

		Conn Center for Renewable Energy Research Impact Report 2020 - 2030 PhD & Masters Degrees							AM Rev. 5/2024			
								Total degrees	53	39	5	9
#	Year	Dissertation/Thesis Title	Last Name	First Name	Department	Degree	Committee Chair	Committee member	PhD	MEng	MS	
	2020											
1	2020	Aqueous redox flow batteries with Boron doped diamond as an electrode.	Bates	Alex	Mechanical Engineering	PhD	Park, Sam	Berfield, Thomas	1			
2	2020	The utilization of metal-ligand cooperativity for electrocatalytic reduction and catalytic hydration.	Cronin	Steven	Chemistry	PhD	Grapperhaus, Craig	Buchanan, Robert	1			
3	2020	Hydration, shrinkage, cracking, and mechanical properties of cementitious materials with lignocellulosic biomass wastes.	Guo	Aofei	Civil and Environmental Engineering	PhD	Zhihui, Sun	McGinley, William Mark	1			
4	2020	Nonlinear control and observation of full-variable speed wind turbine systems.	Hawkins	Nick	Electrical and Computer Engineering	PhD	McIntyre, Michael	Robinson, Brian	1			
5	2020	Determination of selenite and selenate in wet flue gas desulfurization process water through IC-ICP-MS and HG-ICP-AES	Kelty	Samuel	Chemical Engineering	MEng	Willing, Gerold	Ghorbanian, Mahyar		1		
6	2020	Photoelectrical and photoelectrochemical characterization of the materials used in dye-sensitized and perovskite solar cells.	Kharel	Pom	Chemistry	PhD	Zamborini, Francis	Druffel, Thad	1			
7	2020	Water cluster motifs in structurally similar N-(2-Aminoethyl)-1-Methylimidazole-2-Carboxamide metal complexes: synthesis, characterization, thermal and electrical properties.	Saraei	Nina	Chemistry	PhD	Grapperhaus, Craig	Buchanan, Robert	1			
8	2020	Functional nanomaterials by combining aminoxy chemistry and iodine activation at monolayer protected clusters.	Sibakoti	Tirtha	Chemistry	PhD	Nantz, Michael	Zhang, Xiang	1			
9	2020	Materials-processing relationships for metal fused filament fabrication of Ti-6Al-4V alloy.	Singh	Paramjot	Mechanical Engineering	PhD	Kate, Kunal	Atre, Sundar	1			
10	2020	Electrochemical reduction of carbon dioxide and carbon monoxide for the production of green fuels and chemicals.	Strain	Jacob	Chemistry	PhD	Zamborini, Francis	Spurgeon, Joshua	1			
	2021	Title	Last	First	Dept	Degree	Chair	Committee member	PhD	MEng	MS	
11	2021	Modified electrode surfaces with hydrogen evolution reaction catalysts derived from electropolymerized complexes with redox active ligands.	Arts	Amanda Mae	Chemical Engineering	MS	Gupta, Gautam	Ghorbanian, Mahyar			1	
12	2021	Mixed metal oxide nanowires via solid state alloying.	Atla	Veerendra	Chemical Engineering	PhD	Sunkara, Mahendra	Starr, Thomas	1			
13	2021	Coal fly ash beneficiation for reuse and removal of Boron, Cadmium, Chromium, Copper, and Selenium in wastewater treatment.	Cahill	Joseph	Chemical Engineering	MS	Gupta, Gautam	Willing, Gerold			1	
14	2021	Synthesis, characterization, and catalytic activity of functionalized metal Bis(thiosemicarbazones).	Calvary	Caleb	Chemistry	PhD	Grapperhaus, Craig	Buchanan, Robert	1			

15	2021	Image Analysis of Charged Bimodal Colloidal Systems in Microgravity.	Cecil	Adam	Chemical Engineering	MEng	Willing, Gerold	Williams, Stuart	1		
16	2021	Micellar nanocatalysis for efficient reactions.	Duong	Uyen	Chemistry	PhD	Handa, Sachin	Satyavolu, Jagannadh	1		
17	2021	Annealing of Encapsulated Heavy Metals from Brine Water Utilizing Microwave Enabled Sol-Gel Process	Flynn	Adam	Chemical Engineering	MS	Gupta, Gautam	Ghorbanian, Mahyar			1
18	2021	Rapid annealing of Perovskite solar cell thin film materials through intense pulse light.	Gahremani	Amir Hossein	Mechanical Engineering	PhD	Kate, Kunal	Bikram, Bhatia	1		
19	2021	Photophysics of substituted [1,4]Benzodioxino[3,2-b]Oxanthrene (BDO) Chromophores and their macromolecules: a spectroscopy and density functional theory study.	Jamhawi	Abed	Chemistry	PhD	Liu, Jinjun	Wittebort, Richard	1		
20	2021	Structural, vibrational and transport properties of novel complex systems.	Karki	Bhupendra	Physics	PhD	Sumanasekera, Gamini	Yu, Ming	1		
21	2021	Wetting and drying dynamics for TiO2 with PbS quantum dots.	Lee	Kelly	Chemical Engineering	MEng	Willing, Gerold	Jaeger, Vance		1	
22	2021	Evaluation of conventional energy conservation strategies and active thermal insulation wall system and economic analyses.	Liu	Li	Civil and Environmental Engineering	PhD	McGinley, William M.	Ghasemi-Fare, Omid	1		
23	2021	Electrochemical characterization of surface-immobilized metal nanostructures: stability, atomic level doping, catalysis, and sensing applications.	Mainali	Badri	Chemistry	PhD	Zamborini, Francis	Baldwin, Richard	1		
24	2021	Room temperature alkali treatment of rice straw for enhanced enzymatic hydrolysis.	Mains	Seth	Chemical Engineering	MEng	Sathitsuksanoh, Noppadon	Gerstle, Jim		1	
25	2021	Aggregation dynamics of bulk nanoparticle haloing systems and the influence of non-ambient temperatures.	Moradi	Marzieh	Chemical Engineering	PhD	Willing, Gerold A.	Williams, Stuart J.	1		
26	2021	Scalable synthesis of alumina nanowires by Wet Chemical Method.	Moreno	Luis	Chemical Engineering	MS	Gupta, Gautam	Ghasemi-Fare, Omid			1
27	2021	First principle studies of the effects of alkali-metal intercalation on structural transition from black to blue phosphorene and the adsorption of N2H4 on WS2 layers.	Musa	Md Rajib Khan	Physics	PhD	Yu, Ming	Sumanasekera, Gamini	1		
28	2021	Ga-based III-V semiconductor photoanodes for solar fuels and novel techniques to investigate their photocorrosion.	Pishgar	Sahar	Physics	PhD	Sumanasekera, Gamini	Yu, Ming	1		
29	2021	intercalation and high pressure studies of black phosphorous - pathways to novel materials and physics.	Rajapakse	Manthila	Physics	PhD	Sumanasekera, Gamini	Jasinski, Jacek	1		
30	2021	An introductory study of Coal Fly Ash enhancement for heavy metal removal in wastewater treatment.	Romes	Samuel	Chemical Engineering	MS	Gupta, Gautam	Ghorbanian, Mahyar			1
31	2021	Solvent engineering of molybdenum disulfide electrocatalyst for hydrogen evolution.	Spalding	Robert	Chemical Engineering	MS	Gupta, Gautam	Bhatia, Bikram			1
32	2021	Materials and process design for ceramic fused filament fabrication (CF3) of hydroxyapatite.	Sudan	Kavish	Mechanical Engineering	PhD	Kate, Kunal	Atre, Sundar	1		
33	2021	First principle studies of the effects of alkali-metal intercalation on structural transition from black to blue phosphorene and the adsorption of N2H4 on WS2 layers.	Tasnim	Kazi Jannatul	Physics	PhD	Yu, Ming	Sumanasekera, Gamini	1		

34	2021	Exploring Meerwein-Ponndorf-Verley reactions using metal organic framework catalysts.	Zhou	Yuehan	Chemical Engineering	MS	Sathitsuksanoh, Noppadon	Jaeger, Vance W.			1
	2022	Title	Last	First	Dept	Degree	Chair	Committee member	PhD	MEng	MS
35	2022	2D materials based heterostructure for quantum tunneling: a lithography free technique.	Alzahrani	Ali Ibrahim M	Physics	PhD	Sumanasekera, Gamini	Sergio, Mendes	1		
36	2022	Wet chemical synthesis and properties of argyrodite sulfide solid electrolytes for solid state lithium batteries.	Arnold	Will	Mechanical Engineering	PhD	Wang, Hui	Jasinski, Jacek	1		
37	2022	Anion alloying of III-V semiconductors for water splitting.	Calero	Sonia	Chemical Engineering	PhD	Sunkara, Mahendra	Starr, Thomas	1		
38	2022	Materials and interfaces for electrocatalytic hydrogen production and utilization.	Gupta	Alexander	Chemical Engineering	PhD	Gupta, Gautam	Buchanan, Robert	1		
39	2022	Engineering Lewis acidic materials for biomass conversion and battery applications.	Hossain	Md Anwar	Chemical Engineering	PhD	Sathitsuksanoh, Noppadon	Willing, Gerold A.	1		
40	2022	Engineering Lewis acidic materials for biomass conversion and battery applications.	Hossain	Md Anwar	Chemical Engineering	MS	Sathitsukanoh, Noppadon	Willing, Gerold A.			1
41	2022	Determination of the functional role of Rab-GGT in Physcomitrium patens.	Jung	Hyun Jin	Biology	PhD	Running, Mark P.	Perlin, Michael H.	1		
42	2022	Functional role of PPAL and potential for moss in industrial applications.	Martinez	Susana Perez	Biology	PhD	Running, Mark	Perlin, Michael	1		
43	2022	Effects of sizing agents on mechanical properties of carbon fiber-polymer composites via fused filament fabrication additive manufacturing.	Mitchell	Benjamin	Mechanical Engineering	MEng	Kate, Kunal	Bhatia, Bikram		1	
44	2022	Development of porous solid acid catalysts for lignocellulose and plastic upcycling.	Rahaman	Mohammad Shahinur	Chemical Engineering	PhD	Sathitsuksanoh, Noppadon	Willing, Gerold	1		
45	2022	Development of porous solid acid catalysts for lignocellulose and plastic upcycling.	Rahaman	Mohammad Shahinur	Chemical Engineering	MS	Sathitsukanoh, Noppadon	Willing, Gerold A.			1
	2023	Title	Last	First	Dept	Degree	Chair	Committee member	PhD	MEng	MS
46	2023	Synergistic strategies in sinter-based material extrusion (MEX) 3D printing of copper: process development, product design, predictive maps and models.	Ajarapu	Pavan	Mechanical Engineering	PhD	Kate, Kunal	Atre, Sundar	1		
47	2023	Scalable solution processing of NiOx nanoparticles.	Armstrong	Peter	Chemistry	PhD	Grapperhaus, Craig	Ramezanipour, Farshid	1		
48	2023	Super p-sulfur cathodes for quasi-solid-state lithium-sulfur-batteries.	Bharatha	Milinda	Physics	PhD	Sumanasekera, Gamini	Yu, Ming	1		
49	2023	Investigation of light management strategies and photochemistry of Si/TiO2 tandem microwire slurries for solar hydrogen generation.	Gulati	Saumya	Chemical Engineering	PhD	Sunkara, Mahendra	Gupta, Gautam	1		
50	2023	Chloramine devulcanization of waste rubber.	Kroeger	Patrick	Chemical Engineering	PhD	Willing, Gerold	Berson, R. Eric	1		
51	2023	Compositional engineering of precursor inks for intense pulsed light compatible deposition of perovskite solar cells.	Martin	Blake	Chemical Engineering	PhD	Gupta, Gautam	Druffel, Thad	1		

52	2023	BioCaRGOS: Capture and release gels for optimized storage of biologics.	Potnis	Chinmay	Chemistry	PhD	Grapperhaus, Craig	Gupta, Gautam	1		
53	2023	Intercalation and high-pressure investigations of black arsenic phosphorus: unraveling material transformations.	Vithanage	Dinushika	Physics	PhD	Sumanasekera, Gamini	Jasinski, Jacek	1		
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