



**University  
of Victoria**

Retirees

**Association** In the mid-1980's US launched a national project "Parkfield Earthquake Prediction Experiment (PEPE)" to monitor a 30-km segment of the San Andreas along which a magnitude 6 earthquake was known to occur with an approximate recurrence time of 22 years. The multi-million dollar project used a very dense network of hi-tech geophysical instruments to allow real-time monitoring of anomalous phenomena occurring along the fault. When the anticipated earthquake did occur, in 2004 -- more than 12 years later than was predicted -- it did so with no apparent precursor of any kind. Deploying a new seismic analysis method we had developed, we re-examined the high-quality data left over from the PEPE. Within a year we unearthed a deterministic earthquake precursor that one would have expected to see, knowing what rock-fracture experimentalists had told us at least two decades earlier.

# **In Search of the Holy Grail of Seismology**

## **The Discovery of a Deterministic Earthquake Precursor**

**Presented by Dr. Kin-Yip Chun, Seismologist  
Professor (Emeritus), University of Toronto**

### **WHEN?**

**DATE:** Wednesday, June 14, 2023

**TIME:** Registration opens at 6:00pm

The one-hour presentation starts at 6:30pm

Q&A to follow the presentation

### **WHERE?**

**PLACE:** Bob Wright Centre (Room A 104)

Parking across the Ring Road at Lot #1

### **HOW MUCH?**

**COST:** \$10.00

Students attend free with presentation of their students' cards

### **REGISTRATION?**

<https://www.eventbrite.ca/e/634247891517>

**Need to know more?** Email [uvra@uvic.ca](mailto:uvra@uvic.ca)

**“In Search of the Holy Grail of Seismology (earthquake precursor) along the San Andreas Fault, near a desert hamlet (Parkfield) with population of 18 people”**

## **PRESENTER**

**Dr. Kin-Yip Chun, Seismologist**

**Professor (Emeritus) of Seismology, Department of Physics, University of Toronto**

## **ABOUT THE PRESENTATION**

The talk will be based on a research article we published in the *Bulletin of Seismological Society of America*. Our research made use of seismic data of extremely high quality that was generated during the most ambitious earthquake prediction experiment the world had ever seen: "The Parkfield (California) Earthquake Prediction Experiment (1986 - 2004)." Essentially, we developed a new data analysis method that allowed us to "see" an earthquake precursor emerging with precision similar to what one can expect from simulated earthquake experiments performed in a rock-physics laboratory.

## **ABOUT THE PRESENTER**

### **EDUCATION**

**Ph.D.** Geophysics, University of California at Berkeley (1983)

**MA** Geophysics, Columbia University (1975)

**B.Sci.** Engineering Science, University of Toronto (1973)

### **ACADEMIC APPOINTMENTS**

**University of Toronto:** Professor (Emeritus) of Seismology, Department of Physics

**University of Toronto:** (Emeritus) Full Member of the Graduate Faculty, School of Graduate Studies (since 2011)

**Tongji University:** Founder and Director, Global Seismology and Geodynamics Program, School of Ocean & Earth Sciences

**Shanghai Normal University:** Visiting Professor of Earth Sciences

**East China Normal University:** Visiting Professor of Earth Sciences



## **ABOUT THE PRESENTER (Cont.)**

### **MAJOR RESEARCH AREAS**

Verification of compliance with Comprehensive Nuclear Test Ban Treaty; Mathematical theory of seismic wave propagation; Earth structure and plate tectonics; Earthquake prediction

### **MAJOR FUNDING AGENCIES**

Natural Sciences and Engineering Research Council of Canada; Geological Survey of Canada; Governing Council of University of Toronto; Arms Control Division, External Affairs Canada; US Defense Advanced Research Project Agency; US Airforce Research Laboratory

### **PROFESSIONAL AFFILIATIONS**

Seismological Society of America; American Geophysical Union; Canadian Geophysical Union; Chinese Geophysical Society; Seismological Society of China

### **SCHOLARLY PUBLICATIONS IN MAJOR ACADEMIC JOURNALS**

Bulletin of the Seismological Society of America  
Journal of Geophysical Research (USA)  
Geophysical Journal International (UK)  
Chinese Journal of Geophysics (China)

### **PUBLICATION ABOUT THE TOPIC DISCUSSED IN THIS INVITATION**

Chun, K.-Y., Q.-Y. Yuan, and G. A. Henderson (2010), Precursory Rise of P-Wave Attenuation before the 2004 Parkfield Earthquake, the *Bulletin of the Seismological Society of America*, 100, No 2, 509-521.

**NOTE:** List of Dr. Chun's publications

<https://www.uvic.ca/retirees/assets/docs/list-of-dr-chun-publications.pdf>