

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

Thanks to all who helped put this program together.
A special thanks to the following:

Terry Craney	Aryka Narf	Dale Schutte
Emily Ehlerding	Steve Narf	Akire Trestrail
Tara Keenan	Paul Nonn	Peter Weix
Shimon Kolkowitz	Kimberly Palladino	Michael Winokur
Jim Latimer	Mike Randall	Bill Zimmerman
	Jim Reardon	

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Thanks for Coming!

With Professor
Clint Sprott

The Wonders of

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P H Y Si Cs

2019

At the University
of Wisconsin -
Madison

Physics of the Periodic Table

2103 Chamberlin Hall, 1150 University Avenue, Madison, WI

150 years of the periodic table of elements!

2019 is the 150th birthday of the periodic table of the elements. In this year's show, our fictitious government has demanded that we remove some of the elements in the table to make it simpler and reduce costs. It is up to us to convince them that all of the elements are important for physics, and for life!

PROGRAM

Prologue (Peter Weix, Clint Sprott)

Hydrogen (Emily Ehlerding):

Hydrogen Rocket*
Electrolysis

Helium (Shimon Kolkowitz):

Breathing Helium and SF₆
Exploding Balloons*
Cloud Chamber

Carbon (Akire Trestrail/Emily Ehlerding):

Fire Tornado
CO₂ Trough
Graphite Diamagnetism

Nitrogen (Michael Winokur):

Pure O₂ Atmosphere
Ping Pong Bazooka*
Radioactive Decay
Brownian Motion
Liquid Nitrogen Cannon*

Silicon (Kimberly Palladino):

Chladni Plate
Floating Picture
Lenses & Fiber Optics
IR Camera
Solar Panel

Copper (Terry Craney):

Induction Coil and Magnet
Flash Bulb*
Heat Conduction
Copper Tube Race
Eddy Currents in Copper Plates
Can Launcher*

Iron (Mike Randall):

Hoberman Sphere
Iron in Cereal

Epilogue (Entire Cast):

Elemental Spectra
Liquid Nitrogen Cloud

**Please note that these demonstrations will produce a loud and/or sudden sound or light.*

Coordinator:

Peter Weix

Visuals & Sound Effects:

Steve Narf

Lighting:

Bill Zimmerman

Theme Music:

Jim Latimer &
Frank Ferriano

Educational materials and special presentations of "The Wonders of Physics" are available for schools and other groups. Please visit: <http://wonders.physics.wisc.edu/> for more information.

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Thank you!