FisMatEcol Boletin

Abril 2024

Dr. Oliver López Corona
Dra. Elvia Ramírez Carrillo

Eventos

FisMatEcol

4°Escuela de Primavera de Física y Matemáticas Aplicadas a la Ecología

29, 30 de abril y 1 de mayo

VIRTUAL

IIMAS UNAM

CONACYT

Facultad de Psicología

Require pre-registro: https://forms.gle/UEw2rHTBPmNJC3xx5

Organiza: IIMAS, Fac de Psicología, IxM-CONACyT

Comité: Dr. Oliver López-Corona, Dra. Elvia Ramírez-Carrillo, Dr. Pablo Padilla

Sitio web: https://www.lopezoliver.otrasenda.org/fismatecol/

4°Escuela de Primavera de Física y Matemáticas Aplicadas a la Ecología

29, 30 de abril y 1 de mayo 2024

VIRTUAL

Programa:

Lunes 29 abril

9:00-10:00 **Platica inagural.** Oliver López Corona. *IxM IIMAS*

10:00-12:00 **Física y Matemáticas en las ciencias de la vida. Enseñanza formal y no formal.** David Mustri-Trejo. *Universidad Anáhuac Veracruz, campus Xalapa.*

12:00-14:00 **Antifragile feedback control for biological and technical systems.** Cristian Axenie. *Nuremberg Institute of Technology.*

Martes 30 de abril

9:00-10:00 **Mesa de discusión.** Oliver López, Pablo Padilla y Elvia Ramírez.

10:00-12:00 **A non-standard introduction to information theory.** Alessandro Bravetti. *IIMAS-UNAM.*

12:00-14:00 **A new tool in the financial market. Biodiversity Credits and how to set up the reporting.** Michael Schmidt. *Biometrio.earth GmbH (private, Germany based company).*

Miércoles 1 de mayo

9:00-10:00 **Mesa de discusión.** Oliver López, Pablo Padilla y Elvia Ramírez.

10:00-12:00 **Series de tiempo en percepción remota y salud ecosistémica.** Inder Tecuapetla. *CONABIO.*

12:00-14:00 **El marco de pensamiento de la Toma de Decisiones Robustas: Aplicaciones para sistemas de energía.** Giovanni H. Uribe. *Transition Modelling Lab .*

IIMAS UNAM · CONACYT · Facultad de Psicología

Require pre-registro: https://forms.gle/UEw2rHTBPmNJC3xx5

Organiza: IIMAS, Fac de Psicología, IxM-CONACyT

Comité: Dr. Oliver López-Corona, Dra. Elvia Ramírez-Carrillo, Dr. Pablo Padilla

Sitio web: https://www.lopezoliver.otrasenda.org/fismatecol/

Applications for Complexity Global School are now open

SHARE

Sign Up For SFI News

NEWS MEDIA CONTACT

Santa Fe Institute
Office of Communications
news@santafe.edu
505-984-8800

FEBRUARY 19, 2024

Update April 4: The CGS selection committee will begin reviewing applications on April 8, 2024. ***Priority will be given to submissions completed by April 8****; later submissions will be considered on a rolling basis until April 22.*

TAGS

SFI News Release


SOLABIMA
XIII CONGRESO DE LA
SOCIEDAD LATINOAMERICANA
DE BIOLOGÍA MATEMÁTICA
Sonora, México 2024
11-15 Noviembre

Abstracts

CCS'24

Warm-up: **London, 30-31 Aug.**
Conference: **Exeter, 2-6 Sept.**

Deadline for submissions: 26th April 2024


CUIDADOS
PARA LA VIDA Y
EL BIEN COMÚN
UNAM
C3 Centro de Ciencias de la Complejidad
IGUALDAD DE GÉNERO UNAM
COUS
iisue
EL CUIDADO DEL PATRIMONIO
BIOCULTURAL EN LA ERA DEL MEZCAL
Alfonso Valiente Banuet
Instituto de Ecología y Centro de Ciencias de la Complejidad-UNAM
Miércoles 24 de abril • 12-14 horas • Evento híbrido: Auditorio del C3 y transmisión en vivo por Youtube y Facebook

Ecología, Crisis Socioambiental y Sustentabilidad

San Cristóbal de Las Casas, Chiapas

Octubre 6 al 11

- Simposios
- Ponencias
- Conversatorios
- Presentación de carteles
- Reuniones satélite
- Presentaciones de libros
- Concursos de tesis de licenciatura y posgrado
- Talleres
- Cursos

Inicio de recepción de propuestas de actividades y resúmenes: 15 de marzo
Informes: congreso.ecologia@ecosur.mx

https://ixcongresoecologia.ecosur.mx/

SCME

CONAHCYT

30 años

ecosur.mx

Oportunidades

Assistant Professor in Zoology (Animal Behaviour)

Utrecht University

Search uu.nl

Nederlands

UU.nl › Organisation › Working at Utrecht University › Jobs › Postdoc on the Politics of EU Sustainable Agricultural and Food Policies

Working at Utrecht University

Jobs | Terms of employment | Professional development | Collaboration | Leadership | International staff and guests | Testimonials

Jobs

› Participation Act

Postdoc on the Politics of EU Sustainable Agricultural and Food Policies

I seek to hire a postdoctoral fellow to work on theoretical and computational biophysics as part of my research group in the Physics Department at Simon Fraser University. Please forward this announcement to any interested parties.

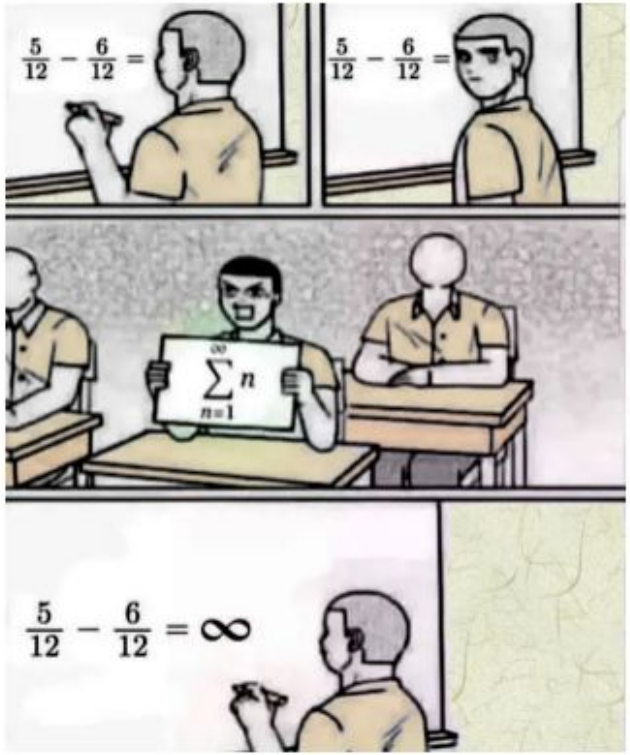
My interdisciplinary research group combines approaches from statistical physics and thermodynamics, molecular biophysics, and information theory to elucidate the physical limits placed on biological systems by their operational imperatives: performing productive functions rapidly while driven by strong gradients, using fluctuation-dominated microscopic objects of low copy number in a cell at ambient temperature. Our theoretical flights of fancy are tethered to reality through close collaborations with experimentalists both down the hall and around the world.

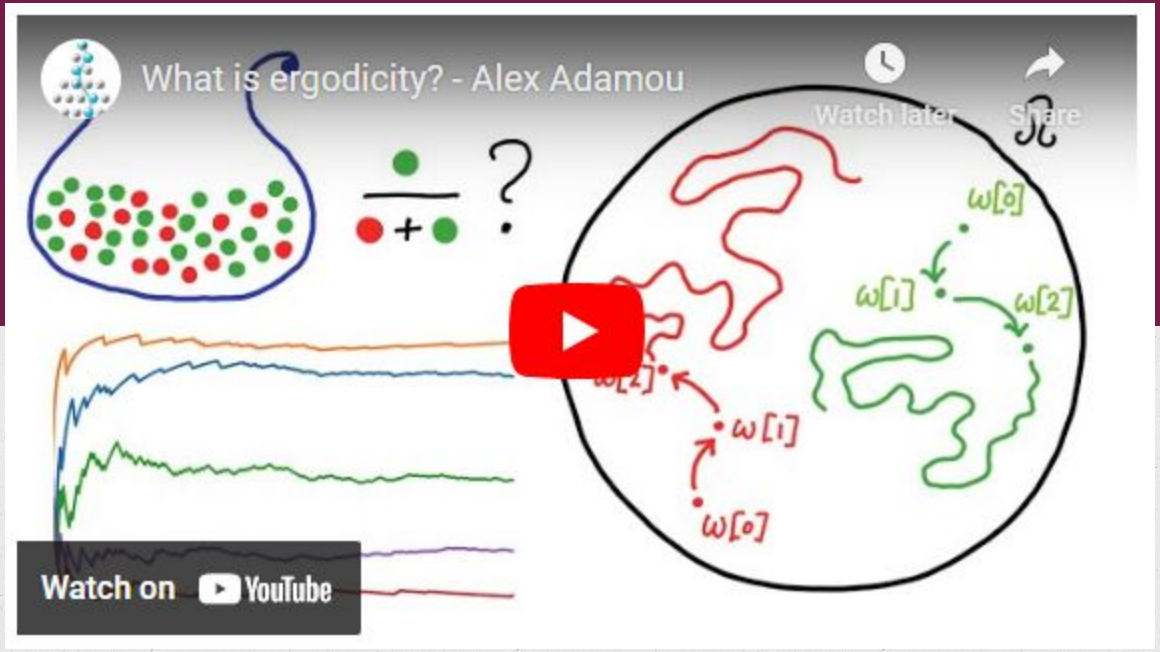
The postdoctoral position will focus on developing theory and numerical simulation for the design, analysis, and interpretation of experiments probing the fundamental design principles of effective molecular-scale free-energy transduction, both in model biophysical systems and biomolecular machines. Within this broad research thrust there is ample freedom to pursue particular areas of personal scientific interest. Postdoctoral fellows in my diverse and welcoming group mentor grad students and undergrads, play important (often leadership) roles in other trainees' research projects, and are embedded in the intellectually stimulating and interactive biophysics community within SFU Physics.

Conceptos

Why it would be great if more people laugh from this nerdy meme

Oliver López Corona
7 min read · 6 days ago




What is ergodicity? - Alex Adamou
Watch later
Share
Watch on YouTube
ω[0]
ω[1]
ω[2]

Science

Current Issue First release papers Archive About

EXPERT VOICES

How do we know how smart AI systems are?

MELANIE MITCHELL Authors Info & Affiliations

SCIENCE · 13 Jul 2023 · Vol 381, Issue 6654 · DOI: 10.1126/science.adj5957

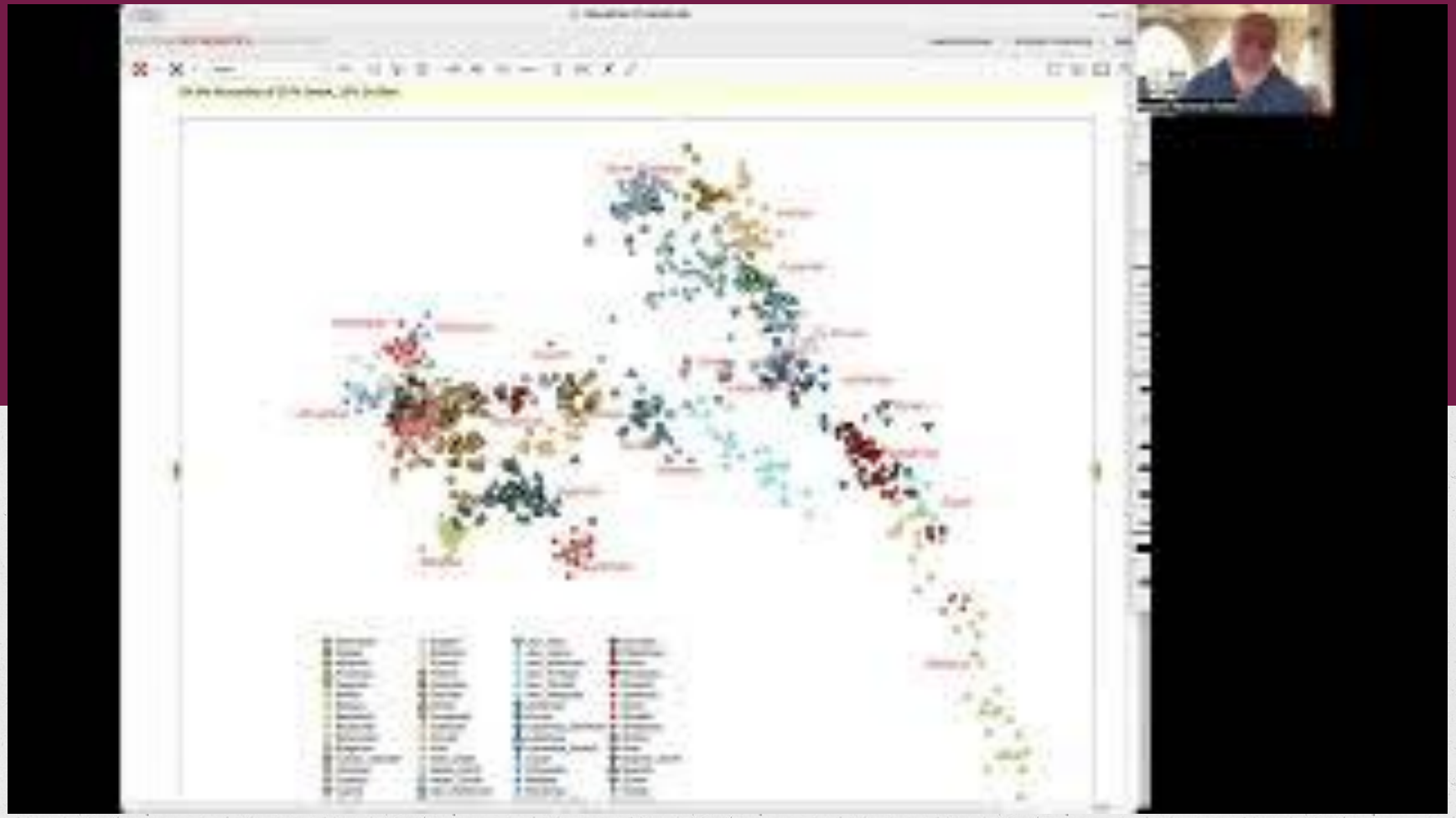
RELATED INTRODUCTION TO SPECIAL ISSUE

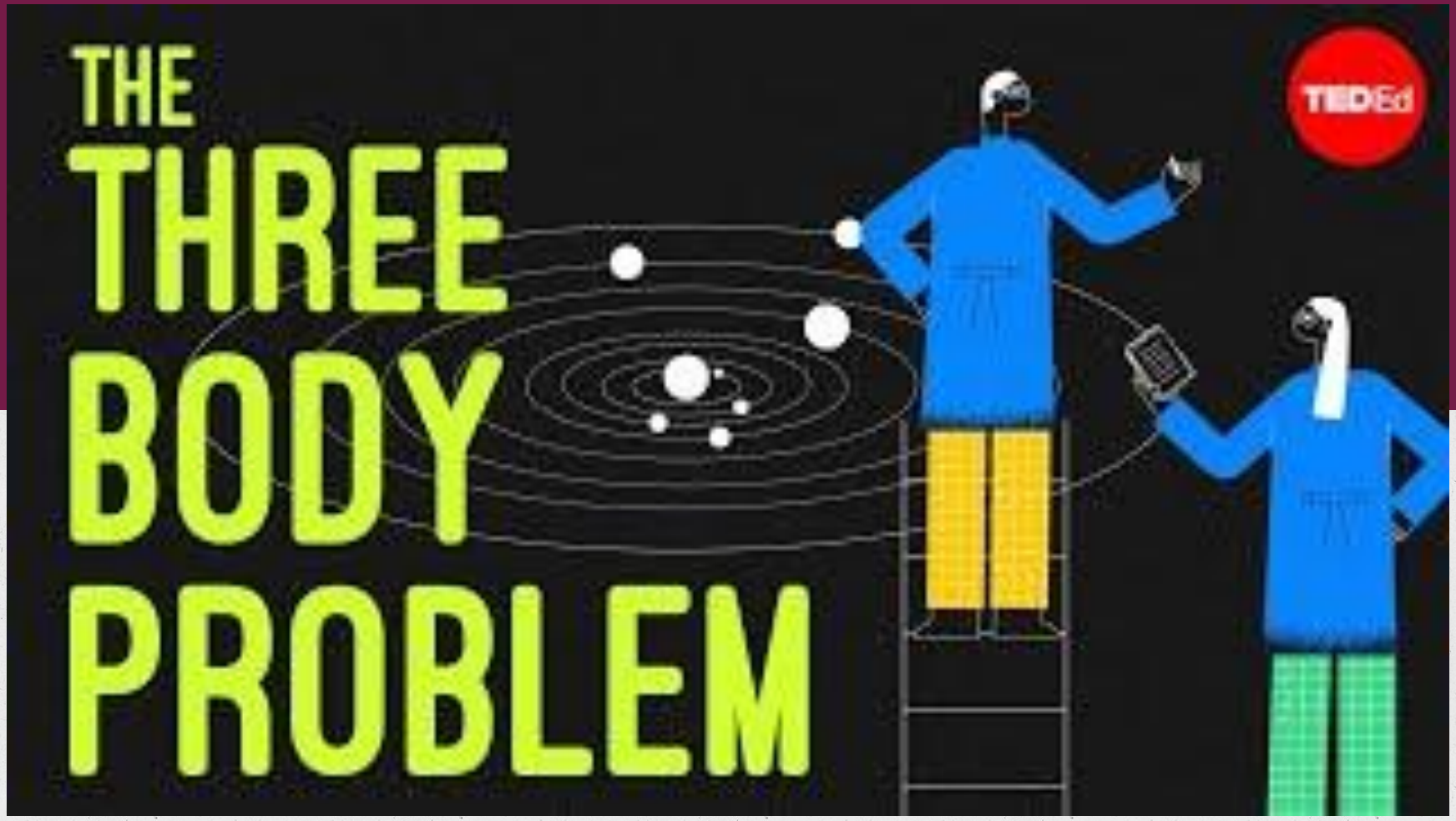
A machine-intelligent world

SCIENCE • 14 JUL 2023

In 1967, Marvin Minksy, a founder of the field of artificial intelligence (AI), made a bold prediction: "Within a generation…the problem of creating 'artificial intelligence' will be substantially solved." Assuming that a generation is about 30 years, Minsky was clearly overoptimistic. But now, nearly two generations later, how close are we to the original goal of human-level (or greater) intelligence in machines?

Some leading AI researchers would answer that we are quite close. Earlier this year, deep-learning pioneer and Turing Award winner Geoffrey Hinton told. *Technology Review*, "I have suddenly switched my views on whether these things are going to be more intelligent than us. I think they're very close to it now and they will be much more intelligent than us in the future." His fellow Turing Award winner Yoshua Bengio voiced a similar opinion in a recent blog post: "The recent advances suggest that even the future where we know how to build superintelligent AIs (smarter than humans across the board) is closer than most people expected just a year ago."




THE
THREE
BODY
PROBLEM
TED-Ed

Cursos

ILLINOIS

Introducción a la sostenibilidad

UNAM
Universidad Nacional Autónoma de México

Pensamiento científico

Enseñado en Español

Inscríbete gratis
Comienza el 19 de abr.

Ayuda económica disponible

MACQUARIE University

Evaluar los problemas

Este curso es parte de **Programa especializado: Resolver problemas complejos**

Enseñado en Inglés | 22 idiomas disponibles | Algunos contenidos pueden no estar traducidos

Instructor: A/Professor Iain Hay

MEMORIA DE LA ESCUELA


Game Theory
Collective Behavior
Nonlinear Dynamics
Emergence
Networks
Complex Systems
Self-Organization
Systems Theory
Pattern Formation
Evolution & Adaptation

Mi propuesta de que es lo que debería enseñarse y cómo.

Cultura

The not so hidden danger of the prophets of the doomsday and the 3 body problem

Oliver López Corona
10 min read · Mar 25, 2024

Seen from about 6 billion kilometers (3.7 billion miles), Earth appears as a tiny dot within deep space: the bluish-white speck almost halfway up the rightmost band of light.
https://en.wikipedia.org/wiki/Pale_Blue_Dot


EL PROBLEMA DE
LOS 3 CUERPOS

Artículo

Methods in Ecology and Evolution
BRITISH ECOLOGICAL SOCIETY

IMPROVING BIODIVERSITY MONITORING USING SATELLITE REMOTE SENSING | Free Access

Understanding and assessing vegetation health by in situ species and remote-sensing approaches

Angela Lausch, Olaf Bastian, Stefan Klotz, Pedro J. Leitão, András Jung, Duccio Rocchini, Michael E. Schaepman, Andrew K. Skidmore, Lutz Tischendorf, Sonja Knapp

First published: 06 August 2018 | https://doi.org/10.1111/2041-210X.13025 | Citations: 42

ORIGINAL RESEARCH article

Front. Clim., 15 April 2024
Sec. Climate and Decision Making
Volume 6 - 2024 | https://doi.org/10.3389/fclim.2024.1331945

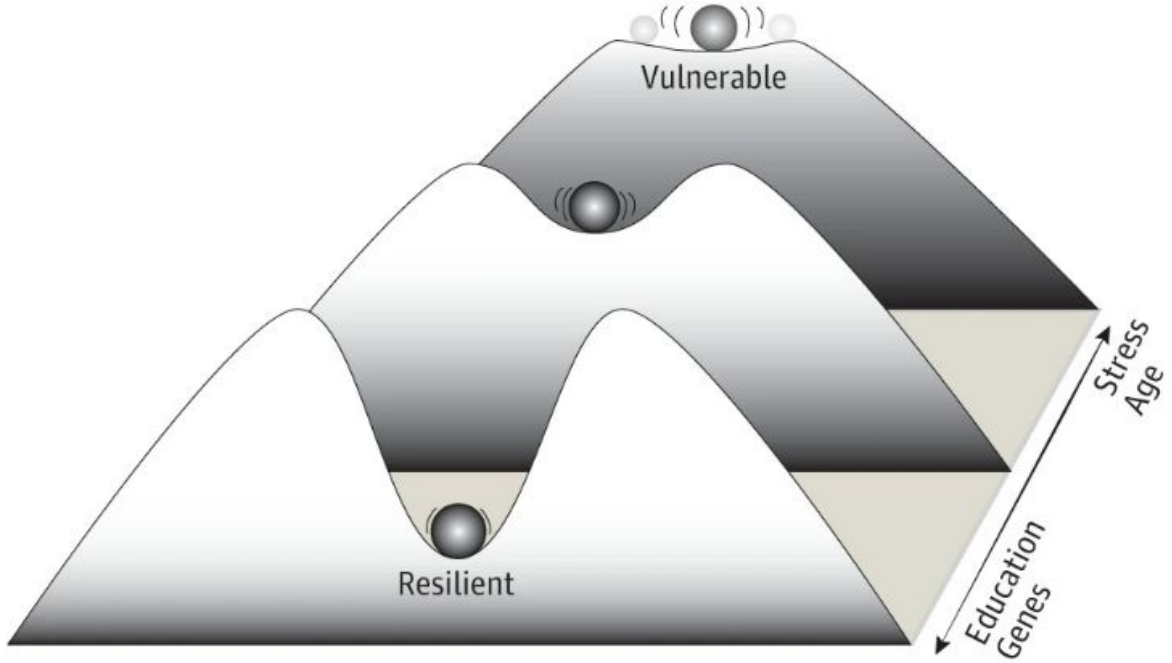
This article is part of the Research Topic
Climate Strategies and Deep Uncertainty
View all 7 Articles >

Navigating climate change complexity and deep uncertainty: approach for building socio-ecological resilience using qualitative dynamic simulation

Tatiana Merino-Benítez[1] Luis Antonio Bojórquez-Tapia[1*] Yosune Miquelajauregui[1] Eduardo Batllori-Sampedro[2]

[1] Laboratorio Nacional de Ciencias de la Sostenibilidad, Instituto de Ecología, Universidad Nacional Autónoma de México, Mexico City, Mexico
[2] Departamento de Ecología Humana, Centro de Investigación y Estudios Avanzados del IPN, Unidad Merida, Merida, Mexico

A Dynamical Systems View of Psychiatric Disorders—Theory: A Review



Marten Scheffer, Claudi L. Bockting, Denny Borsboom, et al.

Article | Open access | Published: 18 January 2023

The person-to-person transmission landscape of the gut and oral microbiomes

Mireia Valles-Colomer, Aitor Blanco-Míguez, Paolo Manghi, Francesco Asnicar, Leonard Dubois, Davide Golzato, Federica Armanini, Fabio Cumbo, Kun D. Huang, Serena Manara, Giulia Masetti, Federica Pinto, Elisa Piperni, Michal Punčochář, Liviana Ricci, Moreno Zolfo, Olivia Farrant, Adriana Goncalves, Marta Selma-Royo, Ana G. Binetti, Jimmy E. Becerra, Bei Han, John Lusingu, John Amuasi, ... Nicola Segata

+ Show authors

Nature **614**, 125–135 (2023) | Cite this article

Antifragility as a complex system's response to perturbations, volatility, and time

Cristian Axenie[1], Oliver López-Corona[2], Michail A. Makridis[3], Meisam Akbarzadeh[4], Matteo Saveriano[5], Alexandru Stancu[6], and Jeffrey West[7,*]

[1]Department of Computer Science and Center for Artificial Intelligence, Nuremberg Institute of Technology Georg Simon Ohm, Nuremberg, Germany
[2]Investigadores por México (IxM) at Instituto de Investigaciones en Matemáticas Aplicadas y Sistemas (IIMAS), Universidad Nacional Autónoma de México (UNAM), Ciudad Universitaria, CDMX, México
[3]IVT, Civil Environmental and Geomatic Engineering, ETH Zurich, Switzerland
[4]Department of Transportation Engineering, Isfahan University of Technology, Isfahan, Iran
[5]Department of Industrial Engineering, University of Trento, Trento, Italy
[6]Department of Electrical and Electronic Engineering, The University of Manchester, Manchester, UK
[7]Department of Integrated Mathematical Oncology, H. Lee Moffitt Cancer Center & Research Institute, Tampa, FL, USA

*jeffrey.west@moffitt.org

ABSTRACT

Antifragility characterizes the benefit of a dynamical system derived from the variability in environmental perturbations. Antifragility carries a precise definition that quantifies a system's output response to input variability. Systems may respond poorly to perturbations (fragile) or benefit from perturbations (antifragile). In this manuscript, we review a range of applications of antifragility theory in technical systems (e.g., traffic control, robotics) and natural systems (e.g., cancer therapy, antibiotics). While there is a broad overlap in methods used to quantify and apply antifragility across disciplines, there is a need for precisely defining the scales at which antifragility operates. Thus, we provide a brief general introduction to the properties of antifragility in applied systems and review relevant literature for both natural and technical systems' antifragility. We frame this review within three scales common to technical systems: intrinsic (input-output nonlinearity), inherited (extrinsic environmental signals), and interventional (feedback control), with associated counterparts in biological systems: ecological (homogeneous systems), evolutionary (heterogeneous systems), and interventional (control). We use the common noun in designing systems that exhibit antifragile behavior across scales and guide the reader along the spectrum of fragility–adaptiveness–resilience–robustness–antifragility, the principles behind it, and its practical implications.

1 Introduction

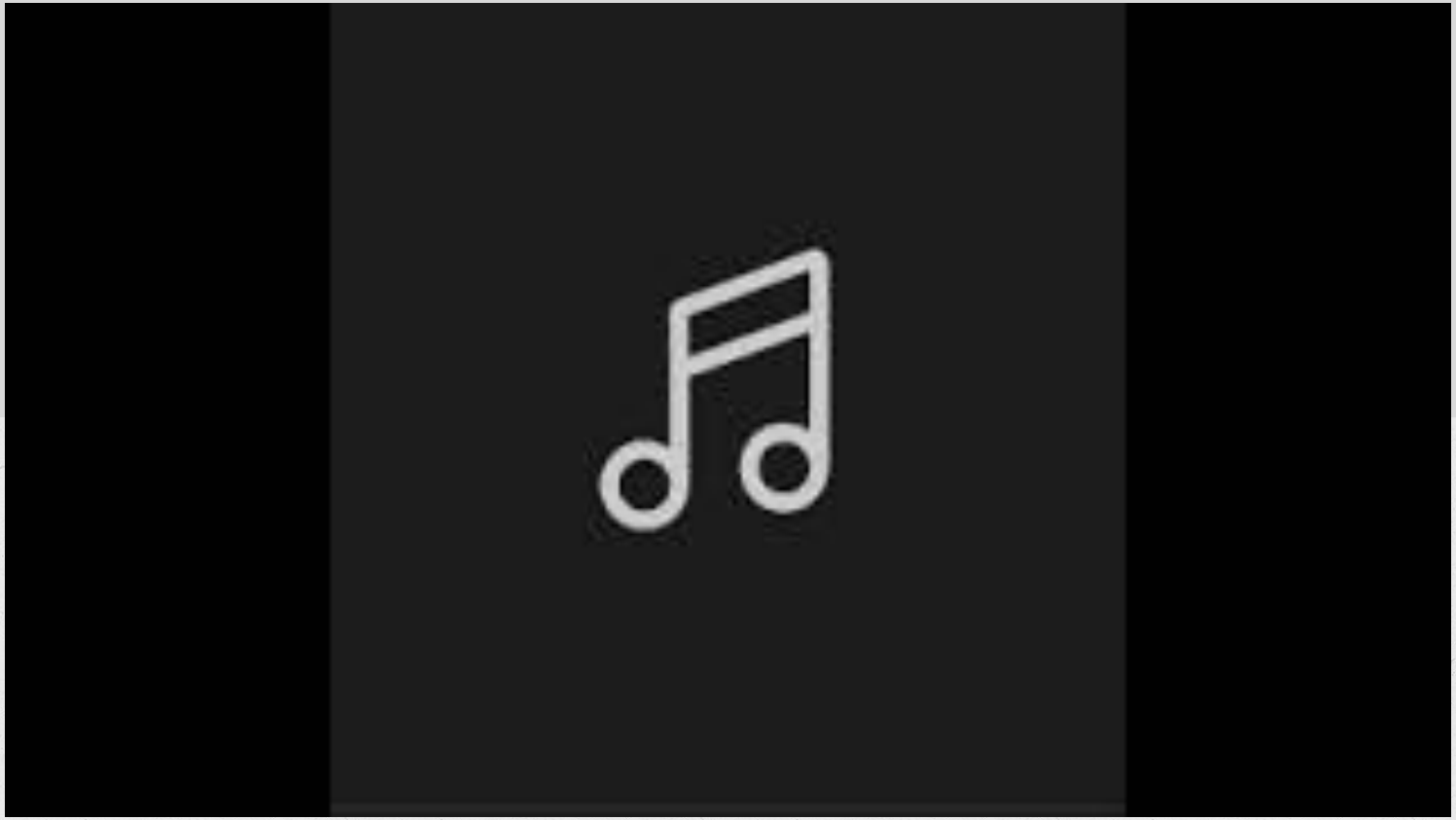
ANTIFRAGILE is a term coined to describe the opposite of fragile, as defined in a recent book that generated significant interest in both the public and scientific domain[1]. Although the term has a wide range of applications, it contains a precise and mathematical definition. Systems or organisms can be defined as antifragile if they derive benefit from systemic variability,

Videos


STREAM STARTING SHORTLY:
Can AI Solve Science?
Live with Stephen Wolfram


Statistical
Consequences
of Fat Tails
Nassim Nicholas Taleb

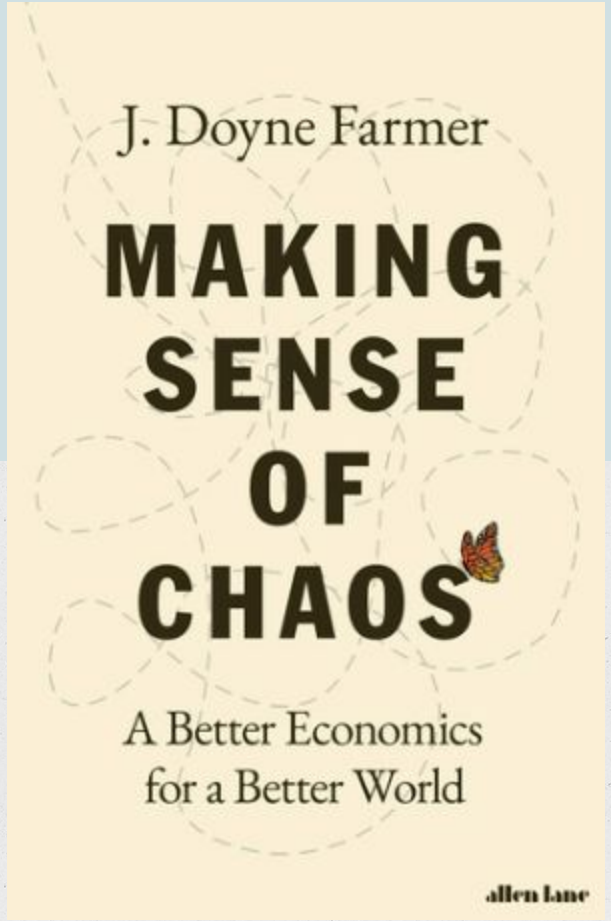

I failed
(why academia sucks)
SH

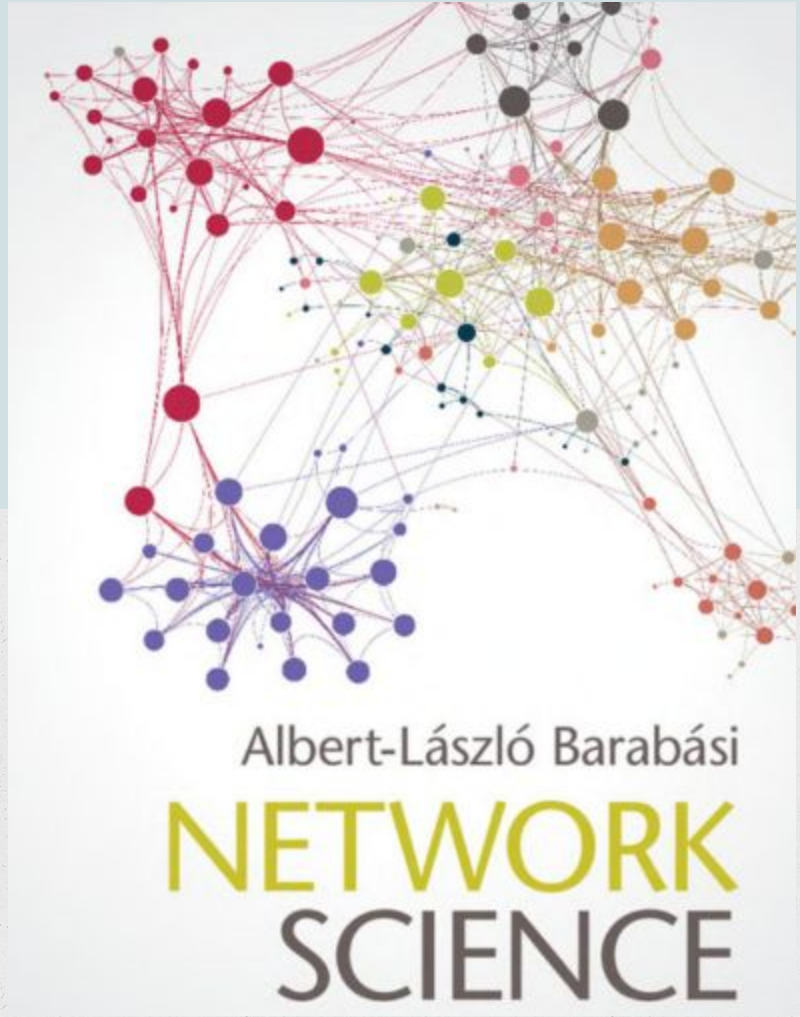


Escuela de Gobierno @EGobiernoyTP · 30 ago.

Hoy en @TheDataPub, el Dr. Oliver López-Corona (@otrasenda_AC) habló del peligro de las narrativas falsas basadas en datos; se refirió a los límites de la inferencia en sistemas complejos, así como a las fallas típicas en el razonamiento estadístico y probabilístico.

Libros


J. Doyne Farmer
MAKING SENSE OF CHAOS
A Better Economics for a Better World
allen lane


Albert-László Barabási
NETWORK
SCIENCE

How Everything Is Connected to Everything Else and What It Means for Business, Science, and Everyday Life

Linked

"*Linked* could alter the way we think about all of the networks that affect our lives." —*The New York Times*

Albert-László Barabási

With a New Afterword

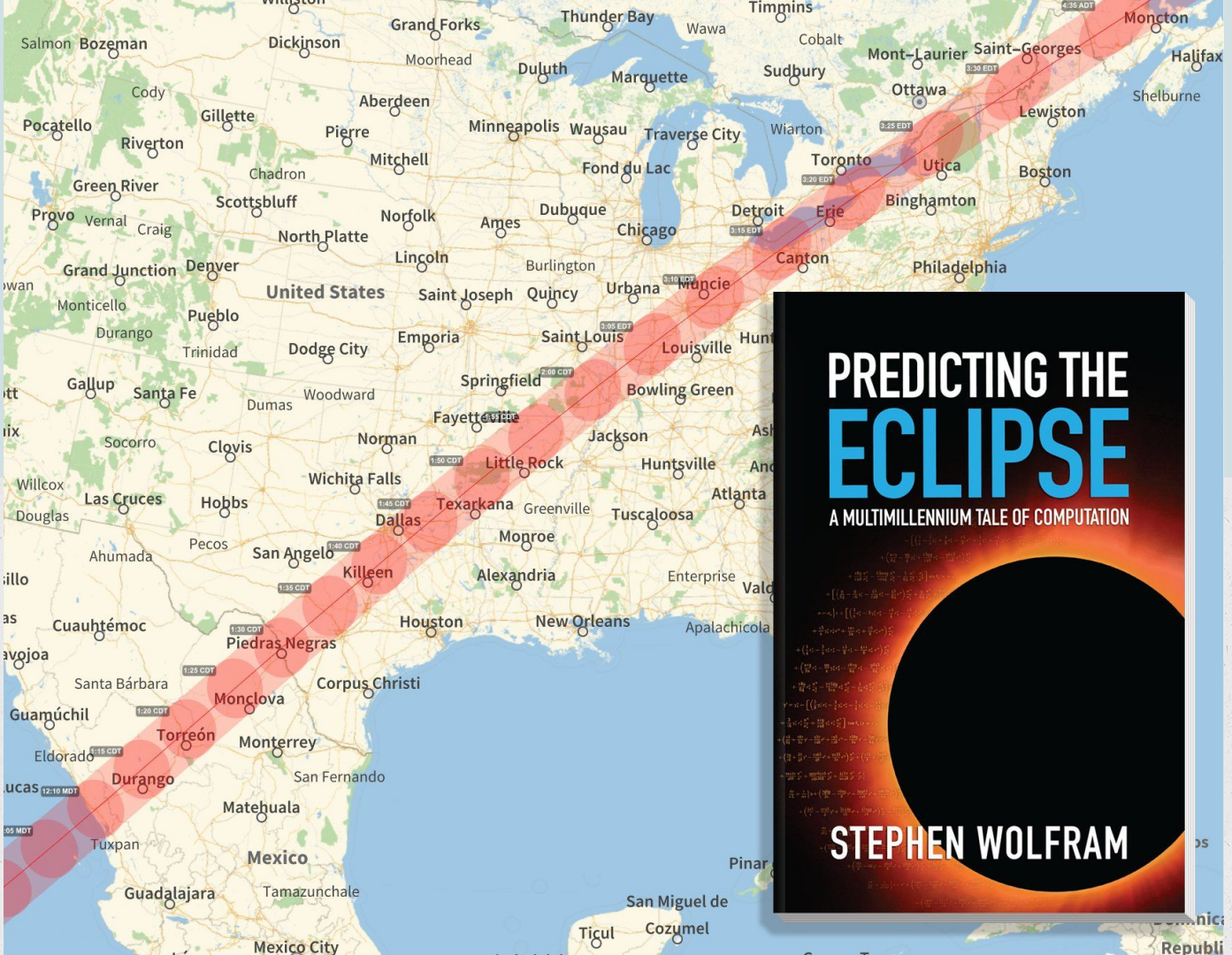

THE
SCIENCE
OF
SCIENCE
Dashun Wang
Albert-László Barabási

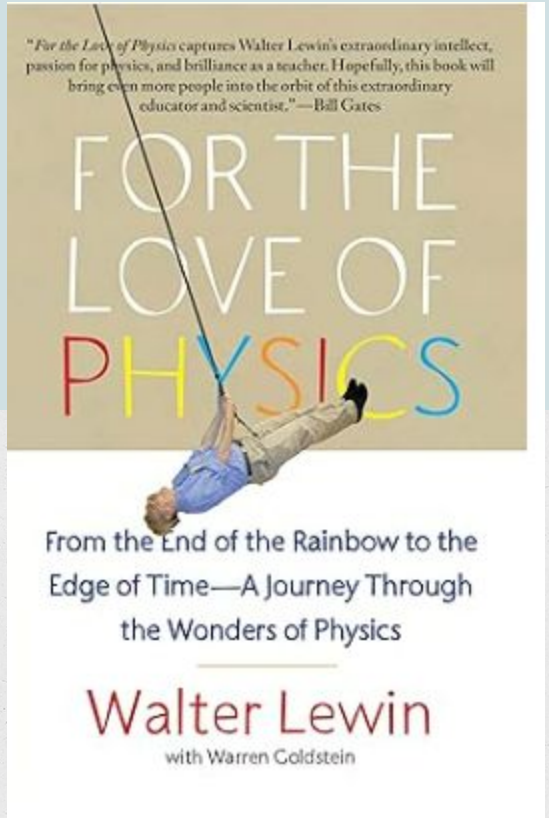
THE Formula

THE UNIVERSAL LAWS OF SUCCESS

Albert-László Barabási

Little, Brown and Company
New York Boston London


PREDICTING THE
ECLIPSE
A MULTIMILLENNIUM TALE OF COMPUTATION
STEPHEN WOLFRAM


"For the Love of Physics captures Walter Lewin's extraordinary intellect, passion for physics, and brilliance as a teacher. Hopefully, this book will bring even more people into the orbit of this extraordinary educator and scientist."—Bill Gates
FOR THE LOVE OF PHYSICS
From the End of the Rainbow to the Edge of Time—A Journey Through the Wonders of Physics
Walter Lewin
with Warren Goldstein

The Re-Read List (RRL)

Contrary to those never ending reading lists, inhere we will only share Lindy books that deserve not only to be read but re-read several times. Those books that renew themselves when reopened, in which you may find new hidden details or deeper layers of knowledge.

by

Giovanni H. Uribe & Oliver López-Corona

Notas

White hairs adorn the body of this longhorn beetle from Australia. The unusual fluff and other unique physical traits indicated to scientists that the insect is a species new to science.

This newfound longhorn beetle species is unusually fluffy

Listen to "New Superconductor Scandal -- and other **Science News** of the week" by Science with Sabine.

El sistema Cutzamala del Valle de México, el más vulnerable ante el cambio climático: Dr. Oscar Escolero de la UNAM

13 NOVIEMBRE 2014

Y está documentado también que los impactos del cambio climático inciden de manera importante en muchos aspectos de la vida, especialmente en la disponibilidad del agua, en la posibilidad de que ésta sea de calidad, así como en el incremento de los fenómenos hidrometeorológicos extremos (sequías e inundaciones) que año con año ocasionan pérdidas humanas.

En el Valle de México en donde conviven alrededor de 20 millones de personas, se han exacerbado en los últimos años las crisis por el agua. El modelo de crecimiento de la zona ha sobreexplotado a la cuenca, y ha sido necesario desarrollar grandes proyectos de infraestructura hidráulica, y de importación de agua de los alrededores, para garantizar el abasto de los servicios.


Descubren nueva especie de murciélago
mexicano y lo nombran en honor a
investigadora de la FC
VER MÁS

The Strange (But Appealing) Idea That Life Is A Consequence Of Entropy