FisMatEcol Boletin

MAyo 2024

Dr. Oliver López Corona
Dra. Elvia Ramírez Carrillo

Eventos

UNAM Campus Morelos

INSTITUTO DE CIENCIAS FÍSICAS

Coloquio

Híbrido del ICF

"Desarrollo de biosensores para la detección de especies de interés medioambiental y para el diagnóstico clínico"

Dr. Gastón Contreras Jiménez

Laboratorio de Microscopía, Microdisección Láser y Electroquímica, Instituto de Ecología, UNAM

Miércoles 29 de mayo 2024 - 13:00 hrs. (GMT-6), hora CDMX.

Auditorio ICF | Zoom | YouTube

Meeting on Complex Systems and Stochastic Processes

UNIVERSIDAD DE GUADALAJARA

CUCEI

Instituto de Física UNAM

CUVALLES

SCOPE

- Opinion Dynamics
- Quantum Thermody-namics
- Clasical & Quantum Walks
- Critical Dynamics
- Searching & Optmization
- Econophysics
- Network and Fractals

WHERE

At the "Centro Universitario de Ciencias Exactas e Ingenierías" (CUCEI) of the "Universidad de Guadalajara"

Address: Blvd. Gral. Marcelino García Barragán 1421, Olimpica, 44430 Guadalajara, Jalisco, México.

DATES: **1st - 5th July, 2024**

FORMAT

The congress will have

- Keynote talks (45 min).
- Regular talks (30 min).
- Short talk sessions (15 min each).
- Poster sessions.

REGISTRATION

Visit the webpage for registration,
Deadline for the registration is 7th of June , 2024

Email
meetingcomplexsystems@gmail.com

WebPage
https://sites.google.com/view/meetingcomplexsystems/


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

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

CLIMATE CHANGE RESEARCH GROUP

NORTHWESTERN UNIVERSITY

Openings

The CCRG is always looking for independent and creative undergraduate, graduate, and postdoctoral scholars to join our team. If you're interested in working with us, please send inquires to the PI. On occasion, we seek individuals for specific research posts. Descriptions of active posts (if available) can be found below:

Seeking 2 Postdoctoral Fellows to perform research at the nexus of Earth system science, data science, public health, and environmental justice

Northwestern University's Climate Change Research Group [https://sites.northwestern.edu/danethan/] seeks two postdoctoral research fellows with experience and/or interest in leading/joining two distinct but overlapping interdisciplinary research projects that will advance the state-of-knowledge at the intersection of climate/atmospheric sciences, public health, and environmental justice. Both postdoctoral fellows will be expected to perform state-of-the-science research as well as interact with, solicit feedback from, and inform community, municipal, and policy partners regarding experimental design, data analyses, and results. Research activities will focus on characterizing hyper-local/intra-urban extreme heat and/or air pollution exposure, health

Postdoctoral Associate-Forest and fire modeling, Forest Futures Lab

a tiempo completo in Millbrook, NY

Postdoctoral Position: Modeling 21st-century boreal forests and fire. As part of a multi-institution NSF project, The Forest Futures Lab at Cary Institute of Ecosystem Studies seeks a postdoctoral associate to project future fire and ecosystem dynamics in the boreal forest of western North America with a state-of-the-art simulation model. Specifically, the postdoctoral associate will use simulations to assess the fire, forest, and topographic characteristics that render boreal ecosystems vulnerable to state shift after fire and project 21st-century carbon storage and forest landscape change. The successful candidate will be mentored by Dr. Winslow Hansen and will work with a vibrant team to conduct ensemble simulations in a cluster environment; analyze and interpret model output; and communicate research orally and through peer-reviewed journal articles. Successful candidates will be provided opportunity to pursue their own interests and ideas in a nurturing and supportive lab environment. Cary Institute of Ecosystem Studies is the world's premier think tank on ecosystem science. It is a uniquely collaborative and welcoming institution. The successful candidate will be provided resources for travel related to the project and will have many opportunities for professional development beyond the project. For additional information on the Forest Futures Lab, visit http://forestfutureslab.org/. For additional information about Cary Institute of Ecosystem Studies, visit https://www.caryinstitute.org/.

Duration: This is a full time, exempt, fully benefitted position for one year and is renewable for an additional year contingent upon successful performance. Salary starts at $70,000 - $85,000 per year plus a highly competitive benefits package. Start date is October 15, 2024 at the latest.

Location: Millbrook, NY but hybrid or remote work will be considered for the right candidate.

Job Summary

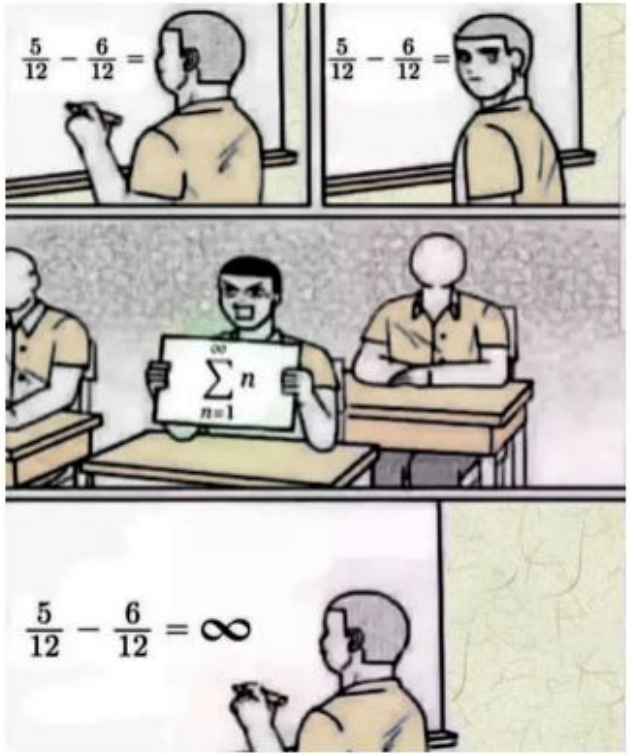
The Mountain Limnology Laboratory (MLL) at the Institute of Arctic and Alpine Research at University of Colorado Boulder is recruiting a postdoctoral researcher to work on a project jointly funded by the U.S. Geological Survey Climate Research and Development program and North Central Climate Adaptation Science Center. The primary project centers around synthesizing and interpreting 40+ years of long-term biogeochemical, hydrologic, and meteorological data from the Loch Vale Watershed (LVWS), Green Lakes Valley (Niwot Ridge LTER), and other high-elevation wilderness lakes in the southern Rocky Mountains. Interpretation will range from site-specific to global This is a CU Boulder, full time, exempt, fully benefitted, salaried position for two years, with possible extension pending funding. The preferred start date is September of 2024, but exact start date is negotiable.

The University of Colorado Boulder is committed to building a culturally diverse community of faculty, staff, and students dedicated to contributing to an inclusive campus environment. We are an Equal Opportunity employer, including veterans and individuals with disabilities.

Conceptos

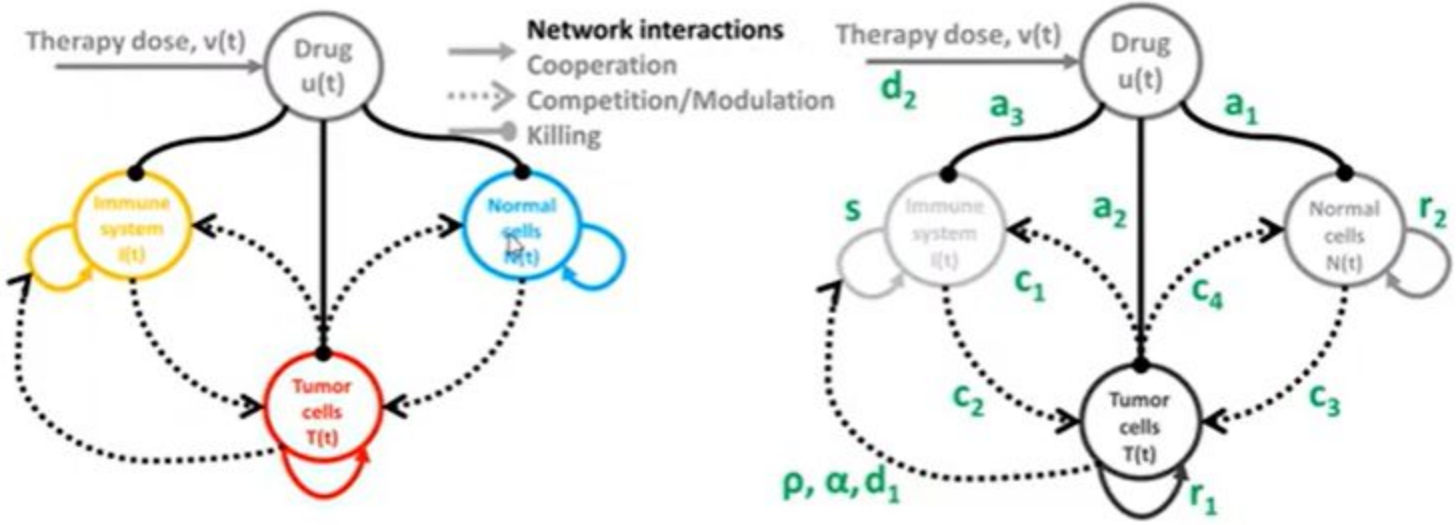
Why it would be great if more people laugh from this nerdy meme

Oliver López Corona
7 min read · 6 days ago

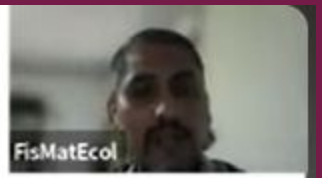


Control Antifragil

Antifragile feedback control: mechanistic design

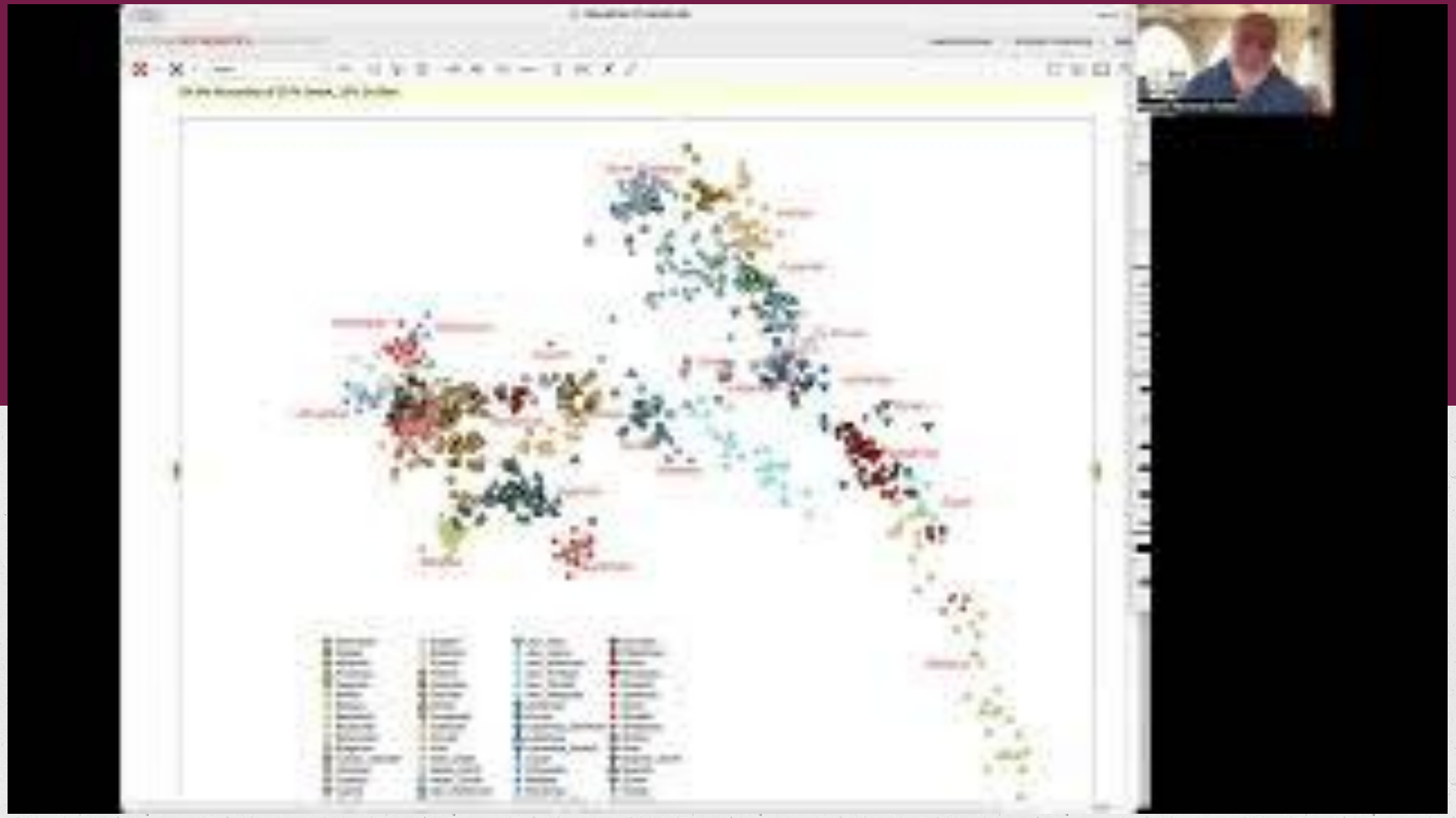


Título del proyecto



¿Qué nos puede decir la física y matemáticas aplicadas sobre la salud del ecosistema de la microbiota intestinal?

O sobre la búsqueda de principios universales en los sistemas vivos (sistemas complejos)




Física y Matemáticas en las
ciencias de la vida.
Enseñanza formal y no formal.
David Mustri Trejo
David Mustri T...


FisMatEcol
El futuro de las ciudades está en pensarlas como ecosistemas urbanos antifrágiles
Oliver López-Corona.
[1] IxM, IIMAS, UNAM
lopezoliverx@ciencias.unam.mx
https://lopezoliver.otrasenda.org

Cursos

Universidad Nacional Autónoma de México
Posgrado en Geografía

PROPUESTA DE LA ASIGNATURA:
Cambio Global: Impacto y Respuesta de los Ecosistemas

PRESENTA
Dra. Melanie Kolb
Dr. Leopoldo Galicia
Dr. César Vázquez

JUSTIFICACIÓN

El cambio global representa el marco que nos permite entender las diferentes crisis socio-ecológicas actuales y los procesos no sostenibles que las determinan. Los alumnos desarrollarán habilidades de discusión sobre problemas complejos cuyas causas y efectos ocurren en múltiples escalas y niveles de interacción tanto espacial como temporal, y que son el resultado de diferentes factores que requieren abordarse desde un enfoque inter- y transdisciplinario para su contextualización en términos del cambio global.


GRANDES MAESTRAS MAESTROS
.unam
2022
ANTONIO LAZCANO

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

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


CÁTEDRA
EXTRAORDINARIA
de la Facultad de Filosofía y Letras, UNAM
a cargo del Programa Universitario de Bioética
Sesión 11:
"Cambio climático"
PUB
BIOÉTICA

STREAM STARTING SHORTLY:

Science & Technology Q&A for Kids (and others)

April 24, 2020

Artículo

Article | Open access | Published: 07 December 2023

Towards an antifragility framework in past human–environment dynamics

Yitzchak Jaffe, Ari Caramanica & Max D. Price

Humanities and Social Sciences Communications **10**, Article number: 915 (2023) | Cite this article

1282 Accesses | **3** Altmetric | Metrics

Abstract

Scholarship on human–environment interactions tends to fall under two headings: collapse or resilience. While both offer valid explanatory frameworks for human–environment dynamics, both view stress as a net negative that, if unchecked, disrupts systems in equilibrium. Societies either succumb to stress (and collapse) or overcome stress and persist (demonstrate resilience). We re-evaluate the role of stress and advocate for a non-equilibrium approach to the study of past human–environment interactions. We draw inspiration from Nasim Taleb's concept of 'antifragility', which posits a positive role of stress for increasingly complex systems. We apply antifragility as an explanatory framework to pre-Hispanic coastal Peru, where indigenous farmers adapted to the stresses of highly variable El Niño events through a variety of water management systems. Finally, we note that an antifragility approach highlights the beneficial role of stressors, and that avoiding stress altogether makes a system more fragile.

Spatial Heterogeneity and Temporal Variation in Urban Surface Albedo Detected by High-Resolution Satellite Data

by Hantian Wu [1], Bo Huang [1,*], Zhaoju Zheng [2], Zonghan Ma [2] and Yuan Zeng [2,3]

[1] Institute of Space and Earth Information Science, Chinese University of Hong Kong, Shatin, Hong Kong, China

[2] State Key Laboratory of Remote Sensing Science, Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100101, China

[3] School of Resource and Environment, University of Chinese Academy of Sciences, Beijing 100049, China

* Author to whom correspondence should be addressed.

Remote Sens. **2022**, *14*(23), 6166; https://doi.org/10.3390/rs14236166

Submission received: 30 October 2022 / Revised: 28 November 2022 / Accepted: 2 December 2022 / Published: 5 December 2022

Biological Conservation 294 (2024) 110601

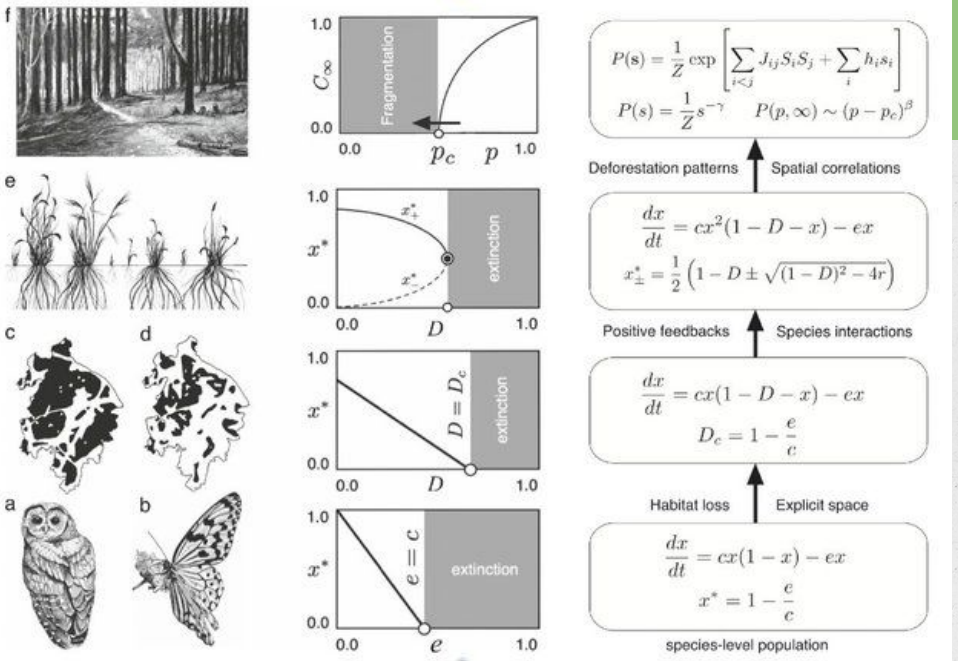
Contents lists available at ScienceDirect

Biological Conservation

journal homepage: www.elsevier.com/locate/biocon

Nonequilibrium dynamics in conservation biology: Scales, attractors and critical points

Ricard Solé *



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,*]

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[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

JORNADA DE HIDROGEOLOGÍA

en Memoria de Oscar Escolero

Auditorio José Guadalupe Aguilera, IGL


LUNCH COMPLEJO
IA Y COMPLEJIDAD
EN LA EMERGENCIA
DEL ESTADO DE DERECHO
Miércoles 22 de mayo
12:00 horas
Auditorio del C3
Enrique Cáceres Nieto
www.c3.unam.mx
@c3unam

SEMINARIO DE CUIDADOS PARA LA VIDA Y EL BIEN COMÚN

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 hrs

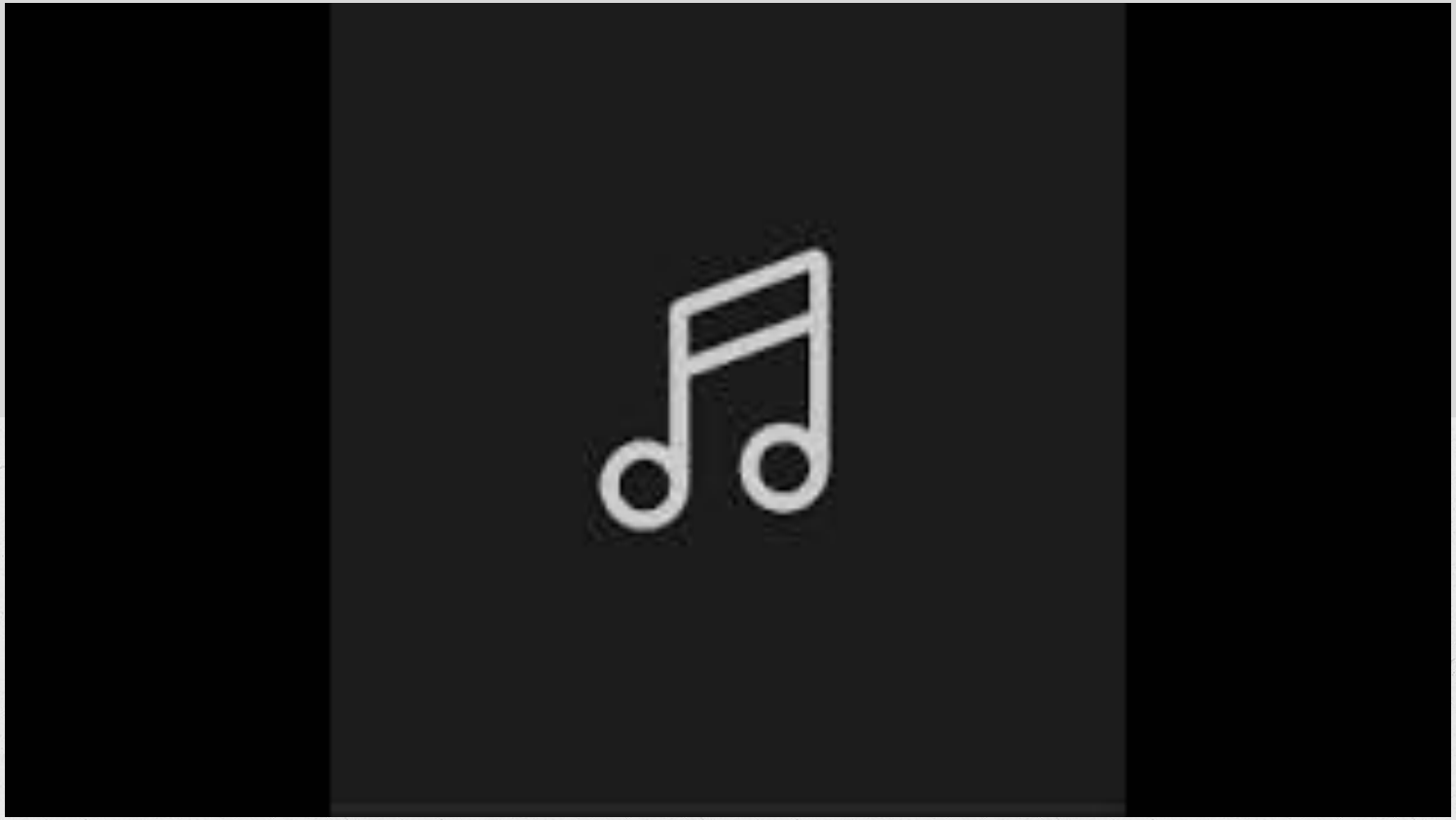
Evento híbrido en el Auditorio del C3

y transmisión por Facebook y YouTube del @c3.unam

www.youtube.com/c/CentrodeCienciasdelaComplejidadC3

Informes: seminario.cuidados@c3.unam.mx

www.c3.unam.mx



Escuela de Gobierno @EGobiernoyTP · 30 ago.

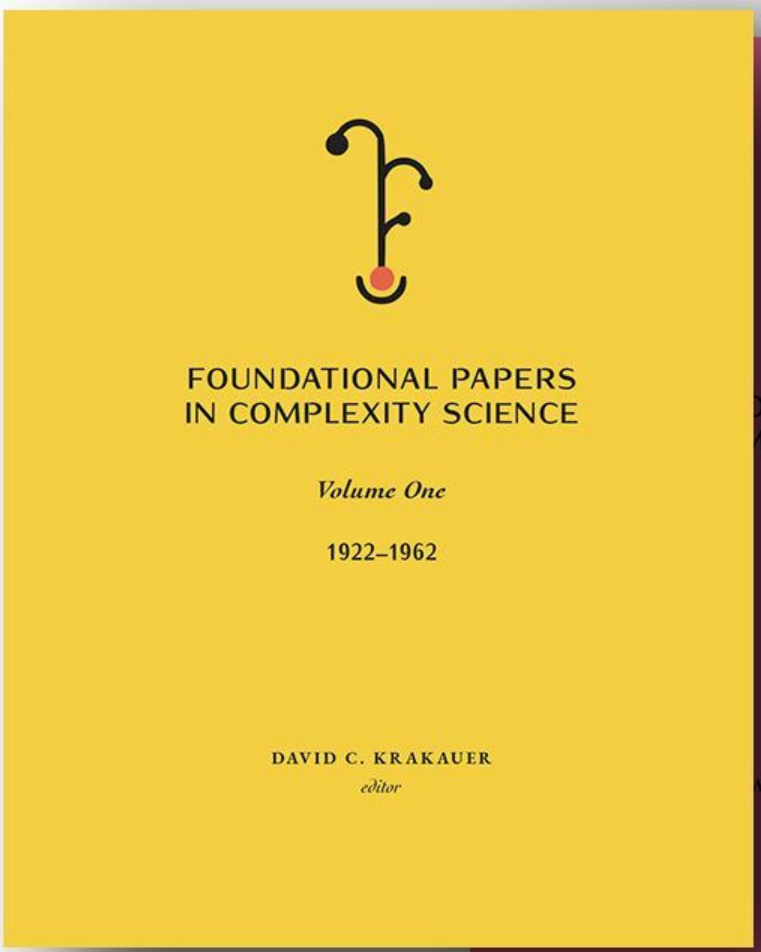
Hoy en @TheDataPub, el Dr. Oliver López-Corona (@otrasenda_AC) habló del peligro de las narrativas falsas basadas en datos; se refirió a los límites de la inferencia en sistemas complejos, así como a las fallas típicas en el razonamiento estadístico y probabilístico.

Libros

THE BOOK OF SEEDS

A LIFE-SIZE GUIDE TO SIX HUNDRED SPECIES FROM AROUND THE WORLD

EDITED BY
PAUL SMITH


FOUNDATIONAL PAPERS
IN COMPLEXITY SCIENCE
Volume One
1922–1962
DAVID C. KRAKAUER
editor


DATIONAL PAPERS
MPLEXITY SCIENCE
Volume Two
1962–1973
AVID C. KRAKAUER
editor

IAL PAPERS
TY SCIENCE
Three
1988
KAKAUER

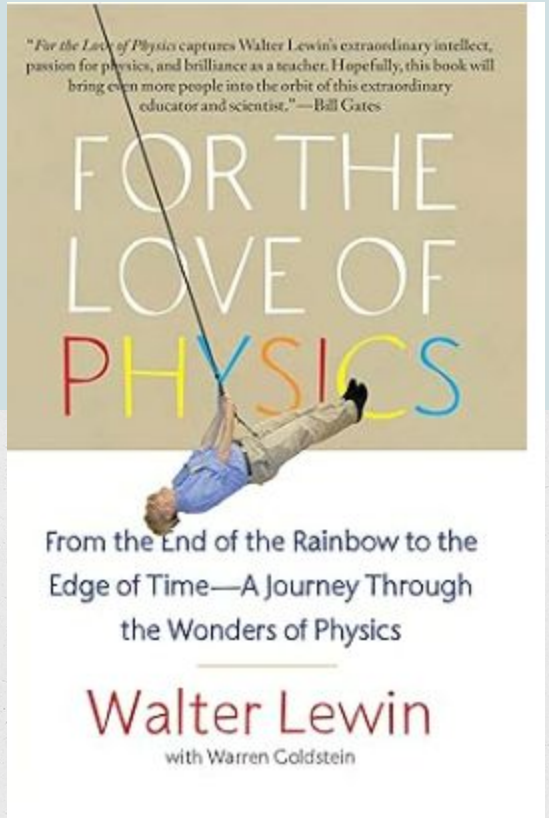
PAPERS
SCIENCE
UER

THE Formula

THE UNIVERSAL LAWS OF SUCCESS

Albert-László Barabási

Little, Brown and Company
New York Boston London


"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

Notas

News from Science @NewsfromScience · 3h

Since the Stone Age, hunters have brought down big game with spears, atlatls, and bows and arrows.

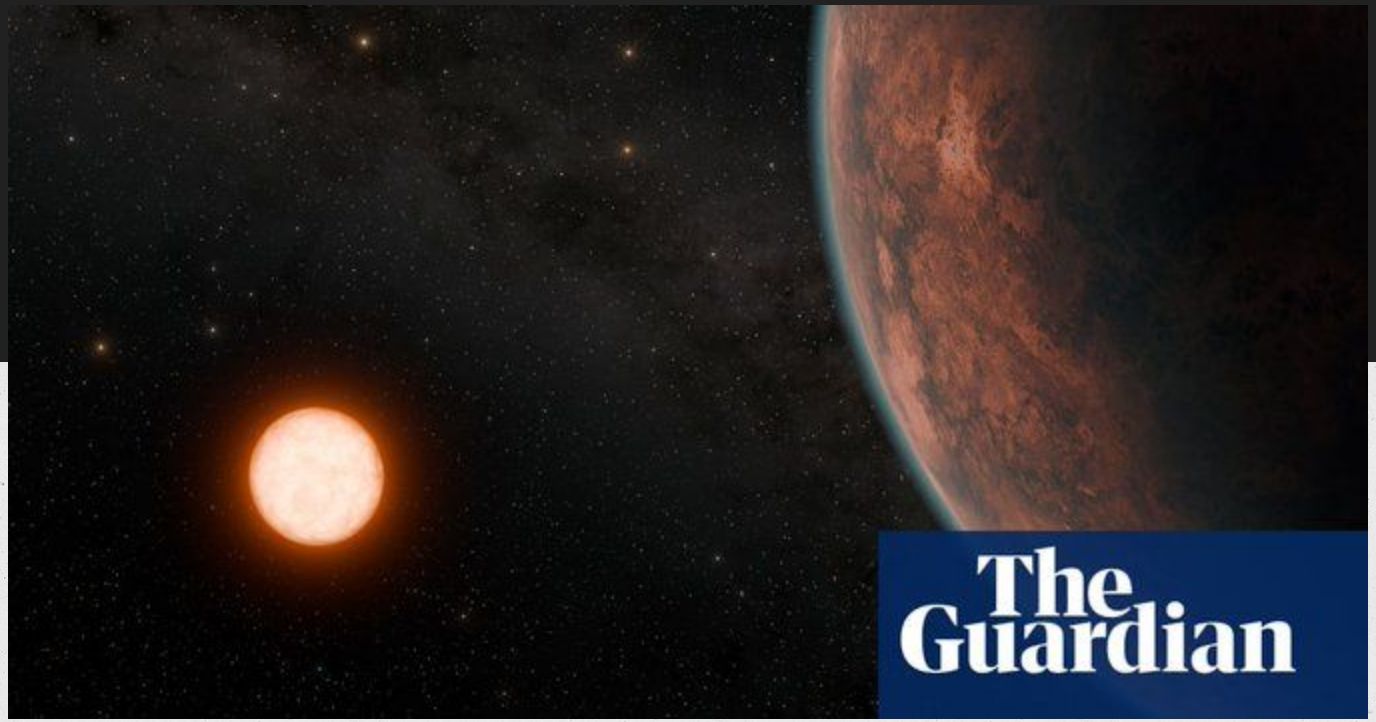
Now, a new study reveals traditional societies around the globe also relied on another deadly but often-overlooked weapon: our legs.

BBC Science News @BBCScienceNews · 24 may.

Roman settlement discovered at warehouse site

De bbc.com


The Guardian


The Guardian