

Exceptional service in the national interest

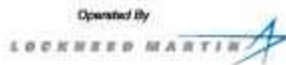
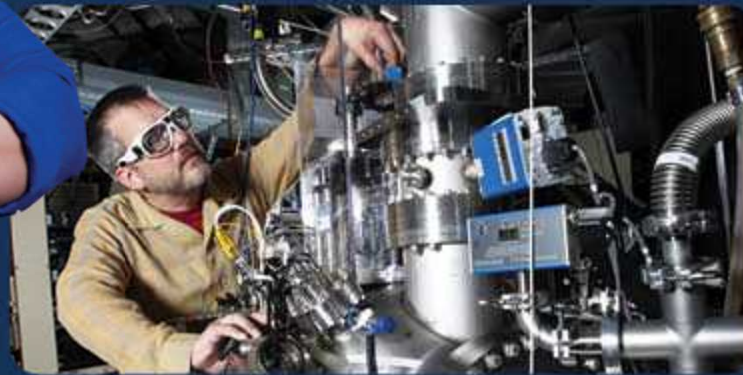


My Fun and Rewarding Career in Science, Technology, and National Security

Alfredo M. Morales

Sandia National Laboratories

Livermore, CA



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Welcome



- Background
- Education
- Staff work at Sandia
- Current management job at Sandia

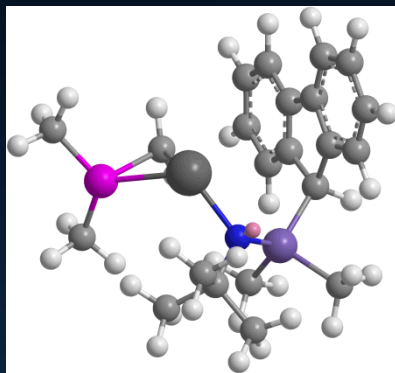
Background

- Born and raised abroad in Nicaragua
- Attended elementary and middle school abroad
- High school in El Sereno, Los Angeles suburb

Education

- Bachelor of Science in Chemistry from Caltech, 1992.

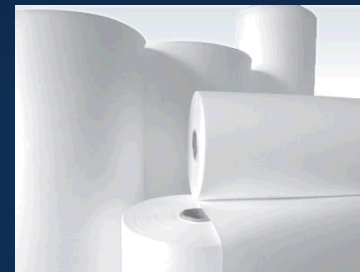
Had fun making new molecules to make other molecules.



http://www.asia.ru/images/target/photo/51245228/PP_Sheet.jpg



Polypropylene
Hard vs Soft

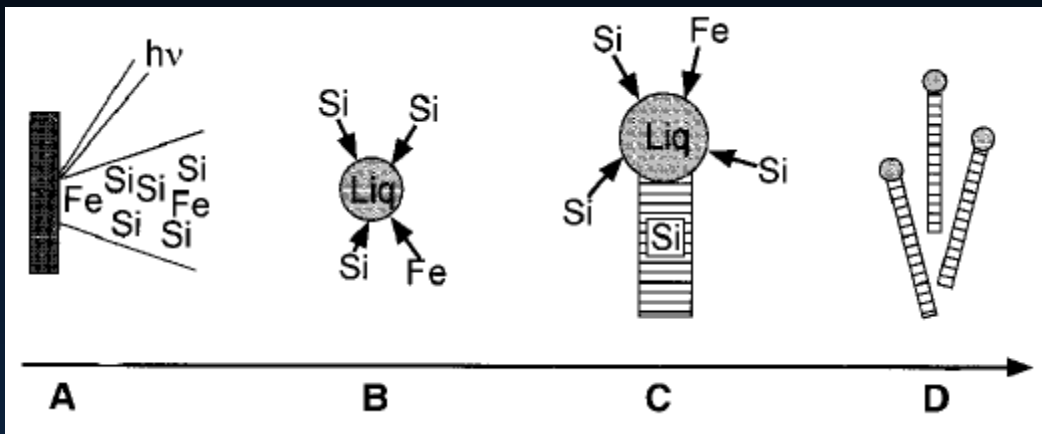


<http://www.han-danhy.com/wp-content/uploads/2012/09/Polypropylene-Super-fine-Fibre-Filter-Material.jpg>

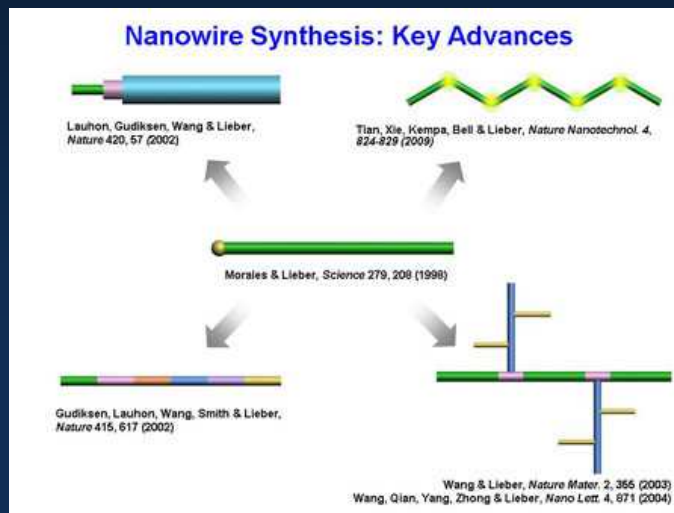
Education

- PhD in Chemistry from Harvard, 1997. NSF Fellowship.

I discovered a method to synthesize nanowires.



A.M. Morales and C.M. Lieber, "A Laser ablation method for the synthesis of crystalline semiconductor nanowires," *Science* 279, 208-211 (1998)

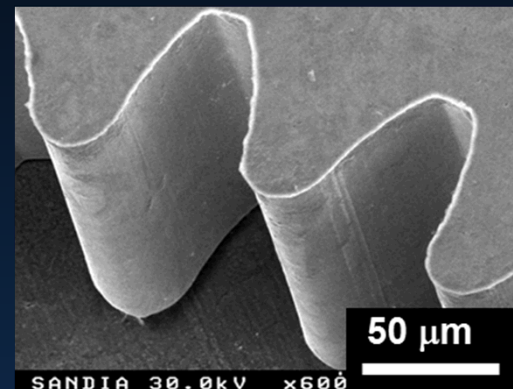
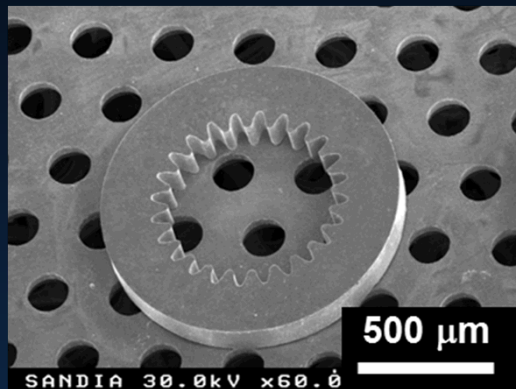


<http://cml.harvard.edu/research/image-gallery#585>

Staff Work at Sandia

Started working at Sandia in 1997

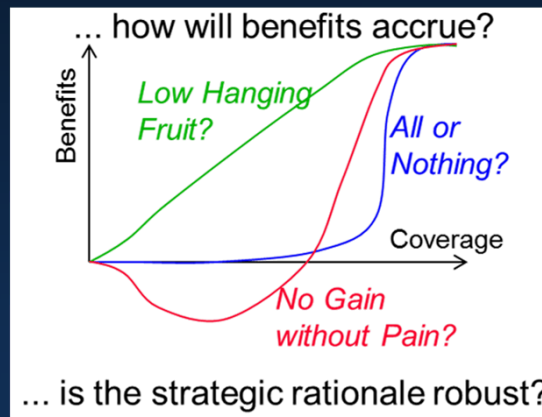
- Hired to work on microfabrication



Staff Work at Sandia

- Worked on systems engineering and systems analysis

Requirement	Functional Analysis	Design Response	Key Materials Issue	Aging Concerns	Compatibility Concerns
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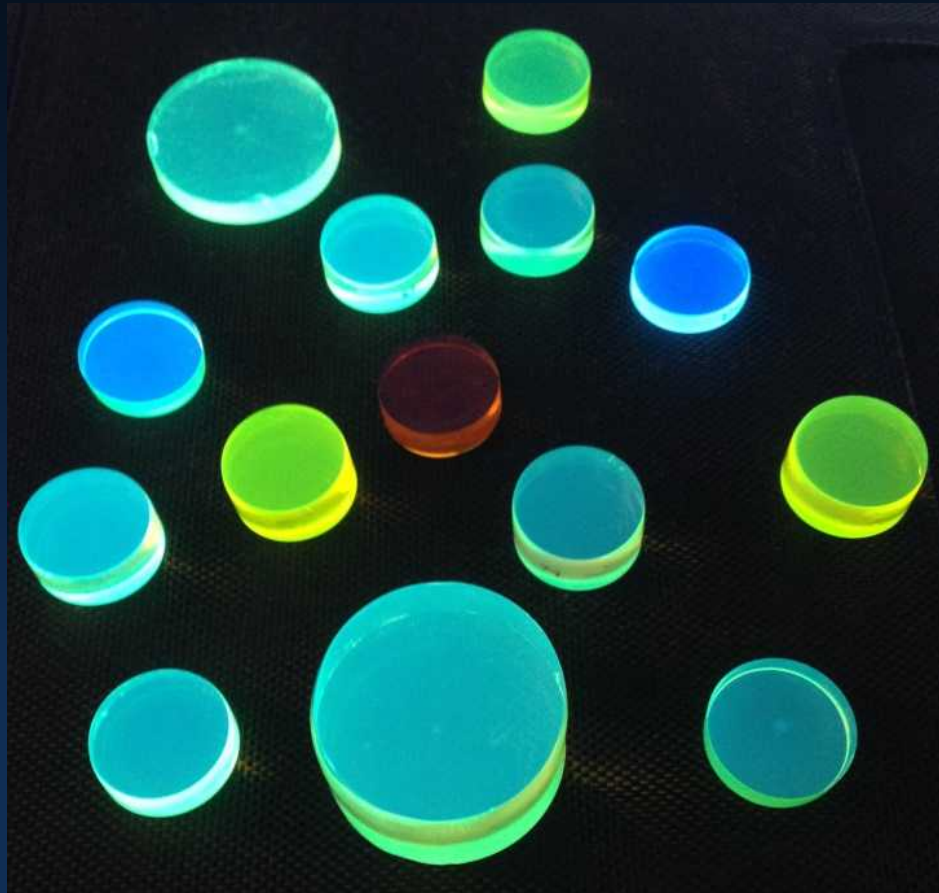
Managing at Sandia

- Became a manager in 2011
- Manage a group addressing National Security needs



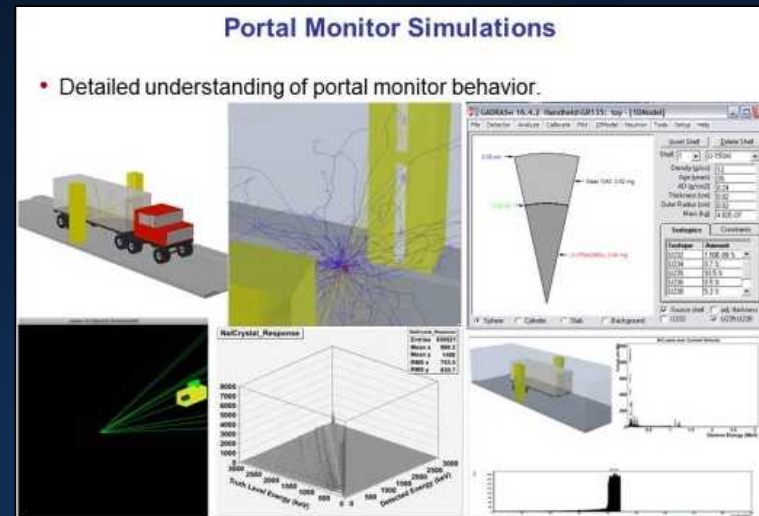
Managing at Sandia

- Materials science



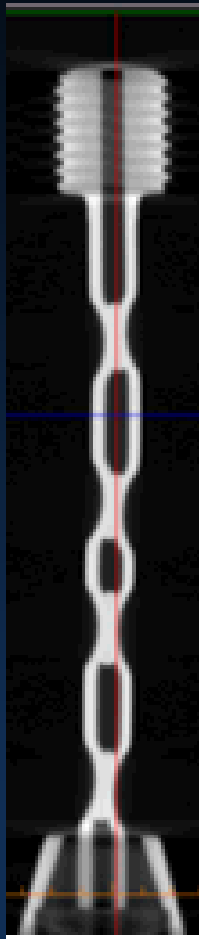
Managing at Sandia

- Nuclear security



Managing at Sandia

- Radiography



It Can Be Hard But It Is Worth It And Fun!!!



I must thank many people (too many to list by name)

- Parents
- Teachers
- Professors
- Fellow students
- Managers
- Fellow Sandians
- Sponsors
- Our beautiful Nation!