Cheng-Yu Lai

1. Name and academic rank:
Cheng-Yu Lai, Associate Professor, Department of Mechanical and Materials Engineering

2. Education – degree, discipline, institution, year
Ph.D. Chemistry, Iowa State University, December 2004
M.S. Chemistry, National Chung-Hsing University, Taichung, Taiwan, June 1996
B.S. Chemistry, National Chung-Hsing University, Taichung, Taiwan, June 1994

3. Academic experience – institution, rank, title
16 Years
Associate Professor, Mech. & Mater. Eng. Dept., FIU, 2020-Present
Visiting Associate Professor, Mech. & Mater. Eng. Dept., FIU, 2018-2020
Associate Chair, Dept. of Chemistry, Delaware State University, 2014-2015
Associate Professor, Dept. of Chemistry, Delaware State University, 2012-2018
Postdoctoral Research Fellow – Department of Immunology, Scripps Research 2005-2007

4. Non-Academic experience:
Senior Research Chemist, DuPont Central Research and Development 2010-2012
Research Chemist, DuPont Central Research and Development, 2007-2012

5. Certifications or professional registrations: N/A

6. Current membership in professional organizations
Materials Research Society (MRS)
American Chemical Society (ACS)

7. Honors and awards
Research Excellence Award, Delaware State University, 2016
Professional Development Award, Delaware State University, 2013-2014
Sigma Xi Award for Excellence in Science, 2004
ACS Division of Inorganic Chemistry Travel Award, 2004
Teaching Excellence Award, Iowa State University, 2001

8. Service activities (within and outside of the institution)
Faculty Advisor, Materials Research Society (MRS)
Panel Reviews – DoD National Defense Science and Engineering Graduate (NDSEG) Fellowship Program
NASA CRE2DO Center at FIU, Associate Director of Outreach and Educational Programs
Editorial Board Member, Journal of Thermodynamics and Catalysis
Faculty Search Committee member, FIU

9. Briefly list the most important publications and presentations from the past five years

Liu, M.; Radu, D. R.; Selopal, G. S.; Bachu, S.; Lai, C.-Y, "Stand-Alone CuFeSe2 (Eskebornite) Nanosheets for Photothermal Cancer Therapy". ***Nanomaterials 2021***.
Liu, M.; Bhandari, A.; Haqqani Mohammed, M. A.; Radu, D. R.; Lai, C.-Y, "Versatile Silver Nanoparticles-Based SERS Substrate with High Sensitivity and Stability". ***Applied Nano 2021***.
Prado-Rivera, R.; Chang, C.-Y.; Liu, M.; Lai, C.-Y.; Radu, D. R, "Sulvanites: The Promise at the Nanoscale" ***Nanomaterials 2021***.
Liu, M.; Lai, C.-Y.; Chang, C.-Y.; Radu, D. R, "Solution-Based Synthesis of Sulvanite Cu3TaS4 and Cu3TaSe4 Nanocrystals" ***Crystals 2021.***
Mahyar Mohammadnezhad; Mimi Liu; Gurpreet Singh Selopal; Fabiola Navarro Pardo; Zhming M. Wang; Barry Stansfield; Haiguang Zhao; Cheng-Yu Lai; Federico Rosei; Daniela R. Radu, "Synthesis of Highly Efficient Cu2ZnSnSxSe4-x (CZTSSe) Nanosheet Electrocatalyst for Dye-Sensitized Solar Cells" ***Electrochimica Acta, 2020***.
Liu, M.; Lai, C.-Y.; Zhang, M.; Radu, D. R., "Cascade synthesis and optoelectronic applications of intermediate bandgap Cu3VSe4 nanosheets" ***Scientific Reports 2020***.
Liu, M.; Lai, C.-Y.; Selopal, G. S.; Radu, D. R.,"Synthesis and optoelectronic properties of Cu3VSe4 nanocrystals". ***PLOS one 2020***.
Chen, C.-C.; Stone, K. H.; Lai, C.-Y.; Dobson, K. D.; Radu, D. R., "Sulvanite" (Cu3VS4) Nanocrystals for Printable Thin Film Photovoltaics", **.** ***Materials Letters*** **2018.**
Cheng-Yu Lai, Mimi Liu, Daniela, R. Radu "2D Cu2ZnSnSxSe4-x Nanosheets for Ultra-Thin Film Photovoltaics", **ACS National Meeting & Expo, Philadelphia, PA**, **March 22 - 26, 2020**, Talk.
Daniela R. Radu, Cheng-Yu Lai, "Teaching the old mesoporous silica nanospheres (MSN) new tricks: Sensing capabilities" **ACS National Meeting & Expo, Philadelphia, PA, March 22 - 26, 2020**, Poster.
Daniela Radu, Cheng-Yu Lai, Mimi Liu, Po-Yu Hwang, Dominik Berg, Ching-Chin Chen, Kevin Dobson, "Chalcogenide nanomaterials in thin-film photovoltaics", **254th ACS National Meeting & Exposition, Washington, DC, August 20-24, 2017**, Talk.
Daniela Radu, Mimi Liu, Kevin Dobson, Po-Yu Hwang, Cheng-Yu Lai, "Chalcogenide Nanoparticles Precursor in Thin-Film Photovoltaics—Processing Limitations", **43rd IEEE Photovoltaics Specialists, Portland OR, 2016,** Poster.

10. Briefly list the most recent professional development activities

- Organized NASA Workshop for engaging FIU in Space Technology Mission Directorate research in support of Artemis Mission, December 2020
- Facilitated Georgia Tech Materials Science Seminar streaming, ongoing
- Attended MRS Tutorial: 2D Layered Materials for Quantum—From Growth to Quantum Properties and Applications at MRS Fall 2020 Meeting