TEXAS STATE VITA

I. Academic/Professional Background

A. Name: Christopher Rhodes Title: Associate Professor

B. Educational Background

Degree	*Year*	*University*	*Major*	*Thesis/Dissertation*
Ph. D	2001	University of Oklahoma	Chemistry	Crystalline and Amorphous Phases in Polymer Electrolytes and Model Systems
M.S.	2000	University of Oklahoma	Chemistry	
B.A.	1992	Texas A&M University	Chemistry	

C. University Experience

Position	*University*	*Dates*
Professor	Texas State University	2024–present
Associate Professor	Texas State University	2019–2024
Assistant Professor	Texas State University	2014–2019
Graduate Faculty, Materials Science, Engineering, and Commercialization Program	Texas State University	2014–present
Postdoctoral Research Associate	University of California, Los Angeles	2002-2005

D. Relevant Professional Experience

Position	*Organization (City, State)*	*Dates*
Chief Technologist	Lynntech, Inc. (College Station, TX)	2011-2014
Senior Research Scientist	Lynntech, Inc. (College Station, TX)	2010-2011
Research Scientist	Lynntech, Inc. (College Station, TX)	2005-2010
Contractor	SAIC/U. S. Naval Research Laboratory (Washington, D.C)	2002-2005
Research Assistant	University of Oklahoma (Norman, OK)	1996-2001
Science Instructor	Rough Rock High School (Rough Rock, AZ)	1993-1996

E. Other Professional Credentials (licensure, certification, etc.)

- Secondary Science Certification, Chemistry, Arizona, 1993-1996

II. TEACHING

A. Teaching Honors and Awards:

- Teaching Award of Honor, Texas State Alumni Association, 2020

B. Courses Taught:

- CHEM 1335: Engineering Chemistry
- CHEM 3245: Physical Chemistry Laboratory
- CHEM 4299: Undergraduate Research
- CHEM 5330: Physical Chemistry
- CHEM 5199B: Thesis
- CHEM 5299B: Thesis
- CHEM 5399A: Thesis
- MSEC 7103: Research in Materials Science, Engineering, and Commercialization
- MSEC 7303: Research in Materials Science, Engineering, and Commercialization
- MSEC 7325: Principles of Technical Project Management

C. Graduate Theses/Dissertations, Honors Theses, or Exit Committees (if supervisor, please indicate):

Chair for Ph.D. Dissertations - Current Students

- Zachary Naymik (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; *expected graduation 2026)*
- Keegan Bailey (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; *expected graduation 2027)*

Chair for M.S. Thesis - Current Students

- Jackelyn Rodriguez Leal (M.S. Chemistry, research advisor, *expected graduation 2026*)
- Honest Obuye (M.S. Chemistry, research advisor, *expected graduation 2026*)
- Diksha Wagle (M.S. Chemistry, research advisor, *expected graduation 2027*)

Chair/Co-Chair for Ph.D. Dissertations - Graduated

- Luis Albiter (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; graduation date: August 2024); Dissertation Title: "Metal-Substituted Ruthenium Oxide Oxygen Evolution Electrocatalysts: Structure, Catalytic Activity, and Electrochemical Stability"
- Samuel Kimmel (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; graduation date: August 2024); Dissertation Title: "Synthesis, Structure and Properties of Nickel Hydroxide Nanomaterials for Energy Storage Applications"
- Jacob Armitage (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; graduation date: May 2024); C. Rhodes – Co-Chair, B. Martin – Chair; Dissertation Title: "Characterization of Laser Annealed Molybdenum Sulfides with Enhanced Activity for the Hydrogen Evolution Reaction"
- Jesus Salvador Adame Solorio (Ph.D. Materials Science, Engineering, and Commercialization; research advisor; graduation date: December 2022); Dissertation Title: "Ruthenium-Chromium Oxide Aerogels Oxygen Evolution Electrocatalysts: Structure, Activity and Stability"

- Yuanfang Ying (Ph.D. Materials Science, Engineering, and Commercialization; graduation date: August 2020); Dissertation Title: "Hydrous Cobalt-Iridum Oxide Two-dimensional Nanoframes as High Activity and Stability Oxygen Evolution Catalysts"
- Sibo Niu (Ph.D. Materials Science, Engineering, and Commercialization; research advisor, graduation date: Dec. 2019); Dissertation Title: "Investigation of Iron Hydroxide and Oxide-Based Nanomaterials as Cathodes for Sodium-Ion Batteries"

Chair for M.S. Thesis - Graduated

- Jaret Manley (M.S. Chemistry, research advisor, graduation date: August 2025); Thesis Title: *"*Effect of Aluminum Substitution Ratio on Structure and Electrochemistry of Nickel Hydroxide Cathodes for Nickel-Zinc Batteries"
- Keegan Bailey (M.S. Chemistry, research advisor, graduation date: May 2024); Thesis Title: "Structure and Electrochemical Dissolution of Iridium-Titanium Oxides Synthesized by High Energy Ball Milling"
- Michael Urena (M.S. Chemistry, research advisor, graduation date: December 2023); Thesis Title: "Evaluation of Catalyst Layer Composition on Proton-Exchange Membrane Water Electrolyzer Performance and Durability"
- Zachary Naymik (M.S. Chemistry, graduation date: August 2023); Thesis Title: "Effect of Thermal Treatment Conditions on the Structure, Activity, and Stability of Ruthenium-Titanium Oxide Oxygen Evolution Electrocatalysts"
- Samuel Kimmel (M.S. Chemistry; graduation date: August 2020); Thesis Title: "Metal Substitution within Nanostructured Nickel Hydroxides for Aqueous Rechargeable Nickel–Zinc Batteries"
- Luis Albiter (M.S. Chemistry, graduation date: Aug. 2020); Thesis title: "Effect of Thermal Treatment on Structure and Properties of Niobium Oxide Aerogels as Electrolyzer Catalyst Supports"
- Lupita Aguirre (M.S. Chemistry, graduation date: Aug. 2020); Thesis title: "Effects of Magnesium Reduction on the Structure and Electrical Properties of Tantalum Oxide Aerogels"
- Randall Archer (M.S. Chemistry; research advisor, graduation date: Aug. 2018); Thesis Title: "Nanostructured Titanium Oxynitride-Supported Iridium Oxide Oxygen Evolution Electrocatalysts for Water Splitting"
- Yuanfang Ying (M.S. Chemistry; research advisor, graduation date: Aug. 2017); Thesis Title: "Two-Dimensional Cobalt-Platinum Nanoframes: Synthesis, Structure, and Electrochemical Oxygen Reduction Activity"
- Sibo Niu (M.S. Chemistry; research advisor, graduation date: Dec. 2016); Thesis Title: "Maghemite Nanosheets as High Performance Cathodes for Lithium-Ion Batteries",

Committee Member for Thesis/Dissertations - Current Students

- William Pollack (M.S. Chemistry, research advisor, B. Martin; *expected graduation 2026*)

Committee Member for Thesis/Dissertations - Graduated

- Md Abdul Halim (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; G. Beall advisor; graduated 2023)
- Xinye Liu (Ph.D. Chemistry, George Washington University; S. Licht, research advisor, graduated 2021) – External Committee Member
- Adeniji Adetayo (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall

advisor; graduated 2021).
- James Egbu (M.S. Chemistry; B. Martin, research advisor, graduated 2019).
- Michael Opoku (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated 2019)
- Isaac Blythe (M.S. Chemistry; T. Hudnall, research advisor, graduated 2018)
- Edith De Leon Quiroz (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated 2017)
- Maedeh Dabbaghianamiri (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated 2017)
- Abbas Fahami (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated 2017)
- Mark Riggs (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated 2017)
- Brandon Henderson (Ph.D. Materials Science, Engineering, and Commercialization; G. Beall advisor; graduated July 2015)

D. Courses Prepared and Curriculum and Development
- CHEM 5396A: Materials Chemistry (M.S.-level) and CHEM 4396A: Materials Chemistry (Undergraduate level): developed new courses (MS-level and undergraduate level) in materials chemistry to fill a needed gap in our course offerings, which do not include significant content in materials chemistry. Developed curriculum to cover the chemistry of the synthesis, structure, and properties of materials. The course provides curriculum in solid-state chemistry, nanomaterials, materials characterization, materials properties, and electrochemistry that is beyond what is covered within our current graduate inorganic courses.
- CHEM 3245: Physical Chemistry Laboratory; developed new curriculum and laboratories involving spectroscopy and quantum mechanics for undergraduate upper level laboratory course; incorporated quantum mechanical molecular modelling of conjugated dyes that utilized Gaussian to allow comparison of computations with experiments.
- CHEM 4299: Undergraduate Research; developed modules on crystal structures and x-ray diffraction for undergraduates that includes theory, interactive visualizations, questions, and self-paced activities to enhance student learning
- CHEM 1335: Engineering Chemistry; developed curriculum for new freshman-level general chemistry course for engineers that included modules on intermolecular forces and thermodynamics
- CHEM 5330: Physical Chemistry; developed new curriculum on spectroscopy and quantum mechanics for graduate (M.S.-level) Physical Chemistry course.
- MSEC 7325: Principles of Technical Project Management: proposed new course and developed course curriculum on scope management, time management, cost management, risk management and leadership; developed new curriculum that aligns with the most recent Project Management Institute book and practices and modified content of the exams and independent project; designed course so upon course completion all students are prepared and eligible become a Certified Associate in Project Management (CAPM) from the Project Management Institute (PMI).
- MSEC 7395C: Materials for Sustainable Energy; co-proposed and developed a course description and outline for a new graduate (Ph.D.-level) course.

I. Other:

1. Student Mentoring

Ph.D. Student Mentoring

Ph.D. Student Mentoring - Current Students

1) Keegan Bailey (2024-present)
2) Zachary Naymik (2023-present)

Ph.D. Student Mentored - Former Students

- Luis Albiter (2020-2024) Now: Hydrogen Shot Fellow, U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
- Samuel Kimmel (2020-2024): Now: Project Manager, Division of Research, Texas State University
- Jesus Salvador Adame Solorio (2017- 2022); Now: Postdoctoral Associate, Texas State University
- Yuanfang Ying (2017- 2020); Now: Stay-at-home mom "savoring precious moments" with her son, Austin
- Sibo Niu (2017-2019), Now: Scientist, EnergyX (Austin, TX)

M.S. Student Mentoring

Masters Student Mentoring - Current Students

1) Jackelyn Rodriguez Leal (M.S. Chemistry, research advisor, 2024-present)
2) Honest Obuye (M.S. Chemistry, research advisor, 2024-present)
3) Diksha Wagle (M.S. Chemistry, research advisor, *expected graduation 2027*)

Masters Students Mentored – Former Students

1) Jaret Manley (M.S. Chemistry, research advisor, 2023-2025)
2) Keegan Bailey (M.S. Chemistry, research advisor, 2021-2024): Now: Ph.D. Student, Texas State University
3) Michael Urena (2021-2023), Completed M.S. Chemistry, 2023; Now: Electrochemical Materials Technologist, Sandia National Laboratories
4) Zachary Naymik (2021-2023), Completed M.S. Chemistry, 2023; Now: Ph.D. Student, Texas State University
5) Luis Albiter (2018-2020), Completed M.S. Chemistry, 2020; Now: Ph.D. Student, Texas State University
6) Samuel Kimmel (2018-2020), Completed M.S. Chemistry, 2020; Now: Ph.D. Student, Texas State University
7) Lupita Aguirre (2018-2020); Completed M.S. Chemistry, 2020; Now: Ph.D. Student in Chemistry, Texas A&M University
8) Randall Archer (2016-2018); Completed M.S. Chemistry, 2018; Now: Analytical Chemist, Chemicals, Inc.
9) Peyton Cox (2017-2018); Now: Research Technician, Boral Material Technologies
- Yuanfang Ying (2016- 2017); Graduated M.S. Chemistry, 2017); Stay-at-home mom "savoring precious moments" with her son, Austin
10) Sibo Niu (2015- 2016); Graduated M.S. Chemistry, 2016; Now: Scientist, EnergyX (Austin, TX)

Undergraduate Student Mentoring

Undergraduate Student Mentoring - Current Students

1) Melany Bouyer (2024-present)
2) Dashiell Smith (2023-present)

Undergraduate Students Mentored – Former Students

1) Jackelyn Rodriguez (2024); Completed B.S. Chemistry 2024; Now: M.S. student, Texas State University
2) George Bruen (2023-2024)
3) Dylan Smith (2023-2024); Completed B.S. Chemistry 2024
4) Kathleen Bailey (2021-2023); Completed B.S. Chemistry 2023; Now: Now Ph.D. student, Texas A&M University
5) Ben Gibson (2021-2023); Completed B.S. Chemistry 2023; Now: Research Associate, Group G1
6) Jaret Manley (2021-2023); Completed B.S. Chemistry 2023; Now Graduate Student, Texas State University
7) Cory Silguero (2021-2023); Completed B.S. Chemistry 2023; Now: Now Ph.D. student, University of Texas at Austin
8) Camden Caffey (2021-2023); Completed B.S. Chemistry 2023; Now: Research Technician, Houston Methodist Hospital
9) Cole Mough (2021-2022); Completed B.S. Chemistry 2022; Now: Scientist, Group G1
10) Brooke Davis (2021-2022); Completed B.S. Chemistry 2022; Now: Scientist, Tesla
11) Zachary Naymik (2020-2021); Completed B.S. Chemistry 2021; Now: Ph.D. student, Texas State University
12) Vivian Kuykendall (2020-2021); Completed B.S. Chemistry 2021; Now; Scientist, Texpower (Houston, TX)
11) Micheal Urena (2020-2021) ; Completed B.S. Chemistry 2021, Now: Electrochemical Materials Technologist, Sandia National Laboratories
13) Thomas Tobolka (2019-2020), Completed B.S. Chemistry 2021
14) Jalen Schilling (2020)
15) Kristen Pollok (Summer REU Student, 2019)
16) Ashley Moreno (2018-2019); Completed B.S. Chemistry 2019
17) Samuel Kimmel (2017-2018); Completed B.S. Chemistry 2018; Now: Ph.D. Student, Chemistry Department, Texas State University
18) Noel Mireles Villegas (2017-2018); Completed B.S. Chemistry 2018; Now: Graduate Student, Chemistry Department, Texas A&M University
19) Luis Albiter (2014-2018); Completed B.S. Chemistry 2018; Now: Ph.D. Student, Texas State University
20) Robert Meyer (Summer REU Student, 2018); Now: Undergraduate student at Georgetown University
21) Shraddha Acharya (2016-2017); Completed B.S. Chemistry 2018
22) Randall Archer (2015-2016); Graduated B.S. Chemistry, 2016, Now: Analytical Chemist, Chemicals, Inc.
23) Carol Ly (2014-2016); Completed B.S. Chemistry 2016; Now: Graduate Student, Chemistry Department, Texas A&M University
24) Benito Resendiz (2015); Graduated B.S. Physics, 2015; Now: Laboratory Assistant at Oregon Health & Science University
25) Campbell Saint-Vincent (Summer REU Student, 2015); Now: Undergraduate student at Texas Lutheran University
26) Ryan McFeron (2015); Graduated B.S. Biology, 2015; Now: Engineering Technician, Entegris
27) David Jaime (2014-2015); Completed B.S. Chemistry 2018

28) Nicole Lambdin (2014-2015); Graduated B.S. Chemistry, 2015; Now: Associate Chemist, Blueshift International Materials
29) Audrey Zaleski (2014-2016); Completed B.S. Chemistry 2016; Now: Technician, Tokyo Electron

High School Student Mentoring

High Students Mentored – Former Students

Avery Landry (2021): Now: Undergraduate chemistry student at University of Texas at Austin

Postdoctoral Associate Mentoring

Postdoctoral Associates Mentored - Current Students

- Dr. Jesus Adame Solorio, Postdoctoral Research Associate (2023-present)

Postdoctoral Associates Mentored – Former Students

- Dr. Samuel Kimmel Postdoctoral Research Associate (2024); Current Position: Project Manager, Division of Research, Texas State University
- Dr. Luis Albiter (2024) Current Position: Hydrogen Shot Fellow, U.S. Department of Energy, Hydrogen and Fuel Cell Technologies Office
- Dr. Fernando Godinez Salomon, Visiting International Scholar from Instituto Politénico Nacional, Mexico (2015), Postdoctoral Research Associate (2016-2024): Current Position: Project Engineer, Pneumatic and Hydraulic Company
- Dr. Sanjaya Dulip Perera, Postdoctoral Research Associate (2015-2016); Current Position: Senior Research Scientist, Axium Nano, Los Angeles, CA

2. Student Awards
    - Honest Obuye, Catalyst Scholarship, Department of Chemistry and Biochemistry, Texas State University, 2025
    - Melany Bouyer, Wilcox Scholarship, Department of Chemistry and Biochemistry, Texas State University, 2025
    - Melany Bouyer, Timothy Eldon Weisheit Scholarship, Department of Chemistry and Biochemistry, Texas State University, 2025
    - Zachary Naymik, NSF PREM Research Scholars Summit, Best Poster Award, *2024 Materials Research Society Fall Meeting & Exhibit*, 2024
    - Melany Bouyer, Undergraduate Research Fellowship, 2024
    - Jackelyn Rodriguez, Easter Endowed Scholarship, 2024
    - Jackelyn Rodriguez, ACS Award in Inorganic Chemistry, 2024
    - Jaret Manley, 2024 Office of Naval Research (ONR) Naval Research Enterprise Internship Program (NREIP) Award
    - Luis Albiter, Doctoral Research Support Fellowship, 2024
    - Luis Albiter, CAMINOS For Success Fellowship, 2023-2024
    - Luis Albiter, Doctoral Retention Tuition Scholarship, Texas State University, 2023
    - Kathleen Bailey, Easter Endowed Scholarship, 2023
    - Kathleen Bailey, PREM Poster Presentation Award, *2023 Materials Research Society Spring Meeting & Exhibit*, April 2023
    - Cory Silguero, CNS Dean's Strategic Fellowship, University of Texas at Austin, 2023
    - Sam Kimmel, 2023 Office of Naval Research (ONR) Naval Research Enterprise Internship Program (NREIP) Award

- Sam Kimmel, Doctoral Research Support Fellowship, 2023
- Ben Gibson, Bring Bobcats Back – UFCU Scholars award, Fall 2022
- Ben Gibson, Chemistry & Biochemistry Catalyst Scholarship, Texas State University, 2022
- Michael Urena, Ross Compton Award, Department of Chemistry and Biochemistry, Texas State University, 2022
- Kathleen Bailey, Larry D. Herwig Research Scholarship, Department of Chemistry & Biochemistry, Texas State University, 2022
- Cole Mough, ACS Award in Inorganic Chemistry, Department of Chemistry & Biochemistry, Texas State University, 2022
- Brooke Davis, Outstanding Undergraduate Instructional Assistant, Department of Chemistry & Biochemistry, Texas State University, 2022
- Cole Mough, Outstanding Undergraduate Research Student Award, Department of Chemistry & Biochemistry, Texas State University, 2022
- Luis Albiter, Graduate College Scholarship – Science & Engineering, Texas State University, 2022
- Sam Kimmel, 2022 Future Texas Business Legend, Texas Business Hall of Fame
- Samuel Kimmel, Bonnie and Lawrence Tilton Endowed Fellowship in Business, Texas State University, 2022
- Sam Kimmel, H.C Vivian Memorial Endowment Scholarship, 2022
- Sam Kimmel, James H. and Helen S. Dotson Family Scholarship, 2022
- Samuel Kimmel, Jesse and Betty Luxton Endowed Graduate Research Fellowship, Texas State University, 2022
- Samuel Kimmel, Gary V. Woods Scholarship, 2022
- Samuel Kimmel, Graduate College Scholarship - Science & Engineering, Texas State University, 2022
- Kathleen Bailey, Best REU Poster Presentation Award, 2021
- Samuel Kimmel, 2021 Naval Research Enterprise Internship Program Award
- Samuel Kimmel, 2nd place, 2021 M.S.E.C. Business Plan competition, Texas State University, *May 2021*
- Samuel Kimmel, Bobcat to Bobcat Scholarship, 2021
- Samuel Kimmel, Graduate College Scholarship, Texas State University, 2021
- Samuel Kimmel, Best virtual Presentation Award, Student Technology and Research Showcase, Materials Science, Engineering and Commercialization Program, MSEC Seminar and Commercialization Forum, December 2020
- Vivian Kuykendall, 2020 Excellence in Laboratory Research Award, Department of Chemistry & Biochemistry
- Michael Urena, Undergraduate Research Fellowship for Fall 2020
- Luis Albiter, SRC Education Alliance Award, 2020
- Luis Albiter, Doctoral Merit Fellowship, 2020
- Samuel Kimmel, Naval Research Enterprise Internship Program (NREIP), 2020.
- Samuel Kimmel, Outstanding Chemistry Graduate Student Award, 2020
- Yuanfang Ying, Dissertation Research Support Fellowship, 2020
- Jesus Adame, Dissertation Research Support Fellowship, 2020
- Samuel Kimmel, Thesis Research Support Fellowship, 2019
- Luis Albiter, Thesis Research Support Fellowship, 2019
- Lupita Aguirre, Thesis Research Support Fellowship, 2019

- Samuel Kimmel, Naval Research Enterprise Internship Program (NREIP), 2019.
- Kristen Pollok, Best REU Poster Presentation Award, 2019.
- Samuel Kimmel, Naval Research Enterprise Internship Program (NREIP), 2018.
- Randall Archer, Best Oral Presenter Award, Inaugural Chemistry & Biochemistry Research Colloquium, April 20, 2018.
- Randall Archer, Thesis Research Support Fellowship, 2018
- Randall Archer, Honorable Mention, "Titanium Oxide Nanosheets for Proton-Exchange Membrane Oxygen Evolution Electrocatalysts", Polymer Electrolyte Fuel Cells 17 Symposium Poster Session, *232nd Electrochemical Society Meeting*, National Harbor, MD, October 1-5, 2017.
- Yuanfang Ying, Thesis Research Support Fellowship, 2017
- Randall Archer, Larry and Barbara Wright Scholarship, Fall 2017
- Sibo Niu, Thesis Research Support Fellowship, 2016
- Campbell Saint-Vincent, Best REU Poster Award, 2015

3. Teaching Development Seminars and Workshops
    a. Completed Entering Mentoring Training, Texas State University, 2021
    b. Texas State University Program for Excellence in Teaching and Learning Series, 2014-2015

III. SCHOLARLY/CREATIVE

A. Works in Print (including works accepted, forthcoming, in press)

2. Articles

a. Refereed Journal Articles ([†] represents graduate students, [‡] represents undergraduate students, [§] represents postdocs, [¥] represents high school students, * represents corresponding author, ‖ represents authors contributed equally to this work):

1. Ospina-Acevedo, F.‖; Godínez-Salomón, J.F.[§‖]; Naymik, Z.G.[†]; Matthews, K.C.; Warner, J.H.; **Rhodes, C.P.***; Balbuena, P.B.* Impacts of Surface Reconstruction and Metal Dissolution on $Ru_{1-x}Ti_xO_2$ Acidic Oxygen Evolution Electrocatalysts, *Journal of Physical Chemistry C* **2025**, *129,* 3595–3613**.** DOI: 10.1021/acs.jpcc.4c08119. *(Impact Factor: 3.7).*
2. Adame-Solario, J.[§]; Kimmel, S.W.[†]; Bailey, K.O.[‡]; **Rhodes, C.P.*** Chromium Substitution within Ruthenium Oxide Aerogels Enables High Activity Oxygen Evolution Electrocatalysts for Water Splitting. *Crystals* **2025***, 15,* 116. DOI: 10.3390/cryst15020116 *(Impact Factor: 2.4).*

   Invited manuscript for Special Issue: *Advanced Materials for Applications in Water Splitting*
3. Kimmel, S.W.[†]; DeBlock, R.H.; Manley, J.A[†]; Silguero, C.M.[‡], Rolison, D.R.*; **Rhodes, C.P.*** The Role of Cathode Architecture and Anion Interactions on the Performance of Al-substituted α-$Ni(OH)_2$ in Rechargeable Ni–Zn cells. *Materials Today Energy* **2024**, *44*, 101609. DOI: 10.1016/j.mtener.2024.101609 *(Impact Factor: 9.1).*
4. Ospina-Acevedo, F.‖; Albiter, L.[†,‖]; Bailey, K.O.[‡]; Godínez-Salomón, J. F.[§]; **Rhodes, C.P.***; Balbuena, P.B.* Catalytic Activity and Electrochemical Stability of $Ru_{1-x}M_xO_2$ (M = Zr, Nb, Ta): Computational and Experimental Study of the Oxygen Evolution Reaction. *ACS*

Applied Materials & Interfaces **2024**, *16,* 16373-16398. DOI: 10.1021/acsami.4c01408 *(Impact Factor: 8.5).*

5. Halim, M.A.*; Karmakar, S.; Hamid, M.A.; Chandan, C.S.S.; Rahaman, I.; Urena, M.E.†; Haque, A.; Chen, Y.; **Rhodes, C.P.**; Beall, G.B. Improved Electrochemical Performance in an Exfoliated Tetracyanonickelate-Based Metal-Organic Framework. *ACS Applied Materials & Interfaces,* **2023**, *15*, 53568–53583. DOI: 10.1021/acsami.3c14059 *(Impact Factor: 9.5)*
6. Kimmel, S.W.†; Kuykendall, V.‡; Mough, C.‡; Landry, A.¥; **Rhodes, C.P.*** Effect of Microwave Synthesis Conditions on the Structure of Nickel Hydroxide Nanosheets. *Journal of Visualized Experiments* **2023**, *198,* e65412. DOI: 10.3791/65412 *(Impact Factor: 1.42).*
7. Kimmel, S.W.†; Koehne, B.D.; Gibson, B.‡; Geerts, W.J.; Theodoropoulou, N.*; **Rhodes, C.P.*** Structure and Magnetism of Iron-Substituted Nickel Hydroxide Nanosheets *Magnetochemistry* **2023,** *9*, 25. DOI: 10.3390/magnetochemistry9010025 *(Impact Factor: 3.34).*

   Selected by the editors as the issue cover for *Magnetochemistry*, Volume 9, Issue 1 (January 2023) https://www.mdpi.com/2312-7481/9/1

   Feature Article in Special Issue: Advances in Magnetic Nanomaterials and Nanostructures
8. Godínez-Salomón, J. F.§; Ospina-Acevedo, F.; Albiter, L.†; Bailey, K.O.‡; Naymik, Z.G.†; Mendoza-Cruz, R.; Balbuena, P.B.*; **Rhodes, C.P.*,** Titanium Substitution Effects on the Structure, Activity, and Stability of Nanoscale Ruthenium Oxide Oxygen Evolution Electrocatalysts: Experimental and Computational Study, *ACS Applied Nano Materials* **2022**, *5*, 11752-11775. DOI: 10.1021/acsanm.2c02760 *(Impact Factor: 6.03).*
9. Camacho-Forero, L.E.; Godínez-Salomón, F.§; Ramos-Sánchez, G.; **Rhodes, C.P.*;** Balbuena, P.B.* Theoretical and Experimental Study of the Effects of Cobalt and Nickel Doping within IrO_2 on the Acidic Oxygen Evolution Reaction, *Journal of Catalysis* **2022**, *408*, 64-80. DOI: 10.1016/j.jcat.2022.02.016 *(Impact Factor: 7.35).*
10. Kimmel, S.W.†; Hopkins, B.J.; Chervin, C.N.; Skeele, N. L.; Ko, J.S.; DeBlock, R.H.; Long, J.W.; Parker, J.F.; Hudak, B.M.; Stroud, R.M.; Rolison, D.R.; **Rhodes, C.P.*** Capacity and Phase Stability of Metal-Substituted α-$Ni(OH)_2$ Nanosheets in Aqueous Ni–Zn Batteries. *Materials Advances* **2021**, 2, 3060-3074. DOI: 10.1039/D1MA00080B. *(Impact Factor: 5.0).*
11. Ying, Y.†; Godínez-Salomón, J.F.§; Moreno, A.‡; Lartundo-Rojas, L.; Meyer, B.‡; Damin, C.A.; **Rhodes, C.P**.* Hydrous Cobalt-Iridium Oxide Two-Dimensional Nanoframes: Insights into Activity and Stability of Bimetallic Acidic Oxygen Evolution Electrocatalysts, *Nanoscale Advances*, **2021**, 3, 1976-1996. DOI: 10.1039/D0NA00912A *(Impact Factor: 5.17).*
12. Harper-Leatherman, A.S.; Wallace, J.M.; Long, J.W.; **Rhodes, C.P**.; Graffam, M.E.; Abunar, B.H.; Rolison, D.R.* Redox Cycling within Nanoparticle-Nucleated Protein Superstructures: Electron Transfer between Nanoparticulate Gold, Molecular Reductant, and Cytochrome c, *Journal of Physical Chemistry B,* **2021**, *125*, 1735-1745. DOI: 10.1021/acs.jpcb.0c09688 *(Impact Factor: 3.47).*
13. Godínez-Salomón, F.§; Albiter, L.†; Mendoza-Cruz, R.; **Rhodes, C.P.*** "Bimetallic Two-dimensional Nanoframes: High Activity Acidic Bifunctional Oxygen Reduction and Evolution Electrocatalysts", *ACS Applied Energy Materials,* **2020,** *3*, 2404-2421**.** http://dx.doi.org/10.1021/acsaem.9b02051 *(Impact Factor: 5.8).*
14. Godínez-Salomón, F.§; Albiter, L.‡; Alia, S.M.; Pivovar, B.S.; Camacho-Forero, L.E.; Balbuena, P.B.; Mendoza-Cruz, R.; Arellano-Jimenez, M.J.; **Rhodes, C.P.*** Self-Supported

Hydrous Iridium-Nickel Oxide Two-dimensional Nanoframes for High Activity Oxygen Evolution Electrocatalysts, *ACS Catalysis* **2018,** *8,* 10498-10520. DOI: 10.1021/acscatal.8b02171 *(Impact Factor: 11.38).*

15. Reyes, C.; Somogyi, R.; Niu, S.[†]; Catenacci; M.; Cruz, M.; **Rhodes, C.P.**; Wiley, B.J.* Three-Dimensional Printing a Complete Lithium Ion Battery with Fused Filament Fabrication, *ACS Applied Energy Materials* **2018,** *1*, 5268-5279. DOI: 10.1021/acsaem.8b00885 *(Impact Factor: 4.473).*
16. Duraia, E.M.*; Niu, S.[†]; Beall, G.W.; **Rhodes, C.P.*** Humic acid-derived graphene-SnO_2 nanocomposites for high capacity lithium-ion battery anodes. *Journal of Materials Science: Materials in Electronics* **2018**, *29*, 8456–8464 DOI: 10.1007/s10854-018-8858-x *(Impact Factor: 2.32).*
17. Niu, S.[†]; McFeron, R.[‡]; Godínez-Salomón, F.[§]; Chapman, B.S.; Damin, C.A.; Tracy, J.B.; Augustyn, V.; **Rhodes, C.P.*** Enhanced Electrochemical Lithium-Ion Charge Storage of Iron Oxide Nanosheets, *Chemistry of Materials*, **2017,** *29*, 7794-7807 DOI: 10.1021/acs.chemmater.7b02315 *(Impact Factor: 9.89).*
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b. Non-refereed Articles:

3. Conference Proceedings

a. Refereed Conference Proceedings:

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7. Other Works in Print:

a. Issued Patents
   1) U.S. Patent, 10,682,638, "Catalyst Nanoarchitectures with High Activity and Stability" **C . P. Rhodes** and F. Godinez-Salomon, Issued June 16, 2020.
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b. Patent Applications
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3) U.S. Provisional Patent Application, **63/468,392** "Architected, 3D-Wired Nickel Cathode" **C . P. Rhodes**, S. W. Kimmel, D. R. Rolison, R.H. DeBlock, Filing Date: May 23, 2023.
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c. Invention Disclosures
1) **Rhodes, C.P.*,** Kimmel, S.K.†; Rolison, D.R.; DeBlock, R.H.; Architected, 3D-Wired Nickel Cathode, Invention Disclosure #I2022-002, Texas State University, May 13, 2022.

- B. Works not in Print

1. Papers Presented at Professional Meetings:

(† represents graduate students, ‡ represents undergraduate students, § represents postdocs, underline represents presenting author, * represents corresponding author, underline represents presenting author):

1. Rhodes, C.P.*; Naymik, Z.†; Bailey, K.R.† Surface Reconstruction, Activity and Degradation of Substituted Metal Oxide Acidic Oxygen Evolution Electrocatalysts, *248th Electrochemical Society Meeting* (Symposium I01B - Polymer Electrolyte Fuel Cells and Water Electrolyzers 25 (PEFC&WE 25) - Electrolyzer Catalyst Activity and Durability), Chicago, Illinois, October 12-26, 2025 (oral).
2. Naymik, Z.†; Smith, D.‡; Bouyer, M.‡; Rhodes, C.P.* Effects of Metal Substitution on Structure, Activity, and Stability of Ruthenium Pyrochlore Oxygen Evolution Electrocatalysts. *248th Electrochemical Society Meeting* (Symposium I01B - Polymer Electrolyte Fuel Cells and Water Electrolyzers 25 (PEFC&WE 25) - Electrolyzer Catalyst Activity and Durability), Chicago, Illinois, October 12-26, 2025 (poster).
3. Bouyer, M.‡; Smith, D.‡; Naymik, Z.†; Rhodes, C.P.* Optimizing Ruthenium-Yttrium Pyrochlore Oxygen Evolution Catalysts for Electrochemical Water Splitting. *Research Inquiry and Creative Expression Undergraduate Research Showcase,* San Marcos, TX, July 17, 2025 (poster).
4. Rhodes, J.P.; Leal, J.L.; Manley, J.A.; Rhodes, C.P. Effect of Anions on Synthesis of Nickel Hydroxide Cathode Materials for Ni-Zn Batteries, *Research Inquiry and Creative Expression Undergraduate Research Showcase*, San Marcos, TX, July 17, 2025 (poster).
5. Obuye, H.‡; Manley, J.A.†; Rhodes, C.P.* Effect of Reaction Conditions on Electrically Wired Manganese Oxide-Carbon Nanocomposite Cathodes for Alkaline Zinc Batteries, Conference Across MRSEC-PREM Schools (CAMPS), San Marcos, TX, May 23-24, 2025 (poster).
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8. Naymik, Z.[†]; Smith, D.[‡]; Bouyer, M.[‡]; Rhodes, C.P.* Structure, Activity and Stability of Ruthenium Pyrochlore Electrocatalysts for Oxygen Evolution, *Center for Dynamics and Control of Materials, Materials Research Science and Engineering Center (MRSEC) Annual Meeting/Industry Day*, University of Texas at Austin, Austin, TX, March 6, 2025 (poster).
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10. Manley, J.A.[†]; Leal, J.L.[‡] ; Kimmel, S.K.[†]; Rhodes, C.P.* Evaluation of the Structure and Electrochemical Performance of Aluminum-Substituted Nickel Hydroxide Cathodes within Alkaline Nickel-Zinc Batteries, *Center For Dynamics and Control of Materials Student Meeting*, University of Texas at Austin, Austin, TX, December 10, 2024 (oral).
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18. Albiter, L.A.[†]; Godínez-Salomón, J.F.[§]; Meehan, C.[‡]; Rhodes, C.P.* Ruthenium-Zirconium Oxide Oxygen Evolution Electrocatalysts: Structure, Activity and

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19. Manley, J.A [†]; Kimmel, S.K.[†]; **Rhodes, C.P.*** The Effect of Aluminum Substitution Ratio Within Nickel Hydroxide on Structure and Electrochemical Properties of Cathodes for Nickel-Zinc Batteries, *Texas Microscopy Conference 58th Annual Meeting,* San Marcos, TX, February 22-24, 2024 (poster).
20. Bailey, K.R.[†]; Adame-Solorio, J.[§]; **Rhodes, C.P.*** Evaluation of Structure and Properties of Iridium-Titanium Oxides Synthesized Using High Energy Ball Milling, *Texas Microscopy Conference 58th Annual Meeting,* San Marcos, TX, February 22-24, 2024 (poster).
21. Naymik, Z.[†*]; Godínez-Salomón, J.F.[§]; Albiter, L.A.[†]; **Rhodes, C.P.*** Ruthenium-Titanium Oxide Oxygen Evolution Electrocatalysts: Effects of Temperature and Atmosphere Treatments on Structure, Activity and Stability, *Center for Dynamics and Control of Materials, Materials Research Science and Engineering Center (MRSEC) 2024 Annual Meeting* (Student Poster Session), University of Texas at Austin, Austin, TX, February 20-21, 2024 (poster).
22. Adame-Solorio, J.[§]; Bailey, K.O.[‡]; **Rhodes, C.P.*** Ruthenium-Chromium Oxide Aerogel Electrocatalysts: Structure, Oxygen Evolution Activity and Stability. *Center for Dynamics and Control of Materials, Materials Research Science and Engineering Center (MRSEC) Annual Meeting/Industry Day*, University of Texas at Austin, Austin, TX, February 20 - 21, 2024 (poster).
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25. Meehan, C.[‡]; Albiter, L.A.[†]; **Rhodes, C.P**.* Effect of High Energy Ball Milling on the Structure of Ruthenium-Zirconium Oxides. *2023 Research, Inquiry and Creative Expression (R.I.C.E.) Showcase*, San Marcos, TX, August 2, 2023 (poster).
26. Manley, J.A.[‡]; Silguero, C.M.[‡]; Kimmel, S.K.[†]; **Rhodes, C.P.*** Synthesis and Characterization of Nickel Hydroxide Cathodes for Rechargeable Alkaline Nickel-Zinc Batteries. *University of Texas at Austin Partnerships for Research and Education in Materials (PREM) Day*, Austin, TX, July 13, 2023 (poster).
27. Urena, M.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Effect of Oxygen Evolution Catalyst Layer Composition on Proton-Exchange Membrane Water Electrolyzer Performance and Durability. *University of Texas at Austin Partnerships for Research and Education in Materials (PREM) Day*, Austin, TX, July 13, 2023 (poster).
28. Kimmel, S.K.[†]; DeBlock, R.H.; Manley, J.A.[‡]; Gibson, B.M.[‡]; Silguero, C.M.[‡]; Rolison, D.R.*; **Rhodes, C.P.*** Designing High Discharge Capacity and High-Rate Nickel Hydroxide Cathodes for Rechargeable Alkaline Nickel–Zinc Batteries, *49th Power Sources Conference,* Fort Washington, MD, June 27–30, 2023 *(oral).*
29. **Rhodes, C.P.*;** Godínez-Salomón, J.F.[§]; Urena, M.[†] Effects of Catalyst Composition, Loading, and Spray Parameters on the Performance of Unitized Regenerative Fuel Cell Membrane Electrode Assemblies, Effects of Bifunctional Oxygen Catalyst Layer

Composition on Unitized Regenerative Fuel Cell Performance**,** *243rd Electrochemical Society Meeting (Session I01: Low Temperature Water Electrolysis for H_2 Production), Boston, MA,* May 28-June 2, 2023 (oral).

30. Albiter, L.A.[†*]; Bailey, K.O.[‡]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P**.* Effect of Metal-Substitution within Ruthenium Oxide on Structure and Oxygen Evolution Activity and Stability, *243rd Electrochemical Society Meeting (Symposium I03: Fuel Cells, Electrolyzers, and Energy Conversion - Materials for Low Temperature Electrochemical Systems),* Boston, MA, May 28-June 2, 2023 (oral).
31. Urena, M.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Effect of Oxygen Evolution Catalyst Layer Composition on Proton-Exchange Membrane Water Electrolyzer Performance and Durability. *Texas State Center for Intelligent Materials Assembly (CIMA) Partnerships for Research and Education in Materials (PREM) Site Visit and Annual Meeting,* San Marcos, TX, April 24, 2023 (poster).
32. Bailey, K.O.[‡]; Albiter, L.A.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Structural Analysis of Ruthenium-Titanium Oxide Oxygen Evolution Electrocatalysts using X-ray Photoelectron Spectroscopy. *2023 Materials Research Society Spring Meeting & Exhibit* (Symposium CH01: Advanced Characterization Techniques for Electrochemistry—Accelerating Research and Development of Energy Materials), San Francisco, California, April 10-14, 2023 (poster).
33. Urena, M.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Effect of Oxygen Evolution Catalyst Layer Composition on Proton-Exchange Membrane Water Electrolyzer Performance and Durability. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
34. Naymik, Z.[†*]; Godínez-Salomón, J.F.[§]; Albiter, L.A.[†]; **Rhodes, C.P.*** Improving Mixed Metal Oxide Electrocatalysts for Proton Exchange Membrane Water Electrolysis by Thermal Treatment Tailoring. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
35. Manley, J.A.[‡]; Silguero, C.M.[‡]; Kimmel, S.K.[†]; **Rhodes, C.P.*** Synthesis and Characterization of Nickel Hydroxide Cathodes for Rechargeable Alkaline Nickel-Zinc Batteries. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
36. Adame Solorio, J.[†]; Bailey, K.O.[‡]; **Rhodes, C.P.*** Ruthenium-Chromium Oxide Aerogel Electrocatalysts: Structure, Oxygen Evolution Activity and Stability. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
37. Bailey, K.O.[‡]; Albiter, L.A.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Metal Substituted Ruthenium Oxides: Surface Electronic Structure, Oxygen Evolution Activity and Stability. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
38. Caffey, C.A.[‡]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Mechanochemical Synthesis and Characterization of Ruthenium-Titanium Oxides as Oxygen Evolution Electrocatalysts for Water Splitting. *2023 Texas Partnerships for Research and Education in Materials (PREM) Conference*, San Marcos, TX, March 31, 2023 (poster).
39. Naymik, Z.[†*]; Godínez-Salomón, J.F.[§]; Albiter, L.A.[†]; **Rhodes, C.P.*** Effects of Thermal Treatment Temperature and Atmosphere on Ruthenium-Titanium Oxide Oxygen Evolution Reaction Electrocatalysts. *American Chemical Society (ACS) Spring 2023 Meeting* (Session: Applied Electrochemistry for Advanced Fuel Cell and Electrolyzer Technologies), Indianapolis, IN, March 26-30, 2023 (poster).

40. Urena, M.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Ultrasonically Sprayed RuO_2-based Catalyst Layers for High Performance and Improved Durability Water Electrolyzers, *Center for Dynamics and Control of Materials, Materials Research Science and Engineering Center (MRSEC) 2023 Annual Meeting and Industry Day*, University of Texas Austin, Austin, Texas, February 28, 2023 (poster).
41. **Rhodes, C.P.***; Godínez-Salomón, J.F.[§]; Albiter, L.A.[†*]; Bailey, K.O.[‡]; Naymik, Z.G.[†]; Ospina-Acevedo, F. A.; Balbuena, P.B.; Effects of Titanium Substitution within Ruthenium Oxide on Structure, Oxygen Evolution Activity and Stability, *242th Electrochemical Society Meeting* (*Symposium I01 - Polymer Electrolyte Fuel Cells & Electrolyzers 22),* Atlanta, GA, October 10-14, 2022 (oral).
42. Godínez-Salomón, J.F.[§]; Urena, M.[†]; **Rhodes, C.P.*** Effects of Catalyst Composition, Loading, and Spray Parameters on the Performance of Unitized Regenerative Fuel Cell Membrane Electrode Assemblies, *242th Electrochemical Society Meeting* (*Symposium I01A - Fuel Cells, Electrolyzers and Energy Conversion 19),* Atlanta, GA, October 10-14, 2022 (oral).
43. Albiter, L.A.[†*]; Bailey, K.O.[‡]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Ruthenium-Zirconium Oxides as Highly Stable Oxygen Evolution Electrocatalysts*, 242th Electrochemical Society Meeting* (*Symposium I01D: Polymer Electrolyte Fuel Cells & Electrolyzers 22(PEFC&E 22) - Catalyst Activity/Durability for Hydrogen (-Reformate) Acidic Fuel Cells),* Atlanta, GA, October 10-14, 2022 (oral).
44. Albiter, L.A.[†]; Godínez-Salomón, J.F.[§]; Bailey, K.O.[‡]; **Rhodes, C.P.*** Nanostructured Mixed-Metal Oxides and Supported Oxygen Evolution Electrocatalysts, *Texas State PREM Center for Intelligent Materials Assembly (CIMA) Annual Meeting*, Texas State University*,* San Marcos, TX, September 30, 2022 (oral).
45. Bailey, K.O.[‡]; Albiter, L.A.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Analysis of Structure of Ruthenium Titanium Oxide Oxygen Evolution Electrocatalysts using X-ray Photoelectron Spectroscopy**,** *Texas State PREM Center for Intelligent Materials Assembly (CIMA) Annual Meeting*, Texas State University*,* San Marcos, TX, September 30, 2022 (poster).
46. Gibson, B.[‡]; Manley, J.[‡]; Kimmel, S.K.[†]; **Rhodes, C.P.*** Effect of Microwave Reaction Conditions on the Synthesis and Structure of Al-$Ni(OH)_2$ Nanosheets, *Texas State PREM Center for Intelligent Materials Assembly (CIMA) Annual Meeting*, Texas State University*,* San Marcos, TX, September 30, 2022 (poster).
47. Urena, M.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.*** Effect of Ultrasonic Spray Parameters and Catalyst Composition on Water Electrolyzer Membrane Electrode Assembly Performance and Durability, *Texas State PREM Center for Intelligent Materials Assembly (CIMA) Annual Meeting*, Texas State University*,* San Marcos, TX, September 30, 2022 (poster).
48. Suh, D.; [‡] Albiter, L.A.[†]; Kimmel, S.W.[†]; Naymik, Z.G.[†]; Urena, M.[†]; **Rhodes, C.P.** Evaluating the Structure of Metal-Doped Ruthenium Oxides using Raman Spectroscopy, *College of Science and Engineering Summer Research Symposium*, Texas State University*,* San Marcos, TX, August 4, 2022 (poster).
49. Urena, M.[†]; Bailey, K.O.[‡]; **Rhodes, C.P.*** Metal-Substituted RuO_2 for High Activity and Improved Stability Water Electrolyzers, *High Energy X-ray Techniques (HEXT) Workshop 2022*, Cornell University, Ithaca, NY, May 17-18, 2022 (poster).
50. Mough, C.[‡*]; Kimmel, S.K.[†]; **Rhodes, C.P.** Variable Microwave Synthesis Methods of MnO_2 for High Energy Density Rechargeable Manganese–Zinc Batteries. *16th Annual Undergraduate Research Conference & Honors Thesis Forum*, Texas State University*,* San Marcos, TX, April 20-22, 2022 (poster).

51. Davis, B.[‡*]; Kimmel, S.K.[†]; Mough, C.[‡]; **Rhodes, C.P.** Carbon Nanofiber Paper 3D Current Collectors for Aqueous Nickel-Zinc Battery Cathodes. *16th Annual Undergraduate Research Conference & Honors Thesis Forum*, Texas State University, San Marcos, TX, April 20-22, 2022 (poster).
52. Albiter, L.A.[†*]; Bailey, K.O.[‡]; **Rhodes, C.P.** Ruthenium-Zirconium Oxides for Highly Stable Oxygen Evolution Electrocatalysts, *UT Austin Materials Research Science and Engineering Center (MRSEC): Center for Dynamics and Control of Materials Annual Meeting*, Virtual, February 3, 2022 *(poster).*
53. Kimmel, S.K.[†]; DeBlock, R.H.; Chervin, C.N.; Long, J.W.; Parker, J.F.; Hopkins, B.J.; Rolison, D.R.; **Rhodes, C.P.*** Stabilizing Nanostructured α-$Ni(OH)_2$ for High Energy Density Rechargeable Nickel–Zinc Batteries, *Fall 2021 Materials Research Society Meeting and Exhibit (Symposium EN12—Advanced Materials and Chemistries for Low-Cost and Sustainable Batteries),* Boston, MA, November 28–December 3, 2021 *(oral).*
54. Balbuena, P.B.* ; Ospina-Acevedo, F. A.; Kuai, D.; Godínez-Salomón, J.F.[§]; Albiter, L.[†]; Naymik, Z.[‡] ; **Rhodes, C.P**. Oxygen Evolution Reaction on Ti-doped RuO_2 Catalysts: Electronic and Reactivity Effects, *Fall 2021 Materials Research Society Meeting and Exhibit (Symposium EN14-Advanced Materials for Hydrogen and Fuel Cell Technologies),* Boston, MA, November 28–December 3, 2021 *(poster).*
55. Albiter, L.A.[†*]; Bailey, K.O.[‡]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P.** Ruthenium-Zirconium Oxides for Highly Stable Oxygen Evolution Electrocatalysts, *Texas State University Student Technology and Research (STAR) Showcase Symposium*, San Marcos TX (virtual), November 19, 2021 (oral).
56. Godínez-Salomón, F.[§]; Urena, M.[†]; **Rhodes, C.P.***; "Effects of Catalyst Layer and Porous Transport Layer Properties on Performance of Unitized Regenerative Fuel Cells", *240th Electrochemical Society Meeting* (*Symposium I01B - Polymer Electrolyte Fuel Cells & Electrolyzers 21 (PEFC&E 21)* Cells, Stacks and Systems*), Virtual Meeting, October 10-14,* 2021 (oral).
57. **Rhodes, C.P.*;** Godínez-Salomón, J.F.[§]; Adame Solorio, J. [†]; Albiter, L.[†]; Naymik, Z.[‡] "Bimetallic Oxygen Evolution Electrocatalysts: Relationships of Structure, Activity and Stability" *240th Electrochemical Society Meeting* (*Symposium I01F - Polymer Electrolyte Fuel Cells & Electrolyzers 21 (PEFC&E 21) Polymer-Electrolyte Electrolysis), Virtual Meeting, October 10-14,* 2021 (oral).
58. Kimmel, S.K.[†*]; Hopkins, B.J.; Chervin, C.N.; Skeele, N.L.; Ko, J.S.; DeBlock, R.H.; Long, J.W.; Parker, J.F.; Hudak, B.M.; R.M. Stroud, R.M.; Rolison, D.R.; **Rhodes, C.P.** Capacity and Phase Stability of Metal-Substituted α-$Ni(OH)_2$ Nanosheets in Aqueous Ni–Zn Batteries. *Texas State University Student Technology and Research Showcase Symposium*, San Marcos TX, May 5, 2021.
59. Bailey, K.[‡*]; Albiter, L.[†]; Godínez-Salomón, J.F.[§]; **Rhodes, C.P**. Evaluation of Metal Substituents on Surface Structure of Ruthenium Oxides using Photoelectron Spectroscopy. *CheMIE REU Presentation*, Texas State University, San Marcos, TX, July 7, 2021 (oral).
60. Urena, M.[‡*]; **Rhodes, C.P.** Niobium Oxide Aerogels as a Catalyst Support for Water Splitting, *15th Annual Undergraduate Research Conference & Honors Thesis Forum*, Texas State University, San Marcos, TX, Virtual Meeting, April 21-23, 2021 (oral).
61. Godínez-Salomón, F.[§]; Albiter, L.[†]; **Rhodes, C.P.***; "Active and Stable Bifunctional Oxygen Electrocatalysts and Catalyst Layers for Unitized Regenerative Fuel Cells**"** PRiME 2020 (*Session I01: Polymer Electrolyte Fuel Cells and Electrolyzers 20)*, Virtual, October 4-9, 2020 (oral).

62. Albiter, L.*†; Godínez-Salomón, F.§; **Rhodes, C.P.**; "High Surface Area, Conductive Niobium Oxides for Highly Durable Oxygen Evolution Catalyst Supports for Water Electrolyzers**"**, *11th Annual International Research Conference,* Texas State University, San Marcos, TX, November 5-7, 2019 (poster).
63. Aguirre, L.*†; **Rhodes, C.P.**; "Effect of Substituents within Tantalum Oxide Aerogels for Obtaining High Stability Acidic Oxygen Reduction Electrocatalyst Supports", *11th Annual International Research Conference,* Texas State University, San Marcos, TX, November 5-7, 2019 (poster).
64. **Rhodes, C.P.***; Adame Solorio, J.†; Godínez-Salomón, F.§; "Effects of Catalyst and Electrode Composition on Performance of Unitized Regenerative Fuel Cells", *236th Electrochemical Society Meeting* (Symposium *I01: Polymer Electrolyte Fuel Cells and Electrolyzers 19-Section F*), Atlanta, Georgia, October 13-17, 2019 (oral).
65. Adame Solorio, J.†; Godínez-Salomón, F.§; **Rhodes, C.P.*;** "Ruthenium-Metal Nanostructures for High Activity and Stability Acidic Oxygen Evolution Electrocatalysts", *236th Electrochemical Society Meeting* (Symposium *I01: Polymer Electrolyte Fuel Cells and Electrolyzers 19 (Section F)*), *Atlanta, Georgia, October 13-17,* 2019 (poster).
66. Pollok, K.*; Aguirre, L.†; Albiter, L.†; **Rhodes, C.P.**; "Substituted Titanium Oxides for Non-Carbon Catalyst Supports: Effects of Composition and Thermal Treatments", CheMIE REU Mid-summer Presentation, Texas State University*,* San Marcos, TX, July 12, 2019 (oral).
67. Godínez-Salomón, F.§; Albiter, L.†; **Rhodes, C.P.***; "Two-dimensional Nanoframes for High Activity Bifunctional Acidic Oxygen Reduction and Evolution Electrocatalysts" *235th Electrochemical Society Meeting* (Symposium I01 - Oxygen or Hydrogen Evolution Catalysts for Water Electrolysis 5, Abstract No. #I01-1463), Dallas, TX, May 26-31, 2019 (oral).
68. Aguirre, L. †; **Rhodes, C.P.***; "Nanostructured Carbon-Free Tantalum Oxide-Supported Platinum for Highly Active and Stable Acidic Oxygen Reduction Electrocatalysts", *235th Electrochemical Society Meeting* (Symposium Z01 – General Student Poster Session, Abstract No. #Z01-2208), Dallas, TX, May 26-31, 2019 (poster).
69. Kimmel, S.†; Ko, J.S.; Long, J.W.; Parker, J.F.; Rolison, D.R.; **Rhodes, C.P**.*; "Nanostructured Nickel Hydroxide Cathodes for Energy Dense, Safe, Aqueous Rechargeable Nickel–Zinc Batteries" *235th Electrochemical Society Meeting* (Symposium Z01 – General Student Poster Session, Abstract No. #Z01-2147), Dallas, TX, May 26-31, 2019 (poster).
70. Niu, S.†; **Rhodes, C.P.***; "Investigation of the Effects of Crystallinity of Iron Oxyhydroxides on Na-ion Charge Storage" *235th Electrochemical Society Meeting* (Symposium A02 - Lithium Ion Batteries and Beyond, Abstract No. #A02-0203), Dallas, TX, May 26-31, 2019 (poster).
71. **Rhodes, C.P.***; Godínez-Salomón, F.§; Ying, Y.†; Mendoza-Cruz, R.; Arellano-Jimenez, J. "Bimetallic Two-dimensional Nanoframes for High Activity Oxygen Evolution Electrocatalysts" *54th Texas Society for Microscopy Meeting*, San Antonio, Texas, February 21-23, 2019 (poster).
72. **Rhodes, C.P.***; Godínez-Salomón, F.§; Albiter, L.‡; Ying, Y.†; "Hydrous Iridium-Metal Oxide Nanoarchitectures for High Activity Oxygen Evolution Electrocatalysts" *Americas International Meeting on Electrochemistry and Solid-State Science (AiMES) 2018* (Symposium I01 – Polymer Electrolyte Fuel Cells and Electrolyzers 18, Section F, Abstract No. #I01F-1624), Cancun, Mexico, September 30 - October 4, 2018 (oral).

73. **Rhodes, C.P.***; Godínez-Salomón, F.[§], Ying, Y.[†]; "Self-Supported, Carbon-free Bimetallic Two-Dimensional Nanoframes for High Activity and Stability Oxygen Reduction Electrocatalysts for Fuel Cells" *Americas International Meeting on Electrochemistry and Solid-State Science (AiMES) 2018* (Symposium I01 – Polymer Electrolyte Fuel Cells and Electrolyzers 18, Section D, Abstract No. #I01D-1504), Cancun, Mexico, September 30-October 4, 2018 (oral).
74. Meyer, R.[‡*]; Ying, Y.; Damin, C.; Godínez-Salomón, F.[§]; **Rhodes, C.P**.; "Vibrational Spectroscopic Investigation of Synthesis and Structure of Cobalt-Iridium Oxide Oxygen Evolution Electrocatalysts*", 2018 STEM Undergraduate Research Symposium*, San Marcos, TX, August 3, 2018 (poster).
75. Balbuena, P. B.*, Camacho-Forero, L.E.; Godínez-Salomón, F.[§]; **Rhodes, C.P.**; "Analysis of the Oxygen Evolution Reaction on M-IrO_2 (M=Ni, Co) Surfaces", *233rd Electrochemical Society Meeting* (Symposium L02 – Electrocatalysis 9: Abstract No. #110488), Seattle, WA, May 13-17, 2018. ECS Abstract #110488 - 233rd ECS Meeting, May 13-17, 2018 (oral).
76. Kimmel, S.[‡*]; Godínez-Salomón, F.[§]; Geerts, I.W.; **Rhodes, C.P**.; "Investigating the Effects of Iron Substitution on the Structure and Magnetization of α-Nickel Hydroxide and Nickel Oxide Nanosheets" *Texas State University 12th Annual Undergraduate Research Conference*, San Marcos, TX, April 20, 2018 (poster).
77. Archer, R.[†]; Godínez-Salomón, F.[§]; **Rhodes, C.P.*** "Titanium Nitride-Supported Iridium Oxygen Evolution Electrocatalysts for Water Splitting", *Department of Chemistry & Biochemistry Research Colloquium*, San Marcos, TX, April 6, 2018 (oral).
78. Godínez-Salomón, F.[§*]; Albiter, L.; Alia, S.; Pivovar, B.; Balbuena, P.; Camacho-Forero, L.; **Rhodes, C.P.** "High Performance Nickel-Iridium 2D Nanoframe Electrocatalysts for Water Splitting" *2018 CEC Annual Workshop on Electrochemistry*, Austin, TX, February 10-11, 2018 (poster).
79. Mireles Villegas, N.[‡], Godínez-Salomón, F.[§], **Rhodes, C.P.**; "Investigation of the Effects of Iridium Substitution within Nickel Hydroxide Nanosheets, *University College STEM Undergraduate Research Experience (SURE) Poster Presentation*, San Marcos, Texas, November 17, 2017 (poster).
80. **Rhodes, C.P.***; Godínez-Salomón, F.[§], Albiter, L.[‡] "Two-dimensional Iridium-Nickel-Oxide Nanoframes for High Activity Oxygen Evolution Electrocatalysts", *232nd Electrochemical Society Meeting* (Symposium I01 – Polymer Electrolyte Fuel Cells 17, Section F, Abstract No. # I01F-1654), National Harbor, MD, October 1-5, 2017 (oral).
81. Ying, Y.[†]; Godínez-Salomón, F.[§]; Archer, R.[†]; **Rhodes, C.P.***; "Unsupported Platinum-metal Two-dimensional Nanoframe Oxygen Reduction Electrocatalysts: Effect of Transition Metal Composition on Activity and Stability" *232nd Electrochemical Society Meeting* (Symposium I01 – Polymer Electrolyte Fuel Cells 17, Section D, Abstract No. # I01D-1539), National Harbor, MD, October 1-5, 2017 (poster).
82. Archer, R.[†]; Godínez-Salomón, F.[§]; **Rhodes, C.P.***; "Titanium Oxide Nanosheets for Proton-Exchange Membrane Oxygen Evolution Electrocatalysts", *232nd Electrochemical Society Meeting* (Symposium I01 – Polymer Electrolyte Fuel Cells 17, Section F, Abstract No. # I01F-1647), National Harbor, MD, October 1-5, 2017 (poster).
83. **Rhodes, C.P.***; Godínez-Salomón, F.[§]; Archer, R.[†]; Ying, Y.[†];"Two-dimensional Nanoframes as Bifunctional Oxygen Electrodes for Unitized Regenerative Fuel Cells" *231st Electrochemical Society Meeting* (Symposium I01: Oxygen or Hydrogen Evolution Catalysts for Water Electrolysis 3, Abstract No. I01-1425), New Orleans, LA, May 28-June 2, 2017 (oral).

84. Godínez-Salomón, F.[§]*; **Rhodes, C.P.**; "Unsupported Two-dimensional Ni-Pt Nanoframes with High Activity and Stability Towards the Oxygen Reduction Reaction" *231st Electrochemical Society Meeting* (Symposium I02: Materials for Low Temperature Electrochemical Systems 3, Abstract No. I02-1438), New Orleans, LA, May 28-June 2, 2017 (oral).
85. **Rhodes, C.P.*** Perera, S.D.; Archer, R.[†] "Enhanced Magnesium-Ion Charge Transport and Storage within Layered Vanadium Pentoxide-Poly(ethylene oxide) Nanocomposites" *231st Electrochemical Society Meeting* (Symposium A05: Lithium-ion Batteries and Beyond, Abstract No. # A05-0315), New Orleans, LA, May 28-June 2, 2017 (oral).
86. Niu, S.[†]; Godínez-Salomón, F.[§]; **Rhodes, C.P.***; "Iron Oxide Nanosheets as High Performance Cathodes for Lithium-ion and Sodium-ion Batteries", *231st Electrochemical Society Meeting* (Symposium A05: Lithium-ion Batteries and Beyond, Abstract No. A05-0349), New Orleans, LA, May 28-June 2, 2017 (oral).
87. Niu, S.[†]; Godínez-Salomón, F.[§]; **Rhodes, C.P.***;"Iron Oxide Nanosheet Architectures for Improved Charge Storage of Lithium and Sodium Ions" *Women in Science and Engineering Conference, Texas State University,* San Marcos, TX, April 28, 2017. (poster).
88. Ying, Y.[†]; Godínez-Salomón, F.[§]; Archer, R.[†]; **Rhodes, C.P.*** *"*Two-dimensional Nanoframes with Controlled Transition Metal Compositions to Enable High Activity and Stability Oxygen Reduction Electrocatalysts for Fuel Cells*" Women in Science and Engineering Conference, Texas State University*, San Marcos, TX, April 28, 2017 (poster).
89. **Rhodes, C.P.*** Perera, S.D.; Archer, R.[†]; Damin, Craig A.; Acharya, S.[‡] "Controlling interlayer interactions in vanadium pentoxide-poly(ethylene oxide) nanocomposites for enhanced magnesium-ion charge transport and storage" *2017 Materials Research Society (MRS) Spring Meeting,* (Symposium ES3: Materials for Multivalent Electrochemical Energy Storage, Paper No. ES3.4.02), Phoenix, AZ, April 17-21, 2017 (oral).
90. Niu, S.[†]; McFeron, R.[‡]; Chapman, B.S.; Tracy, J.B.; **Rhodes, C.P.***; "Using Nanosheets to Improve the Electrochemical Performance of Iron Oxide Cathodes for Lithium-Ion Batteries" *Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference,* San Marcos, Texas, June 27-28, 2016 (oral).
91. Perera, S.D.[§]; Archer, R.[‡]; **Rhodes, C.P.*** "Interlayer-expanded vanadium oxide-poly(ethylene oxide) nanocomposites for enhanced magnesium-ion storage" *Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference,* San Marcos, Texas, June 27-28, 2016 (oral).
92. Ly, C.[‡]; Zaleski, A.[‡]; Ricard, B.[‡]; McFeron, R.[‡]; **Rhodes, C.P.***; "Controlling the orientation and properties of two-dimensional vanadium pentoxide using drying conditions and magnetic fields" *Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference,* San Marcos, Texas, June 27-28, 2016 (poster).
93. Godínez-Salomón, F.[§]; Mendoza-Cruz, R.; M. José-Yacamán, M.; **Rhodes, C.P.*** "Two-dimensional Nickel-Platinum Nanoframes: A New Approach for High Activity and Stability Oxygen Reduction Electrocatalysts for Fuel Cells" *Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference,* San Marcos, Texas, June 27-28, 2016 (oral).
94. Archer, R.[‡]; Perera, S.D.[§]; **Rhodes, C.P.*** "Effects of Temperature and Atmosphere Treatments on the Structure and Electrochemical Properties of V_2O_5 Nanomaterials"

Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference, San Marcos, Texas, June 27-28, 2016 (poster).

95. **Rhodes, C.P.***; Godínez-Salomón, F.[§] "Two-dimensional $Ni(OH)_2$@Pt Nanosheets: High Activity Fuel Cell Oxygen Reduction Reaction Electrocatalysts" *229st Electrochemical Society Meeting* (Session L02: Electrocatalysis 8: Physical and Analytical Electrochemistry Division, Abstract No. 48488), San Diego, CA, May 29-June 3, 2016 (oral).
96. Saint Vincent, C.[‡*]; Ly, C.[‡]; Archer, R.[‡]; McFeron, R.[‡]; **Rhodes, C.P**.; The Effect of Temperature and Particle Size on the Electrochemical Properties of 2D Vanadium Pentoxide, *Spring 2016 Meeting of the Texas Section of the American Physical Society*, Beaumont, TX, March 31-April 2, 2016 (poster).
97. Rolison D.R.*; Harper-Leatherman, A.S.; Wallace, J.M.; **Rhodes, C.P**; Long, J.W.; "Electron transfer within microheterogeneous domains: Colloidal Au–nucleated cytochrome c superstructures*"* ACS Award in Colloid & Surface Chemistry: Symposium in honor of Nick Abbott-Oral, Invited, *251st ACS National Meeting & Exposition*, San Diego, CA, March 13-17, 2016 (oral).
98. **Rhodes, C.P.*** "The effect of structure and orientation on electrochemical charge storage and charge transport of two-dimensional transition metal compounds" *ASME International Mechanical Engineering Congress and Exposition (Multiphysics Coupling in Energy Storage Minisymposium),* Houston, Texas, November 13-19, 2015 (oral).
99. Godínez-Salomón, F.[§]; Bahena, D.; McFeron, R.[‡]; Solorza-Feria, O.; **Rhodes, C.P**.*; "New Advanced 2D NiAu@Pt Nanolayers with High Electrocatalytic Activity for the Oxygen Reduction Reaction" XV International Congress of the Mexican Hydrogen Society, Mexico, D.F. September 22 – 25, 2015 (oral).
100. Ly, C.[‡]; McFeron, R.[‡]; Zaleski, A.[‡]; Ricard, B.[‡]; **Rhodes, C.P.***; "The Effect of Orientation on the Structure and Properties of 2D Vanadium Pentoxide", *4th Texas Soft Matter Meeting,* Houston, TX, Aug 21, 2015 (oral).
101. **Rhodes, C.P.***; Ly, C.[‡]; Cruz, G.[‡]; McFeron, R.[‡]; Ricard, B. [‡] "Enhancing electrochemical charge storage and transport in two-dimensional vanadium pentoxide", *227st Electrochemical Society Meeting* (Session A1: Batteries and Energy Storage, Abstract No. 48488), Chicago, IL, May 24-28, 2015 (oral).
102. Stuart, J.; Lefler, M.; **Rhodes, C.P**, Licht, S.*; "New High Energy Capacity VB_2/TiB_2 Composite Transition Metal Boride Air Battery" *227st Electrochemical Society Meeting*, Chicago, IL, May 24-28, 2015.
103. **Rhodes, C.P**.*; Mullings, M.; Li, X.; Mike, J. "Designed electrolytes and Electrode-Electrolyte Interfaces for High Performance Lithium-Ion Batteries", Division of Energy and Fuels (Session: Electrolyte Systems and Interfacial Processes in Energy Storage and Conversion), *247th ACS National Meeting & Exposition,* Dallas, TX, 16-20 March 2014 (oral).
104. **Rhodes, C.P**.*; "Advanced Non-flammable Electrolytes for Li-ion Batteries", *Naval Opportunities Forum*, Crystal City, VA, 3–5 June 2013 (oral).
105. **Rhodes, C.P**.*; Mullings, M.; Lopez, R. "Advanced Non-flammable Electrolytes for High Performance Li-ion Batteries", Division of Energy and Fuels (Session: Advances in Batteries), *245th ACS National Meeting & Exposition,* New Orleans, LA, 7–11 April 2013 (oral).

106. **Rhodes, C.P**.; Fenimore, J.; Hennings, B.* Long Endurance Fuel Cell Energy System for Unmanned Undersea Vehicles, *2012 Fuel Cell Seminar and Energy Exposition* (Paper No. 109) Uncasville, CT, 5-8 November 2012 (oral).
107. Licht, S.*; Hettige, C.; Lau, J.; Stuart, J.; Lopez, R.; Mullings, M.; **Rhodes, C.P**.*;"High Energy Density Vanadium Boride-Air Batteries," *45th Power Sources Conference* (Session: Advanced Materials and Processes III, Paper No. 9.1), Las Vegas, NV, 11–14 June 2012 (oral).
108. **Rhodes, C.P**.*; Mullings, M.; Lopez, R. Advanced Non-flammable Electrolytes for Li-ion Batteries, *221st Electrochemical Society Meeting* (Session B5: Special Topics in Battery Science and Technology, Abstract No. 539), Seattle, WA, 6–12 May 2012 (oral).
109. **Rhodes, C.P**.* Long Endurance Hydride-Fuel Cell-Peroxide UUV Energy Section, *Office of Naval Research Long Endurance Undersea Vehicle Propulsion Future Naval Capabilities Kick-off Meeting*, Arlington, VA, 15 February 2012 (oral).
110. **Rhodes, C.P**.* Advanced Non-flammable Electrolytes for Li-ion Batteries and Electrochemical Capacitors, *12th Electrochemical Power Sources R&D Symposium*, Monterey, CA, 20–23 June 2011 (oral).
111. **Rhodes, C.P**.* Improved Safety, Wide Temperature Range Rechargeable Batteries for Munitions and Aircraft, *Naval Opportunities Forum*, Crystal City, VA, 6–8 June 2011 (oral).
112. **Rhodes, C.P**.*; Fu, Y.; Mullings, M.; Uselton, K.; Cross, J.; Seo, I.; Martin, S.S. "Electrochemical Performance of Solid-State Lithium Batteries Using Thio-LISICON Solid-State Electrolytes, *218th Meeting of the Electrochemical Society*, Las Vegas, NV, 10–15 October 2010 (Symposium B1: Battery/Energy Technology Joint General Session, Abstract No. 280) (oral).
113. Mullings, M.; **Rhodes, C.P**.* Advanced Electrolytes for Extreme Temperature Supercapacitors, *44th Power Sources Meeting*, Las Vegas, NV, 14–17 June 2010 (poster).
114. Fu, Y.; **Rhodes, C.P**.* Advanced Electrode Materials for High Power Density Batteries and Supercapacitors, *44th Power Sources Meeting*, Las Vegas, NV, 14–17 June 2010 (poster).
115. **Rhodes, C.P**.*; Kesmez, M.; Fu, Y.; Salinas, C.; Heselmeyer, E.; Parkey, J.; Mullings, M.; van Boeyen, R.; Wharton, T.; Cisar, A. Advanced Hydroxide Conducting Membranes for Alkaline Fuel Cells, Symposium on Fuel Cell Chemistry and Operation, Division of Fuel Chemistry*, 238th ACS National Meeting & Exposition,* Washington, DC, 16–20 August 2009 (oral).
116. **Rhodes, C.P**.*; Cisar, A.; Lee, H.; Fu, Y.; Anderson, A.; Gonzalez-Martin, A.; Licht, S. Effect of Temperature on the Electrolysis of Water in Concentrated Alkali Hydroxide Solutions, 3rd Symposium on Hydrogen Production, Transport and Storage, *215th Meeting of the Electrochemical Society*, San Francisco, CA, 24–29 May 2009 (oral).
117. **Rhodes, C.P**.*; Salinas, C.; Giletto, T. "Electrochemical Generation of Hydrogen Peroxide Using a Gas Diffusion Electrode and Proton Exchange Membrane Cell Configuration," Symposium on Industrial Electrochemistry and Electrochemical Engineering, *213th Meeting of the Electrochemical Society,* Phoenix, AZ, 18–23 May 2008 (oral).
118. Parkey, J.*; **Rhodes, C.P**.; Kim, J.; Uselton, K.; Gonzalez-Martin, A. "Implantable Enzymatic Biofuel Cells," Symposium on Biological Fuel Cells, *213th Meeting of the Electrochemical Society,* Phoenix, AZ, 18–23 May 2008 (poster).

119. **Rhodes, C.P**.; Long, J.W.; Doescher, M.; Rolison, D.R.* "Nanoscale Solid Polymer Electrolytes from Electropolymerization: New Routes to Integrated Nanostructured Energy Storage Architectures," Symposium on Nanostructured Materials in Alternative Energy Devices, *Spring Meeting of the Materials Research Society*, San Francisco, CA, 12–16 April 2004 (oral).
120. **Rhodes, C.P**.; Long, J.W.; Doescher, M.; Rolison, D.R.* "Ultrathin Polymer Electrolytes for 3-D Solid-State Nanostructured Energy Storage Architectures" Symposium on Micropower and Microbattery Systems, *Fall Meeting of the Materials Research Society*, Boston, MA, 1–5 December 2003 (oral).
121. **Rhodes, C.P**.; Long, J.W.; Doescher, M.; Rolison, D.R.* "Mesoporous Nanoarchitectures as Platforms for Integrated Solid State Ionic Devices," *7th International Symposium on Aerogels*, Alexandria, VA, 3–5 November 2003 (oral).
122. **Rhodes, C.P**.; Long, J.W.; Doescher, M.; Rolison, D.R.* "Synthesis and Solid-State Characterization of Ultrathin Polymers for 3-D Nanostructured Battery Architectures," Symposium on Three Dimensional Battery Architectures, *204th Meeting of the Electrochemical Society,* Orlando, FL, 13–17 October 2003 (oral).
123. **Rhodes, C.P**.; Long, J.W.; Rolison, D.R.* "Controlled Modification of Defects in Nanostructured V_2O_5: Spectroelectrochemical Characterization of the Effect on Lithium-ion Insertion," *AFOSR/ONR Electrochemistry Science & Technology Review*, Annapolis, MD, 3–5 March 2003 (poster).
124. **Rhodes, C.P**.; Dong, W.; Long, J.W.; Rolison, D.R.* "Defects and Vacancies in Nanostructured V_2O_5: Controlled Modification and Spectroelectrochemical Characterization," Symposium on Solid State Ionics, *Fall Meeting of the Materials Research Society*, Boston, MA, 2–6 December 2002 (oral).
125. **Rhodes, C.P**.; Dong, W.; Long, J.W.; Rolison, D.R.* "Controlling the Defects and Vacancies in Nanostructured V_2O_5: Spectroelectrochemical Characterization," Symposium on Solid State Ionic Devices, *202nd Electrochemical Society Meeting*, Salt Lake City, UT, 20–25 October 2002 (oral)..
126. **Rhodes, C.P**.*; "Local Structures in Polymer Electrolytes: Implications for Ionic Transport," *Gordon Research Conference on Electrochemistry*, Ventura CA, 20–25 January 2002 (poster).
127. **Rhodes, C.P**.; Boesch, S.; Wheeler, RA.; Frech, R.* "Changes in the Vibrational Modes of Monoglyme Induced by Coordination to Lithium and Sodium," *199th Meeting of the Electrochemical Society*, Washington, DC, 25–30 March 2001 (oral).
128. **Rhodes, C.P**.; Frech, R.* "Local Structures in the Ionically-Conducting Phase of Poly(ethylene oxide)-Lithium Triflate," *198th Meeting of the Electrochemical Society*, Phoenix, AZ, 22–26 October 2000 (oral).
129. **Rhodes, C.P**.; Petrowsky, M.; Frech, R.* "Structural Characterization of Systems of 2-Mexothyethyl Ether with Lithium Triflate and with Sodium Triflate," *45th Annual Pentasectional Meeting, Oklahoma Sections of the American Chemical Society*, Stillwater, OK, April 2000 (oral).
130. **Rhodes, C.P**.; Burba, C.; Frech, R.* "Novel Cathode Materials for Sodium-based Rechargeable Batteries," *43rd Annual Pentasectional Meeting, Oklahoma Sections of the American Chemical Society*, Ponca City, OK, August 1998 (oral).
131. **Rhodes, C.P**.; Frech, R.* "Ionic Association in the Sodium Triflate-Poly(ethylene oxide) System," *53rd Southwest Regional Meeting of the American Chemical Society*, Tulsa, OK, October 1997 (oral).

2. Invited Talks, Lectures, and Presentations:

(† represents graduate students, ‡ represents undergraduate students, § represents postdocs, * represents corresponding author, underline represents presenting author):

1. **Rhodes, C.P.***; Piner E.L. Patent Practicalities Symposium (Session 2), *Presentation to Materials Science, Engineering, and Commercialization Graduate Students (MSEC 7100 Seminar),* Texas State University, San Marcos, TX, April 9, 2025 (oral).
2. **Rhodes, C.P.***; 3D-Wired Electrodes for Energy Dense, Safe Nickel–Zinc Batteries and Hydrogen Generation, *Innovation Showcase,* Texas State University, San Marcos, TX, February 10, 2025 (poster).
3. **Rhodes, C.P.*** Nanostructured Bimetallic Oxides and Hydroxides: Designing Active, Stable and Accessible Materials for Batteries and Water Splitting, *2024 Southwest Regional American Chemical Society Meeting* (Symposium on Synthesis and Growth of Nano to Bulk Solids for Energy and Environmental Applications), Waco, Texas, October 20-23, 2024 (oral).
4. **Rhodes, C.P.*** Career Planning Perspectives and Private Sector Opportunities for Chemists & Biochemists, *Texas State Research Experiences for Undergraduates Program Seminar*, Texas State University, San Marcos, TX, June 25, 2024 (oral).
5. **Rhodes, C.P**.* How to Plan and Conduct Research for a Publication or Presentation: How to be More Efficient and Effective, *Seminar to Texas State PREM Center for Intelligent Materials Assembly (CIMA)*, San Marcos, TX, September 29, 2023 (oral).
6. **Rhodes, C.P.*** Private Sector Careers in Chemistry & Biochemistry: Perspectives and Opportunities, *Texas State Research Experiences for Undergraduates Program Seminar*, Texas State University, San Marcos, TX, July 20, 2023 (oral).
7. **Rhodes, C.P.*;** Kimmel, S.†; Rolison, D.R.; DeBlock, R. Three-Dimensional Nickel Hydroxide Cathodes for Energy Dense, Safe Nickel–Zinc Batteries, *Navy Undersea Research Program (NURP) Review*, Arlington, VA, June 6-8, 2023 (oral).
8. **Rhodes, C.P**.* Research Productivity and Planning: Perspectives and Strategies, *Seminar to Texas State PREM Center for Intelligent Materials Assembly (CIMA)*, San Marcos, TX, April 21, 2023 (oral).
9. **Rhodes, C.P.*;** Kimmel, S.†; Rolison, D.R.; DeBlock, R. Three-Dimensional Nickel Hydroxide Cathodes for Energy Dense, Safe Nickel–Zinc Batteries, *Undersea Power and Energy Program Review*, Arlington, VA, March 14-16, 2023 (oral).
10. **Rhodes, C.P.*** Unitized Regenerative Fuel Cells for Undersea Refuelable Unmanned Undersea Vehicles, *Undersea Power and Energy Program Review*, Arlington, VA, March 14-16, 2023 (oral).
11. **Rhodes, C.P.*** Nanostructured Bimetallic Oxides: Designing Active, Stable and Accessible Materials for Batteries and Water Splitting, *Department Seminar, Department of Chemical Engineering, University of Texas at San Antonio (UTSA*), San Antonio, TX, February 10, 2023 (oral).
12. **Rhodes, C.P**.* Developing a Research Elevator Pitch**,** *Texas State Research Experiences for Undergraduates Program Seminar*, Texas State University, July 26, 2022 (oral).
13. Kimmel, S.†; Rolison, D.R.; **Rhodes, C.P.*** Three-Dimensional Nickel Hydroxide Cathodes for Energy Dense, Safe Nickel–Zinc Batteries, *Navy Undersea Research*

Program (NURP) Review, University of Rhode Island, South Kingstown, RI, June 8, 2022 (oral).

14. **Rhodes, C.P.*** Nanostructured Bimetallic Oxides: Designing Active, Stable and Accessible Materials for Batteries and Water Splitting, *Invited Seminar to UT Austin Materials Research Science and Engineering Center (MRSEC): Center for Dynamics and Control of Materials,* Virtual, April 28, 2022 (oral).
15. **Rhodes, C.P.*;** Kimmel, S.†; Rolison, D.R. Nanostructured α-$Ni(OH)_2$ Cathodes for High Energy Density Rechargeable Nickel–Zinc Batteries, *Nickel-Zinc Symposium - Military Power Sources Committee, Virtual Meeting,* April 14, 2022 (oral).
16. **Rhodes, C.P**.* Research Productivity and Planning: Perspectives and Strategies, *Seminar to Texas State PREM Center for Intelligent Materials Assembly (CIMA)*, March 25, 2022 (oral).
17. **Rhodes, C.P.*;** Kimmel, S.†; Rolison, D.R.; High-Capacity Cathodes for Energy Dense, Safe, Nickel–Zinc Batteries, *Briefing to Navy Unmanned Maritime Systems Program Office (PMS-406)*, Virtual Meeting, June 23, 2021 (oral).
18. Kimmel, S.; Rolison, D.R.; **Rhodes, C.P.*** Nanoarchitectured Nickel Hydroxide Cathodes for Energy Dense, Safe, Rechargeable Nickel–Zinc Batteries, *Navy Undersea Research Program Review,* Virtual Meeting, June 3, 2021 (oral).
19. Rolison, D.R.*; Kimmel, S.†; **Rhodes, C.P**.; Chervin, C.; Skeele, N.L.; Long, J.W.; Parker, J.F. With High-performance Two-electron, Dendrite-suppressing Zinc Anodes in Hand, Time for Battery Cathodes to Catch Up, Invited talk in EN03: Intercalation Energy Storage Materials & Systems for Beyond Li-Ion Batteries, *Spring Meeting of the Materials Research Society*, Seattle, WA (Virtual Meeting), April 18-23, 2021 (oral).
20. **Rhodes, C.P.**; Nanostructured Transition Metal Oxides for Energy Storage and Conversion: Creating Surfaces that are Electrochemically Active, Stable and Accessible, *Society for the Advancement of Material and Process Engineering (SAMPE), South Texas Chapter, Guest Lecture*, Virtual, December 11, 2020 (oral).
21. Kimmel, S.†; Rolison, D.R.; **Rhodes, C.P.*** Nanoarchitectured Nickel Hydroxide Cathodes for Energy Dense, Safe, Rechargeable Nickel–Zinc Batteries, *Navy Undersea Research Program (NURP) Program Review,* Virtual Meeting, June 4, 2020 (oral).
22. Rolison, D.R.; Hopkins, B.; Ko, J.S.; Sassin, M.; Chervin, C.; Parker, J.F.; Long, J.W.; Kimmel, S.†; **Rhodes, C.P**. Uniformly Reacting Electrodes Simplify Cell Engineering: The Case for Architectural Design, *Fall Meeting of the Material Research Society* (Symposium EN01: Challenges in Battery Technologies for Next-Generation Electric Vehicles and Grid Storage Applications), Boston, MA, December 1–6, 2019 (oral).
23. Balbuena, P. B.*, Camacho-Forero, L.E.; Godínez-Salomón, F.§; **Rhodes, C.P.** Oxygen Evolution Reaction on M-Iridium Oxide (M=Ni, Co) Surfaces: Insights from First-Principles Computations and Experiments, *236th Electrochemical Society Meeting* (Symposium I01: Polymer Electrolyte Fuel Cells and Electrolyzers 19 (Section F), Abstract No. #127855), Atlanta, Georgia, October 13-17, 2019 (oral).
24. **Rhodes, C.P**.* Nanoframe Bifunctional Oxygen Electrodes for Unitized Regenerative Fuel Cells, *Office of Naval Research (ONR) Undersea Energy and Propulsion Review*, Alexandria, VA, April 3, 30, 2019 (oral).
25. **Rhodes, C.P.*** Writing a Small Business Innovative Research (SBIR) Phase I Proposal: Principles and Strategies" *Materials Science, Engineering, and Commercialization Program Student Presentation,* Texas State University, San Marcos, TX, April 9, 2019 (oral).

26. **Rhodes, C.P.*** Career Opportunities for Chemists, *Seminar for Incoming Chemistry Majors*, Department of Chemistry, Texas A&M University, College Station, TX, November 1, 2018 (oral).
27. **Rhodes, C.P.*** Two-Dimensional Nanoarchitectures: Creating Surfaces that are Electrochemically Active, Stable and Accessible, *Department Seminar*, Washington University in St. Louis, St. Louis, Missouri, August 7, 2018 (oral).
28. **Rhodes, C.P.*** Perspectives on Being a Chemist in Industry" *Texas State Research Experience for Undergraduates (REU) Seminar,* Texas State University, San Marcos, TX, July 3, 2018 (oral).
29. **Rhodes, C.P.*** Nanoframe Bifunctional Oxygen Electrodes for Unitized Regenerative Fuel Cells", *ONR Undersea Energy and Propulsion Review*, Arlington, VA, April 10-12, 2018 (oral).
30. **Rhodes, C.P.*** Two-Dimensional Nanoarchitectures for Energy Storage and Conversion" *Department Seminar*, George Washington University, Washington, D.C., March 9, 2018 (oral).
31. **Rhodes, C.P.*** Writing a Winning Small Business Innovative Research (SBIR) Phase I Proposal" *Materials Science, Engineering, and Commercialization Program Student Presentation,* Texas State University, San Marcos, TX, December 9, 2017 (oral).
32. **Rhodes, C.P.*** Using Two-Dimensional Nanoarchitectures to Enhance Energy Storage and Conversion Materials", *Department Seminar*, Texas Lutheran University, Seguin, Texas, October 27, 2017 (oral).
33. **Rhodes, C.P.*** Nanoframe Bifunctional Oxygen Electrodes for Unitized Regenerative Fuel Cells", *ONR Undersea Energy and Propulsion Review*, Arlington, VA, March 28-30, 2017 (oral).
34. **Rhodes, C.P.*** "Using Two-dimensional (2D) Materials to Enhance Electrochemical Energy Storage and Conversion" *Materials Science, Engineering, and Commercialization Program Forum,* Texas State University, San Marcos, TX, September 9, 2016 (oral).
35. **Rhodes, C.P.*** Perspectives on Research and Commercialization" *Materials Science, Engineering, and Commercialization Program Graduate Student Seminar,* Texas State University, San Marcos, TX, September 9, 2016 (oral).
36. **Rhodes, C.P.*** The effect of structure and orientation on electrochemical charge storage and charge transport of two-dimensional transition metal compounds", *ASME International Mechanical Engineering Congress and Exposition* (Multiphysics Coupling in Energy Storage Minisymposium, Abstract No. IMECE2015-53879), Houston, Texas, November 13-19, 2015 (oral).
37. **Rhodes, C.P.*** Advanced Electrochemical Nanomaterials: Interplay of Structure and Properties in Transition Metal Compounds" *Invited Seminar to Southwest Research Institute,* San Antonio, TX, July 28, 2015 (oral).
38. **Rhodes, C.P.***; Ly, C.[‡]; Saint-Vincent, C.; McFeron, R.[‡]; Ricard, B.[‡] "Enhancing electrochemical charge storage and transport in two-dimensional vanadium pentoxide", *Invited Seminar to the Naval Research Laboratory, Surface Chemistry Branch,* Washington, D.C., July 21, 2015 (oral).
39. **Rhodes, C.P.*** Advanced Electrochemical Nanomaterials: Interplay of Structure and Properties in Transition Metal Compounds, *Materials Science, Engineering, and Commercialization Program Forum,* Texas State University, San Marcos, TX, October 24, 2014 (oral).

40. **Rhodes, C.P.*** How to Be Successful in Industry: Personal Perspectives, *Materials Science, Engineering, and Commercialization Program Graduate Student Seminar,* Texas State University, San Marcos, TX, October 24, 2014 (oral).
41. **Rhodes, C.P.*** Designing Advanced Electrochemical Nanomaterials: Interplay of Structure and Properties in Transition Metal Compounds, *Departmental Seminar, Department of Mechanical Engineering,* Texas A&M University, College Station, TX, February 5, 2014 (oral).
42. **Rhodes, C.P.***; Lopez, R.; Mullings, M.; Li, X.; Stuart, J.; Lau, J.; Licht, S. Using Multi-electron Charge Storage Materials to Extend Battery Energy Densities: Vanadium Boride/Air Batteries, *Thermec 2013, 8th International Conference on Processing and Manufacturing of Advanced Materials* (Session: Fuel Cells, Hydrogen Storage Technologies, Batteries, Supercapacitors & Thermoelectric Materials), Las Vegas, NV, December 2-6, 2013 (oral).
43. **Rhodes, C.P.*** Chemistry of Advanced Materials for Electrochemical Energy Storage and Conversion, *Presentation to the Texas A&M Student Chapter of the American Chemical Society*, College Station, TX, February 23, 2010 (oral).
44. **Rhodes, C.P.***; Fu, Y.; Mullings, M. Electrochemistry in Motion: Advanced Electrochemical Energy Storage/Conversion Materials and Devices, *Invited Presentation to University of Texas Student Chapter of the Electrochemical Society*, Austin, TX, December 8, 2009 (oral).

3. Consultancies:

- Consultant for Ionogen, LLC (San Marcos, TX) (2015-present)
- Consultant for CNT, LLC (2022)
- Consultant for Surge Power Materials, Inc. (New Braunfels, TX) (2020)
- Consultant for Lynntech, Inc. (College Station, TX) in the area of materials for electrochemical energy storage and conversion (2015-2016)

4. Workshops:

- Invited participant for NSF Workshop: "Future Directions Hydrogen Energy Research and Development," Arlington, VA, 27–29 July 2004
- Invited Participant for DARPA/MTO NanoPower Workshop, Arlington, VA, 29–30 March 2005

C. Grants and Contracts

1. Funded External Grants and Contracts:

Funded

Title:	Understanding Degradation Mechanisms and Rates in Acidic Metal Oxide Oxygen Evolution Electrocatalysts
Funding Agency:	Department of Energy
Award Number:	DE-SC0025697
Duration of Grant:	2/01/2025-1/31/2028
Type of Grant:	Research
Role on Grant:	PI

Award Amount::	$620,000
Title:	MRI: Development of Full Vector Vibrating Sample Magnetometry for Materials Research and Education
Funding Agency:	National Science Foundation
Award Number:	2216440
Duration of Grant:	9/01/2022 - 08/31/2024
Type of Grant:	Equipment
Role on Grant:	Senior Collaborator
Names of PI/Co-PI(s):	Wilhelmus Geerts (PI); Senior Collaborators: Yihong (Maggie) Chen, Jitendra Tate
Award Amount:	$121,364
Title:	A Chemistry REU on Molecular Innovation and Exploration (CheMIE)
Funding Agency:	National Science Foundation
Duration of Grant:	04/15/22 – 3/31/25
Type of Grant:	Research
Role on Grant:	Senior Personnel
Names of PI and Co-PI(s):	K.A. Lewis (PI); Senior Personnel: Holland, Luxford, Webre, Vinciguerra, Betancourt, Brittain, Hudnall, Irvin, Kerwin, Kornienko, Peterson
Total Award Amount:	$378,188 (Rhodes' share: $29,347).
Title:	Unitized Regenerative Fuel Cells for Undersea Refuelable Unmanned Undersea Vehicles
Funding Agency:	Office of Naval Research
Duration of Grant:	4/1/2022- 9/30/2025
Type of Grant:	Research
Role on Grant:	PI
Names of Co-PI(s):	N/A
Award Number:	N00014-22-1-2144
Total Award Amount:	$449,988
Title:	Three Dimensional Nickel Hydroxide Cathodes for Energy Dense, Safe Nickel-Zinc Batteries
Funding Agency:	Office of Naval Research
Duration of Grant:	02/16/2021-06/30/2024
Type of Grant:	Research
Award Number:	N00014-21-1-2072
Role on Grant:	PI
Names of Co-PI(s):	N/A
Total Funds Received:	$225,000
Title:	TxState-UT PREM Center for Intelligent Materials Assembly (CIMA)
Funding Agency:	National Science Foundation

Award Number:	DMR-2122041
Duration of Grant:	7/12/2021- 6/30/2027
Type of Grant:	Research
Role on Grant:	Key Personnel
Names of PI or Co-PI(s):	T. Betancourt (PI), E.T. Yu (co-PI), N. Theodoropoulou (co-PI); J. Irvin (co-PI), W. J. Brittain (co-PI)
Total Award Amount:	$3,822,000 (Rhodes share: estimated $232,612)
Title:	Enhanced Optical, Electrical, and Magnetic Measurement Capabilities for Materials and Device Studies in Research and Education
Funding Agency:	Department of Defense (Army Research Office)
Award Number:	78810-W911NF-21-1-0253
Duration of Grant:	5/10/2021-5/09/2022
Type of Grant:	Equipment
Role on Grant:	Senior Collaborator
Names of PI/Co-PI(s):	Nikoleta Theodoropoulou (PI); Senior Collaborators: Wilhelmus Geerts, Mark Holtz, Yoichi Miyahara, Tom Myers, Jitendra Tate, Mark Wistey, Alex Zakhidov
Award Amount:	$277,162
Title:	Collaborative Research: Bimetallic Oxyhydroxide Surfaces for Highly Active and Stable Acidic Oxygen Evolution Electrocatalysts
Funding Agency:	National Science Foundation (Chemical, Bioengineering, Environmental and Transport Systems (CBET), Catalysis)
Duration of Grant:	4/1/2020-3/31/2024
Type of Grant:	Research
Award Number:	1936458
Role on Grant:	PI
Names of Co-PI(s):	P. Balbuena (Co-PI)
Total Funds Received:	$347,504 (Collaborative proposal total Award Amount: $558,972 (Texas State: $347,504; Texas A&M University: $211,468).
Title:	SurgePower Materials, Inc. Fee for Service Agreement
Funding Entity:	SurgePower Materials, Inc.
Type of Award:	Fee for Service Agreement
Role:	PI
Names of Co-PI(s):	None
Award Duration:	3/1/2020-4/30/2020,
Total funding:	$4,4182 ($3,200 direct).
Title:	Nanoarchitectured Nickel Hydroxide Cathodes for Energy Dense, Safe, Rechargeable Nickel–Zinc Batteries
Funding Agency:	Office of Naval Research
Duration of Grant:	8/1/2019-7/31/2021

Type of Grant:	Research
Award Number:	N00014-19-1-2526
Role on Grant:	PI
Total Funds Received:	$111,794

Title:	Bifunctional Membrane Electrode Assemblies for Unitized Regenerative Fuel Cells
Funding Agency:	Office of Naval Research
Duration of Grant:	3/1/2019-5/31/2022
Type of Grant:	Research
Award Number:	N00014-19-1-2071
Role on Grant:	PI
Total Funds Received:	$449,980

Title:	Equipment for Unitized Regenerative Fuel Cells Research and Education
Funding Agency:	Army Research Office
Duration of Grant:	9/13/2019-1/12/2021
Type of Grant:	Equipment
Award Number:	W911NF-19-1-0510
Role on Grant:	PI
Names of Co-PI(s):	N/A
Direct Funds Received:	$234,020
Total Funds Received:	$234,020

Title:	REU Site: A Chemistry REU on Molecular Innovation and Entrepreneurship (CheMIE)
Funding Agency:	National Science Foundation
Duration of Grant:	04/01/18 – 8/30/22
Type of Grant:	Research
Award Number:	1757843
Role on Grant:	Senior Personnel (1 of 11 total investigators)
Names of PI or Co-PI(s):	Debra Feakes (PI); Cory Holland (co-PI)
Direct Funds Received:	$210,619 (Rhodes' share: $19,147 direct)
Total Funds Received:	$314,876 (Rhodes' share: $28,625 total)

Title:	MRI: Acquisition of Vibrating Sample Magnetometer for Materials Research and Education
Funding Agency:	National Science Foundation
Duration of Grant:	9/15/2017-8/31/2019
Type of Grant:	Equipment
Award Number:	DMR-1726970
Role on Grant:	Co-PI
Names of PI or Co-PI(s):	Wim Geerts (PI); Co-PIs: Ravi Droopad, Yihong "Maggie" Chen, Christopher Rhodes, Nikoleta Theodoropoulou
Direct Funds Received:	$225,330

Total Funds Received:	$225,330

Title:	Motorized Film Applicator for Fabrication of Polymer and Polymer Nanocomposite Films
Funding Source:	Society of Plastics Engineers (SPE) South Texas Section
Date:	November 9, 2017
Duration of Grant:	N/A
Type of Grant:	Equipment Grant
Role on Grant:	PI
Names of Co-PI(s):	N/A
Direct Funds Received:	$2,875
Total Funds Received:	$2,875

Title:	Orientation in Polymers and Polymer Nanocomposites: Equipment for Spectroscopic Evaluation
Funding Source:	Society of Plastics Engineers (SPE) South Texas Section
Date:	October 19, 2016
Duration of Grant:	N/A
Type of Grant:	Equipment Grant
Role on Grant:	PI
Names of Co-PI(s):	N/A
Direct Funds Received:	$5,750
Total Funds Received:	$5,750

Title:	Nanoframe Bifunctional Oxygen Electrodes for Unitized Regenerative Fuel Cells
Funding Agency:	Office of Naval Research
Duration of Grant:	7/1/2016-6/30/2019
Award Number:	N00014-16-1-2777
Type of Grant:	Research
Role on Grant:	PI
Direct Funds Received:	$305,205
Total Funds Received:	$447,894

Title:	MRI: Acquisition of Atomic Force Microscope to Advance Texas State University Materials Research
Funding Agency:	National Science Foundation
Duration of Grant:	9/1/2016-8/31/2019
Award Number:	DMR-1625778
Type of Grant:	Equipment
Role on Grant:	Co-PI
Names of PI or Co-PI(s):	William Brittain (PI); Co-PIs: Gary Beall, Christopher Rhodes, Tania Betancourt, Alex Zadikov
Direct Funds Received:	$104,476
Total Funds Received:	$104,476

Title:	Scanning Probe Microscope for Materials Research and Education
Funding Agency:	Department of Defense
Duration of Grant:	08/18/2016 – 08/17/2017
Award Number:	W911NF-16-1-0518
Type of Grant:	Equipment
Role on Grant:	Key Personnel
Names of PI or Co-PI(s):	Alex Zakhidov (PI); Key Personnel: Gary Beall, Chris Rhodes, Tania Betancourt, Qingkai Yu, Wim Geerts, Mark Holtz, Jian Li, Tom Myers, Edwin Piner, Nikoleta Theodoropoulou
Direct Funds Received:	$358,558
Total Funds Received:	$358,558

Title:	Texas State University PREM: Center on Interfaces with Materials. A Partnership with the Research Triangle MRSEC
Funding Agency:	National Science Foundation
Award Number:	DMR-1205670
Duration of Grant:	6/2012-05/2018
Type of Grant:	Research
Role on Grant:	Key Personnel
Names of PI or Co-PI(s):	W. J. Brittain (PI), G. Beall (co-PI), T. Betancourt (co-PI), C. Booth (co-PI), J. Irvin (co-PI), S. Whitten (co-PI), B. Martin (co-PI)
Total Award Amount:	$3,140,000
Total Funds Received:	$85,611 (Rhodes share)
Direct Funds Received:	$57,650 (Rhodes share)

Title:	Attenuated total reflection (ATR) accessory for characterization of polymers and polymer nanocomposites
Funding Source:	Society of Plastics Engineers (SPE) South Texas Section Equipment Committee
Date:	November 3, 2015
Duration of Grant:	N/A
Type of Grant:	Equipment Grant
Role on Grant:	PI
Names of PI or Co-PI(s):	N/A
Direct Funds Received:	$10,000
Total Funds Received:	$10,000

3. Funded Internal Grants and Contracts:

Title:	High Performance Cathodes for Safe, Low-Cost Batteries
Funding Agency:	Texas State University, Formosa Plastics Innovation Award Proposal
Duration of Grant:	5/22/2024 - 8/31/2025
Type of Grant:	Research
Role on Grant:	PI

Names of Co-PI(s):	None
Total Funds Received:	$15,000
Title:	Clean Energy Catalyst Run to R1 Postdoc
Funding Agency:	Texas State University
Duration of Grant:	9/1/2023-8/31/2025
Type of Grant:	Research
Role on Grant:	PI
Names of PI or Co-PI(s):	B. Martin (co-PI); N. Theodoropoulou (co-PI); Y. Miyahara (co-PI),
Total Funds Received:	$100,000 (direct)
Title:	Inductively Coupled Plasma-Mass Spectrometry Shared Research and Education Instrument
Funding Agency:	Materials Application Research Center (MARC), Texas State University
Duration of Grant:	9/1/2022-8/31/2023
Type of Grant:	Equipment
Role on Grant:	PI
Names of Co-PI(s):	co-PIs: B. Martin, D. Schilter, S. Kerwin, A. Kornienko, R. Peterson, B. Schwartz, J. Dutton, K. Ikehata, S. Hwang, T. Ozbakkaloglu
Total Funds Received:	$259,195 (direct)
Title:	Two-Dimensional Materials for Reversible Multi-electron Charge Storage
Funding Agency:	Texas State University Research Enhancement Program (REP)
Duration of Grant:	Jan. 1, 2015-Mar. 31, 2016
Type of Grant:	Research
Role on Grant:	PI
Names of Co-PI(s):	N/A
Total Funds Received:	$8,000 (direct)

D. Fellowships, Awards, Honors:

- Formosa Innovation Award, Texas State University, 2024
- College Achievement Award, Excellence in Scholarly/Creative Activities, College of Science and Engineering, Texas State University, 2023
- Presidential Award for Excellence in Scholarly/Creative Activities, Texas State University, 2018
- Research Corporation Scialog Fellow for "*Advanced Energy Storage*", 2017-2018
- College Achievement Award for Excellence in Scholarly/Creative Activities, College of Science and Engineering, Texas State University, 2017
- Recipient of the Electrochemical Society Young Professional Travel Grant, Battery Division, 2017

- Recipient of the Electrochemical Society Young Professional Travel Grant, Physical and Analytical Electrochemistry Division, 2016
- Recipient of the Electrochemical Society Young Professional Travel Grant, Battery and Energy Storage Division, 2015
- R. A. Glenn Award for the Outstanding Fuel/Petroleum Paper at the 231st Meeting of the American Chemical Society, 2007
- Co-recipient of the R. A. Glenn Award for the Outstanding Fuel/Petroleum Paper at the 231st Meeting of the American Chemical Society, 2007
- Dissertation Award for Science and Engineering, University of Oklahoma, 2001
- Chemistry Graduate Assistant Award for Research, University of Oklahoma, 2000
- Magna Cum Laude graduate, Texas A&M University, 1992
- Outstanding Chemistry Student Award, Texas A&M University, 1992
- Chemistry Achievement Award, Texas A&M University, 1991

IV. SERVICE

A. Institutional

1. University:

- Continuity of Research Pandemic Work Group Member, Texas State University, 2020

Honors and Awards

- Presidential Distinction Award for Excellence in Service, Texas State University, 2016

2. College:

- Chair, Student Review Ad Hoc Committee, Materials Science, Engineering, and Commercialization (MSEC) program, 2024-present
- Chair, Ad Hoc Academic Program Review Committee, Materials Science, Engineering, and Commercialization (MSEC) program, 2023-2024
- Committee Member, Student Review Ad Hoc Committee, Materials Science, Engineering, and Commercialization (MSEC) program, 2023-2024
- Committee Member, Ad Hoc Committee on Candidacy Exam Expectations, Materials Science, Engineering, and Commercialization (MSEC) program, 2022-2023
- Committee Member, Shared Research Operations (SRO) Senior Lab Services Technician Search Committee, 2020
- Committee Member, Ad hoc Committee on Materials Applications Research Center (MARC) Equipment Acquisition, 2019
- Panelist, "Becoming a Productive Scholar and Researcher", New Tenure-Track Orientation, Texas State University, San Marcos, TX, August 21, 2019
- Chair, Student Research Productivity Expectations Committee, Materials Science, Engineering, and Commercialization Program, 2018-2019
- Distinguished Research Panelist, Tenth Annual Research Conference for Graduate Students, Texas State University, San Marcos, TX, November 13, 2018.

3. Department/School:

- Chair, Search Committee for Faculty of Practice, Department of Chemistry and Biochemistry, 2025-present

- Committee Member, Faculty Evaluation Committee, Department of Chemistry and Biochemistry, 2025-2026
- Chair, Faculty Evaluation Committee, Department of Chemistry and Biochemistry, 2024-2025
- Committee Member, Faculty Evaluation Committee, Department of Chemistry and Biochemistry, 2023-2024
- Mentor for new Assistant Professor (Dr. Wenting Cai), Department of Chemistry and Biochemistry, 2024-present
- Committee Member, Search Committee for Assistant/Associate Professor, Department of Chemistry and Biochemistry, 2023-2024
- Committee Member, Scholarship Committee, Department of Chemistry and Biochemistry, 2021-2025
- Mentor for new Assistant Professor (Dr. David Schilter), Department of Chemistry and Biochemistry, 2022-present
- Committee Member, Space Committee, Department of Chemistry and Biochemistry, 2021-present
- Equipment manager, Fourier Transform Infrared spectrometer (FTIR), 2015-present
- Equipment manager, Nitrogen physisorption instrument, 2015-present
- Committee Member, Graduate Chemistry Curriculum Committee, Department of Chemistry and Biochemistry (2020-present)
- Committee Member, Undergraduate Chemistry Curriculum Committee, Department of Chemistry and Biochemistry 2020-present)
- Committee Member, Search Committee for Assistant Professor, Tenure-track, Physical Chemistry, Department of Chemistry and Biochemistry, 2021-2022
- Volunteer for Chemistry and Biochemistry Table at Bobcat Days, November 2021
- Chair, Search Committee for Assistant Professor, Tenure-track, Analytical or Physical Chemistry, Department of Chemistry and Biochemistry, 2020-2021
- Committee Member, Ad hoc Admin II Search Committee, Department of Chemistry and Biochemistry, 2019
- Contributed to establishment of $25,000 endowed student scholarship fund to Texas State University Department of Chemistry and Biochemistry by the Society of Plastics Engineers (SPE) entitled “The Bonita Thomas Favorite Society of Plastics Engineers South Texas Section Endowed Scholarship”, 2015
- Faculty Advisor to the Society of Plastics Engineers (SPE) Student Chapter at Texas State University – San Marcos, 2015-2019
- Member, Safety Committee, 2015-2021
- Member, Equipment Committee, 2014-2015, 2017-2021
- Chair, Equipment Committee, 2015-2016
- Member, Physical Chemistry Faculty Search Committee, 2016-2017

B. Professional:

General

- Editorial Advisory Board Member, Energy and Environmental Materials, Wiley (2019-present)
- Member-at-large, Electrochemical Society (ECS) Texas Section (2025-present)
- Secretary/Treasurer for the Electrochemical Society (ECS) Texas Section (2018-2025)

- Electrochemical Society (ECS) Texas Section Travel Grant Reviewer, 2020-2025
- Session Chair, *248th Electrochemical Society Meeting* (Symposium I01B – Polymer Electrolyte Fuel Cells and Water Electrolyzers 25, Session: Electrolyzer Catalyst Activity and Durability), Chicago, IL, October 12, 2025.
- Session Chair/Moderator, *2024 Partnerships for Research and Education in Materials (PREM) Principal Investigator Meeting* (Session: Leveraging PREM to Support Institutional Infrastructure Building), Texas State University, San Marcos, TX, January 27, 2024
- Session Chair, *242th Electrochemical Society Meeting* (*Symposium I01F* – Proton Exchange Membrane Electrocatalysts/Electrodes)**,** Atlanta, GA, October 10-14, 2022.
- Session Chair, *240th Electrochemical Society Meeting* (Symposium I01B - Polymer Electrolyte Fuel Cells & Electrolyzers 21, Session 2: Catalyst Layer Ink Preparation & Subzero Operation and Cooling)**,** Virtual Meeting, October 10-14, 2021**.**
- Session Chair, *PRiME 2020, International Symposium of the Electrochemical Society* (Symposium I01F I01F-32 Electrolysis: Electrocatalysis and Systems, Virtual Meeting, October 4-9, 2020**.**
- Session Co-chair, *236th Electrochemical Society Meeting* (Symposium I01 – Polymer Electrolyte Fuel Cells & Electrolyzers 19, Section F-32, Polymer-Electrolyte Electrolysis), *Atlanta, GA, October 13-17,* 2019.
- Session Co-chair, *Americas International Meeting on Electrochemistry and Solid-State Science (AiMES) 2018* (Symposium I01 – Polymer Electrolyte Fuel Cells and Electrolyzers 18, Section F-3.2, Acidic Oxygen Evolution), Cancun, Mexico, September 30 - October 4, 2018.
- Session Co-Chair, *Americas International Meeting on Electrochemistry and Solid-State Science (AiMES) 2018* (Symposium I01 – Polymer Electrolyte Fuel Cells and Electrolyzers 18, Section D-2.2, Pt-Alloy Cathode Catalysts and Catalyst Layers), Cancun, Mexico, September 30 - October 4, 2018.
- Symposium Organizer for "Batteries Beyond Li-Ion: JCESR Highlights" *232nd Electrochemical Society Meeting*, National Harbor, MD, Oct 1-6, 2017.
- Session Chair, Symposium A05: Lithium-Ion Batteries and Beyond, *231th Electrochemical Society Meeting, New Orleans, LA,* May 28-June 2, 2017.
- Session Chair, Symposium ES3: Materials for Multivalent Electrochemical Energy Storage, *MRS Spring 2017 Meeting*, Phoenix, AZ, April 17-21, 2017.
- Session Chair, Inorganic Materials Session, *Partnerships for Research and Education in Materials (PREM) 2016 Summer Research Conference,* San Marcos, Texas, June 27-28, 2016.
- Co-chair, Minisymposium: Multiphysics Coupling in Energy Storage, *ASME International Mechanical Engineering Congress and Exposition,* Houston, Texas, November 13-19, 2015.
- Invited commentator for Chemical and Engineering News (C&EN)

Reviewer

- Reviewer for Technical Journals: *Journal of the American Chemical Society, Scientific Reports, Chemistry of Materials, ACS Nano, ACS Catalysis, Chemical Communications, Journal of the Electrochemical Society, Journal of Power Sources, RSC Advances, International Journal of Hydrogen Energy, New Journal of Chemistry, Energy & Environmental Materials, Journal of Applied Polymer Science, ACS Applied Energy*

Materials, Journal of Materials Chemistry A, ACS Applied Materials & Interfaces, Catalysis Science and Technology, Energy and Fuels, ACS Materials Au

- Served as a reviewer for proposals to Department of Energy Office of Science Graduate Student Research Program, 2024
- Served as a reviewer for proposals to the National Science Foundation, Catalysis Panel, 2023
- Served as a reviewer for proposals to the National Science Foundation, Catalysis Panel, 2022
- Served as a reviewer for proposals to Research Corporation for Science Advancement (RCSA), 2022
- Served as a reviewer for proposals to Research Corporation for Science Advancement (RCSA), 2021
- Served as a reviewer for proposals to the National Science Foundation, Emerging Frontiers in Research and Innovation program, 2021
- Served as a reviewer for proposals to the National Science Foundation, Division of Chemical, Bioengineering, Environmental and Transport Systems (CBET) program, 2021
- Served as a reviewer for proposals to the National Science Foundation, Emerging Frontiers in Research and Innovation program, May 2020
- Served as a reviewer for proposals to the National Science Foundation, Emerging Frontiers in Research and Innovation program, January 2020
- Served as a reviewer for proposals to National Science Foundation FY19 Designing Materials to Revolutionize and Engineer our Future (DMREF), 2019
- Reviewer for proposal to Army Research Office, 2010

Organizations

- Member of the American Chemical Society (ACS)
- Member of the Electrochemical Society (ECS)
- Member of the Materials Research Society (MRS)

C. Community:

- Developed video module for 8th grade students entitled “Water Electrolysis: Principles and Chemical Equations” that was utilized in all 8th grade science classes in San Marcos, Texas public schools (Miller Middle School and Goodnight Middle School) with an estimated ~500-600 students, Fall 2021.
- Distinguished Panelist, Career Panel for high school students with specialization in STEM, The Academy of Science and Technology, Lone Star College, October 26, 2021.
- Member of STEM Undergraduate Research Experience (SURE) Program to mentor 1st generation undergraduate students under Department of Education-funded Research Experiences for Undergraduates project, Summer 2017.
- Hosted students in Undergraduate STEM Open House, San Marcos, TX, Friday, April 14, 2017.
- Hosted students from San Marcos High School for laboratory visit, San Marcos, TX, February 25, 2016
- Presented interactive chemistry show to local middle students (Miller middle school, San Marcos, TX, September 30, 2015)
- Hosted local middle and high school students (Miller and Goodnight middle school, San Marcos High School) in laboratory for STEM open house, San Marcos, TX, May 1, 2015

- Presented interactive science experiments with elementary school students at Family Science Night, Blanco Vista Elementary School, San Marcos, TX Mar. 26, 2015
- Hosted 5th graders from Hernandez Elementary School in performing interactive science experiments, San Marcos, TX, Jan. 2015
- Participated in St. Phillips College 5th Annual Science, Technology, Engineering, and Mathematics (STEM) Symposium, San Antonio, Texas, Dec. 2014
- Hosted visit of Texas State Summer REU (Research Experience for Undergraduates) students to visit Southwest Research Institute (San Antonio, TX) for industry visit, Aug. 2014