

Randall S. Caswell Award Lecture

Mark S. Driscoll

Chemistry Department

State University of New York

College of Environmental Science and Forestry

Thank you

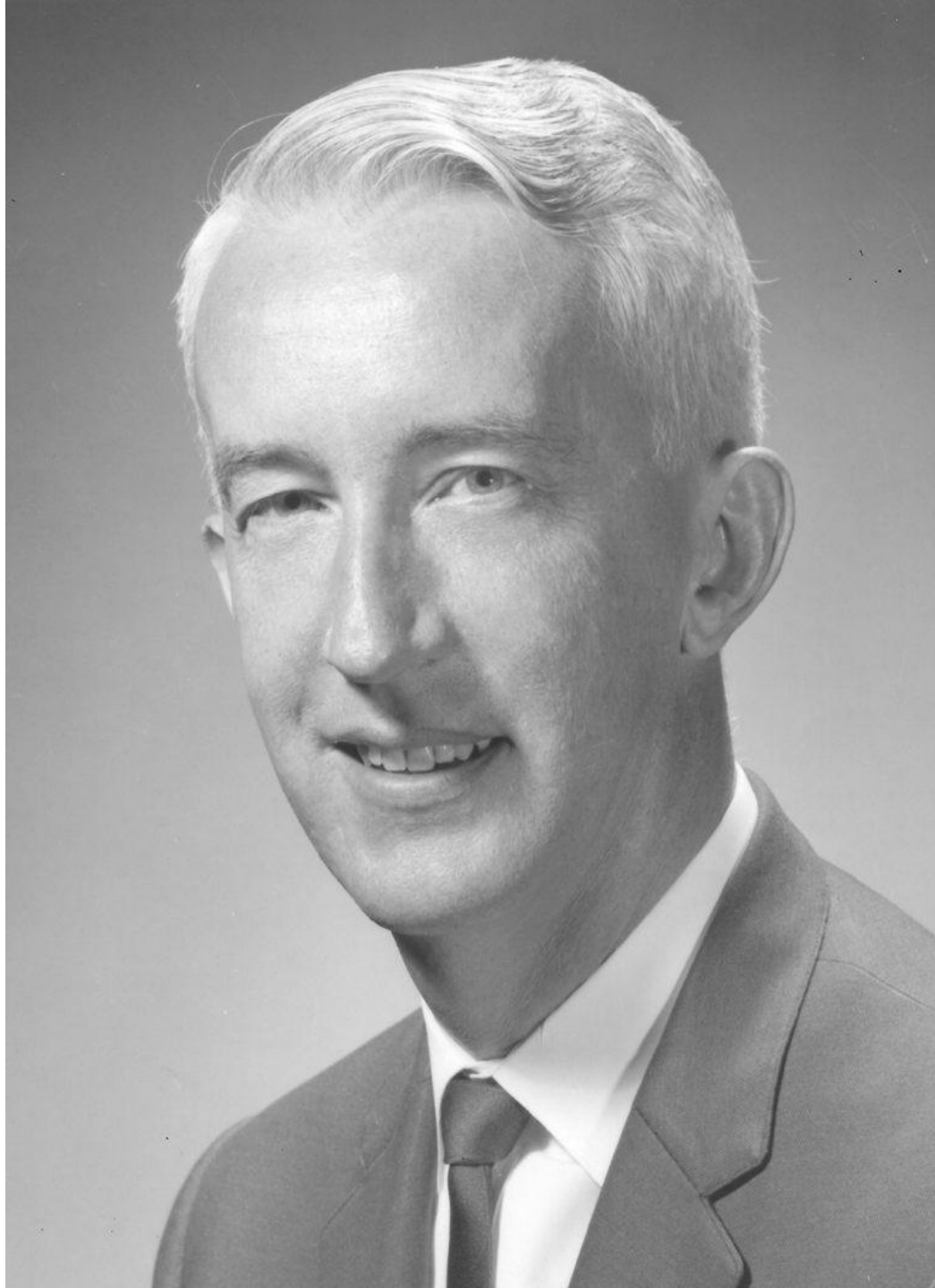
- **Caswell Award Committee**

Thank you

- **Caswell Award Committee**
- **CIRMS members**

Thank you

- **Caswell Award Committee**
- **CIRMS members**
- **My students**



Randall S. Caswell Fellows

2024 - Chip Starns

2023 - Lisa R. Karam

2022 - Kim M. Morehouse

2019 - Roberto Uribe

2017- Peter R. Almond

2016 - James A. Deye

2015 - X. George Xu

2013 - Stephen M. Seltzer

2012 - Joseph C. McDonald

2011 - Kenneth Inn

2010 - Geoffrey Ibbott

2009 - Marshall R. Cleland

2008 - Larry A. DeWerd

2007 - Bert M. Coursey

2006 - Kenneth L. Swinth

2004 - Anthony J. Berejka

2002 - H. Thompson Heaton II

2000 - Randy S. Caswell

The Start

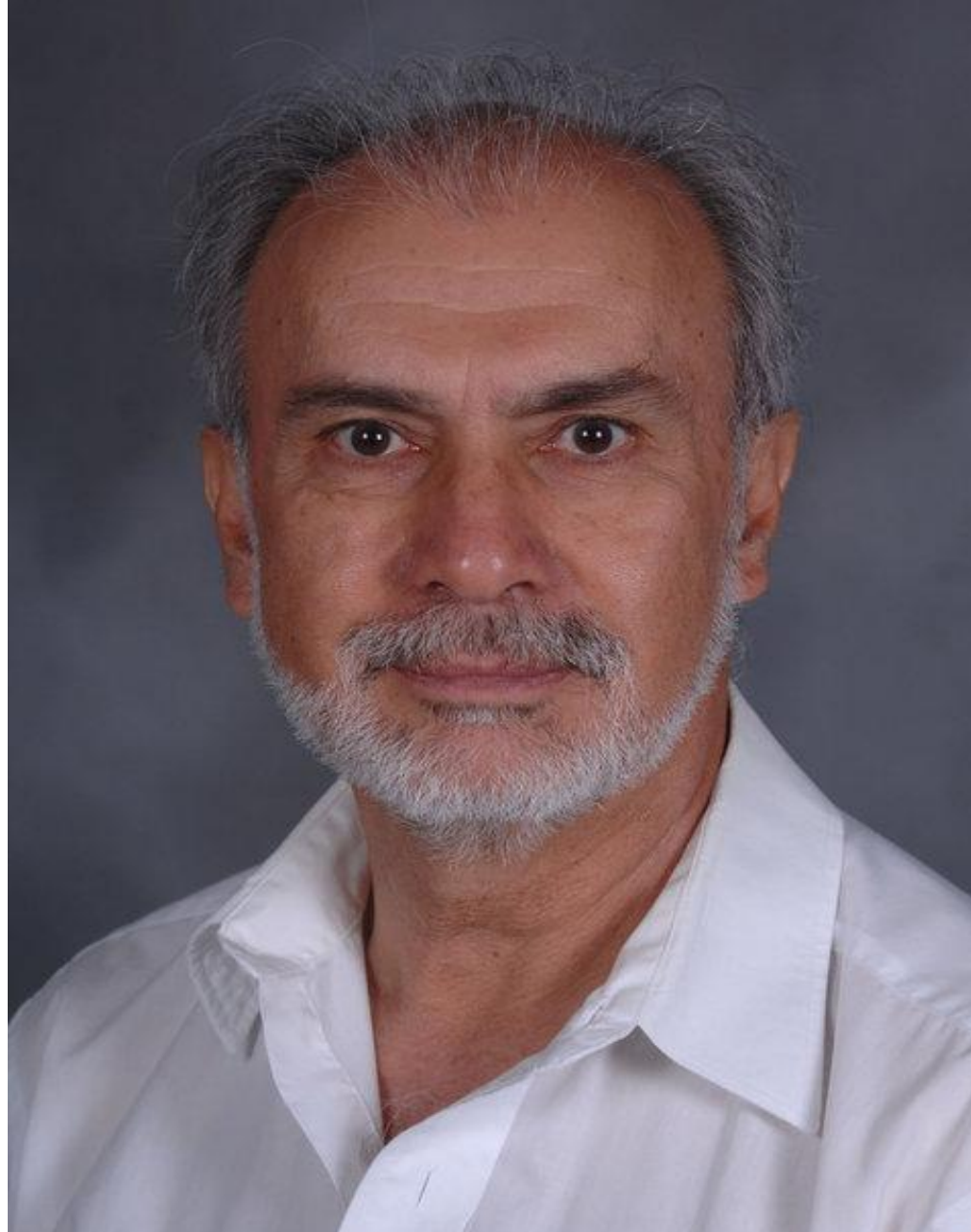
- **CIRMS: How I became part of this great organization**
- **Environmental Chemist**
- **2000**
- **2001**



Rick Galloway



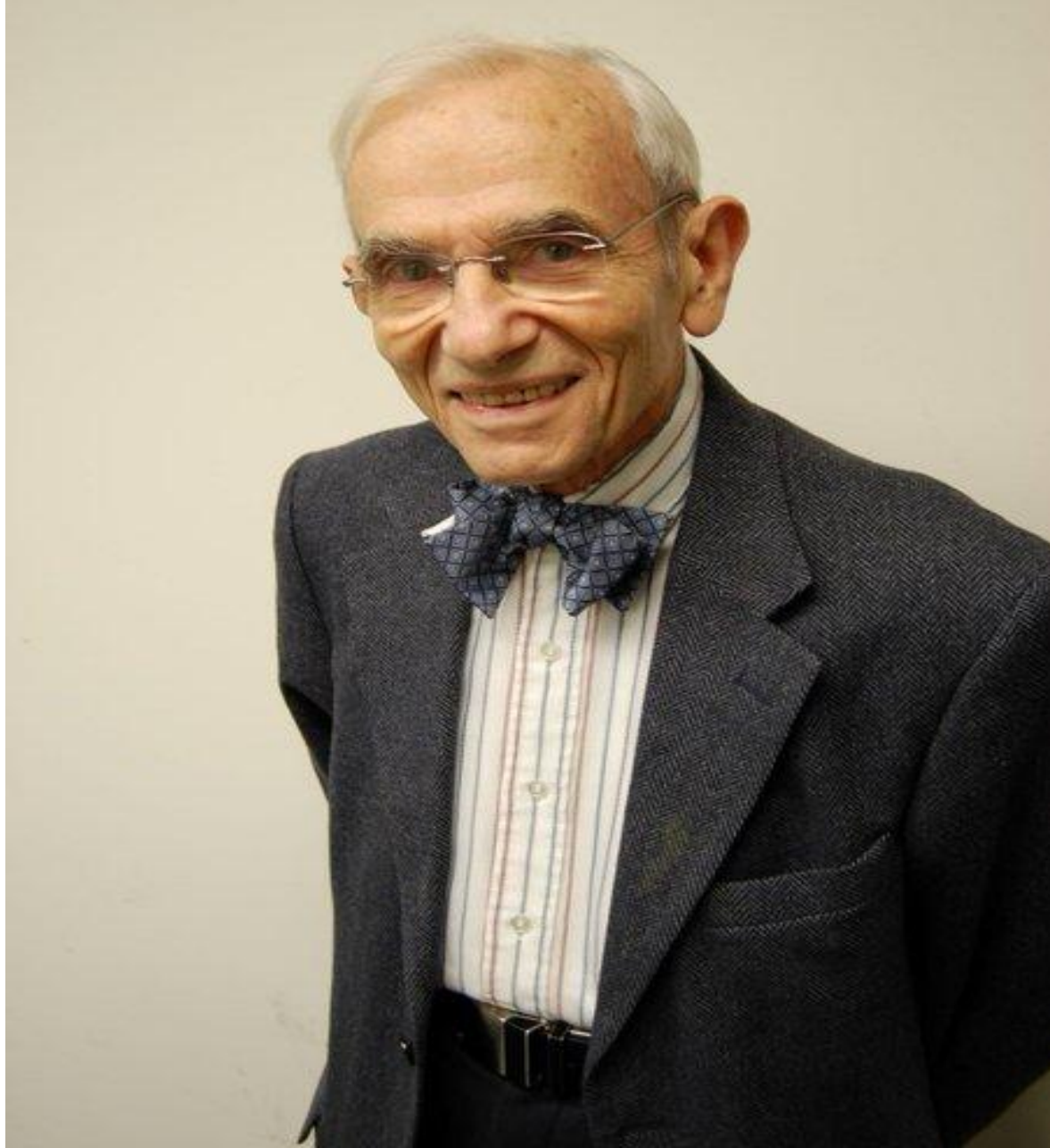
Marshall Cleland



Roberto Uribe



Mohamad Al-Sheikhly

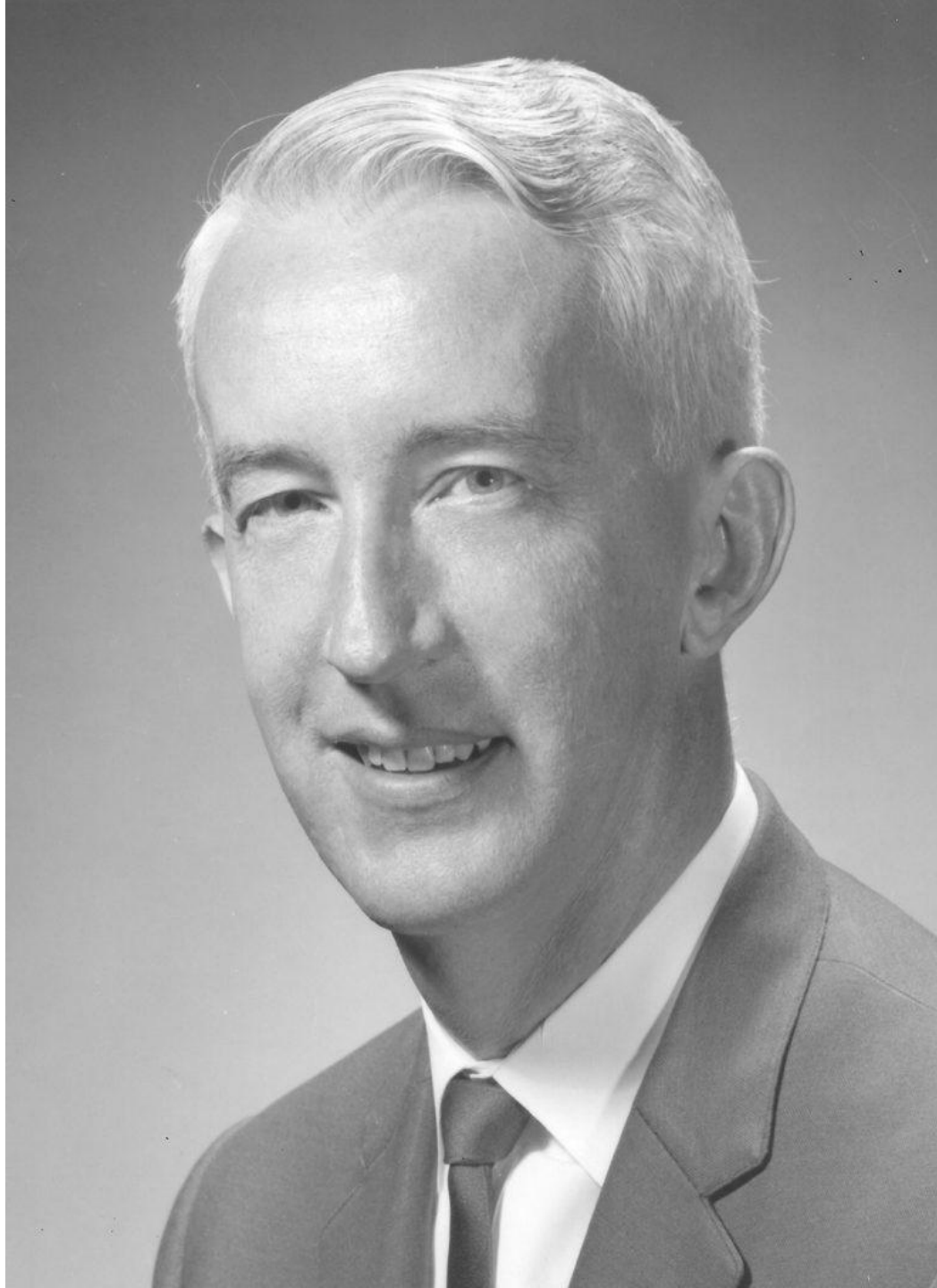


Professor Silverman

The Next Day



Lisa R. Karam



Breakout Session



Marc Desrosiers



John Logar

My Presidency



Larry DeWerd

Peter Almond

Dr.

Overview of Research



Overview of Research



Overview of Research

- **Wood Polymer Penetrant Enhances Durability**
- **X-ray Initiated Polymerization of Wood Impregnants**

Overview of Research

- **X-ray Cured Carbon-Fiber Composites for Vehicle Use**

Overview of Research

- **Routine Low-Voltage Dosimetry with Thin Gauge Polyethylene Films**
- **With ATR**

Overview of Research

- **Degradation of Microcystin, MIB and Geosmin in Water by Electron-Beam**

Overview of Research

- **Imparting Dimensional Stability on Cellulosic Material Utilizing Electron Beam**

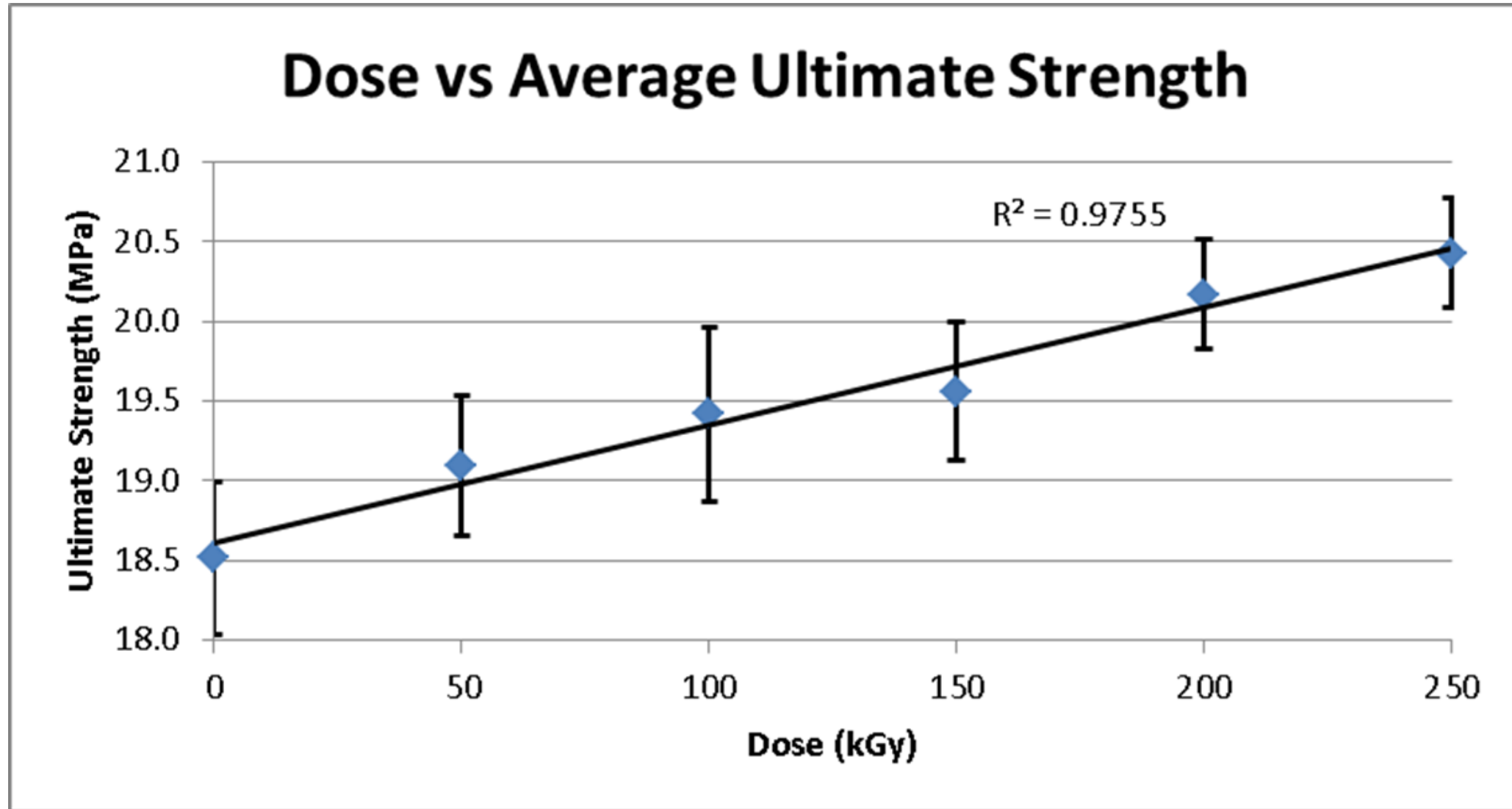
Overview of Research

- **Radiation Cured PAM Coated Soil Erosion Material**

Overview of Research

- **Electron Beam Irradiated Wood Fiber Plastic Decking**

Electron Beam Irradiated Wood Fiber Plastic Decking

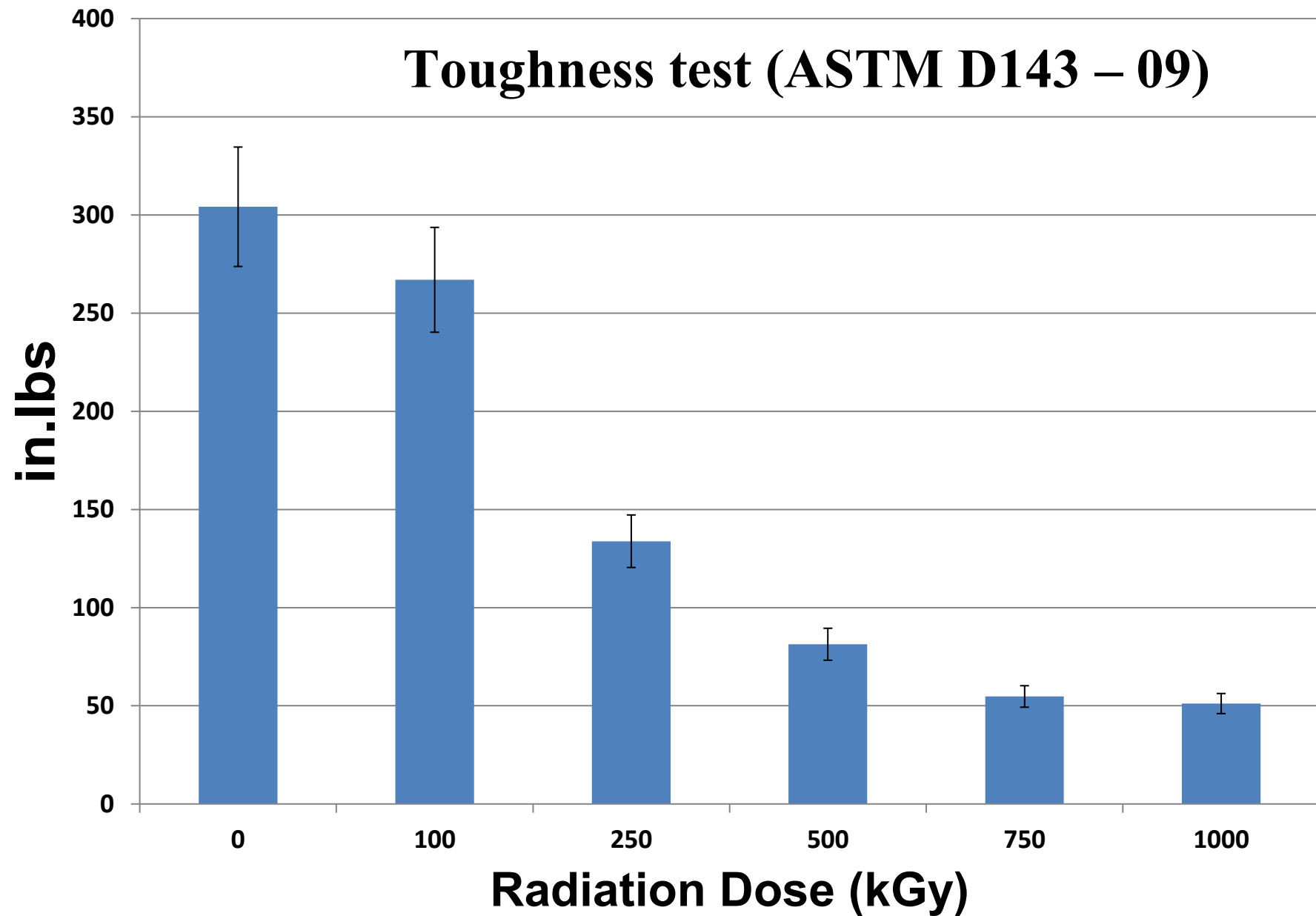


Overview of Research

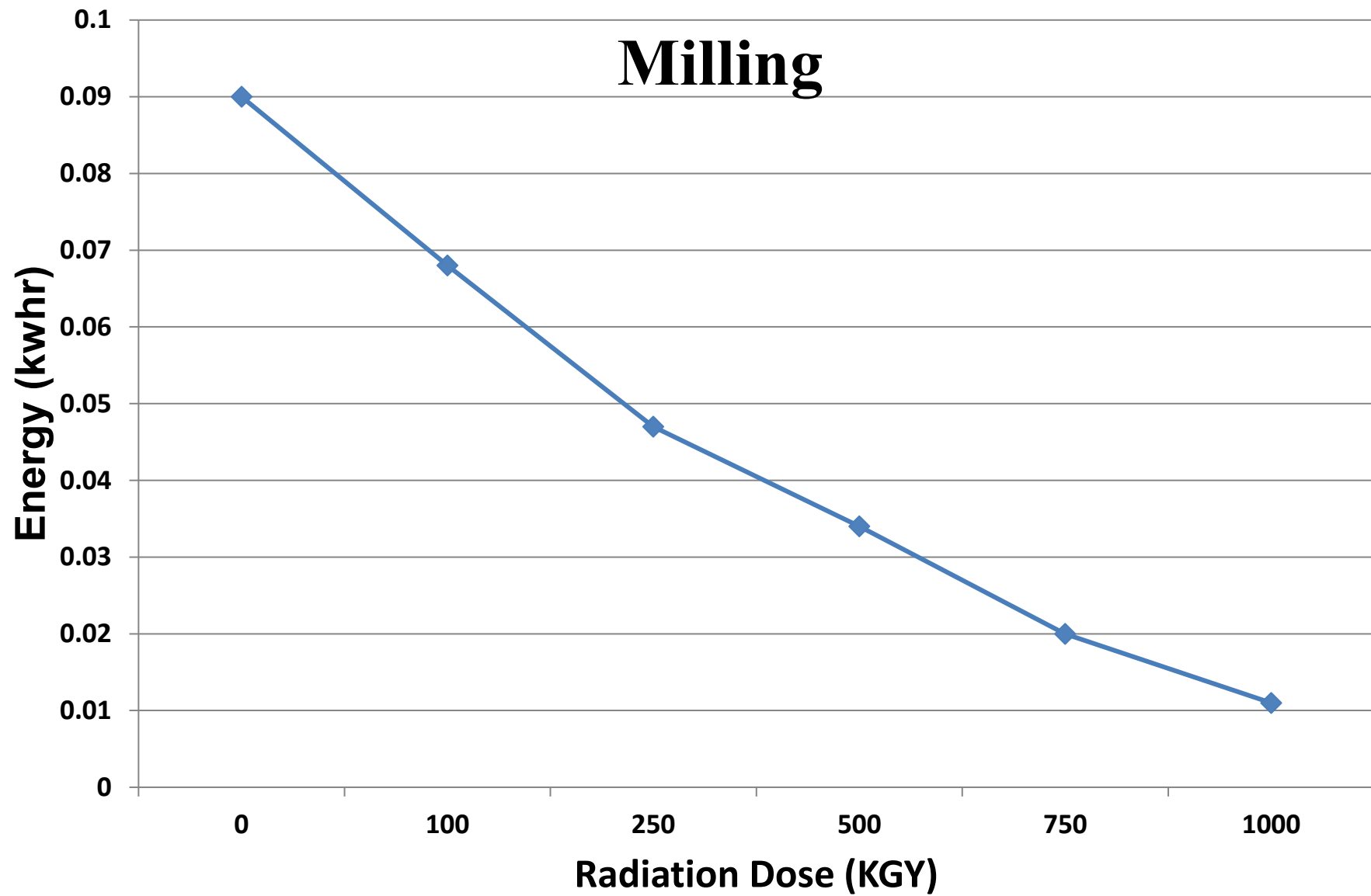
- **Efficiency of Removing Emerging Contaminants from Wastewater Using Electron Beam**

Overview of Research

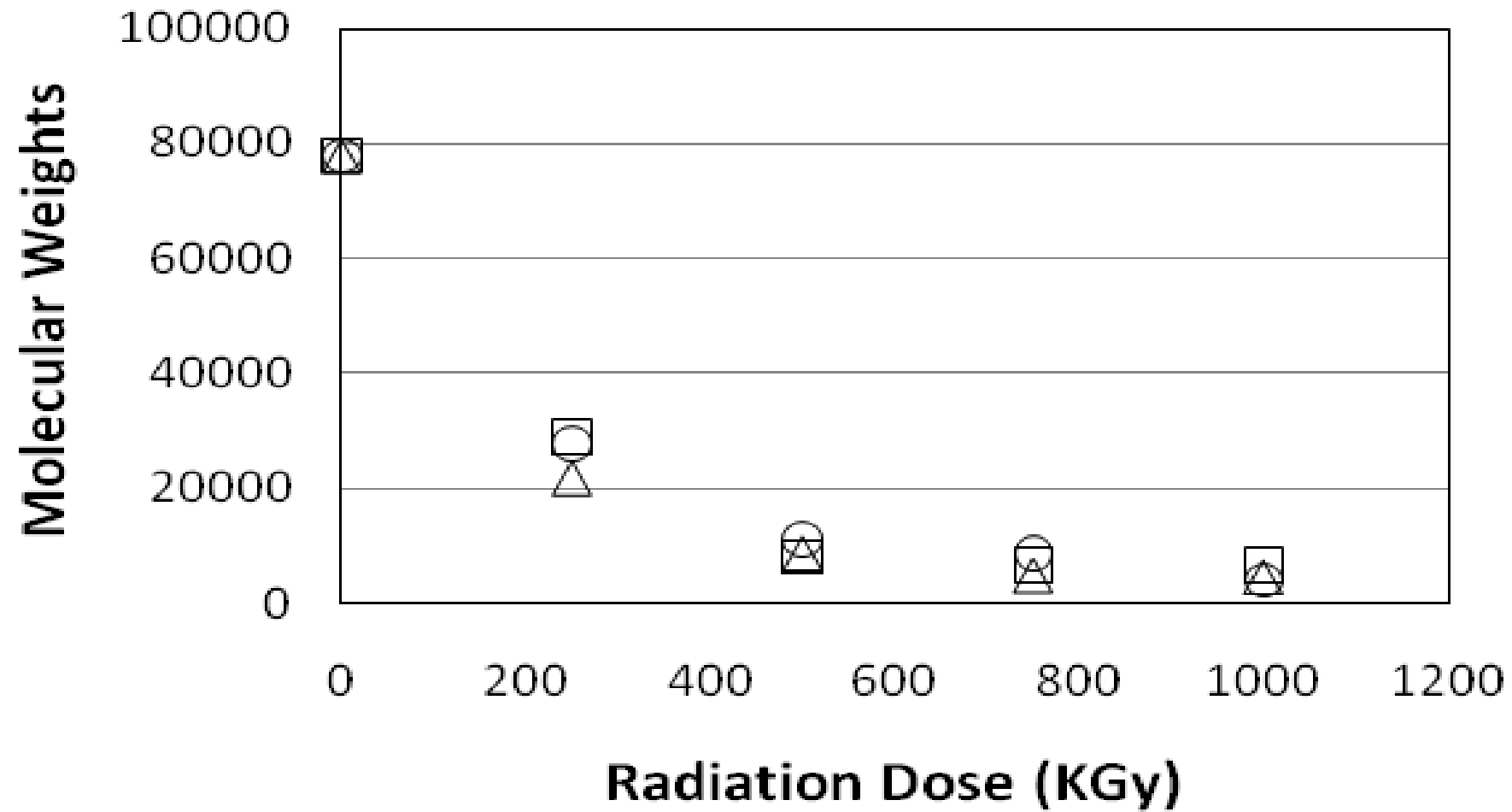
- **Electron Beam Pretreatment of Lignocellulosic Biomass**



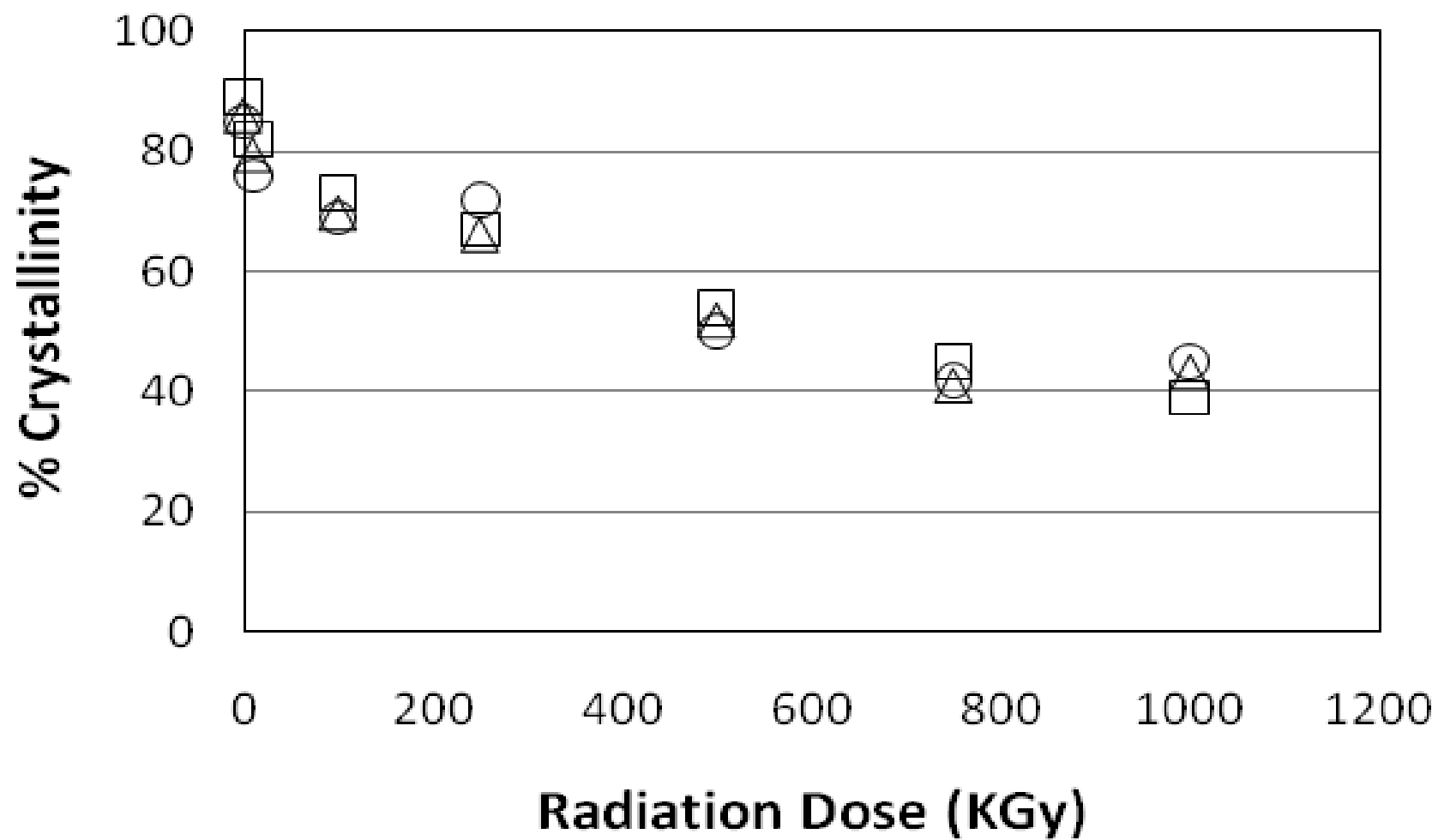




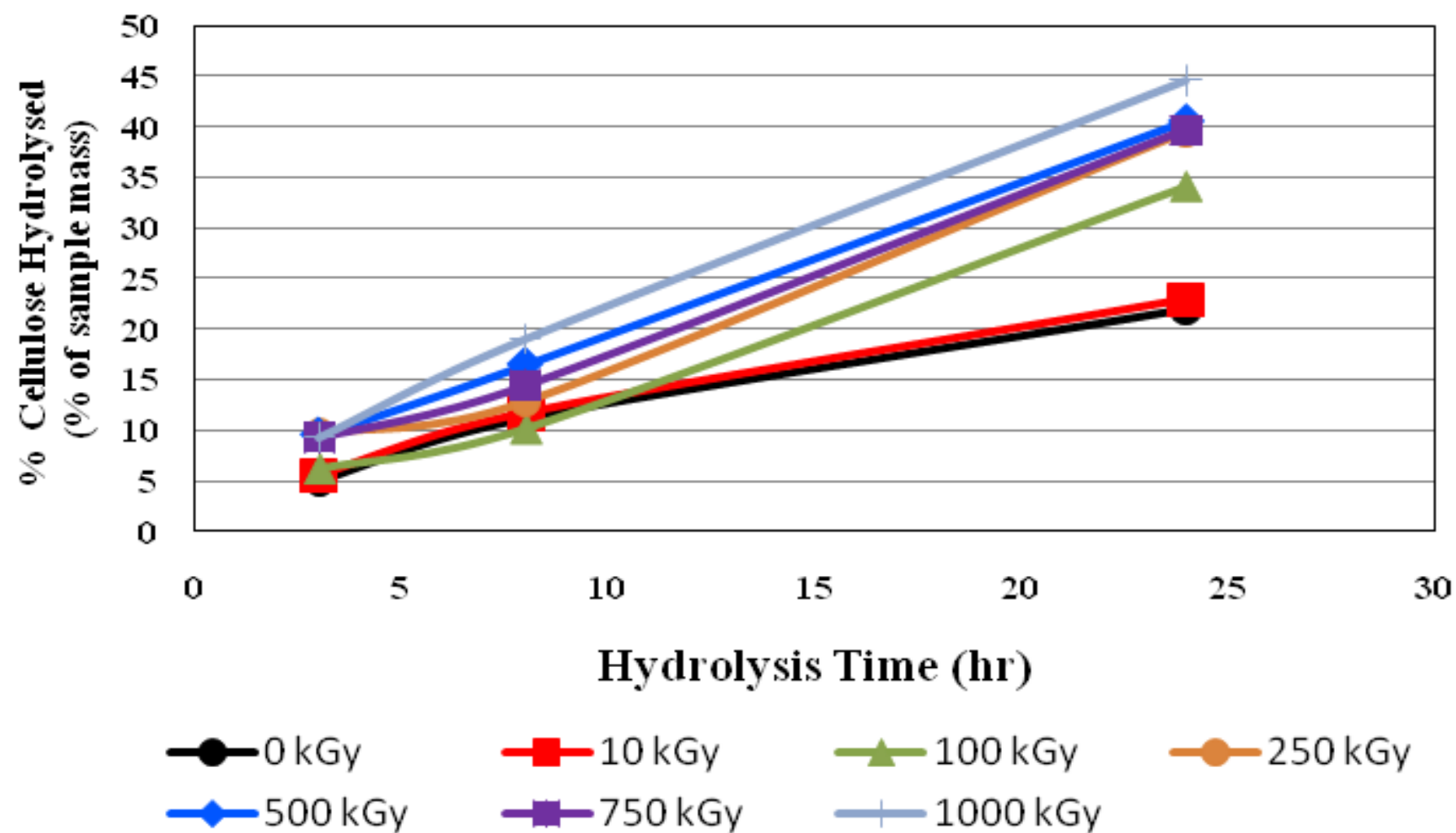
Effect of Radiation on Molecular Weight of MCC



Effect of Radiation on Crystallinity (CP/MAS of MCC)

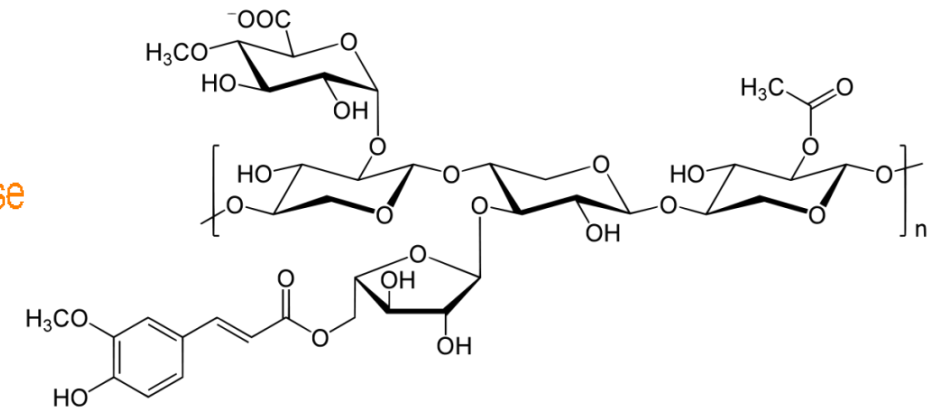
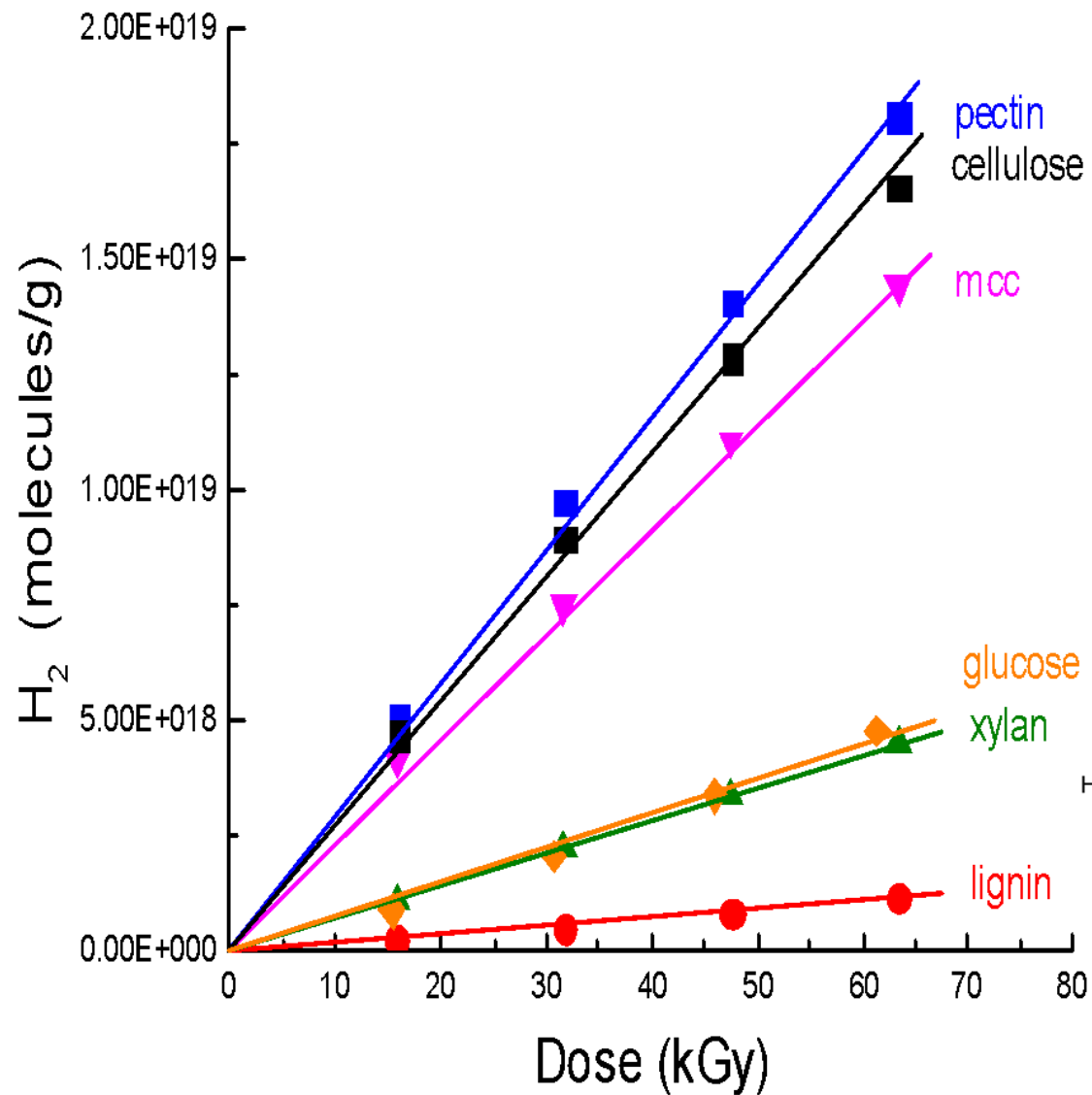


Enzyme Hydrolysis of MCC at Various Doses (Air Dry Samples, 30 FPU/ml)



Overview of Research

- **G-Values of Wood Polysaccharides and Lignin**



LaVerne, J.A.; Driscoll, M.S. and Al-Sheikhly, M.I.: "Radiation Stability of Lignocellulosic Material Components" Radiation Physics and Chemistry, Vol 171, 2020.

Overview of Research

- **Nano-cellulose Analysis and Standards**

Overview of Research

- **Novel wood nano composites for lightweight automobile applications**

Overview of Research

- **What are my students doing now**

Needs

- **NIST should have a high wattage electron beam with X-ray capability**
- **Funding graduate students**

Needs

- NIST should have a high wattage electron beam with X-ray capability

**Thank You for
Your Time and
Attention**