

Professor Clint Sprott

Born in Memphis, Tennessee in 1942, Clint Sprott developed an interest in physics early in his childhood. He went on to earn a B.S. at the Massachusetts Institute of Technology in 1964 and a Ph.D. in physics at the University of Wisconsin in 1969. He spent 1970–1972 at the Oak Ridge National Laboratory in Tennessee. Then in 1973 he returned to the University of Wisconsin – Madison to become Professor of Physics. His research is in plasma physics and chaos, and he is currently working on complex nonlinear dynamical systems.

In an effort to share with the public his lifelong interest and enthusiasm for physics, Professor Sprott has presented “The Wonders of Physics” since 1984.



Acknowledgements

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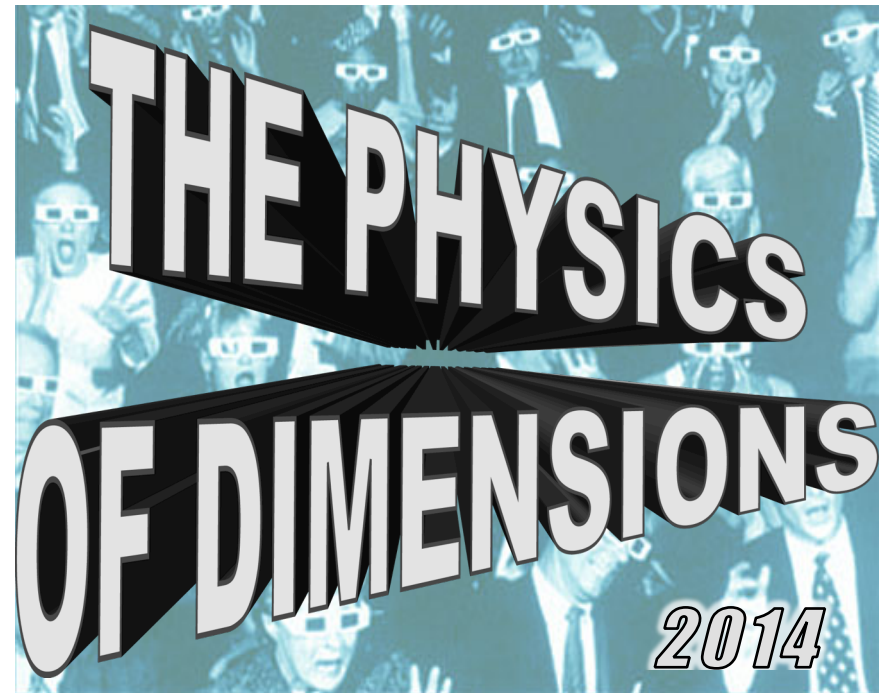
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Donations in memory of Keith R. Symon, Professor of Physics,
UW–Madison from 1956 to 1992, who passed away in December 2013.



Thanks for Coming!

The 31st Annual Presentation of *The Wonders of Physics*



featuring
Professor Clint Sprott
And The UW Physics Department

2103 Chamberlin Hall • 1150 University Ave.
University of Wisconsin – Madison

THE PHYSICS OF DIMENSIONS

WE LIVE IN A 3-DIMENSIONAL WORLD (UP-DOWN, LEFT-RIGHT, FORWARD-BACK), WITH TIME AS THE 4TH DIMENSION. BUT MODERN THEORIES OF PHYSICS SUGGEST THAT THERE MAY BE ***TEN OR MORE*** SPATIAL DIMENSIONS! JOIN PROFESSOR SPROTT AND THE UW PHYSICS CREW AS THEY EXPLORE THE PHYSICS OF DIMENSIONS!

PROGRAM

PROLOGUE:

BICYCLE WHEEL GYROSCOPE

MOTION (KENNY RUDINGER):

BALL ON CUT STRING

ETHANOL ROCKET*

HOBERMAN SPHERE

2-D MEMBRANE

HEAT AND PRESSURE (MICHAEL WINOKUR):

MOLECULAR SIMULATOR

BROWNIAN MOTION

BED OF NAILS

HEAT CONVECTION

HOOT TUBE

SOUND (MARTY LICHTMAN):

TRANSVERSE WAVE BOARDS

WAVE ON ROPE

HANGING SLINKY

REUBEN'S TUBE

PING PONG BALL CANNON

ELECTRICITY (MIKE RANDALL)

HAND GENERATOR

VAN DE GRAAFF GENERATOR

JACOBS LADDER

MUSICAL TESLA COIL*

MAGNETISM (ED LEONARD):

EDDY CURRENT PENDULUM

SOLENOID-GALVANOMETER

CRT AND MAGNET

LIGHT (BETHANY REILLY):

LASER VS LIGHTBULB

PHOTOELECTRIC EFFECT

FLUORESCENT CYLINDERS

DIFFRACTION

EPILOGUE:

FRACTALS

LIQUID NITROGEN CLOUD

****PLEASE NOTE THAT THESE DEMONSTRATIONS WILL PRODUCE A LOUD AND/OR SUDDEN SOUND.***

COORDINATOR:

PETER WEIX

SURPRISE GUESTS:

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PROFESSOR BASSAM Z.

SHAKHASHIRI

VISUALS AND

SOUND EFFECTS:

STEVE NARF

THEME MUSIC:

JIM LATIMER AND

FRANK FERRIANO

3-D FRACTALS:

COURTESY OF MORGRIDGE

MEDICAL ENGINEERING

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THANK YOU!