Charles J. Coronella
Professor of Chemical Engineering, University of Nevada, Reno

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Professional Preparation
BS, Chemical Engineering, Lehigh University, June, 1986
BA, Mathematics, Lehigh University, June, 1986
MS, Chemical Engineering, University of Utah, 1989
PhD, Chemical Engineering, University of Utah, 1994

Appointments
1993 – present Assistant Professor, Associate Professor (2000) of Chemical Engineering University of Nevada, Reno.
January 1, 2007 – December 31, 2007: Chemical Engineer V, GRT, Santa Barbara CA.

Licensed professional chemical engineer, State of Nevada License # 017146, through December 2024

Publications h-index: 28, i10-index: 38, citations: 4290 (as of August, 2023)
The corresponding author* is indicated by asterisk; students mentored are indicated with †

1. S. V. Qaramaleki†, J Cardenas, M. A. Jackson, D. L. Compton, A. A. Szogi, K. Ro, C.J. Coronella* "Characterization of products from catalytic hydrothermal carbonization of animal manure", *Agronomy* **2023**, 13, 2219. *https://doi.org/10.3390/agronomy13092219*
2. S. V. Qaramaleki†, A. F. Mohedano, C. J. Coronella* "Phosphorus recovery from aqueous product of hydrothermal carbonization of cow manure" *Waste Management* 2023, 168(1) 301-310 https://doi.org/10.1016/j.wasman.2023.06.013
3. García-Morato, R.; Román*, S.; Ledesma, B.; Coronella, C., "Co-Hydrothermal Carbonization of Grass and Olive Stone as a Means to Lower Water Input to HTC." *Resources* 2023, 12, 85. https://doi.org/10.3390/resources12070085
4. Villegas E, Nguyen TD, Gan YX, Coronella CJ, Zuzga M, Li M* (2022) "Chemical looping with oxygen uncoupling of hydrochar in a combined cycle for renewable and low-emission power generation" *Digital Chemical Engineering* 5: 100051 https://doi.org/10.1016/j.dche.2022.100051
5. Sarrion, A., de la Rubia, A., Coronella, C., Mohedano, A. F*., & Diaz, E. (2022). Acid-mediated hydrothermal treatment of sewage sludge for nutrient recovery. *Science of The Total Environment*, 156494 https://doi.org/10.1016/j.scitotenv.2022.156494
6. Diaz, E.; Sanchis, I., Coronella, C.J., Mohedano, A.F.* "Activated carbons from hydrothermal carbonization and chemical activation of olive stones: application in

sulfamethoxazole adsorption" *Resources* 2022, 11(5) 43 https://doi.org/10.3390/resources11050043

7. Qaramaleki, S.V.; Villamil, J.; Mohedano, Á.; Coronella, C.J*. "Factors Affecting Solubilization of Phosphorus and Nitrogen Through Hydrothermal Carbonization of Animal Manure", *ACS Sustainable Chem. Eng*. 2020, 8, 33, 12462–12470 https://doi.org/10.1021/acssuschemeng.0c03268.
8. J. D. Marin-Batista, J. Villamil, S.V. Qaramaleki, C.J. Coronella, A.F. Mohedano*, M.A. de la Rubia "Energy valorization of cow manure by hydrothermal carbonization and anaerobic digestion", *ACS Sustainable Chem. Eng*. 2020, 8, 33, 12462–12470 https://doi.org/10.1021/acssuschemeng.0c03268.
9. Saba, A., Saha, N., Williams, K. C., Coronella, C. J., & Reza, M. T. (2020). Binder-free torrefied biomass pellets: significance of torrefaction temperature and pelletization parameters by multivariate analysis. *Biomass Conversion and Biorefinery*. https://doi.org/10.1007/s13399-020-00737-7
10. Román, S.; Ledesma, B; Álvarez, A; Coronella, C; Qaramaleki, SV* "Suitability of hydrothermal carbonization to convert water hyacinth to added-value products", *Renewable Energy*, 2020, pp 1649-1658 DOI: 10.1016/j.renene.2019.07.157
11. Reza, M. Toufiq*; Poulson, Simon; Román, Silvia; Coronella, Charles "Behavior of Stable Carbon and Stable Nitrogen Isotopes during Hydrothermal Carbonization of biomass", Journal of Analytical and Applied Pyrolysis (2018) **131**, 85-92 https://doi.org/10.1016/j.jaap.2018.02.006.
12. Yang, X., Uddin, M. H. †, Zhou, X., Neupane, B., Miller, G. C., Coronella, C. J., … Lin, H.* (2018). Production of High-Density Renewable Aviation Fuel from Arid Land Crop. *ACS Sustainable Chemistry and Engineering*, *6*(8), 10108–10119. https://doi.org/10.1021/acssuschemeng.8b01433
13. Uddin, M. H. †, Coronella, C. J.* "Effects of grid size on predictions of bed expansion in bubbling fluidized beds of Geldart B particles: A generalized rule for a grid-independent solution of TFM simulations", *Particuology*, 2017 **34** 61-69, http://doi.org/10.1016/j.partic.2016.12.002.
14. M.H. Uddin†, M.A.H. Khan, C.J. Coronella* "3-D face-masking detection and tracking algorithm for bubble dynamics: method and validation for gas-solid fluidized beds", *Powder Technology* 2017 313 88-98, DOI:10.1016/j.powtec.2017.02.034.
15. Neupane, B.; Shintani, D.; Lin, H.; Coronella, C.; Miller*, G. (2017). Grindelia squarrosa: A Potential Arid Lands Biofuel Plant. *ACS Sustainable Chemistry & Engineering*, 5, 995-1001, http://doi.org/10.1021/acssuschemeng.6b02315
16. Reza*, M. T., Coronella, C., Holtman, K.M., Franqui-Villanueva, D., Poulson, S. (2016). "Hydrothermal Carbonization of Autoclaved Municipal Solid Waste Pulp and Anaerobically Treated Pulp Digestate", *ACS Sustainable Chemistry & Engineering*, *4*(7), 3649–3658. http://doi.org/10.1021/acssuschemeng. 6b00160
17. J. Nover, B. Wirth, C. Coronella, M. T. Reza*, "Hydrothermal carbonization of glucose in saline solution: sequestration of nutrients on carbonaceous materials" AIMS Energy. 2016;4(1):173-189 DOI 10.3934/energy.2016.1.173

18. Reza*, M. T., Yang, X., Coronella, C. J., Lin, H., Hathwaik, U., Shintani, D., Neupane, B.P., Miller, G. C. (2016). Hydrothermal Carbonization (HTC) and Pelletization of Two Arid Land Plants Bagasse for Energy Densification. *ACS Sustainable Chemistry & Engineering*, *4*(3), 1106–1114. http://doi.org/10.1021/acssuschemeng.5b01176

19. Lynam, J.*†; Chow, G. †; Hyland, P. †; Coronella, C. J. (2016) "Corn stover pretreatment by ionic liquid and glycerol mixtures with their density, viscosity, and thermogravimetric properties", *ACS Sustainable Chemistry & Engineering*, *4*(7), 3786–3793 http://doi.org/10.1021/acssuschemeng.6b00480.

20. M.T. Reza*, A. Fueites, X. Yang, C.J. Coronella "Wet Air Oxidation of Hydrothermal Carbonization (HTC) Process Liquid" ACS Sustainable Chem. Eng., 2016, 4(6) 3250-3254 DOI: 10.1021/acssuschemeng.6b00292.

21. M. T. Reza*, A. Freitas, X. Yang, S.Hiibel, H. Lin, C. J. Coronella "Hydrothermal Carbonization (HTC) of Cow Manure: Carbon and Nitrogen Distributions in HTC products", *Environmental Progress and Sustainable Energy*, Volume 35, Issue 4, July 2016, Pages: 1002–1011 DOI: 10.1002/ep.12312.

22. Lynam JG*†,Chow GI†, Coronella CJ, Hiibel SR "Ionic Liquid and Water Separation by Membrane Distillation", *Chemical Engineering Journal*, Vol. 288, 2016, 557-561 DOI: 10.1016/j.cej.2015.12.028.

23. Joan G. Lynam†, Charles J Coronella* "Loblolly pine pretreatment by ionic liquid-glycerol mixtures", *Biomass Conversion and Biorefinery*, 2016 6:247-260; doi:10.1007/s13399-015-0183-5.

24. Joan G. Lynam†, M. Toufiq Reza†, Wei Yan, Victor Vasquez, Charles J Coronella* "Hydrothermal carbonization of various lignocellulosic biomass", *Biomass Conversion and Biorefinery*, (2014) DOI: 10.1007/s13399-014-0137-3

25. Charles J Coronella*, Joan G Lynam†, M. Toufiq Reza†, M. Helal Uddin† "Hydrothermal Carbonization of Lignocellulosic Biomass", Chapter 12 in *Application of Hydrothermal Reactions to Biomass Conversion*, (2014) DOI: 10.1007/978-3-642-54458-3_12.

26. Joan G. Lynam†, Charles J. Coronella* "Glycerol as an Ionic Liquid Co-Solvent for Pretreatment of Rice Hulls", *Bioresource Technology* **122**:471-478 August 2014 DOI: 10.1016/j.biortech.2014.05.086

27. Reza†, M. T., Emerson, R., Uddin†, M. H., Gresham, G., & Coronella*, C. J. Ash reduction of corn stover by mild hydrothermal preprocessing. *Biomass Conversion and Biorefinery*, 2014 doi:10.1007/s13399-014-0122-x

28. Reza†, M. T., Uddin†, M. H., Lynam†, J. G., Hoekman, S. K., & Coronella*, C. J. Hydrothermal carbonization of loblolly pine: reaction chemistry and water balance. *Biomass Conversion and Biorefinery*, 2014 doi:10.1007/s13399-014-0115-9

29. M. H. Uddin†, M. T. Reza†, J. G. Lynam†, C. J. Coronella*, "Effects of water recycling in hydrothermal carbonization of loblolly pine" *Environmental Progress & Sustainable Energy*, **33**:1309-1315, December, 2014 doi: 10.1002/ep.11899

30. M. T. Reza[†], M. H. Uddin[†], J. G. Lynam[†], C. J. Coronella[*], "Engineered Pellets from Dry Torrefied and HTC Biochar Blends" *Biomass Bioenergy* **63**:229-238, April 2014. doi:10.1016/j.biombioe.2014.01.03

31. W. Yan[*], S. K. Hoekman, A. Broch, C. J. Coronella, "Effect of Hydrothermal Carbonization (HTC) Reaction Parameters on the Properties of Hydrochar and Pellets" *Environmental Progress & Sustainable Energy*, **33**:676-680, October 2013 DOI: 10.1002/ep.11974

32. M. T. Reza[†], Wei Yan, M. H. Uddin[†], J. G. Lynam[†], S. K. Hoekman, C. J. Coronella[*], V. R. Vasquez "Reaction Kinetics of Hydrothermal Carbonization of Woody Biomass", (2013) *Bioresource Technology* 139:161-169. doi:10.1016/j.biortech.2013.04.028

33. M. T. Reza[†], J. G. Lynam[†], M. H. Uddin[†], C. J. Coronella[*] "Hydrothermal Carbonization: Fate of Inorganics" (2013) *Biomass Bioenergy* **49:**86-94 . doi: 10.1016/j.biombioe.2012.12.004

34. J. G. Lynam[†], M. T. Reza[†], V. R. Vasquez, C. J. Coronella[*], "Effect of Salt Addition on Hydrothermal Carbonization of Lignocellulosic Biomass", *Fuel* 99:271-273 (**2012**) doi:10.1016/j.fuel.2012.04.035.

35. J. G. Lynam[†], M. T. Reza[†], V. R. Vasquez, C. J. Coronella[*] "Pretreatment of rice hulls by ionic liquid dissolution", *Bioresource Technology*,114:629-636 (**2012**) doi:10.1016/j.biortech.2012.03.004

36. W. Yan[*], S. Islam[†], C. J. Coronella, and V.R. Vasquez, "Pyrolysis kinetics of Raw/Hydrothermally Carbonized Lignocellulosic biomass", *Environmental Progress & Sustainable Energy* 31(20): 200-204 (**2012**) DOI: 10.1002/ep.11601

37. M. Toufiq Reza[†], Joan G. Lynam[†], Victor R. Vasquez and Charles J. Coronella[*], "Pelletization of Biochar from Hydrothermally Carbonized Wood", *Environmental Progress & Sustainable Energy* 31(2):225-234 (**2012**) DOI: 10.1002/ep.11615

38. J.G. Lynam[†], C.J. Coronella[*], W. Yan, M.T. Reza[†], V.R. Vasquez "Acetic acid and lithium chloride effects on hydrothermal carbonization of lignocellulosic biomass", *Bioresource Technology*, 102:6192-6199. doi:10.1016/j.biortech.2011.02.035 (**2011**)

39. T.C. Acharjee[†], C.J. Coronella[*], V.R. Vasquez, "Effect of thermal pretreatment on equilibrium moisture content of lignocellulosic biomass", *Bioresource Technology*, 102:4849-4854, April (2011).

40. Vasquez[*], V.R., Braganza[†], A., Coronella, C. J. "Molecular Thermodynamics modeling of equilibrium moisture in foods" *J Food Engr*. 103(1):103-114, DOI: 10.1016/j.jfoodeng.2010.10.005, March (2011)

41. Wei Yan, Jason T. Hastings[†], Tapas C. Acharjee[†], Charles J. Coronella[*], and Victor R. Vasquez, "Mass and Energy Balances of Wet Torrefaction of Lignocellulosic Biomass", *Energy Fuels*, 24:4738-4742, (2010) DOI:10.1021/ef901273n.

42. W. Yan, T.C. Acharjee[†], C.J. Coronella[*], V.R. Vasquez "Thermal Pretreatment of Lignocellulosic Biomass" *Environmental Progress & Sustainable Energy*, 28(3):435-440 (2009)

43. S.R. Bellur[†], C.J. Coronella[*], V.R. Vasquez "Analysis of Biosolids Equilibrium Moisture and Drying" *Environmental Progress & Sustainable Energy*, 28(2):291-298 (2009).
44. Vasquez[*], V.R. and Coronella, C.J. "A Simple Model for Vapor-Moisture Equilibrium in Biomass Substrates" *AIChE J*, 55(6):1595-1603 (2009).
45. Cooper[†], S. A. and Coronella[*], C. J. "CFD Simulations of Particle Mixing in a Fluidized Bed" Powder Technology 151:27-36 (2005).
46. S. Cooper[†] and C. J. Coronella[*] "Fluidized Bed Heat Transfer" in *Handbook of Heat Transfer Calculations* edited by Myer Kutz, McGraw Hill 2005.
47. Coronella[*], C.J., Deng[†], J.X. "A novel method for isokinetic measurement of particle flux within the riser of a circulating fluidized bed", *Powder Technol.* 99(3), 211-219, DOI: 10.1016/S0032-5910(98)00110-7, Sept. **1994**
48. Coronella, C.J., Lee, S.Y., Seader[*] J.D. "Minimum slugging velocity in fluidized-beds containing vertical rods", *Fuel* 73(9) 1537-1543 (**1994**) DOI: 10.1016/0016-2361(94)90076-0
49. Lee, SY, Coronella CJ, Bhadkamkar AS., Seader[*] JD, "Modeling and temperature regulation of a thermally coupled reactor system via internal model control strategy" *Ind. Eng. Chem. Res.* 32(12) 3029-3036, DOI: 10.1021/ie00024a011, Dec. (**1993**).
50. Lee, SY, Coronella CJ, Seader[*] JD, Pitt CH, "Erosion control of 316 stainless steel rods immersed in a bubbling fluidized bed" *Chem. Eng. Sci.* 48(8) 1437-1445, Apr. **1993**, DOI: 10.1016/0009-2509(93)80050-Z
51. Coronella[*] CJ, Seader JD "Combustion of Coked Sand in a 2-stage fluidized-bed system", *Fuel* 71(2), 143-150, Feb. **1992**

Patents

1. MH Uddin, CJ Coronella, MA Zuzga, 1. Batch-cyclic redox reactor with air-only tuyeres, US Patent 9,874,347, 2018.
2. C. Coronella, M. T. Reza, A. Shekarriz, System for hydrothermal treatment of wet biomass, PCT application filed November 10, 2106.
3. C. Coronella, M. T. Reza, A. Shekarriz, HydroPyras process for conversion of aqueous waste to heat and/or power, disclosure filed July 18, 2106.
4. G. Touchton, C. Coronella, Reactor system and method, Patent No. 9,175,850, Date of patent: Nov. 3, 2015.
5. Charles Coronella, Wei Yan, Toufiq Reza, and Victor Vasquez, Method for Wet Torrefaction of a Biomass. Filed September 1, 2011. Publication No. US 2012/0110896 A1 (pending)
6. S. Gadewar and 17 others including Charles Coronella, Continuous process for converting natural gas to liquid hydrocarbons, Filed July 17, 2009. Publication No. US 2009/050955 (pending)

7. Charles Coronella and Victor Vasquez, System and Method for Energy Production from Sludge. US Patent no. 8499471 B2 (awarded April 9, 2013).

Sponsored Projects

Total funding as of August 2022:

- As principal investigator: $4,189,538.
- Coronella's share of all grants: $2,449,172.

1. "INFEWS/T2: NEWIR Manure: Nutrients, Energy, and Water Innovations for Resource recovery", 8/1/2019-7/31/2023, NSF, C. Coronella (PI) $2,263,330. Coronella share: $675,433.
2. "Hydrothermal wastewater treatment", March 1, 2015 – February 28, 2016, NSF EPSCoR Nexus Seed Grant, C. Coronella (PI) $30,000.
3. "Distributed power from waste biomass", July 1, 2014-June 30, 2016, Western Sun Grant, C. Coronella (PI), $771,689. Coronella share: $463,000.
4. "Arid lands biofuels and bioproducts", December 1, 2013 - November 30, 2017, USDA NIFA, G. Miller (PI), H. Lin, C. Coronella, D. Shintani, $499,182. Coronella share: $125,000.
5. "Novel flex fuel oxidation for distributed generation" June 1, 2012 – May 31, 2014, ZERE, Inc. (California Energy Commission), CJ Coronella (PI) $165,728
6. "Hydrothermal conditioning of corn stover" November 30 2011 - September 20, 2012, Idaho National Labs, (US DoE) CJ Coronella (PI), $50,000
7. "Research and Development to Prepare and Characterize Robust Coal/Biomass Mixtures for Direct Co-Feeding into Gasification Systems", February 1, 2012 - March 31 2013, Gas Technology Institute (US DoE), CJ Coronella (PI), $65,000
8. "E-Scholars: Engineering careers in energy", July 2010 - July 2014, NSF, J. LaCombe, E. Wang, CJ Coronella (co-PI), $600,000. Coronella share: $200,000.
9. "Development of a Model for Determining the Carbon Conversion Efficiency of the Syntrex Alpha Steam Reforming Process", December 15, 2011- February 1, 2012, Synterra Energy, CJ Coronella (PI), $5000
10. "NV REC: Pretreatment of Biomass", Oct. 2010-December 2011, Nevada Renewable energy Consortium (US DoE), CJ Coronella (PI), VR Vasquez (co-PI), $100,000. Coronella share: $50,000.
11. "NV REC: Thermal Pretreatment of Biomass", Oct. 2009- December 2010, Nevada Renewable Energy Consortium (US DoE), J. Cushman (PI), CJ Coronella (co-PI), E. Marchand (co-PI), VR Vasquez (co-PI), $258,000. Coronella share: $60,000.
12. "Nanotube synthesis", Aug. 2008- May. 2011, NASA, A. Fuchs, CJ Coronella (co-PI), $12,000. Coronella share: $6,000.
13. "Fluidized bed production of carbon nanotubes", Aug. 2009- Dec. 2010, NASA, A. Fuchs, CJ Coronella (co-PI), $30,000. Coronella share: $25,000.

14. "Sludge2Power Technology Development", Sept. 2008- Sept. 2010, UNR Technology Transfer Office (US- DoE), CJ Coronella (PI) and VR Vasquez $110,000. Coronella share: $55,000.
15. "Municipal sludge drying and conversion", Oct. 2006 - Nov. 2008, California Energy Commission, CJ Coronella (PI), VR Vasquez, co-PI, $75,000. Coronella share: $45,000.
16. "Developing thermal conversion options", September 2007 - February 2012, Gas Technology Institute (US DoE), CJ Coronella (PI), VR Vasquez $494,600. Coronella share: $321,500.
17. "Model Uncertainty and Robustness in Nonlinear Model Predictive Control for Biomedical Applications" , 2003-2004, National Science Foundation, $96,640, co-PI. Coronella share: $48,320.
18. “Particle mixing in a conical fluidized bed”, Jan. 1 1999 – Dec. 31 1999. TIMET Inc., C. Coronella (PI) $33,631.
19. “Particle mixing in a conical fluidized bed”, Jan. 1 1999 – Dec. 31 1999. Applied Research Initiative, UNR, C. Coronella (PI) $11,210.
20. “Program development grant”, Nevada State EPSCOR, August 1995. C. Coronella (PI) $4350.
21. “Hydrodynamics of circulating fluidized bed waste incinerators”, UNR Graduate School, 1995
    C. Coronella (PI), $10,000.

Honors and Awards

- "Application of Fluidization in Alternative Energy Processing", Invited talk, Chalmers University of Technology, Gothenburg, Sweden, October 3, 2013
- Distinguished Chair in Alternative Energy- Fulbright Award for fellowship at Chalmers University of Technology, August, 2013 – June 2014
- “Hydrochar- uniform format biomass”, Invited talk, Cornell University, November 1, 2012
- AIChE NorCal award for Chemical engineering excellence, 2008-2009
- Senior Scholar Mentor award from UNR college of engineering, 2008
- Gary Leach Award for Service (AIChE), 2007
- “A CFD Approach to studying particle mixing in fluidized beds” Invited talk, Brigham Young University, Provo Utah, March 23, 2006
- Award for distinguished service to ASEE, 2004
- Award for excellence in service, AIChE, 2002

Professional Service:

- Panel reviewer for USDA NIFA grant applications, 2019-2023

- Panel reviewer for US DOE EERE, 2022
- Thermal and Catalytic Sciences symposium TCS2020, conference organization, 2020
- National Science Foundation, Panel reviewer “Environmental monitoring and sustainability”, 2020
- WasteEng2020 international conference, Guelph Canada, member of organizing committee, 2019
- Fulbright foundation Egypt, Applicant reviewer 2017-2022
- "Chemical Engineering Summer School", hosted in Raleigh North Carolina July 2017. I served on an *ad hoc* committee to facilitate workshop networking.
- American Chemical Society, organized symposium on hydrothermal carbonization, October 2015.
- American Society of Engineering Educators: Workshop leader on “Teaching Teamwork in Engineering Courses” at the Chemical Engineering summer school, July 2012, Orono, Maine
- Department of Energy, reviewer for SBIR grant applications, 2011 – 2013
- Department of Energy, reviewer for SCGF fellowship applications, 2010-2012
- Water Environment Research Foundation, Peer reviewer for projects related to conversion of sewage to energy and fuels, 2010-2012
- National Science Foundation, reviewer for GRFP fellowship applications, 2009-2011
- Manuscript reviewer for multiple journals, including: *Powder Technology, Bioresource Technology, Energy and Fuels, Applied Energy, Biomass Bioenergy, Chemical Engineering Education, Journal of Engineering Education, Chemical Engineering Journal, Fuel, Journal of ASABE, World Renewable Energy Congress, Chemical Engineering Science, Environmental Progress and Renewable Energy, Separation and Purification Technology, etc.*
- American Society of Engineering Educators: Program chair for chemical engineering division at the ASEE annual meeting, June 2004, Salt Lake City Utah
- Attended EXCEeD coalition for excellence in engineering education at West Point, June 2004.
- American Society of Engineering Educators: Director of chemical engineering division, 2004 – 2005, 2006-08
- American Institute of Chemical Engineers: Director for NorCal local section, 2004-2007
- American Institute of Chemical Engineers: Program chair of national student conference, November, 2001, Reno Nevada.
- American Institute of Chemical Engineers: three-year rotation culminating in chair of the student chapters committee (SCC), 2000-2002

- American Institute of Chemical Engineers, Served on organizing committee that developed national student competition (ChemE Car Competition), 1999-2004
- American Institute of Chemical Engineers: Organized and chaired multiple sessions (more than 30) at annual meetings, 1995 – 2022

Campus Service:

- UNR subcommittee charged with revising undergraduate academic and professional advising, 2021-2022
- UNR subcommittee to review courses with "Ethics" designation, 2018-2022
- Chaired faculty search committee 2016
- UNR sabbatical review committee, 2015
- Chaired faculty search committee 2015
- Chemical & Materials Engineering Department differential fees committee, 2014-17
- College of engineering differential fees committee, 2014-17
- UNR committee for academic standards, 2011-13
- College of Engineering course and curriculum committee chair, 2010-2013
- University course and curriculum committee, 2010-2013
- Advisor for undergraduate minor in renewable energy, 2009- 2022
- Chaired faculty search committee 2009
- UNR Renewable energy center, coordinator for education and outreach, 2009-2015
- College of engineering course and curriculum committee, 2008-2014
- UNR subcommittee for policies on faculty salary and benefits, 2005-2006
- Trained as ABET evaluator, 2004.
- UNR subcommittee for administrative faculty personnel policy, 2003-05
- Led successful effort for ABET re-accreditation, 2003-05.
- College of Engineering personnel committee, 2003-05.
- Served on advisory board for the UNR Excellence in Teaching Program, 2000
- Mackay School of Mines Computer Committee, 1998-2001
- AIChE student chapter advisor, 1994-2005.
- Chemical & Materials Engineering Department personnel committee, 1996-97, 2000, 2018-2022
- Chemical & Materials Engineering Department course and curriculum committee, 1995-97, 2000-2013

- Served on faculty search committee 1994, 1996, 1997, 1998, 1999, 2009, 2011, 2015
- Faculty advisory committee to the UNR library, 1994-2000.

Recent Presentations:
Presenter is underlined. Students* mentored are indicated with asterisk.

1. S. V. Qaramaliki*, J. A. Villamil, A. F. Mohedano, C. J. Coronella "Crystallization of phosphorus-incorporated solids from liquid phase of hydrothermal carbonization of cow manure" presented at AIChE annual meeting Nov. 9, 2021, Boston Massachusetts.
2. C. Coronella, S. V. Qaramaleki*, J. Villamil, A. Fernandez Mohedano "Phosphorus recovery from aqueous product of hydrothermal carbonization of cow manure", 3rd Symposium on HTC, Seoul, Korea, May 18, 2022.
3. S V. Qaramaleki, C. J. Coronella, "The effects of acid addition on nutrient recovery by hydrothermal carbonization process", 8th International Conference on Engineering for Waste and Biomass Valorisation, (Virtual) May 31, 2021
4. C. J. Coronella, "Sustainability in agriculture: Making value of agricultural wastes and biofuels in the high desert" Earth Day Lightning Talks, University of Nevada, Reno, April 22, 2021 (Invited Talk).
5. S. V. Qaramaleki*, J. Villamil, A. Fernandez Mohedano, C. J. Coronella "Crystallization of phosphorous-incorporated solids from liquid phase of hydrothermal carbonization of cow manure", AIChE annual meeting #278d, Boston MA, November 9, 2021.
6. "Struvite Recovery From Manure by Way of Hydrothermal Carbonization" by Saeed Vahed* and C. Coronella, AIChE annual meeting, Paper #731c, November 20 2020.
7. C. Coronella, "Hydrothermal carbonization of wet wastes for simultaneous nutrient recovery and energy capture", Invited talk given at Universidad Autónoma de Madrid, October 5, 2017.
8. C. Coronella, S. Hiibel, M. T. Reza, S. Vahed, S. Roman, "Hydrothermal carbonization of wet wastes for simultaneous nutrient recovery and energy capture", World Congress of Chemical Engineering, Barcelona Spain, October 3, 2017.
9. C. Coronella, "Nutrient recovery from waste streams", NorCal AIChE, April 28, 2017, Emeryville CA.
10. M.Helal Uddin*, C. Coronella, A Generalized Rule for a Grid Independent Solution for TFM Simulations of Geldart B Bubbling Fluidized Beds, AIChE annual meeting, San Francisco, November 17 2016.
11. J. Lynam*, G. Chow*, P. Hyland*, C. Coronella, Corn Stover Deconstruction Using Ionic Liquid – Glycerol Mixtures, AIChE annual meeting, San Francisco, November 16 2016.
12. M.Helal Uddin*, C. Coronella, Incorporating the Effect of Fluidized-Bed Temperature in CFD Simulation through Particle-Particle Interaction Coefficient, AIChE annual meeting, San Francisco, November 15 2016.

13. M.Toufiq Reza, C. Coronella, Performance of a Bench-Scale Continuous Hydrothermal Carbonization Reactor, AIChE annual meeting, San Francisco, November 15 2016.
14. M.Toufiq Reza, C. Coronella, K. Holtman, D.Franqui-Villanueva and S. Poulson, Hydrothermal Carbonization of Organic Fraction of Municipal Solid Waste and Corresponding Digestate Via Anaerobically Digestion, AIChE annual meeting, San Francisco, November 13 2016.
15. C. Coronella, M. Toufiq Reza, and K. Williams*, Continuous bench-scale reactor for hydrothermal carbonization of cow manure, 5th International Congress on Sustainability Science & Engineering, Suzhou, China, October 24, 2016.
16. C. Coronella, Energy in Higher Education (North), presented to association of energy engineering, Nevada Chapter, Reno, May 26, 2016.
17. C. Coronella, Hydrothermal carbonization for nutrient recovery, invited talk, New Mexico State University, March 11, 2016.
18. M. Toufiq Reza*, S. Sullivan*, C. Coronella, R. Shekarriz, Design and Operation of a Bench Scale Continuous Reactor for Hydrothermal Carbonization, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
19. M. Helal Uddin*, M. A. H. Khan, C. Coronella, M. Zuzga, Effects of Baffle in Bubble Break-up: A Numerical Simulation of Pilot Scale Bubbling Fluidized Bed with Geldart B Particles, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
20. J. G. Lynam*, C. Coronella, S. Hiibel, Membrane Distillation for Separating Water from Ionic Liquid Solutions, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
21. M. Helal Uddin*, M. A. H. Khan, C. Coronella, Active Contour Tracking of Individual Bubbles in CFD Simulation of Fluidized Beds, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
22. J. G. Lynam*, M. T. Reza*, W. Yan*, V. R. Vasquez, C. Coronella, Hydrothermal Carbonization of Different Biomass Types, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
23. M. T. Reza*, S. Hiibel, C. Coronella, H. Lin, Membrane Distillation for Nutrient and Water Recovery from Thermally Treated Dairy Manure, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
24. J. G. Lynam*, C. Coronella, Dissolution of Lignin in Recalcitrant Biomass Using Ionic Liquid - Glycerol Mixtures. IL, AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
25. C. J. Coronella, M. T. Reza, S. Hiibel "Hydrothermal carbonization for nutrient recovery", AIChE annual meeting, Salt Lake City, Utah, 12 November 2015.
26. M. T. Reza*, A. Saba*, C. J. Coronella, R. Shekarriz "Hydrothermal liquefaction: effect of various waste streams as reaction medium", AIChE annual meeting, Salt Lake City Utah, 11 November, 2015.
27. C. Coronella, "HTC of Cow manure", presentation at UNR biofuels club, 9 September 2015, Reno Nevada.

28. C. Coronella, M. T. Reza*, M. Lu*, T. Song*, K. Conrad*, S. Hiibel, H. Lin "Hydrothermal carbonization (HTC) of cow manure: carbon and nitrogen distribution in HTC products", ACS national meeting, Boston Massachusetts, 15 August 2015.
29. Charles Coronella, M. Toufiq Reza, Sage Hiibel, Hongfei Lin, Mi Lu, Tianlin Song*, Alireza Shekarriz "Hydrothermal carbonization of cow manure", ICOSSE, Balatonfüred, Hungary, 28 May 2015.
30. Joan G. Lynam* and Charles Coronella, Chemical and Materials Engineering, Disrupting Cellulose for Conversion to Glucose in Loblolly Pine Using Ionic Liquid-Glycerol Mixtures, AIChE Annual Meeting, Atlanta, Georgia, November 17, 2014.
31. Joan G. Lynam* and Charles Coronella, Using Glycerol as Co-solvent for Ionic Liquid Pretreatment of Rice Hulls, AIChE Annual Meeting, Atlanta, Georgia, November 18, 2014.
32. Charles J Coronella "Research in Hydrothermal Carbonization at the University of Nevada, Reno", invited presentation given at Leibniz Institute of Agricultural Engineering, Potsdam Germany, April 7, 2014.
33. Charles J. Coronella "Applications of Fluidization to biomass upgrading", Swedish Gasification Centre annual meeting, Stockholm, February 5, 2014.
34. M. Helal Uddin*, M. Toufiq Reza*, Joan G. Lynam*, S. Kent Hoekman and Charles J Coronella "Hydrothermal Carbonization: Reactions and Water Production", AIChE Annual Meeting, San Francisco, CA, November 7, 2013
35. Joan G. Lynam* and Charles J Coronella " Improving Glucose Yield By Fractionation of Biomass With Non-Cl^- Ionic Liquids" AIChE Annual Meeting, San Francisco, CA, November 4, 2013
36. D. Lepek, C. Coronella, K. Henthorn, C. M. Hrenya, T. Raymond, M. Rhodes, "Particle Technology: Perspectives and Best Practices From Multiple Institutions", AIChE Annual Meeting, San Francisco, CA, November 6, 2013
37. Joan G. Lynam*, M. Toufiq Reza*, Victor R. Vasquez, and Charles J. Coronella "Salt Addition Effect on Hydrothermal Carbonization of Lignocellulosic Biomass" AIChE Annual Meeting, Pittsburgh PA, November 1, 2012.
38. Joan G. Lynam*, M. Toufiq Reza*, M. Helal Uddin*, Victor R. Vasquez, and Charles J. Coronella "Effect of Non-Cl Ionic Liquids on Biomass" AIChE Annual Meeting, Pittsburgh PA, November 1, 2012.
39. M. Toufiq Reza*, Joan G. Lynam*, Md. Helal Uddin*, and Chuck Coronella "Inorganic Analysis of HTC Biochar" AIChE Annual Meeting, Pittsburgh PA, October 31, 2012.
40. Wei Yan, Chuck Coronella, Larry Felix, S. Kent Hoekman "Hydrothermal carbonization of lignocellulosic biomass: Kinetics and Pelletization" AIChE Annual Meeting, Pittsburgh PA, October 30, 2012.
41. Charles J. Coronella, M. Toufiq Reza*, Joan G. Lynam*, David Graves*, M. Helal Uddin* "Engineered Pellets from Biomass Blends" AIChE Annual Meeting, Pittsburgh PA, October 30, 2012.

42. Larry Felix, S. Kent Hoekman, Chuck Coronella "Wet Torrefaction- the Hydrothermal carbonization of biomass", Albi France, International Workshop of Biomass Torrefaction for Energy, May 2012.
43. Larry Felix, James Irvin, Bill Farthing, Todd Snyder, Wei Yan, Kent Hoekman, Chuck Coronella "Torrefaction Opportunties"SmallWood conference, Flagstaff Arizona, May 1, 2012
44. Chuck Coronella, Cody Wagner*, and Gene DeShazo "Characterization and Solvent Extraction of Oils from Digested Wastewater Sludge" AOCS Annual meeting, San Diego, May 1, 2012.
45. S. Kent Hoekman, Amber Broch, Curt Robbins, C. J. Coronella, Larry Felix, Wei Yan, Grady Coble "Hydrochar as a renewable Biofuel", International Biomass Conference and Expo, Denver Colorado, April 16, 2012
46. S. Kent Hoekman, Amber Broch, Curt Robbins, C. J. Coronella, Larry Felix, Wei Yan, EUEC, Phoenix, AZ "Renewable Solid Fuels via Hydrothermal Carbonization (HTC) of Cellulosic Biomass" (January 2012)
47. Coronella, C., Lynam*, J., AIChE annual meeting, Minneapolis, MN, "Cellulose Extraction From Rice Hulls Using Ionic Liquids" (October 2011).
48. Vasquez, V.R., Hanbury, O., Coronella, C. AIChE annual meeting, Minneapolis, MN "Molecular Thermodynamics Modeling of Water Equilibrium and Heat of Sorption In Human Stratum Corneum", October, 2011.
49. Wagner*, C. Coronella, C., Bush, R. AIChE annual meeting, Minneapolis, MN "Synthesis of Green Diesel Fuel From Fatty Acid Feedstocks Via Electrochemical Hofer-Moest Decarboxylation", (October2011).
50. Coronella, C., Matheus*, M., Vasquez, V.R. AIChE annual meeting, Minneapolis, MN "Technology Development and Demonstration of a Low-Temperature Fluidized-Bed Biomass Dryer", October, 2011.
51. Coronella, C., Reza*, M. Toufiq, Vasquez, V. R. TCBiomass 2011, Chicago, IL, "Hydrothermal Carbonization of Lignocellulosic Biomass: Reaction Kinetics" (September 30, 2011).
52. L. Felix, B. Farthing, J. Irvin, T. Snyder, S. K. Hoekman, C. J. Coronella, TCBiomass 2011, Chicago, IL "Employing Hydrothermal Carbonization for the Production of Energy-dense Fuels from Lignocellulosic Biomass" (September 301, 2011)
53. M. Toufiq Reza*, J. Lynam*, C.J. Coronella, V.R. Vasquez "Pellets from Pretreated Biomass", TCBiomass 2011, Chicago, IL, (September 301, 2011)
54. Coronella, C., Vasquez, V. R., ASEE annual conference, "Cooking a hamburger *in silico* to prevent food poisoning", Vancouver, BC. (June 29, 2011).
55. Coronella, C. "Incorporating Green Engineering and sustainability into the curriculum" AIChE annual meeting, Salt Lake City, November 10, 2010.
56. Coronella, C. Lynam, J.*, Reza, M.* "Effect of acetic acid and LiCl on wet torrefaction of lignocellulosic biomass"" AIChE annual meeting, Salt Lake City, November 5, 2010.

57. Coronella, C. Wagner, C., Bush, R. “Green fuel production via electrochemical oxidation of fatty acids” AIChE annual meeting, Salt Lake City, November 5, 2010.
58. Yan, W.*, Reza, M.*, Coronella, C., Vasquez, V. “Kinetic Study in Wet Torrefaction of Lignocellulosic Biomass” AIChE annual meeting, Salt Lake City, November 5, 2010.
59. Yan, W.*, Reza, M.*, Coronella, C., Vasquez, V. “Wet torrefaction of lignocellulosic biomass”, Symposium on thermal and catalytic sciences for biofuels and biobased products, Ames Iowa, September 22, 2010.
60. Reza, M.*, Coronella, C., Yan, W.*, Vasquez, V. “Mass and energy balances for wet torrefaction of lignocellulosic biomass”, 18th European biomass conference, Lyon France, May 6, 2010.
61. Coronella, C. “Biomass, biofuels, and biopower: renewable energy for tomorrow”, presentation given to diverse and public audience at the Sustainable Energy Forum, in Reno Nevada, 6 December, 2009.
62. Yan, W.*, Hastings, J.*, Coronella, C., and Vasquez, V. "Kinetic Modeling of Biomass Torrefaction", AIChE annual meeting, Nashville, TN (November 9, 2009)
63. Yan, W.*, Coronella, C., Acharjee, T.*, and Vasquez, V. "Thermal Pretreatment Options for Thermochemical Conversion of Lignocellulosic Biomass", AIChE annual meeting, Nashville, TN (November 10, 2009)
64. Schmidt, K.*, Wagner, C.* Coronella, C., and Vasquez, V. "Energy and Fuel Value of Wastewater Sludge Residuals", AIChE annual meeting, Nashville, TN (November 11, 2009)
65. Yan, W.* Coronella, C., Acharjee, T.* and Vasquez, V. "Mass and Energy Balance of Biomass Hydrothermal Pretreatment", AIChE annual meeting, Nashville, TN (November 11, 2009)
66. Vasquez, V., Coronella, C. Hanbury, O.* "Modeling of Sorption Heat in Foods Using a Molecular Thermodynamics Approach", AIChE annual meeting, Nashville, TN (November 11, 2009)
67. Yan, W.* Acharjee, T.*, Coronella, C. and Vasquez, V. "Thermal Pretreatment of Lignocellulosic Biomass", 17th European Biomass Conference, Hamburg, Germany (June 30, 2009)
68. Yan, W.*, Acharjee, T.*, Coronella, C., and Vasquez, V. "Thermal Pretreatment of Lignocellulosic Biomass", TCBiomass 2009, Chicago, IL (September 17, 2009)
69. Yan, W.*, Coronella, C., and Vasquez, V. " Hydrothermal Pretreatment of Lignocellulosic Biomass", 8th World Congress of Chemical Engineering, Montreal, Canada (August 26, 2009)
70. Coronella, C., Vasquez, V. R. Bellur, S*. "A Simple Model for Equilibrium Moisture Content In Food Products", AIChE annual meeting, Philadelphia, PA. (November 21, 2008).

71. Coronella, C., Bellur, S*. "Analysis of Transport Phenomena & Modeling the Behavior of Single Particle during Drying Process", AIChE annual meeting, Philadelphia, PA. (November 20, 2008)
72. Coronella, C., Vasquez, V. R. Bellur, S*. "Equilibrium moisture content and drying analysis of biosolids", AIChE annual meeting, Philadelphia, PA. (November 20, 2008).
73. Coronella, C., Vasquez, V. R. Bellur, S*. "An Equilibrium model for moisture content in biomass substrates", AIChE annual meeting, Philadelphia, PA. (November 17, 2008).
74. C. Coronella, "Undergraduate research- Use of TGA to characterize sludge drying", AIChE annual meeting, San Francisco, November 16, 2006.
75. C. Coronella, S. Cooper* "Blood-sugar control in an undergraduate process control course", AIChE annual meeting, San Francisco, November 13, 2006
76. C. Coronella, "Project-based learning in a first-year chemical engineering course", AIChE annual meeting, San Francisco, November 13, 2006
77. C. Coronella, "Project-based learning in a first-year chemical engineering course: Evaporative Cooling", ASEE annual meeting, Chicago, June 19, 2006
78. Coronella, C."Student directed learning modules", AIChE annual meeting, paper #218f, Cincinatti Ohio, November 2005.
79. Coronella, C. "The misuse of student evaluations: Why bother?" ASEE annual conference, Salt Lake City, June 2004.
80. Vasquez, V., Coronella, C. "Susceptibility of Insulin Transport Models to Uncertainty: A Monte Carlo Approach", AIChE annual meeting, Austin, TX, November, 2004.
81. Vasquez, V., Coronella, C. "Performance of Heat Exchanger Networks under Uncertainty: a Monte Carlo Approach", AIChE annual meeting, Austin, TX, November, 2004.
82. S. Cooper*, C. Coronella, "CFD Simulations of Particle Mixing in a Binary Fluidized Bed", AIChE annual meeting, San Francisco CA, November 2003
83. R. K. Mandela*, V. R. Vasquez, C. J. Coronella, W. B. Whiting, and S. Cooper*, "Uncertainty Analysis Tools Applied to a Model Predictive Control Algorithm: Application to pH Control" AIChE annual meeting, San Francisco CA, November 2003
84. Y. Cui* and C. Coronella, "Desensitizing a Nonlinear IMC Controller to Accumulation for pH Control" paper # 266f, (poster presentation) AIChE annual meeting, Reno, NV, November 7, 2001.
85. Y. Cui*, J. Dai*, R. Challeppa*, and C. J. Coronella, "Application of Genetic Algorithms to Nonlinear Model Predictive Control" paper #266n, (poster presentation) AIChE annual meeting, Reno, NV, November 7, 2001.
86. R. Chellappa* & C. J. Coronella, "Analysis of Model Uncertainty in DMC using Perturbation Theory" paper # 266p (poster presentation) AIChE annual meeting, Reno, NV, November 7, 2001.
87. C. Ledon*, S. Devesetti, & C. J. Coronella, "Simulating the Particle Mixing in a Fluidized Bed" paper #201d, AIChE annual meeting, Reno, NV, November 7, 2001.

88. C. Ledon*, S. Devesetti, & C. J. Coronella, "Simulating the Particle Mixing in a Fluidized Bed Using Fluent" paper #192an, (poster presentation) AIChE annual meeting, Reno, NV, November 5, 2001.
89. C. Coronella and Adam Laputz* "Scaling Properties of Particle Mixing in Fluidized Beds", #15e, AIChE annual conference, Los Angeles, November 15, 2000.
90. C. Coronella, S. Louis, and Yi Cui*, "Application of Genetic Algorithms in Nonlinear Model Predictive Control" #257f, AIChE annual conference, Los Angeles, November 16, 2000.
91. C. Coronella "Can Undergraduate Students Teach Each Other Effective Group Work?" (poster) #55f, AIChE annual conference, Los Angeles, November 13, 2000

Courses Taught Following is a listing of the courses I have taught as lead instructor while at UNR, along with the number of times each course was taught.

Course number	**Courses taught at UNR** Course title	Number of times taught
ChE 101	Introduction to Chemical Engineering I	6 times
ChE 102	Introduction to Chemical Engineering II	6 times
ChE 245	Computer applications in chemical engineering	3 times
ChE 373	Transport Phenomena I	11 times
ChE 374	Transport Phenomena II	7 times
ChE 415	Introduction to Particle Technology	8 times
ChE 440/640	Chemical reactor design	3 times
ChE 450	Process design	6 times
ChE 451/651	Process control	23 times
ChE 482	Capstone Project	5 times
ChE 700	Applied mathematics in chemical engineering	3 times
ChE 704	Powder technology	8 times
ChE 741	Advanced kinetics and reactor design	4 times
ChE 765	Advanced Transport Phenomena II	2 times
ENGR 110	Introduction to renewable energy	1 time
ENGR 360	Fluid mechanics	3 times

While at UNR, I created the following courses:

- ChE 102 Introduction to Chemical Engineering II
- ChE 245 Computer applications in chemical engineering
- ChE 415 Introduction to Particle Technology
- ChE 704 Powder Technology
- ChE 764 Advanced Transport Phenomena I
- ChE 765 Advanced Transport Phenomena II
- Process control laboratory: I designed a new undergraduate laboratory and supervised the fabrication of each of the lab stations. An additional credit was added to the process control lecture class, and the lab is now integrated with lectures. The lab has been in continuous use since 1996.

Students Mentored

Postdoctoral fellows:

1. Wei Yan, July 1 2008 – June 30, 2010 "Thermal pretreatment of lignocellulosic biomass"
2. M. Toufiq Reza, August 1, 2014 – July 31, 2015 "Hydrothermal pretreatment of dairy manure"

Graduate students:

1. Cordel Bever, M.S. Chemical Engineering, expected May 2024
2. Carlos Silva Rocha, Ph.D. Chemical engineering, Expected December 2023.
3. Saeed Vahed Qaramaleki, "Nutrient Recovery from Biomass and Agricultural Wastes by Hydrothermal Carbonization Process", Ph.D. Chemical Engineering, August 2022.
4. Akkrum Nasr, Ph.D Chemical Engineering, Expected May 2019. (Deceased, October 2017).
5. M. Helal Uddin, "CFD Simulations of Chemical Looping Combustion Systems" Ph.D. Chemical Engineering, August 2016
6. Joan Lynam, "Catalytic and noncatalytic hydrothermal processing lignocellulosic biomass", Ph.D., Chemical Engineering, August 2015.
7. M. Toufiq Reza "Upgrading Biomass by Hydrothermal and Chemical Conditioning", Ph.D. Chemical Engineering, May 2013
8. M. Helal Uddin "Effects of process parameters on hydrothermal carbonization", M.S. Chemical Engineering, May, 2013
9. Cody Wagner, "Production of Renewable Diesel Fuel via Hofer-Moest Electrochemical Decarboxylation of Free Fatty Acids", M.S., Chemical Engineering, May, 2012.
10. Joan Lynam "Pretreatment of Lignocellulosic Biomass with Acetic Acid, Salts, and Ionic Liquids", M.S., Chemical Engineering, May, 2011
11. M. Toufiq Reza "Hydrothermal Carbonization of Lignocellulosic Biomass", M.S., Chemical Engineering, May, 2011
12. Mike Matheus "Low Temperature Drying of Sewage Sludge Using a Fluidized Bed Dryer", M.S., Chemical Engineering, May, 2011
13. Tapas Acharjee "Thermal Pretreatment Options for Lignocellulosic Biomass", M.S., Chemical Engineering, August, 2010
14. Srikanth Bellur "Technoeconomic analysis of biosolids equilibrium moisture and drying for energy utilization", M.S. Chemical Engineering, December, 2008
15. Scott Cooper "CFD simulations of mixing phenomena in a binary fluidized bed", M.S., Chemical Engineering, 2003

16. Jianguo Dai, “Model Uncertainty in Nonlinear Model Predictive Control”, M.S., Chemical Engineering, 2002
17. Cui Yi “Application of Genetic Algorithm in Model Predictive Control”, M.S., Chemical Engineering, 2000
18. Raja Chellapa, “Model Predictive Control of a pH process”, M.S., Chemical Engineering, 2001
19. Adam Laputz, “Particle Mixing in conical fluidized beds”, M.S., Chemical Engineering, 2000
20. Juan Varela “Cerium mediated electrochemical oxidation of organic vapors”, M.S., Chemical Engineering, 2000
21. Horatio Chiorean “Retention Time Distribution in a circulating fluidized bed”, M.S., Chemical Engineering, 1998
22. Soumoya Bagchi, “Studies on the application of neural networks to a pH process with variable dead time”, M.S., Metallurgy, 1997
23. Jianxun Deng, “Hydrodynamics of a cold model circulating fluidized bed”, PhD, Metallurgy, 1997

<u>Undergraduate students mentored in research projects</u>:

- Cordel Bever, 2022
- Jose Cardenas, 2021-2022
- Valentino Jaganjac, 2021
- Phillip Hyland, BS, 2016
- Richard Mannshreck, 2016
- Xinpei Zhu, 2016
- Keenan Williams-Conrad, 2016
- Nathan Denney, 2016
- Akbar Saba, BS 2015
- Sean Sullivan, BS 2015
- Brandon Lopez, BS 2015
- Christopher Rosa, BS 2015
- Keenan Conrad Williams, BS 2014-2015
- Alex York, BS, 2012
- Elijah Mlawsky, BS 2012
- David Graves, BS 2011-2012
- Micheil Jones, BS, 2012

- Samantha Kertsen, BS 2010
- Schinthia Islam, BS 2010
- Sean Clark, BS, 2009
- Alex Braganza: BS, 2008
- Kevin Schmidt, BS, 2007
- Jignesh Patel, BS, 2007
- Lyla Fadali, BS, 2006
- Chris Ard, BS, 2006
- Wyatt Musnicki, BS, 2006
- Rebecca Weber, BS, 2006
- Ryan Ravenelle, BS, 2006
- Joshua Bumgardner, BS, 2006

Visiting International Scholars hosted:

- Ricardo Paul Ipiales Macas, PhD student from Universidad Autónoma de Madrid, "Novel sorbent from wastes", April 1, 2022-July 10, 2022
- Ines Sanches, PhD student from Universidad Autónoma de Madrid "Nutrient recovery from biowastes" February 1, 2022 – April 30, 2022.
- Dr. Angel Fernandez Mohedano, Visiting professor from Universidad Autónoma de Madrid, May 1, 2018-August 31, 2018.
- John Villamil, PhD student from Universidad Autónoma de Madrid "Upgrading water byproducts from hydrothermal processing" May 1, 2018 – August 31, 2018.
- Dr. Silvia Román Suero, Visiting research professor from University of Extremadura, Spain. "Hydrothermal carbonization of water hyacinth" April 1, 2017 – August 15, 2017.
- Zaida Chavez Romero, PhD student from Genoa University (Italy), "Modeling and experimental studies of sludge drying rate" January 1, 2012 – June 30, 2012
- Boyoung Kim, Undergraduate student from Chungbuk National University (South Korea), "Biomass densification", September 1, 2011 – March 1, 2012
- Carlos Silva Rocha, Undergraduate student from Federal University of Sergipe (Brazil), "Process control of a continuous hydrothermal reactor", May 15, 2015 – August 15, 2015