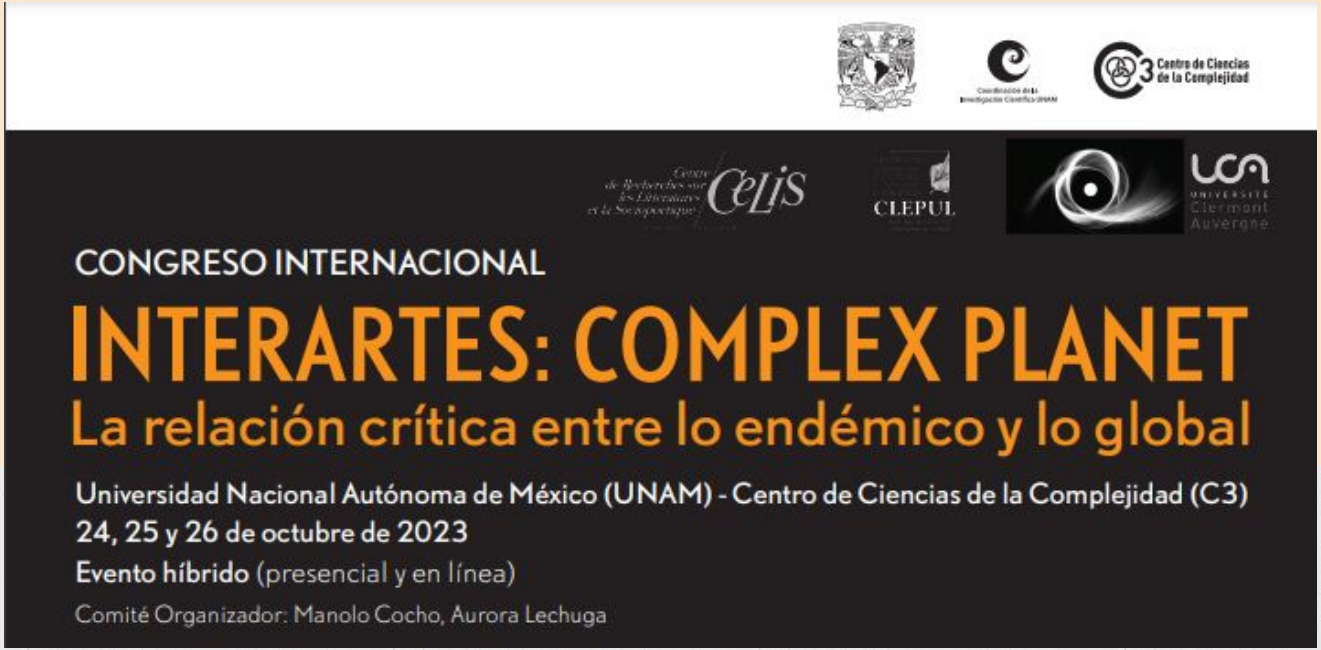
FisMatEcol Boletin

Abril 2023

Dr. Oliver López Corona
Dra. Elvia Ramírez Carrillo

Eventos



EJES TEMÁTICOS:

COMPLEX PLANET plantea 5 ejes de investigación en los que se manifieste la complejidad, el vínculo entre disciplinas y las diversas formas en que lo endémico se vincula con lo global:

1. Biología: diversidad, ecosistemas y evolución
2. Sociedad: cultura local vs cultura global
3. Crisis: puntos críticos entre la sociedad y el planeta
4. Proyectos interdisciplinares de artes vinculados a nuestra relación con el planeta
5. Literatura: investigación o manifestaciones literarias

CONVOCATORIA:

- Dirigida a: investigadores(as), artistas, científicos(as) y docentes de todas las áreas
- Envío de propuestas: Mandar un resumen en Word, que incluya: título, nombre del autor(a), resumen de la propuesta (200-300 palabras), y cinco palabras clave. Además, deberá incluir una biografía del proponente
(máx. 10 renglones).
- Enviarlo a: aurora.lechuga@c3.unam.mx.
- Recepción de propuestas: del 24 de marzo al 4 de mayo de 2023
- Notificación de propuestas aceptadas: 28 de julio de 2023
- Presentación: Las propuestas aceptadas dispondrán de 20 minutos para presentar su trabajo. Además, un comité
editorial elegirá los mejores trabajos para publicar un volumen colectivo.

Autómatas Celulares Probabilistas
en el régimen ruidoso

Edgardo Ugalde

Instituto de Física, Universidad Autónoma de San Luis Potosí

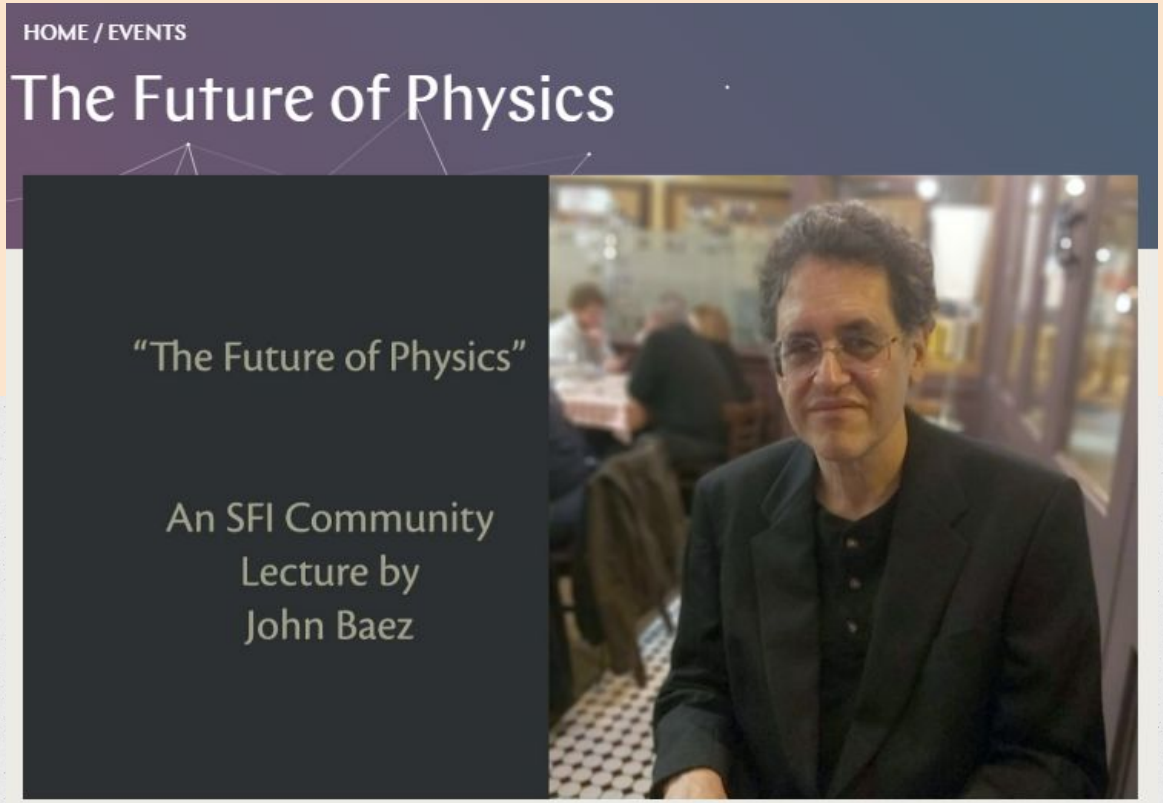
Miércoles	13:15 hrs.
3 de mayo	Salón de Seminarios S-104
2023	Departamento de Matemáticas, Facultad de Ciencias, UNAM

seminarioproba@matem.unam.mx

https://www.matem.unam.mx/~seminarioproba/

Suscripción a la lista de distribución:
https://bit.ly/3JmwVMB_ProcesosEstocasticos

Organizan: Laura Eslava · María Clara Fittipaldi · Saraí Hernández-Torres



Lensic Performing Arts Center
Community Event
7:30 pm – 9:00 pm US Mountain Time
May 23, 2023
Speaker:
John Baez

This lecture will be streamed live via SFI's YouTube channel, and recorded for future viewing.

Club de Lectura - Red Compleja

Por favor completa la información para inscribirte en el club. Nos encontraremos una vez por semana en Zoom y tendremos una comunidad para compartir insights y debatir de manera asíncrona.

Club de lectura de Red Compleja.
Libro Antifragile de Nassim Taleb.

En este video comentamos sobre el mecanismo de sobrerreacción y las diferencias entre el mundo mecánico y natural.

https://youtu.be/mLCRqlOb_Kw

Unete si te gustaría participar!
https://forms.gle/EV6YCicoL1SxPC...

Oportunidades

Brigham and Women's Hospital; Harvard Medical School

Website

Postdoctoral fellowship opportunity – You are What and When You Eat; Effects on Human Circadian System and Metabolism

Description

Two post-doctoral fellow positions are available for two new human research projects—using highly-controlled in-laboratory protocols:

– Project 1: Breakthrough animal experimental evidence and preliminary human data suggest that high fat-dietary intake may disrupt circadian organization and that circadian disruption increases the risk for obesity. This project will determine whether a high-fat diet, vs. a low-fat diet, will alter the circadian system and thereby circadian rhythms in energy intake and expenditure in humans. This research will provide novel mechanistic insights into the link between macronutrient intake and the circadian system, and may help in the design of evidence-based dietary intervention incorporating "timing" to combat the obesity epidemic. The successful applicant will be expected to complete this project and develop new research initiatives.

Francisco Balzarotti @BalzarottiFran · 26 abr.

****JOB** ALERT**

We are looking for a motivated Research Assistant with a background **in** molecular **biology** and experience **in** light microscopy. Join us **in** developing novel optical methods for super resolution imaging and single-molecule tracking.

imp.onlyfy.jobs/job/37dq9dmj

73/photo/1

Conceptos


Carlos Gershenson
@cgg_mx
This thread can be read here:
Traducir Tweet
gershenson.mx
Fragilidad, robustez y antifragilidad
Normalmente, tratamos de proteger a los sistemas de perturbaciones. Pero ¿qué hay de los sistemas que necesitan ser perturbados para funcionar bien?

Método Científico

Entropia

Computational Foundations for the Second Law of Thermodynamics

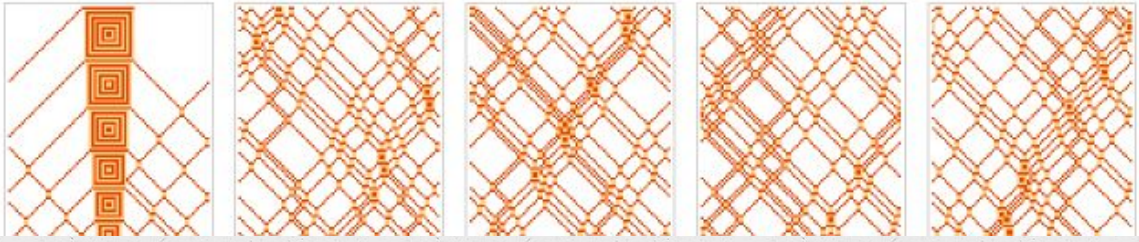
February 3, 2023

*This is **part 1** in a 3-part series about the Second Law:*

Computational Foundations for the Second Law of Thermodynamics

A 50-Year Quest: My Personal Journey with the Second Law of Thermodynamics

How Did We Get Here? The Tangled History of the Second Law of Thermodynamics



Cursos

MEMORIA DE LA ESCUELA

Eureka, curso de física para todos

Cultura


LA PARADOJA DEL ÉXITO


PSEUDO
SCIENCE

Artículo

Robust Single-Image Tree Diameter Estimation with Mobile Phones

by Amelia Holcomb [1,*], Linzhe Tong [2] and Srinivasan Keshav [1]

[1] Department of Computer Science and Technology, University of Cambridge, Cambridge CB2 1TN, UK
[2] Department of Computer Science, University of Waterloo, Waterloo, ON N2L 3G1, Canada
* Author to whom correspondence should be addressed.

Remote Sens. **2023**, *15*(3), 772; https://doi.org/10.3390/rs15030772

Received: 13 December 2022 / Revised: 17 January 2023 / Accepted: 20 January 2023 / Published: 29 January 2023

(This article belongs to the Section Forest Remote Sensing)

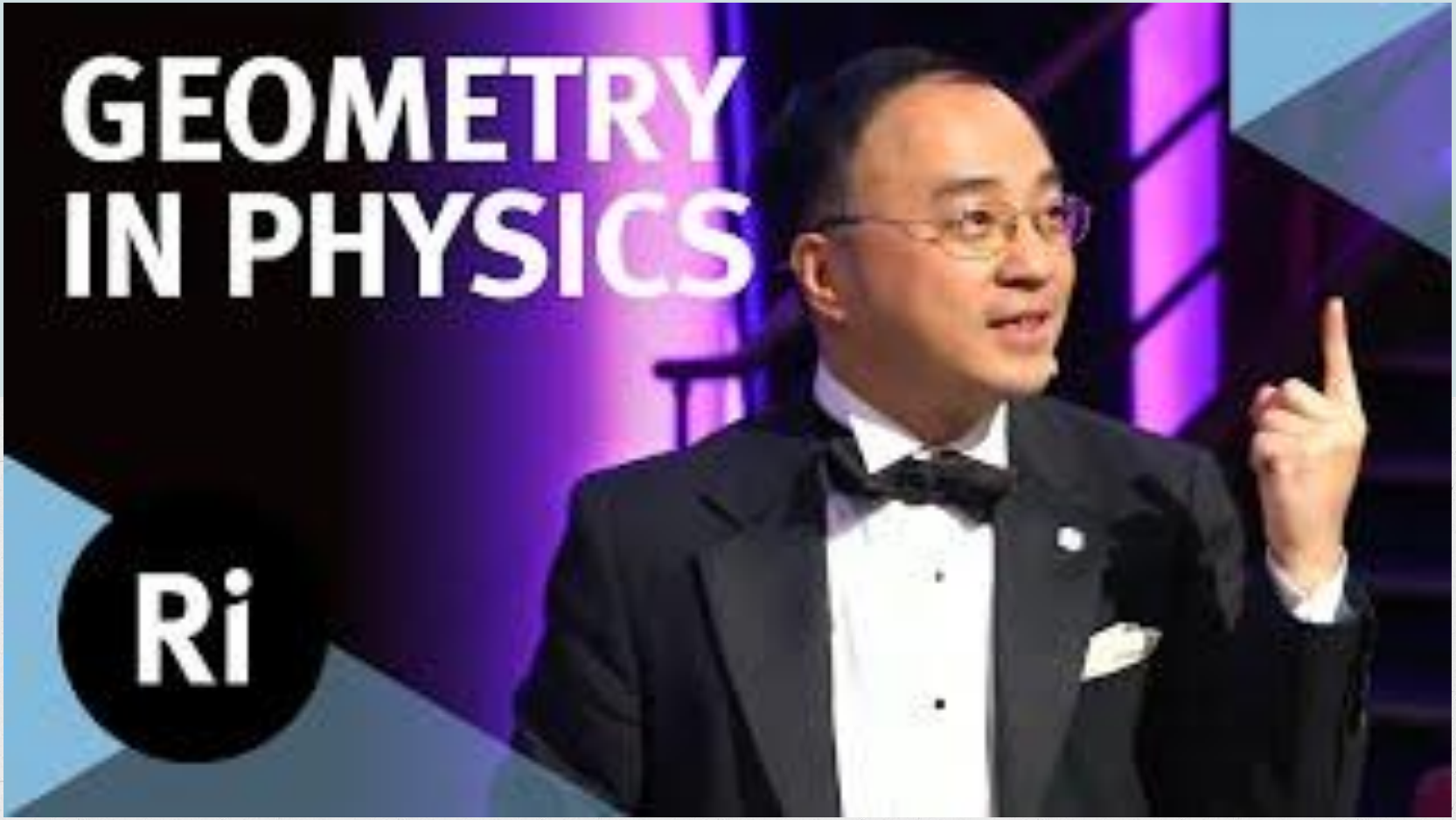
Abstract

Ground-based forest inventories are reliable methods for forest carbon monitoring, reporting, and verification schemes and the cornerstone of forest ecology research. Recent work using LiDAR-equipped mobile phones to automate parts of the forest inventory process assumes that tree trunks are well-spaced and visually unoccluded, or else require manual intervention or offline processing to identify and measure tree trunks. In this paper, we designed an algorithm that exploits a low-cost smartphone LiDAR sensor to estimate the trunk diameter automatically from a single image in complex and realistic field conditions. We implemented our design and built it into an app on a Huawei P30 Pro smartphone, demonstrating that the algorithm has low enough computational costs to run on this commodity platform in near real-time. We evaluated our app in 3 different forests across 3 seasons and found that in a corpus of 97 sample tree images, our app estimated the trunk diameter with a RMSE of 3.7 cm (R^2 = 0.97; 8.0% mean absolute error) compared to manual DBH measurement. It achieved a 100% tree detection rate while reducing the surveyor time by up to a factor of 4.6. Our work contributes to the search for a low-cost, low-expertise alternative to terrestrial laser scanning that is nonetheless robust and efficient enough to compete with manual methods. We highlight the challenges that low-end mobile depth scanners face in occluded conditions and offer a lightweight, fully automatic approach for segmenting depth images and estimating the trunk diameter despite these challenges. Our approach lowers the barriers to *in situ* forest measurements outside of an urban or plantation context, maintaining a tree detection and accuracy rate comparable to previous mobile phone methods even in complex forest conditions.

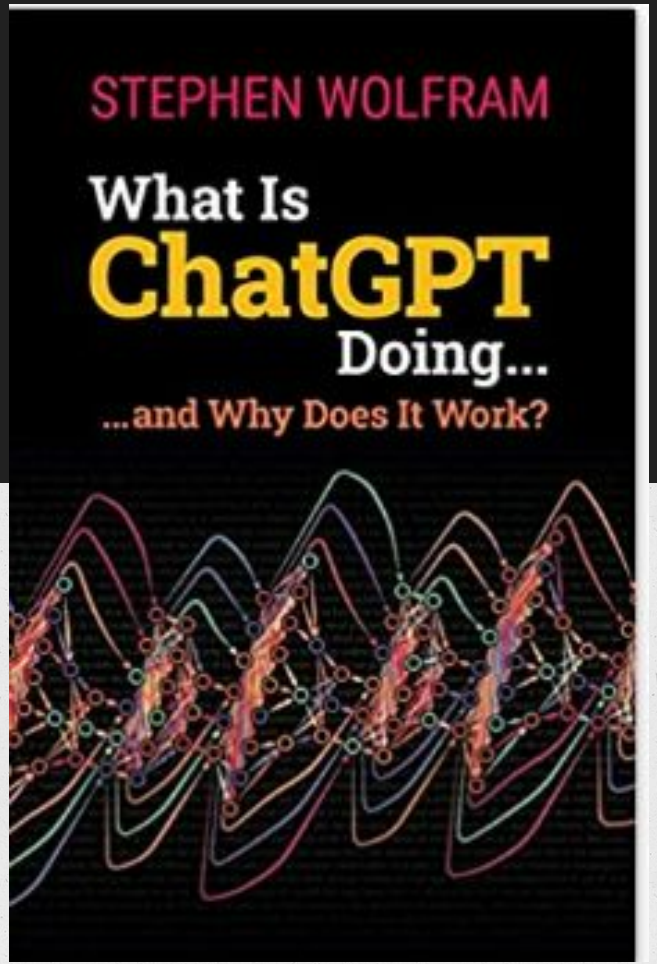
Keywords: forest inventory; forest carbon estimation; diameter at breast height (DBH); mobile phone; LiDAR; time-of-flight

Videos


THE MAP
OF
MATHEMATICS
FOUNDATIONS
PURE MATHEMATICS
APPLIED MATHEMATICS


GEOMETRY
IN PHYSICS
Ri

Libros


STEPHEN WOLFRAM
What Is
ChatGPT
Doing...
...and Why Does It Work?

Notas

nature.com

What Rosalind Franklin truly contributed to the discovery of DNA's st...

Nature - Franklin was no victim in how the DNA double helix was solved. An overlooked letter and an unpublished news article, both ...