biology of Mental Illness: Schizophrenia and Depression (Repeat).

Organize an exploration on Secrets of Great Thinking Society Discussions.

Organize an exploration on A Question for Biology and Abortion: When Does Life Begin?

Organize an exploration on Information, Order, Randomness, and Entropy (exercise set).

Statement of Accomplishment for Modern & Contemporary American Poetry with Al Filreis of the University of Pennsylvania.

Organize an exploration on The roles of The Real, The True, and The Ideal in Inquiry for Action.

Organize an exploration on Shapes, Spaces and Symmetry.

**2016** Organize an exploration on The Biology of Religiosity.

Organize an exploration on So What Is Capitalism, Anyway?

Organize an exploration on Problem-Solving with Pólya: Getting Started with Euler's Topology Formula.

Organize an exploration on The Origin of Emotionally Modern Humans (Darwin Day).

Organize an exploration on Systems Thinking: A way of Inquiry and Action.

Organize an exploration on Problem-Solving with Pólya: Figuring Out Euler's Topology Formula.

Organize an exploration on The Biology of Human Behavior & Individuality: Is there Free Will?

Organize an exploration on Problem-Solving with Pólya: Exploring Solid Geometry & Euler's Formula.

Organize an exploration on The Whole and The Particular in Inquiry for Action.

Help organize the 5<sup>th</sup> Design Science Symposium at RISD on "STEAM Intelligence "

Help organize an exploration on Ordering of Vertices in Graphs and The Experience of Mathematics.



Organize an exploration on The Logic of Science.

Honor Code Certificate for 8.MechCx: AP<sup>®</sup> Physics C: Classical Mechanics with David Pritchard of MIT.

Organize an exploration on Is Communism an Everyday Principle of Economic Morality?

Organize an exploration on Combinations and Permutations (exercise set).

Organize an exploration on The Necessities and Impossibilities of being a Comprehensivist.

Organize an exploration on On Proof and Progress in Mathematics.

Organize an exploration on The Biology of Human Behavior & Individuality: Is there Free Will? (Repeat).

Organize an exploration on The Basics of Physics: Dimensions, Measurement, and Scale.

Organize an exploration on Exploring The Theory of Numbers with Pólya.

Organize an exploration on Vulnerability, Shame, and Wholeheartedness.

Organize an exploration on Explorers in Universe, Unite! A Call To Explore Your Ideas.

Organize an exploration on The Imperative of Ongoing Genesis: Ontology and Responsibility (Repeat).

Organize an exploration on Inductive Discovery in Number Theory.

Organize an exploration on How can Building Trust Help us Secure America?

Organize an exploration on Exploring Newton's Laws of Motion: The Science of How Motion Changes.

Organize an exploration on Ways of Inquiry and Knowing: Assessing Humanity's Great Traditions.

Organize an exploration on Exploring Integer Decompositions into Sums of Squares.

Organize an exploration on The Elder Brother's Warning: Should We Listen to the Heart of the World?

Help organize an exploration on Fair Division and the Many Facets of Sperner's Lemma.

Organize an exploration on Counting with Generating Functions (Integer Partitions and more) (exercise set).

Presentation on High-performance PHP on Apache using mod proxy fcgi and php-fpm to the Philadelphia area Linux Users Group (PLUG).

Organize an exploration on The Real, The True, and The Ideal in Inquiry for Action.

Organize an exploration on Gravity: Exploring a Fundamental Physical Interaction in Mechanics.

Organize an exploration on Touring the Calculus Gallery: The Classical Wing (exercise set).

Organize an exploration on Touring the Calculus Gallery: The Cauchy and Modern Wings (exercise set).

Organize an exploration on The Problem with Problem-Solving: Is There a Solution?

Organize an exploration on How can we make America Great?

**2017** Co-organizer for Philadelphia Eco-District Incubator, 2017–.

Organize an exploration on Corruption in the Science of Nutrition: Can What We Eat Make Us Healthy?

Organize an exploration on Solving Basic Recurrence Relations with Generating Functions (exercise set).

Organize an exploration on “An Enquiry Concerning Human Understanding”.

Organize an exploration on Evolution for Everyone: Applications to Humans: Morality, Religion & Policy.

Organize an exploration on Solving Linear Homogeneous Recurrence Relations (exercise set).

Organize an exploration on Elasticity: Exploring an Important Physical Interaction in Mechanics.

Organize an exploration on Power Series Expansions & the Basel Problem.

Organize an exploration on Do Your Own Thinking! Should We? Can We? How?.

Help organize an exploration on Can you hear the shape of a drum?

Organize an exploration on Limits, the Theory of Equations, and The Basel Problem.

Organize an exploration on The Problem with Problem-Solving: Is There a Solution? REPEAT.

Organize an exploration on The Vital Role of Shifting One's Perspective: Don't Trust The Truth!

Organize an exploration on Exploring the Physical Interactions of Contact in Classical Mechanics.

Organize an exploration on Infinite Products, Trigonometric Identities and the Basel Problem.

Organize an exploration on The Role of Desire and Intention in the Genesis of That-Which-Is-Not-Yet.

- Organize an exploration on The Cotangent Function and A Solution to the Basel Problem.
- Organize an exploration on The Dreaming and The Songlines: The Wisdom of Aborigines.
- Organize an exploration on An Exploration Into The Unknown: Come, Let's Go Cosmic Fishing!
- Organize an exploration on Integrating with sin, arcsin, and log to Solve the Basel Problem.
- Organize an exploration on How Motion Changes: Exploring the Model of Linear Dynamics and Net Force.
- Organize an exploration on The Role of Analogy in Euler's Solution to the Basel Problem.
- Organize an exploration on "An Enquiry Concerning Human Understanding" (Repeat).
- Organize an exploration on Assessing Reality To Make Change: Interpretation and Measurement.
- Organize an exploration on Topological Surfaces from a Strip of Paper (feat. minimal length Möbius strip) (exercise set).
- Organize an exploration on On Dialogue and Discussion: Sensitivity, Meaning, and Purpose.
- Organize an exploration on The Sociological Imagination: A Technology for Social Change or a Science?
- Organize an exploration on Variations of the Möbius Band to Explore the Nature of Homeomorphism (exercise set).
- Organize an exploration on The Measurements of Life: A Foundation for Making Effective Change.
- Organize an exploration on Exploring Homeomorphism through Experiments on the Möbius Band (exercise set).
- Organize an exploration on How Does Society Work: Everyday Social Theories and Social Science.
- 2018** Organize an exploration on How Motion Changes: Multi-Body Systems (Momentum and External Impulse).
- Organize an exploration on Topological Experiments: The Conical Möbius Band & the Klein Bottle (exercise set).
- Organize an exploration on Darwin and Design: The Idea of Design in Nature (Blake, Wordsworth, & Frost).
- Organize an exploration on Experiments in Topology: Dissecting The Klein Bottle (exercise set).
- Organize an exploration on How Motion Changes: Multi-Rigid Body Systems (Mechanical Energy & Work).
- Essay The Objective, The Subjective, and The Nature of Design Science.
- Organize an exploration on Exploring the Topology of the Projective Plane (exercise set).
- Organize an exploration on The Sociological Imagination in the context of Everyday Social Theory.
- Organize an exploration on Imagination, Creativity, and other Formative Faculties of the Mind.
- Organize an exploration on Map Coloring; Martin Gardner's Projective Plane & variations (exercise set).
- Organize an exploration on How Motion Changes: Rotational Dynamics and Net Torque.
- Organize an exploration on The Symmetry of the Projective Plane (and the curious property of twist) (exercise set).
- Organize an exploration on Dialogue: Creating Meaning Through Words.
- Organize an exploration on Using Twist to Understand the Topology of the Projective Plane & its Symmetry (exercise set).
- Organize an exploration on Playing the Intellectual Development Game: An Exploration in Abstraction.
- Organize an exploration on How Motion Changes: Angular Momentum and Angular Impulse.
- Organize an exploration on Exploring Alternative Futures.
- Organize an exploration on Betti Numbers and the Symmetry of the Projective Plane (exercise set).
- Organize an exploration on Evoking the Not-Yet-Existing to Create Effective Intentional Change in the World.
- Organize an exploration on Deliberations in The Trial of the Punctured Torus.
- Organize an exploration on Darwin and Design: The Fantasy World of Anti-Design in Alice's Wonderland.
- Organize an exploration on The Demonism of Technology.
- Organize an exploration on "On Picture-Writing": An Introduction to Generating Functions.
- Organize an exploration on Culture & Ethnocentrism: Why must it always be "Us versus Them"?
- Organize an exploration on The Value of Other Cultures.
- Organize an exploration on Evoking the Not-Yet-Existing to Create Effective Intentional Change in the World.
- Organize an exploration on Catalan Numbers: A Magical Sequence in Many Guises (exercise set).
- Organize an exploration on Culture & Ethnocentrism: Why must it always be "Us versus Them"? (Repeat).
- Organize an exploration on The Demonism of Technology (Repeat).

Organize an exploration on Minggatu Numbers and Generating Functions; Catalan's Triangle (exercise set).

Organize an exploration on Subjectivity and The Nature of Reality: Aristotle's "Categories" and Beyond.

Organize an exploration on The Logic of Human Judgment: Exploring the Means for Wise Action.

Organize an exploration on Exponential Generating Functions: Permutations, Derangements, & Stirling numbers (exercise set)

Organize an exploration on How Can We Understand Society and the Social Forces that Affect Our Lives?

**2019** Organize an exploration on The Logic of Human Judgment: Exploring the Means for Wise Action (Repeat).

Organize an exploration on The Essence of Technology according to Heidegger.

Organize an exploration on Advanced Counting: The Eightfold Path for Placing Balls in Cells (exercise set).

Organize an exploration on Darwin and Design: Views of Nature in Genesis & Aristotle's Physics.

Organize an exploration on Generating Functions and Euler's Memoir on the Sums of Divisors  $\sigma(n)$ .

Organize an exploration on Dialogue: The Art of Thinking Together.

Organize an exploration on The Essence of Technology according to Heidegger (Repeat).

Organize an exploration on Generating Functions and Representing Integers as the Sum of Squares.

Organize an exploration on Always Coexisting Subjectivity & Objectivity: the Nexus between Art & Science. Essay Robert Sapolsky's Edutaining "Human Behavioral Biology".

Organize an exploration on Ideas about Judgment for The Art of Living.

Organize an exploration on Should We Love and Value People Who Have Done Evil?

Organize an exploration on Using Generating Functions to Connect Sums of Divisors and Sums of Squares.

Organize an exploration on Listening and Voicing: Practices for Participating In and Unfolding Dialogue.

Organize an exploration on How does Technology Mediate Human Experience and Practice?

Organize an exploration on Generalization and Euler's Most Extraordinary Formula for the Sum of Divisors.

Organize an exploration on Respecting and Suspending: Practices for Coherence and Awareness in Dialogue.

Organize an exploration on Ideas about Judgment for The Art of Living (Repeat).

Organize an exploration on "On Harmonic Separation": The Basic Idea and its History (exercise set).

Organize an exploration on Global Trade: Why are some Countries Rich while others are Poor?

Organize an exploration on How does Technology Mediate Human Experience and Practice? (Repeat).

Organize an exploration on "On Harmonic Separation": Geometric Constructions (exercise set).

Organize an exploration on The Roles of Judgment when Beginning to Make Intentional Change in the World.

Organize an exploration on Global Trade: Why are some Countries Rich while others are Poor? (Repeat).

Essay Addenda to My First 2019 Conversation with Harold Channer.

Organize an exploration on "On Harmonic Separation": Analytic Geometry (exercise set).

Organize an exploration on Darwin and Design: The Accidental World of Voltaire's Candide.

Help organize the 6<sup>th</sup> Design Science Symposium at RISD on "Inclusive Narratives from Nature"

Organize an exploration on "On Harmonic Separation": Practice and Significance (exercise set).

Organize an exploration on How Intentional Change is Made: A Survey of Seven Important Design Judgments.

Organize an exploration on The Principle of Inclusion and Exclusion and Applications to Number Theory (exercise set).

Organize an exploration on Designing Morality: The Ethics of Things.

Essay A Synopsis of "Operating Manual for Spaceship Earth" by Buckminster Fuller.

Organize an exploration on Combinatorial Applications of the Principle of Inclusion and Exclusion (exercise set).

Founder, Organizer for Collaborating for Comprehensivism, 2019–Present.

Organize an exploration on "Operating Manual for Spaceship Earth" (Book-Based Topic).

Organize an exploration on The Truth in Stories.

Organize an exploration on Comprehensivism: Unifying the World by Comprehending Comprehensively.

Organize an exploration on The Voyage to The Other: Interpreting "The Fiction of Relationship".

Organize an exploration on Expansions of Power Series.

Essay Addenda to My Second 2019 Conversation with Harold Channer.

**2020** Organize an exploration on The Islamic Roots of Modern Science.

Organize an exploration on Design Wisdom: How Good Judgment Creates Effective Intentional Change.

Organize an exploration on Approximating the Perimeter of an Ellipse and the Surface Area of an Ellipsoid.

Organize an exploration on Darwin and Design: Nature of God & World Origins in Hume's "Natural Religion".

Organize an exploration on The Dynamics of the Four Players in Dialogue: Mover Follower Opposer Bystander.

Organize an exploration on Proofs of Upper Limits; The First Digit in Tables of Mantissas.

Organize an exploration on The Entrepreneurial State: Is Government the Creative Engine for Innovation?

Organize an exploration on The Science of Natural Theology.

Organize an exploration on Induction (guessing) in Mathematics (with examples in symmetry).

Organize an exploration on The Emergence of Objectivity in the History of Science.

Organize an exploration on The Pigeonhole Principle (exercise set).

Organize an exploration on Truth and Conciliation: Redressing America's White Supremacist Foundations.

Organize an exploration on The Emergence of Objectivity in the History of Science (Repeat).

Organize an exploration on The Self and Others in "The Fiction of Relationship".

Organize an exploration on Ramsey Theory (exercise set).

Organize an exploration on Truth and Conciliation: Redressing America's White Supremacist Foundations (RPT).

Co-Organizer, Comprehensivist Wednesdays.

Organize an exploration on Epistemic Virtues in Science: The Entanglement of Morality and Knowing.

Organize an exploration on Why Be a Comprehensivist? (video).

Essay Humanity's Great Traditions of Inquiry and Action.

Organize an exploration on "Non-Euclidean Geometry": Spherical Geometry (exercise set).

Organize an exploration on Humanity's Great Traditions of Inquiry and Action (video).

Organize an exploration on Epistemic Virtues in Science: The Entanglement of Morality and Knowing (REPEAT).

Essay The Necessities and Impossibilities of Comprehensivism.

Organize an exploration on Is the World Formed by our Social Agreements?.

Organize an exploration on The Necessities & Impossibilities of Comprehensivism (video).

Organize an interview on Polymaths of the 21st Century with Dr Angela Cotellessa (video).

Organize an exploration on The Mobility of Figures (Congruence in "Non-Euclidean Geometry") (exercise set).

Co-host a presentation on The Art-Experience & The Architecture of Our Identities with Karen Montanare (video).

Organize an exploration on Taking the Children Away: Recent Genocides in the English Settler Nations.

Organize an exploration on Is the World Formed by our Social Agreements? (Repeat).