

1. Teaching & Advising

(1) **Teaching Experiences** (*recipient of 2014 Bromilow Award for Teaching Excellence, NMSU College of Engineering*)

- ABET Accreditation for Chemical Engineering (2012, 2018) and for Engineering Physics (2018)
- Supported for ASEE Summer School (2012, 2017)
- ChME 302, Thermodynamics II, Fall 2014, Fall 2015, Fall 2016, Fall 2017, Fall 2018
- ChME 302L, Thermodynamic Models of Physical Properties, Fall 2014
- ChME 441, Chemical Kinetics and Reactor Engineering, Spring 2014
- ChME 467/567, Phys. 450/520, Nanoscience and Nanotechnology, Spring 2014, Spring 2015, Spring 2016, Fall 2017
- ChME 542, Graduate Reactor Analysis and Design, Spring 2015, Spring 2016, Spring 2017, Spring 2018
- ChME 590/690 Graduate Seminar, Spring 2014, Fall 2015, Fall 2016
- ChME 498 Undergraduate Research, every semester
- ChME 598 Ph.D. Research Level I, every semester
- ChME 599 Master's Thesis, every semester
- ChME 698 Ph.D. Research Level II, every semester
- ChME 700 Ph.D. Research Level III, every semester

I taught one graduate core course: CHME 542 Graduate Reactor Analysis and Design, Spring semester 2015-2018; undergraduate core course CHME 302 in Fall semester 2014-2018; undergraduate core course CHME 302L in Fall 2014; Undergraduate core course CHME 441 Chemical Kinetics and Reactor Engineering in Spring 2014; Graduate seminar CHME 590/690 in Spring 2014, Fall 2015, Fall 2016; In addition, I created and taught elective course CHME 467/567, Phys. 450/520, Nanoscience and Nanotechnology for both undergraduate and graduate students in science and engineering (The course is cross-listed with Physics department), in Spring 2014, Spring 2015, Spring 2016, Fall 2017. I also attend workshops in NMSU Teaching Academy and workshops in graduate school, such as Peer Coaching: A Classroom Observation program, by inviting other professors to attend my class, interview students and give feedback. I participated in ABET (Accreditation Board for Engineering and Technology) Accreditation 2018 for Chemical Engineering and Engineering Physics as well; supported for ASEE (American Society for Engineering Education) Summer School in 2017 (for Chemical Engineering faculty, once every five years) to improve teaching and learn teaching skills and resources.

(2) **Student Advising** (*2015 Advisor for the Chinese Government Award for Outstanding Self-financed Students Abroad, China Scholarship Council, for Gen Chen's Ph.D. study at NMSU*)

- Mentored and mentoring four Preparing Future Faculty Awardee graduate students (Ling Fei 2013-2014, Jiuling Yu 2017-2018, Haizhen Wang 2018-2019, Clarita Yosune Regalado 2018-2019)

- Selected and Supported with two minority undergraduate students (Stephanie Richins, Esai Lopez, Chemical Engineering Sophomore), for Purdue Early Pathway Program (March 2018)
- Faculty Mentor: NSF Alliance for Minority Participation (AMP) program, 2010-2018; NIH Minority Access to Research Careers (MARC) program, 2013-2018; NSF Summer Community College Opportunity for Research Experience (SCCORE) program, 2010-2018; S-STEM Scholarship Program, 2017-2018
- Faculty Mentor in NSF NM EPSCoR STEM Advancement Program (STEMAP) in NM State, 2014-2018

I am the department graduate program coordinator / graduate student academic advisor since Spring 2010, helping to recruit graduate students, advise graduate students for taking classes and undergraduate ECUST exchange students. I also present the graduate handbook/catalog for the new graduate students in the seminar ChME 590/690 every semester. In my research group, since 2014 to 2018, 6 Ph.D. students and 7 thesis-base Master students have graduated with degree at NMSU. I also advised 11 undergraduate students, 1 visiting student and 3 visiting professors. Currently my group has 1 visiting professor, 6 Ph.D. students, 1 visiting Ph.D. student, 1 MS student, 5 undergraduate students and 1 high school student. One of my former students Gen Chen said “As a Ph.D. candidate, I cannot emphasize too much the importance of my Ph.D advisor Dr. Luo’s unreserved support to me on building academic connections, nominating me for many awards, giving me many opportunities to present my work to the research community, recommending me for the Los Alamos National Lab research chance, and so on, which bring long-lasting and important benefits to my future career”.

• Students

Current

- 1 Visiting Professor: **Rongrong Shi** (Nov. 2017 –), Associate Professor, Lanzhou University, China
- 1 Visiting Ph.D. student: **Fanjun Kong** (2018 –), from Soochow University, China
- 6 Ph.D. students:
 - Swagotom Sarker** (June 2014 –, passed the comprehensive exam in Feb. 2018, expected Ph.D. degree in Dec. 2018);
 - Tom Nakotte** (Jan. 2015 –), passed the comprehensive exam in April 2018, expected Ph.D. degree in Dec. 2019);
 - Di Huang** (August 2016 –), passed the qualifying exam in May 2017, expected for comprehensive exam in Fall 2018;
 - Jiuling Yu** (August 2016 –), passed the qualifying exam in May 2017, expected for comprehensive exam in Spring 2019;
 - Haizhen Wang** (Jan. 2017 –), passed the qualifying exam in May 2018, expected for comprehensive exam in Spring 2019;
 - Wei Tang** (August 2018 –), expected qualifying exam in May 2019.
- 1 MS student: **Clarita Yosune Regalado Vera** (August 2017 –), expected MS degree in May 2019.
- 5 undergraduate students: **Stephanie Richins** (2015 –), **Kimberly Pestovich** (2016 –), **Felicia Rodriguez** (2017 –), **Thai Phat Truong** (Jan. 2018 –), **Leonel Alderete** (2018 –)
- 1 high school student: **Julia Fernald** (2017 –)

Completed

• **Thesis Advisor for total 6 PhDs and all 6 students received their Ph.D. degree at NMSU during 2014 – 2018, 3 are faculty members since Jan. 2018**

- (6) **Weichuan Xu** (August 2014 – July 2018), degree: August 2018. Associate Professor in Chemical Engineering, Huaiyin Institute of Technology, China, September 2018-present. Completed PhD dissertation entitled “Nanoscale Design and Engineering of Electro-catalysts in Fuel Cell and Water Electrolyzer Energy Conversion”.
- (5) **Litao Yan** (May 2014 – June 2017), degree: August 2017. Postdoctoral Associate in Pacific Northwest National Laboratory (PNNL), July 2017-present. Completed PhD dissertation entitled “Electrodes with Enhanced Electronic Conductivity for Batteries”.
- (4) **Gen Chen** (August 2012 – May 2016), degree: May 2016. Associate Professor in Materials Science and Engineering, Central South University, China, March 2018-present; Postdoctoral Associate in University of California, Los Angeles (UCLA), June 2016-March 2018. Completed PhD dissertation entitled “Nanoscale Engineering of Transition–Metal Chalcogenides/Hydroxides for Boosting Electrochemical Energy Storage”.
- (3) **Qianglu Lin** (August 2009 – Dec. 2014), degree: Dec. 2014. Postdoctoral Associate in Los Alamos National Laboratory (LANL), Jan. 2015 – June 7, 2017. Completed PhD dissertation entitled “Engineering of Lead Chalcogenide Nanostructures for Carrier Multiplication: Core/Shell, 1D, and 2D”.
- (2) **Yun Xu** (August 2010 – Oct. 2014), degree: Dec. 2014. Postdoctoral Associate in National Renewable Energy Laboratory (NREL), Oct. 2016-present; Postdoctoral Associate in Clemson University, Nov. 2014-Oct. 2016. Completed PhD dissertation entitled “Nano-Engineered Electrode Materials for Advanced Lithium Ion Battery”.
- (1) **Ling Fei** (August 2010 – Jan. 2014), degree: May 2014. Tenure-Track Assistant Professor in Department of Chemical Engineering, University of Louisiana at Lafayette, Jan. 2018-present; Postdoctoral Associate in Cornell University, Jan. 2014-Dec. 2017. Completed PhD dissertation entitled “Design and develop Novel Nanomaterials for Energy Storage Device and Electronic Device”.

• **Thesis Advisor for total 11 MS (4 continued for Ph.D. program) and 7 received MS degree at NMSU during 2014 – 2018**

- (7) **Tyler Balding** (August 2015 - May 2018), degree: August 2018. Engineer in Florida. Completed Master thesis entitled “Carbon Quantum Dots for Bio-imaging and Photocatalytic Improvement”.
- (6) **Randa Kassis** (August 2015 - August 2017), degree: August 2017. Engineer in Schlumberger, Wyoming. Completed Master thesis entitled “LiCoO₂ using Polymer Assisted Deposition as Cathode Material for Lithium Ion Batteries”.
- (5) **Brian Patterson** (August 2013 - June 2016), degree: August 2016. Engineer in Las Cruces. Completed Master thesis entitled “Strontium Titanate Buffer Layer for Organic Solar Cells through a Facile Polymer-Assisted Solution Deposition Method”.
- (4) **Di Huang** (August 2013 - July 2015), degree: August 2015. Ph.D. student at NMSU. Completed Master thesis entitled “Engineering of Perovskite Structure for Energy Applications”.
- (3) **Xun Xu** (August 2012 - Dec. 2014), degree: Dec. 2014. Engineer in Beijing, China. Completed Master thesis entitled “Synthesis and Applications of Organic-Inorganic Hybrid Silica Particles”.

- (2) **Joshua Hill** (August 2010 - May 2014), degree: May 2014. Engineer in South Carolina. Completed Master thesis entitled “Investigation of Self- and Directed Assembly of PbS Nanoparticle Superlattices”.
- (1) **Yufeng Jiang** (August 2012 - May 2014), degree: May 2014. Ph.D. student in University of California, Berkeley. Completed Master thesis entitled “Titanium Oxide with Various Modifications as Anode Material for Electrochemical Energy Storage”.

- **Mentored non-thesis 2 graduate students and 1 during 2014 – 2018**

- (1) **Yicheng Zhang** (BS in Physics, August 2014 – August 2015). Ph.D. student in Binghamton University, the State University of New York (2015–)

- **Mentored 3 Visiting Professors and 2 during 2014 – 2018**

- (2) **Xue Yu** (October 2016 – August 2017), Professor in Kunming University of Science and Technology, Yunnan, China
- (1) **Huiqiang Wang** (September 2015 – September 2016), Professor in Agricultural University of Hebei, China

- **Mentored 2 Visiting Students and 1 during 2014 – 2018**

- (1) **Jonathan Peters** (February 2016 – May 2016), undergraduate senior in Loughborough University, UK, BS degree in Loughborough Univ. 2017.

- **Mentored 20 Undergraduate Students (11 attending graduate program) and 11 during 2014 – 2018**

- (11) **Steven Liaw** (August 2014 – March 2018), BS degree in May 2018, research associate in California
- (10) **Christopher Catanach** (August 2016 – March 2018, AMP program student)
- (9) **Andrew White** (May – July 2016, STEM MAP program student), undergraduate student from Santa Fe Community College
- (8) **Richard Dylan Stupka** (April – June 2016), undergraduate student at NMSU
- (7) **Joshua Catanach** (May 2013 – May 2016, AMP program student), BS degree in May 2016; engineer at Exxon Mobil since June 2016
- (6) **Huilin Wang** (August 2015 – December 2015), BS degree in May 2016; MS student at NMSU 2016-2018 and MS degree in May 2018; Engineer in Shanghai, China
- (5) **Muchu Zhou** (August 2015 – December 2015), BS degree in May 2016; MS student at NMSU 2016-2018 and MS degree in August 2018; Ph.D. student at NMSU 2018 –
- (4) **Tyler Balding** (January 2015 – August 2015), BS degree in May 2015; MS student at NMSU 2015-2018 and MS degree in August 2018; Engineer in California
- (3) **Meshack Audu** (summer 2015), BS degree in May 2016; MS student at NMSU 2016 –
- (2) **Rodrigo Rodriguez** (May 2013 – May 2015, AMP program student), BS degree in May 2015; Ph.D. student in Univ. Texas, Austin. 2015 –
- (1) **Matthias Trujillo** (May 2013 – May 2014, MARC program student), BS degree in May 2014; Ph.D. student in Florida Univ. 2014 –

- **Mentored 7 High School Students and all 7 during 2014 – 2018**

- (7) **Levi Doyle** (supported by USDA project, Summer 2017), Univ. New Mexico Undergraduate 2017 –

- (6) **Hugh Smallidge** (Excel program, August 2016 – May 2017, one co-authored publication)
- (5) **Thomas Salas** (Excel program, August 2016 – May 2017, one co-authored publication), Univ. Portland Undergraduate 2017 –
- (4) **Lara Teich** (supported by USDA project, June 2016 – May 2017, one co-authored publication, attended APS meeting with a poster), Harvard Univ. Undergraduate 2017 –
- (3) **Dylan Gegax** (Excel program, summer 2016)
- (2) **Stephanie Richins** (Excel program and partly supported by NM EPSCoR project, August 2015 – August 2016, two co-authored publications, attended 2016 MRS Spring Meeting), NMSU Undergraduate 2016 –
- (1) **Tiffany Liaw** (Jan. 2014 – May 2015, one co-authored publication), UC Berkeley Undergraduate 2015 –

Selected Students Honors:

Gen Chen (Ph.D. student, two big international awards)

- D. Bruce Wilson Fellowship from Chemical Engineering department (\$4000), NMSU, 2016
- Merit-based Enhancement Award (\$4000), NMSU, 2015 – 2016
- Chinese Government Award for Outstanding Self-Financed Students (\$6000), China Scholarship Council, 2015
- ECS Edward G. Weston Summer Fellowship (\$5000), the Electrochemical Society (ECS), 2015
- Symposium Assistant for 2015 MRS Spring Meeting
- Outstanding Reviewer of JOURNAL OF POWER SOURCES, Elsevier, 2015
- Graduate Student Research in Los Alamos National Lab., 2014 – 2015
- Outstanding Graduate Assistantship Award (\$2000), NMSU, 2014 – 2015
- Merit-based Enhancement Award (\$4000), NMSU, 2013 – 2014

Litao Yan (Ph.D. student)

- Summer Internship at Giner, Inc. May – August 2016
- Merit-based Enhancement Award (\$4000), NMSU, 2016 – 2017
- Outstanding Graduate Assistantship Award (\$2000), NMSU, 2015 – 2016
- ECS Student Travel Award, the Electrochemical Society (ECS) (\$300), 05/2015
- Doctoral Graduate Enhancement Award (\$12,000), College of Engineering, NMSU, 2014 – 2017
- Graduate Student Tuition Award (\$12,000), NMSU, 2014 – 2017

Tom Nakotte (Ph.D. student)

- NASA Space Grant Fellowship (\$10,000), 2018
- Outstanding Graduate Assistantship Award (\$2000), NMSU, 2017 – 2018
- NM EPSCoR Externship Award (\$3000), Spring 2017
- NM EPSCoR Externship Award (\$3000), Summer 2016
- Graduate Student Tuition Award (\$16,000), NMSU, 2015 – 2019

Swagotom Sarker (Ph.D. student)

- Outstanding Graduate Assistantship Award (\$2000), NMSU, 2016 – 2017
- Symposium Assistant for 2016 MRS Spring Meeting

Haizhen Wang (Ph.D. student)

- Preparing Future Faculty Graduate Assistantship Award (\$8000), NMSU, 2018 – 2019
- Symposium Assistant for 2018 MRS Spring Meeting
- Graduate Student Tuition Award (\$12,000), NMSU, Spring 2017 – Fall 2019

Di Huang (Ph.D. student)

- AVS Short Course Scholarship, 2018
- Symposium Assistant for 2018 MRS Spring Meeting
- Graduate Student Tuition Award (\$12,000), NMSU, Fall 2016 – Spring 2019

Jiuling Yu (Ph.D. student)

- AVS Short Course Scholarship, 2018
- Michael E. Watts Memorial Engineering Fellowship for Doctoral Student Conference Travel (\$500), 2018
- Symposium Assistant for 2018 MRS Spring Meeting
- Preparing Future Faculty Graduate Assistantship Award (\$8000), NMSU, 2017 – 2018

Clarita Yosune Regalado Vera (MS student)

- AVS Short Course Scholarship, 2018
- Preparing Future Faculty Graduate Assistantship Award (\$8000), NMSU, 2018 – 2019
- Outstanding Graduate Assistantship Award (\$2000), NMSU, 2018 – 2019

Tyler Balding (MS student)

- NASA Space Grant Fellowship (\$10,000), 2016

Brian Patterson (MS student)

- NASA Space Grant Fellowship (\$10,000), 2015

Kimberly Pestovich (Undergraduate student)

- Los Alamos National Laboratory Summer Internship (Summer 2016 – 2018)
- NASA Space Grant Fellowship (\$5,000), 2018
- NASA Space Grant Fellowship (\$5,000), 2017

Stephanie Richins (Undergraduate student)

- University of Nebraska Lincoln MRSEC Summer Research, June – August 2018
- Purdue University Early Pathways Program, March 2018
- NASA Space Grant Fellowship (\$5,000), 2018
- WRI Water Research Award (\$6,000), 2016 – 2017.

2. Funded Research

• 13 Funded Projects (involved total \$23.3m, Luo portion: \$1.25m)

1. **Current:** Single PI, “Metal Oxide Thin Films via Polymer-Assisted Deposition and Sputtering”, *National Renewable Energy Laboratory*, \$60,000, 10/2018 – 09/2019. (graduate student supported: **Di Huang**).
2. **Current:** Single PI, “Solid State Radiation Detectors using Quantum Dots”, NM Space Grant Consortium – Research Initiation Grant (RIG), \$25,000, 07/20/2018 – 06/30/2019. (graduate student supported: **Tom Nakotte**).
3. **Current:** Single PI, “Investigation of Electrode-Electrolyte Interactions Using Transition Metal Oxide Thin Films via Polymer-Assisted Deposition”, *Argonne National Laboratory*, \$132,280, 04/2016 – 09/2018. (graduate students supported: **Randa Kassis** and **Di Huang**)
4. **Current:** Co-PI, “I-Corps Site: New Mexico State University”, PI: Kramer Winingham; co-PIs: Paul Furth, Hongmei Luo, Luoyu R. Xu, Geoffrey B. Smith. *NSF*, \$300,000, 02/01/2016 – 01/31/2019.
5. **Current:** Co-PI, “IFSEEN - Integrating Food Science/Engineering and Education Network: A Partnership to Integrate Efforts and Collaboration to Shape Tomorrow’s Hispanic Food Safety/Science Leaders”, lead: University of Texas, Rio Grande Valley; participant institutions: UT San Antonio, UNM, NMSU: Jessica Houston, Hongmei Luo, Nancy Flores. *USDA*, total \$2,000,000; NMSU portion \$392,800, Luo portion: \$216,529, 09/10/2015 – 09/09/2019. (graduate students supported: **Tyler Balding**, **Litao Yan**, **Clarita Yosune Regalado Vera**, undergraduate students and high school students: **Steven Liaw**, **Christopher Catanach**, **Stephanie Richins**, **Lara Teich**, **Levi Doyle**, **Julia Fernald**, **Leonel Alderete**)
6. **Current:** Single PI, “EFRC/CASP: Semiconductor Quantum Dots”, *Los Alamos National Laboratory*, \$214,000, 03/30/2015 – 12/31/2018. (Ph.D. students supported: **Gen Chen** and **Tom Nakotte**)
7. **Current:** Senior Personnel, “Energize New Mexico”, lead: Univ. New Mexico, participant institutions: NMT, NMSU and others. *NSF–NM EPSCoR*, total \$20,000,000, Luo as single PI at the solar power team at NMSU, Luo portion \$259,150, 06/01/2013 – 10/30/2018. (graduate students supported: **Swagotom Sarker**, **Haizhen Wang**; undergraduate students: **Stephanie Richins**, **Kimberly Pestovich**)
8. (internal): Co-PI, “Engineering of Unique Nanocarriers with Optical Properties for Cancer Imaging”, PI: Jessica Houston (NMSU), College of Engineering, NMSU, \$10,000, Luo portion \$5,000, 05/2018 – 08/2018.
9. (internal): Single PI, “Solar Energy Assisted Water Purification: Reduced Graphene Oxide (RGO) - Molybdenum Disulfide (MoS₂) Photocatalyst for Efficient Oxidation of Toxic Arsenite [As(III)]”, NMSU Agricultural Experiment Station (AES) Graduate Research Awards, \$40,000, 07/01/2016 – 08/30/2018 (Ph.D. students supported: part time **Swagotom Sarker**, **Weichuan Xu**, **Jiuling Yu**)
10. Co-PI, “Developing Effective Communication Techniques to Relate Graduate Level Research toward Informal Educational Audiences and Improving Workforce Development Understanding”, PI: Mike Heagy (NMT), Co-PIs: M. Kirk (UNM), H. M. Luo (NMSU), NM EPSCoR Interdisciplinary Innovation Working Group (IWG), \$7,500, 07/01/2015 – 12/31/2015.

11. Single PI, “EAGER: Novel Rare Earth Metal Oxysulfate (RE₂O₂SO₄) for Upconversion”, *NSF*, \$150,000, 08/15/2014 – 07/30/2016 (Ph.D. student supported: **Litao Yan**; Nanoscience and Nanotechnology class 3-week lab session, and 6 graduate and undergraduate students for MRS spring meeting each year for two years).
12. Single PI, “Synthesis and Characterization of Semiconductor Nanostructures for Solar Energy Capture”, *Los Alamos National Laboratory*, \$41,403, 01/30/2014 – 09/30/2014 (Ph.D. student supported: **Gen Chen**).
13. Co-PI, “Acquisition of a High-Resolution High-Intensity X-Ray Diffractometer for Research and Education”, PI: Stefan Zollner, Co-PIs: Luo, Nakotte, Fohitung, *DOD ARO*, \$299,759, 02/01/2014 – 01/31/2015.

• **Proposals (pending)**

1. Co-PI, “Acquisition of a 9-Tesla Cryogen-Free Physical Property Measurement System for Materials Research at New Mexico State University”, PI: Edwin Fohitung, Co-PIs: Heinz Nakotte, Hongmei Luo, Meng Zhou, \$407,692, *DOD HBCU/MI*, 04/2019-03/2020, submitted on August 16, 2018.
2. PI, “CCI Phase I: NSF Center for Sustainable Energy Technologies”, Senior Personnel: Boris Kiefer, Heinz Nakotte, Sergei Smirnov, Meng Zhou, Gabriela Cisneros, *NSF* pre-proposal, submitted on August 14, 2018.
3. PI, “RET Site: Novel Materials for the Society Urgency (NMSU)”, Co-PI: Igor Sevostianov, Senior Personnel: Boris Kiefer, Meng Zhou, Gabriela Cisneros, Heinz Nakotte, Edwin Fohitung, Igor Vasiliev, Sergei Smirnov, Marat Talipov, *NSF*, \$599,444, 03/2019-02/2022, submitted on September 19, 2018.
4. Senior Personnel, “Certificate and Advanced Research, Education and Training in Smart Grid Technology (CARETin SGT), PI: Vimal Chaitanya, Co-PIs: Ranade, Pontelli, Misra, Kuravi; Senior Personnel: Tran, Vishwanathan, Cao, Luo, *DOE SETO*, \$6,000,000, 01/01/2019-12/31/2023, submitted on July 5, 2018.

3. Scholarly & Creative Activities

Book Chapter (1)

Hongmei Luo, “Polymer-Assisted Chemical Solution Method to Metal Oxide Nanoparticles for Lithium-Ion Batteries”, Wiley book entitled “Nanomaterials for Electrochemical Energy Storage Devices”, submitted on July 31, 2018, Scrivener Publisher.

Peer-Reviewed Journal Publications: total 56, 46 papers with Luo Group Graduate Students (underlined) and **Undergraduate Students/High School Students** (in bold); https://scholar.google.com/citations?user=Bi_u7JMAAAAJ, Since 2013, citations: 3119, h-index: 30.

1. W. Xu, Nicholas Apodaca, L. T. Yan, G. Chen, M. Zhou, D. Ding, P. Choudhury, H. M. Luo*, A-site Excessive (La_{0.8}Sr_{0.2})_{1+x}MnO₃ Perovskite Oxides for Bifunctional Oxygen Catalyst in Alkaline Media, (submitted 2018).
2. C. Fang, J. Li, J. Wang, R. Chen, H. Z. Wang, S. Lan, Y. Xuan, H. M. Luo, P. Fei, D. Li, Controlled Growth of Two-Dimensional Perovskite Microstructures, *CrystEngComm*. (accepted 2018).
3. L. Li, J. Li, S. Lan, G. Lin, J. Wang, H. Z. Wang, Y. Xuan, H. M. Luo, D. Li, Two-step Growth of 3D Organic-Inorganic Perovskite Microplates and Arrays for Functional Optoelectronics, *J. Phys. Chem. Lett.* 9, 4532-4538 (2018).
4. L. T. Yan, H. Z. Wang, D. Huang, H. M. Luo*, Electrodes with High Conductivities for High Performance Lithium/Sodium Ion Batteries, *Engineered Science* (invited review), 1, 4-20 (2018).
5. S. Sarker, **J. Peters**, X. Q. Chen, B. Li, G. Chen, L. T. Yan, **S. Richins**, S. Das, M. Zhou, H. M. Luo*, Engineering Molybdenum Diselenide and its Reduced Graphene Oxide Hybrids for Efficient Electrocatalytic Hydrogen Evolution, *ACS Appl. Nano Mater.* 1, 2143-2152 (2018).
6. W. Xu, L. T. Yan, **L. Teich**, **S. Liaw**, M. Zhou, H. M. Luo*, Polymer-Assisted Chemical Solution Synthesis of La_{0.8}Sr_{0.2}MnO₃-based Perovskite with A-site Deficiency and Cobalt-doping for Bifunctional Oxygen Catalyst in Alkaline Media, *Electrochimica Acta*, 273, 80-87 (2018).
7. W. J. Bian, Y. Lin, T. Wang, X. Yu, J. B. Qiu, M. Zhou, H. M. Luo, S. F. Yu, X. H. Xu, Direct Identification of Surface Defects and their Influence on the Optical Characteristics of Upconversion Nanoparticles, *ACS Nano*, 12, 3623-3628 (2018).
8. S. Sarker, P. Chaturvedi, L. T. Yan, T. Nakotte, X. Q. Chen, **S. Richins**, S. Das, J. Peters, M. Zhou, S. Smirnov, H. M. Luo*, Synergistic Effect of Iron Diselenide Decorated Multi-Walled Carbon Nanotubes for Enhanced Heterogeneous Electron Transfer and Electrochemical Hydrogen Evolution, *Electrochimica Acta*, 270, 138-146 (2018).
9. S. Zhao, L. T. Yan, H. M. Luo, W. Mustain, H. Xu, Recent Progress and Perspectives of Bifunctional Oxygen Reduction/Evolution Catalyst Development for Unitized Regenerative Anion Exchange Membrane Fuel Cells, *Nano Energy* 47, 172-198 (2018).
10. H. Z. Wang, M. Zhou, H. M. Luo*, Electric-field Induced Dynamic Electronic Junctions in Hybrid Organic-Inorganic Perovskites for Optoelectronic Applications, *ACS Omega*, 3, 1445-1450 (2018).

11. J. Li, J. Wang, Y. Zhang, H. Z. Wang, G. Lin, X. Xiong, W. Zhou, H. M. Luo, D. Li, Fabrication of Single Phase 2D Homologous Perovskite Microplates by Mechanical Exfoliation, *2D Materials*, 5, 021001 (2018).
12. H. Z. Wang, B. Patterson, J. Z. Yang, D. Huang, Y. Qin, H. M. Luo*, Polymer-Assisted Deposition of SrTiO₃ Film as Cathode Buffer Layer in Inverted Polymer Solar Cells, *Appl. Mater. Today* 9, 402-406 (2017).
13. W. Xu, L. T. Yan, H. Wang, **S. Liaw**, H. M. Luo*, Niobium-doped Titanium Dioxide on Functionalized Carbon Supported Palladium Catalyst for Enhanced Ethanol Electro-oxidation, *RSC Adv.* 7, 34618-34623 (2017).
14. L. T. Yan, Y. Lin, X. Xu, W. Xu, **T. Salas**, **H. Smallidge**, M. Zhou, H. M. Luo*, La_{0.8}Sr_{0.2}MnO₃-based Perovskite Nanoparticles with the A-site Deficiency as High Performance Bifunctional Oxygen Catalyst in Alkaline Solution, *ACS. Appl. Mater. Interfaces* 9, 23820-23827 (2017).
15. Q. Lin, H. J. Yun, W. Liu, H.-J. Song, N. S. Makarov, O. Isaienko, T. Nakotte, G. Chen, H. M. Luo, V. I. Klimov, J. M. Pietryga, Phase-transfer Ligand Exchange of Lead Chalcogenide Quantum Dots for Direct Deposition of Thick, Highly Conductive Films, *J. Am. Chem. Soc.* 139, 6644-6653 (2017).
16. Y. Xu, M. Zhao, S. Khalid, H. M. Luo, K. S. Brinkman, Self-substitution and the Temperature Effects on the Electrochemical Performance in the High Voltage Cathode System LiMn_{1.5+x}Ni_{0.5-x}O₄ (x=0.1), *J. Electrochem. Energy Conversion and Storage* 14, 021006 (2017).
17. L. T. Yan, J. Yu, J. Houston, N. Flores, H. M. Luo*, Biomass Derived Porous Nitrogen-doped Carbon for Electrochemical Devices, *Green Energy Environmental* 2, 84-99 (2017).
18. L. T. Yan, J. Yu, H. M. Luo*, Ultrafine TiO₂ Nanoparticles on Reduced Graphene Oxide as Anode Materials for Lithium Ion Batteries, *Appl. Mater. Today* 8, 31-34 (2017).
19. A. Li, Y. Tong, B. Cao, H. Song, Z. Li, X. Chen, J. Zhou, G. Chen, H. M. Luo, MOF-derived Multifractal Porous Carbon with Ultrahigh Lithium Ion Storage Performance, *Scientific Reports* 7, 40574 (2017).
20. N. Li, S. K. Yadav, Y. Xu, J. A. Aguiar, J. K. Baldwin, Y. Wang, H. M. Luo, A. Misra, B. P. Uberuaga, Cr Incorporated Phase Transformation in Y₂O₃ under Ion Irradiation, *Scientific Reports* 7, 40148 (2017).
21. H. Zhang, Z. Hui, X. Tang, R. Wei, J. Yang, J. Dai, W. Song, H. M. Luo, X. Zhu, Y. Sun, Self-assembled c-axis Oriented d-MoN Thin Films on Si Substrates by Chemical Solution Deposition: Growth, Transport and Properties, *J. Alloy Compd.* 704, 453-458 (2017).
22. Z. Hui, Q. Meng, R. Wei, X. Tang, X. Zhu, Z. Ouyang, J. Dai, W. Song, H. M. Luo, X. Zhu, Y. Sun, CrN Thin Films with Ultra-low Magnetoresistance Prepared via Solution Processing for Large-area Applications, *J. Alloy Compd.* 696, 844-849 (2017).
23. Y. Xu, Q. Zhou, H. M. Luo*, Effect of Crystallinity on Lithium Ion Storage Behavior of TiO₂ Thin Films, *Chemical Engineering*, 1, 11 (2016).
24. L. T. Yan, G. Chen, S. Sarker, **S. Richins**, H. Q. Wang, W. Xu, X. Rui, H. M. Luo*, Ultrafine Nb₂O₅ Nanocrystal Coating on Reduced Graphene Oxide as Anode Material for High Performance Sodium Ion Battery, *ACS. Appl. Mater. Interfaces*, 8, 22213-22219 (2016).
25. G. Chen, L. T. Yan, H. M. Luo*, S. Guo, Nanoscale Engineering of Heterostructured Anode Materials for Boosting Lithium Ion Storage, *Adv. Mater.* 28, 7580-7602 (2016).
The layman's summary published in Atlas of Science (Jan. 10, 2017)

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54. L. Fei, Y. Xu, X. Wu, G. Chen, Y. Li, B. Li, S. Deng, S. Smirnov, H. Y. Fan, H. M. Luo*, Instant Gelation Synthesis of 3D Porous MoS₂@C Nanocomposites for Lithium Ion Batteries, *Nanoscale*, 6, 3664-3669 (2014).

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55. E. Fu, M. J. Zhuo, S. J. Zheng, Z. X. Bi, Y. Q. Wang, M. Tang, X. Ding, W. Z. Han, H. M. Luo, J. K. Baldwin, A. Misra, M. Nastasi, Interface Structure of Nb Films on Single Crystal MgO(100) and MgO(111) Substrates, *Acta Materialia*, 64, 100-112 (2014).
56. G. Chen, **S. S. Liaw**, B. Li, Y. Xu, **M. Dunwell**, S. Deng, H. Fan, H. M. Luo*, Microwave-assisted Synthesis of Hybrid $\text{Co}_x\text{Ni}_{1-x}(\text{OH})_2$ Nanosheet: Tuning the Size and Composition for High Supercapacitor Performance, *J. Power Sources*, 251, 338-343 (2014).

Conference Proceedings (1)

1. L. Yan, G. Chen, M. Zhou, H. M. Luo*, Oxygen-deficient niobium oxide in carbon matrix as anode for lithium-ion battery, *ECS Transactions*, 66, 277-283 (2015).

Invited Talks (17), Oral and Poster Presentations in Conferences (56). Luo Group NMSU Graduate Students (underlined), **Undergraduate Students/High School Students** (in bold) with *presenter* (Italic).

1. Hongmei Luo, Oxide nanoparticle network for battery and electrocatalyst applications, University of Texas at El Paso, September 7, 2018 (invited).
2. Weichuan Xu, Litao Yan, Meng Zhou (*presenter*), Hongmei Luo, Metal oxide nanoparticle network for bifunctional oxygen electroCatalyst in alkaline solution, the International Conference on Electrochemical Energy Science and Technology (EEST), Niagara Falls, Canada, August 13-18, 2018 (invited).
3. Di Huang, Qi, Zhou, Hongmei Luo (*presenter*), Metal oxide nanoparticle network from polymer-assisted solution method for lithium-ion battery anodes and cathodes, the International Conference on Electrochemical Energy Science and Technology (EEST), Niagara Falls, Canada, August 13-18, 2018 (invited).
4. Hongmei Luo, Epitaxial oxide thin films and nanoparticle network for battery and electrocatalyst applications, Univ. Texas at San Antonio, June 6, 2018 (invited).
5. W. Xu, L. Yan, M. Zhou, H. M. Luo (*presenter*), Perovskite oxide nanoparticles as high performance bifunctional catalyst, 233rd ECS Meeting, Seattle, May 13-17, 2018 (oral).
6. Jiuling Yu (*presenter*), Litao Yan, Hongmei Luo, TiO_2 -reduced graphene oxide nanocomposites as advanced photocatalytic materials, MRS Spring Meeting, Phoenix, April 2-6, 2018 (poster).
7. Weichuan Xu (*presenter*), Litao Yan, Meng Zhou, Hongmei Luo, Polymer-assisted chemical solution synthesis of perovskite oxide as high performance bifunctional catalyst in alkaline solution, MRS Spring Meeting, Phoenix, April 2-6, 2018 (oral).
8. Di Huang (*presenter*), **Qi Zhou**, **Christopher Catanach**, Hongmei Luo, Polymer-assisted deposition $\text{Li}(\text{Ni},\text{Co},\text{Mn})\text{O}_2$ thin films, MRS Spring Meeting, Phoenix, April 2-6, 2018 (poster).
9. Haizhen Wang (*presenter*), Brian Patterson, Jianzhong Yang, Di Huang, Yang Qin, Hongmei Luo, Polymer-assisted deposition of SrTiO_3 film as cathode buffer layer in inverted polymer solar cells, MRS Spring Meeting, Phoenix, April 2-6, 2018 (poster).
10. Hongmei Luo, Thin films and nanomaterials group research, MARC Program, NMSU, March 27, 2018 (invited).
11. **Stephanie Richins** (*presenter*), Hongmei Luo, LaNiO_3 catalysts for oxygen evolution reaction and oxygen reduction reaction, BYU AIChE Regional Conference, Brigham Young University in Provo, Utah, March 23-24, 2018 (oral).

12. Weichuan Xu (*presenter*), Hongmei Luo, Perovskite oxide electrocatalysts from polymer-assisted solution method for oxygen evolution reaction and oxygen reduction reaction, 2018 Mesilla Chemistry Workshop, Interplay between theory and experiment in nanocatalysis, Mesilla, NM, Feb. 3-7, 2018 (invited).
13. Hongmei Luo (*presenter*), Boris Kiefer (*presenter*), Introduction of NMSU Materials Research, University of Nebraska, Dec. 11-12, 2017 (invited).
14. Haizhen Wang (*presenter*), Meng Zhou, Hongmei Luo, Hybrid organic-inorganic perovskites for optoelectronics, NM Academy of Science Research Symposium, Albuquerque, Nov. 4, 2017 (oral).
15. Tom Nakotte (*presenter*), Qianglu Lin, Rohan Singh, Robin Kelly, Hongmei Luo, Jeff Pietraga, Victor Klimov, Synthesis of heterostructures for dual emission, NM Academy of Science Research Symposium, Albuquerque, Nov. 4, 2017 (poster).
16. **Kim Pestovich** (*presenter*), Jessica Houston, Nancy Flores, Hongmei Luo, Nanomaterials for nitrate removal from water, NM Space Grant Scholarship Colloquium, Las Cruces, Nov. 3, 2017 (oral).
17. Tom Nakotte (*presenter*), Rohan Singh, Robin Kelly, Hongmei Luo, Jeff Pietryga, Victor Klimov, Synthesis of nanocrystalline heterostructures with dual emission, Center for Advanced Solar Photophysics, August 8, 2017 (poster).
18. Hongmei Luo, Lithium-ion battery research and outreach at New Mexico State University, ASEE Summer School, Raleigh, North Carolina, July 28-August 3, 2017 (poster).
19. Litao Yan, Hongmei Luo (*presenter*), Perovskite oxide as high performance bifunctional catalyst in alkaline solution, ECS Spring Meeting, New Orleans, May 28-June 1, 2017 (invited).
20. Litao Yan, Hongmei Luo (*presenter*), Ultrafine TiO₂ and Nb₂O₅ nanoparticles on reduced graphene oxide as anode materials for lithium and sodium ion batteries, ECS Spring Meeting, New Orleans, May 28-June 1, 2017 (oral).
21. Hongmei Luo, Carbon-coated metal oxide network for lithium ion battery electrodes, 12th Pacific Rim Conference on Ceramic and Glass Technology (PacRim12), Waikoloa, Hawaii, May 21-26, 2017 (oral).
22. Di Huang, Qi Zhou, Hongmei Luo (*presenter*), Polymer-assisted deposition epitaxial Li(Ni,Co,Mn)O₂ thin films, 12th Pacific Rim Conference on Ceramic and Glass Technology (PacRim12), Waikoloa, Hawaii, May 21-26, 2017 (oral).
23. Courtney Alston (*presenter*), **Steven Liaw**, Hongmei Luo, Nancy Flores, Jessica Houston, Development of nanoparticle-based assays for flow cytometry, Undergraduate Research and Creative Arts Symposium (URCAS), April 28, 2017.
24. Hongmei Luo, Polymer-assisted solution method for metal oxide nanoparticle network, New Mexico Tech Fourth Annual Interdisciplinary Symposium on Nanotechnology, March 29, 2017 (invited).
25. **Steven Liaw** (*presenter*), **Lara Teigh**, **Chris Catanach**, Jessica Houston, Nancy Flores, Hongmei Luo, Synthesis and application of carbon quantum dots for imaging and counting of *Vibrio parahaemolyticus* in shrimp and water, Workforce diversity and career opportunity within the USDA for current and recent graduates, USDA PI meeting, Albuquerque, Feb. 16-18, 2017 (poster).
26. Litao Yan (*presenter*), Jessica Houston, Hongmei Luo, Nancy Flores, Biomass derived porous nitrogen doped carbon for electrochemical devices, Workforce diversity and career

- opportunity within the USDA for current and recent graduates, USDA PI meeting, Albuquerque, Feb. 16-18, 2017 (poster).
27. Di Huang (*presenter*), Qi Zhou, Randa Kassis, Brian Patterson, Hongmei Luo, Polymer-assisted deposition to epitaxial cathode films for lithium ion batteries, APS Four Corner Meeting, Las Cruces, October 21-22, 2016 (oral).
 28. **Qi Zhou** (*presenter*), Alexandra P. Hartman, Hongmei Luo, Stefan Zollner, Spectroscopic ellipsometry of NiO and Co₃O₄ thin films with different orientations grown on SrTiO₃ substrates by polymer-assisted deposition, APS Four Corner Meeting, Las Cruces, October 21-22, 2016 (poster).
 29. **Stephanie Richins** (*presenter*), **Lara Teich**, Swagotom Sarker, Hongmei Luo, Oxidation of arsenite by a graphitized polyacrylonitrile incorporated carbon nitride photocatalyst, APS Four Corner Meeting, Las Cruces, October 20-21, 2016 (poster).
 30. **Stephanie Richins** (*presenter*), **Lara Teich**, Swagotom Sarker, Hongmei Luo, Oxidation of arsenite by carbon nitride photocatalyst, NM WRRRI's 61st Annual New Mexico Water Conference, Silver City, October 6-7, 2016 (poster).
 31. Gen Chen, Hongmei Luo (*presenter*), MoS₂-carbon composite for lithium ion batteries, University Research Council Fair, NMSU, Sep. 30, 2016 (poster).
 32. **Stephanie Richins** (*presenter*), Swagotom Sarker, Hongmei Luo, Holey graphene for energy storage, AMP conference, NMSU, Sep. 30, 2016 (poster).
 33. **Steven Liaw** (*presenter*), Tyler Balding, Hongmei Luo, Jessica Houston, Nancy Flores, Synthesis and application of carbon quantum dots for bio-imaging and counting of Vibrio Parahaemolyticus in Shrimp Farm Colonies, AMP and University Research Council Fair, NMSU, Sep. 30, 2016 (poster).
 34. Hongmei Luo, Polymer-assisted deposition, Xian Jiaotong University, July 25, 2016 (invited).
 35. Hongmei Luo, New Mexico State University student recruiting, Harbin Normal University, July 12, 2016 (invited).
 36. Hongmei Luo, Polymer-assisted deposition to epitaxial oxide and nitride thin films, Harbin Normal University, July 12, 2016 (invited).
 37. Swagotom Sarker (*presenter*), **Stephanie K. Richins**, Litao Yan, Gen Chen, Hongmei Luo, Holey graphene for energy storage, NM EPSCoR All Hands Meeting, Albuquerque, May 4, 2016 (poster).
 38. Swagotom Sarker (*presenter*), **Stephanie K. Richins**, Litao Yan, Gen Chen, Hongmei Luo, Holey graphene for energy storage: implications of chemical treatment of graphene oxide to introduce defects, MRS Spring Meeting, Phoenix, March 27-April 1, 2016 (poster).
 39. Gen Chen (*presenter*), Hongmei Luo, Hierarchical MoS₂-carbon microspheres: an ultrastable and high performance anode for lithium ion battery, MRS Spring Meeting, Phoenix, March 27-April 1, 2016 (oral).
 40. Gen Chen (*presenter*), Hongmei Luo, Rare-earth oxysulfate hollow nanospheres for upconversion, MRS Spring Meeting, Phoenix, March 27-April 1, 2016 (oral).
 41. Gen Chen (*presenter*), Hongmei Luo, Hierarchical MoS₂-carbon microspheres for high performance lithium ion battery anode, 251st ACS meeting, San Diego, March 13-17, 2016 (oral).
 42. Hongmei Luo, Metal oxide-carbon network structure for lithium-ion battery electrodes, 251st ACS meeting, San Diego, March 13-17, 2016 (oral).

43. Hongmei Luo, Engineering heterostructured metal oxides for lithium ion batteries, Beijing University of Chemical Technology, Beijing, Dec. 23, 2015 (invited).
44. Swagotom Sarker (*presenter*), **Stephanie Richins**, Pei Xu, Hongmei Luo, Catalytic activity of defect free- and rich-molybdenum disulfide nanosheets for the photocatalytic removal of carcinogenic chromium ions, 2015 NMAS Research Symposium, Albuquerque, Nov. 14, 2015 (poster).
45. Brian Patterson, Di Huang, Gen Chen, Qianglu Lin, Tom Nakotte, Hongmei Luo (*presenter*), Solar cell research at NMSU, 2015 NMAS Research Symposium, Albuquerque, Nov. 14, 2015 (poster).
46. **Joshua Catanach** (*presenter*), Gen Chen, Hongmei Luo, Solvothermal route based in situ carbonization to metal-oxide/carbon composite as anode material for lithium ion battery, 2015 AIChE Annual Meeting, Salt Lake City, Nov. 8-13, 2015 (poster).
47. Litao Yan (*presenter*), Gen Chen, Meng Zhou, Hongmei Luo, Titanium oxynitride conformal coating on carbon nanotubes as energy storage materials, 2015 AIChE Annual Meeting, Salt Lake City, Nov. 8-13, 2015 (oral).
48. Litao Yan (*presenter*), Gen Chen, Meng Zhou, Hongmei Luo, Porous TiO₂ conformal coating on carbon nanotubes as energy storage materials, 2015 AIChE Annual Meeting, Salt Lake City, Nov. 8-13, 2015 (oral).
49. Hongmei Luo, Engineering of metal oxides and carbon composites for lithium-ion batteries, International Workshop on Nanomaterials for Energy and Biotechnology, Harbin, Nov. 2-4 (invited).
50. Litao Yan (*presenter*), Meng Zhou, Gen Chen, Hongmei Luo, Porous TiO₂ coating on carbon nanotubes as energy storage materials, 228 ECS meeting, Phoenix, Oct. 11-15, 2015 (oral).
51. Gen Chen (*presenter*), Litao Yan, Hongmei Luo, Engineering of rare-earth-metal oxysulfate (RE₂O₂SO₄) hollow nanospheres for upconversion, 228 ECS meeting, Phoenix, Oct. 11-15, 2015 (oral).
52. Gen Chen (*presenter*), Litao Yan, Meng Zhou, **Joshua Catanach**, Hongmei Luo, Solvothermal route based in situ carbonization to metal-oxide/carbon composite as anode material for lithium ion battery, 228 ECS meeting, Phoenix, Oct. 11-15, 2015 (poster).
53. Brian Patterson (*presenter*), Litao Yan, Hongmei Luo, Carbon coated MoO₂ deposited through an economical polymer-assisted solution method on nickel foam as anodes for lithium-ion batteries, 228 ECS meeting, Phoenix, Oct. 11-15, 2015 (poster).
54. Gen Chen, Litao Yan, Meng Zhou, **Joshua Catanach**, Hongmei Luo (*presenter*), Solvothermal route based in situ carbonization to metal-oxide/carbon composite as anode material for lithium ion battery, URC Fair, NMSU, Oct. 2, 2015 (poster).
55. Hongmei Luo, Solution approach to epitaxial metal oxide and nitride thin films, Chengdu, July 15, 2015 (invited).
56. Hongmei Luo, Engineering of transition-metal oxides for lithium-ion batteries, Suzhou, July 10, 2015 (invited).
57. Hongmei Luo, Metal oxide networks directly grown on nickel foam for lithium-ion battery electrodes, 2015 TechConnect World Innovation Conference and Expo, at the Gaylord National Resort and Convention Center, National Harbor, Maryland, June 14-17, 2015 (oral).
58. Hongmei Luo (*presenter*), Yun Xu, Yuling Li, Brian Patterson, Litao Yan, Polymer-assisted solution method to metal oxide network structures for lithium-ion battery electrodes, 227th ECS Meeting, Chicago, May 24-28th, 2015 (oral).

59. Litao Yan, Gen Chen, Meng Zhou, Hongmei Luo (*presenter*), Reduced niobium oxide in carbon matrix as anode materials for lithium ion battery, 227th ECS Meeting, Chicago, May 24-28th, 2015 (poster).
60. **Rodrigo Rodriguez** (*presenter*), Hongmei Luo, Iron oxide nanorods for lithium-ion batteries, 20th annual Undergraduate and Creative Arts Symposium (URCAS), Las Cruces, April 23, 2015 (oral).
61. Swagotom Sarker (*presenter*), Litao Yan, **Rodrigo Rodriguez**, Pei Xu, Hongmei Luo, Morphology dependence photocatalytic for Cr⁶⁺ reduction, NM EPSCoR All Hands Meeting, Socorro, April 17, 2015 (poster).
62. Gen Chen (*presenter*), Hongmei Luo, Solvothermal route based in situ carbonization to Fe₃O₄@C as anode material for lithium ion battery, 249th ACS National Meeting, Denver, Colorado, March 22-26th, 2015 (oral).
63. Litao Yan, Meng Zhou, Gen Chen, Shuguang Deng, Hongmei Luo (*presenter*), TiO₂ conformal coating on carbon nanotubes as lithium-ion battery anode, 249th ACS National Meeting, Denver, Colorado, March 22-26th, 2015 (poster).
64. Hongmei Luo, Introduction to nanotechnology, NanoDays, Las Cruces Museum of Nature and Science, Las Cruces, March 21, 2015 (invited).
65. Lu Lin, Huiyao Wang, Hongmei Luo, Pei Xu, Enhanced photocatalytic water treatment using immobilized nanocomposite thin films, 59th Annual New Mexico Water Conference, Santa Fe, Nov. 18-19, 2014 (poster).
66. Gen Chen (*presenter*), Litao Yan, Meng Zhou, Hongmei Luo, Solvothermal route based in situ carbonization to Fe₃O₄@C as anode material for lithium ion battery”, AIChE, Atlanta, Nov. 16-21, 2014, 2014 (oral).
67. Gen Chen, Litao Yan (*presenter*), **Rodrigo Rodriguez**, Hongmei Luo, A facile hydrothermal route to Fe₂O₃ with conductive additives as composite anode for lithium ion batteries, AIChE, Atlanta, Nov. 16-21, 2014 (oral).
68. Gen Chen (*presenter*), Xiaohe Liu, Hongmei Luo, Hollow spherical rare-earth-doped yttrium oxysulfate: a novel structure for upconversion, AIChE, Atlanta, Nov. 16-21, 2014 (oral).
69. Litao Yan (*presenter*), Yun Xu, Meng Zhou, Hongmei Luo, Nano-porous TiO₂ coated on carbon nanotube as anode for lithium ion battery, 26th RiO Grande Symposium on Advanced Materials, Albuquerque, Oct. 6th, 2014.
70. **Rodrigo Rodriguez** (*presenter*), Gen Chen, Hongmei Luo, Effects of conductive coating on Fe₂O₃ nanoparticles for Li-ion battery applications, AMP and University Research Council Fair, NMSU, Oct. 3, 2014 (poster).
71. Qianglu Lin (*presenter*), Weon-kyu Koh, Hongmei Luo, Jeffrey M. Pietryga, Victor I. Klimov, Synthesis of PbTe one-dimensional nanostructures: nanorods and nanowires, MRS spring meeting, San Francisco, April 21-25, 2014 (poster).
72. Qianglu Lin (*presenter*), Nikolay S. Makarov, Weon-kyu Koh, Velizhanin Kirill, Claudiu Cirloganu, Hongmei Luo, Jeffrey M. Pietryga, Victor I. Klimov, PbSe/CdSe core/shell quantum dots exhibiting dual-emission in the visible and infrared, MRS spring meeting, San Francisco, April 21-25, 2014 (oral).
73. Yufeng Jiang (*presenter*), Fang Liu, Yunfeng Lu, Hongmei Luo, Titanium oxide nanocrystal on carbon 3D-scaffold for electrochemical energy storage, MRS spring meeting, San Francisco, April 21-25, 2014 (poster).

4. Service, Extension & Outreach

NMSU Departmental Committee:

- Department Graduate Program Coordinator and Graduate Student Advisor, 2010 – present
- Chair of the Graduate Student Qualifying Exam (2010 – 2015)
- Exchange Program between NMSU and ECUST (East China University of Science and Technology, 2012 – present
- Member of Department Tenure and Promotion from Assistant Professor to Associate Professor Committee, 2014 – present

NMSU College of Engineering Committee:

- Member of College Graduate Program Committee, 2016 – present
- Member of College Award Committee, 2016 – present
- Member of College PhD Publication Committee, 2017

NMSU University Committee and Service:

- Member of NMSU Robert L. Westhafer Award Committee (the only representative for the College of Engineering), 2017 – present
- Discovering Diversity in Engineering: Women in STEM, 2017
- NMSU International Student Recruiting Committee, 2015 – present
- Member of the Engineering Physics Committee (the only representative for the Department of Chemical Engineering), 2014 – present
- Member in the University Research Council (one of the two for the College of Engineering), 2014 – 2016
- Member in the User/Advisory Group in the Core University Research Resources Laboratory, 2010 – present

Student Organization/Activities:

- Founder and Faculty Advisor – NMSU Electrochemical Society (ECS) Student Chapter, 2015 – present
- Mentor in NSF Alliance for Minority Participation (AMP) program, NIH Minority Access to Research Careers (MARC) program, NSF Summer Community College Opportunity for Research Experience (SCCORE) program, S-STEM Scholarship Program at NMSU, 2014 – present
- Mentor in NSF NM EPSCoR STEM Advancement Program (STEMAP) in NM State, 2013 – present

Professional Society:

- Member of Materials Research Society (MRS)
- Member of Electrochemical Society (ECS)
- Member of American Chemical Society (ACS)
- Member of American Ceramics Society (ACerS)
- Member of American Institute of Chemical Engineer (AIChE)
- Member of American Society for Engineering Education (ASEE)
- Committee member on ACerS FY12 and FY13 Electronic Division Awards & Scholarships

- Free 5 years Complimentary Membership of International Association of Advanced Materials (IAAM, www.iaamonline.org) (2016-2021)
- Certificate of involvement and Achievements in the Pathways to Innovation Program during the Epicenter's NSF grant, 2014-2016
- Invited for promotion from Assistant to Associate/tenure letter for faculty in other university 2018
- Invited for award support letter for faculty in other University 2018

Conference Organization:

- MRS Symposium Organizer and session chair for “Materials Science and Device Engineering for Safe and Long Life Electrochemical Energy Storage”, MRS Spring 2018, responsible for fundraiser \$5,500
- Session chair, ECS meeting, 2015 – 2017
- Session chair, AIChE meeting, 2011– 2015

Journal Review:

- Reviewer for 30+ journals with 50 – 100 paper/year, such as *Environmental Science & Technology*, *Advanced Materials*, *Adv. Functional Mater.*, *Angew Chemie*, *JACS*, *ACS Nano*, *ACS Applied Materials & Interfaces*, *ACS Applied Energy Materials*, *J. Power Sources*, *Nanoscale*, *Nano Energy* ...

Journal Editorial Board:

- Editorial Board for Materials Science: Advanced Composite Materials, 2018 – present
- Editorial Board for Engineered Science, 2018 – present
- Editorial Board for General Chemistry, 2018 – present
- Editorial Board for Applied Materials Today, Elsevier, 2017 – present
- Editorial Board for Aspects of Nanotechnology, 2015 – present
- Guest Editor for special issue “Advanced Nanomaterials and Nanotechnologies for Solar Energy”, *International Journal of Photoenergy*, 2018
- Guest Editor for special issue “Functional Nanomaterials for Optoelectric Conversion and Energy Storage”, *Journal of Nanomaterials*, 2013 – 2017
- Guest Editor for special issue “Catalyst Nanomaterials”, *Journal of Nanomaterials*, 2015

Proposal Review:

- DOE Center for Integrated Nanotechnologies (CINT) user proposals, 2010 – present (twice a year, 5 proposals each time)
- ACS Petroleum Research Fund (PRF) proposals, 2011 – present
- NSF proposals and panel, 2009 – 2017, reviewed Research Center Proposals with each proposal funding over \$20,000,000.

Other Professional and Outreach Activities:

- Volunteer for Materials Research Society (MRS) Professional Resume Critique and Mock Interview, March 2018, March 2016
- Judge for NMSU University Research Council posters, 2014 – 2016
- Judge for RGSAM Poster, Science Fair, NM EPSCoR Posters, 2012 – 2017
- Presentation of Nanotechnology in Las Cruces science museum, March 2015

- Outreach to middle school students, Sierra Science Magnet program, April 2016
- Outreach to high school girls, Discovering Diversity in Engineering: Women in STEM, Feb. 2017

Committee Chair for Ph.D. Students' Dissertation Defense (6):

Wenchuan Xu (July 2018), Litao Yan (June 2017), Gen Chen (April 2016), Qianglu Lin (Nov. 2014), Yun Xu (Oct. 2014), Ling Fei (Jan. 2014)

Committee Chair for Ph.D. Students' Comprehensive Exam (5):

Tom Nakotte (April 2018), Swagotom Sarker (Feb. 2018), Wenchuan Xu (Nov. 2017), Litao Yan (Oct. 2016), Gen Chen (May 2015)

Committee Chair for MS Students' Thesis Defense (7):

Tyler Balding (May 2018), Randa Kassis (July 2017), Brian Patterson (June 2016), Di Huang (July 2015), Xun Xu (Oct. 2014), Joshua Hill (March 2014), Yufeng Jiang (March 2014)

Committee Member for Students' Ph.D. Dissertation Defense (5):

Aravind Mannarswamy (April 2018), Nidia Gabaldon Limas (April 2017), Wenyan Li (Sep. 2016), Ruofan Cao (March 2015), Yingqiang Sun (Oct. 2014)

Committee Member for Students' Ph.D. Comprehensive Exam (4):

Aravind Mannarswamy (CHME, Nov. 2017), Erdong Song (CHME, March 2017), Nidia Gabaldon Limas (CHME, Oct. 2015), Wenyan Li (CHME, Nov. 2014)

Committee Member for Students' MS Thesis Defense (5):

Jianzhi Li (June 2018), Zhihua Yang (April 2016), Chen Kuang (April 2016), Yunhe Zhang (June 2015), Sheng Deng (April 2015)

Dean's Representative for Ph.D. Dissertation Defense (2):

Mohammed Ibrahim (ME, Feb. 2017), Umer Javed (ME, June 2017)

Dean's Representative for Ph.D. Students' Comprehensive Exam (2):

Umer Javed (ME, Dec. 2016), Chen Xu (Physics, Nov. 2015)

Dean's Representative for Students' MS Thesis Defense (5):

Ahmed Radhi Mkaouar (CE, June 2018), Mohammad Abdullah-Al-Mamun (Physics, Dec. 2017), Binod Paudel (Physics, Dec. 2017), Lu Lin (CE, Jan. 2015), Travis Willett-Gies (Physics, April 2014) .

5. Leadership

• Leadership in Teaching and Advising

I am the department graduate program coordinator. My involvement and commitment to the graduate program remain high. I am responsible for coordinating the evaluation of graduate school applications and serving as the students' advisor in admission and enrollment matters until the student has identified a research supervisor from among the faculty in the department. I also organized the graduate seminar and Ph.D. qualifying exam in the department for a few years. My research group has graduated 6 PhDs in 2014 – 2018 and 2 have been faculty members since Jan. 2018. In addition to graduate students, I am also taking a leading role in the undergraduate exchange program between our department at NMSU and East China University of Science and Technology (ECUST). In addition to students, I have served as a mentor to some junior faculty in the department and other departments at NMSU. I provided new faculty a complete electronic set of files (lectures, exams, quizzes etc) for courses that I had previously taught.

• Leadership in Research, Scholarship and Creative Activities

I have effectively participated in multi-investigator proposal teams and have a leadership in developing shared research laboratory capabilities. For example, I am the PI for a NSF MRI award with other four co-PIs; co-PI for *X-ray diffraction instrument acquisition* from DOD, *I-Corps Site at NMSU* from NSF, and *an educational grant from USDA* by coordinating with other three universities. I have been involving in NSF supported NM EPSCoR project for the past five years. As a lead in the Solar Power Team at NMSU, I am coordinating with other universities in New Mexico and responsible for future strategies, data uploading, reporting, and annual report for NMSU. Recently, I am the PI for NSF PREM proposal with \$4.2M, collaborating with 11 other faculty members at NMSU and 10 faculty members at University of Nebraska-Lincoln. I am also a Co-PI for another two multi-million dollars projects, collaborating with Idaho National Laboratory, MIT, Georgia Tech, University of Wyoming, and University of South Carolina etc. In scholarship and creative activities, I am the PI for the Thin Films and Nanomaterials Laboratory with 10+ graduate and undergraduate students per year. My research group has published 56 peer-reviewed journal publications, 17 invited talks and 56 presentations in conference and workshops. Those activities demonstrate my leadership role in research, scholarship and creative activities.

• Leadership in Service, Extension and Outreach

I serve as the department graduate program coordinator and I am taking an active role in recruiting graduate students. I am also a founder and a faculty advisor to the electrochemical society student chapter. We have outreach activities to local middle schools and some other programs on campus, for example Discovering Diversity in Engineering: Women in STEM. I also presented a talk in Las Cruces Science Museum. I was invited for NSF multi-million research center proposals review panel; served on various journal editorial board and guest editor

for special issues; organized a MRS conference symposium. I was also invited for a tenure/promotion support letter for a junior faculty in other university in 2017.

• **Leadership in Departmental Operations**

I have demonstrated leadership in departmental operations activities through funded research, students advising and scholarly activities, as shown above. I have been the department representative in various College Committees, such as College Graduate Program Committee by allocation GA position to each department. I am also the member in the Engineering Physics program. At university level, I am a member of the Robert L. Westhafer Award Committee and served in the University Research Council.