

**Sushil Adhikari**

Department of Biosystems Engineering    Phone: (334) 844-3543  
Auburn University                            Fax:    (334) 844-3530  
Auburn, AL 36849-5417                      E-mail: sza0016@auburn.edu

**Education Training**

- Ph.D. (2008) Biological Engineering, Mississippi State University, Mississippi State, MS.
- M.S. (2003) Energy Technology, Asian Institute of Technology, Thailand.
- B.E. (2000) Mechanical Engineering, Tribhuvan University, Kathmandu, Nepal.

**Professional Experience**

- Assistant Professor of Biosystems Engineering at Auburn University (Aug 08-present)
- Graduate Research Assistant at Mississippi State University (2005- May 2008)
- Research Associate at Asian Institute of Technology, Thailand (2003-2004)
- Lecturer at Kantipur Engineering College, Nepal (2000-2001)

**Research Interest**

- Hydrogen Production
- Bio-oil Production and Upgrading
- Biomass Gasification
- Biodiesel Production
- Fuel Cell Technology

**Patents**

- Char Removal from Bio-oil using BOSS Process (Provisional Patent AU#08-071)

**Reviewer**

- Energy for Sustainability, National Science Foundation (3 panels)
- STTR/SBRI, National Science Foundation (1 panel)
- Int. J of Hydrogen Energy
- Energy & Fuels
- Catalysis Today
- Journal of Trans. of ASABE
- Int. J. of Chemical Reactor Engineering

### **Awards/honors**

- Nominated for Marquis Who's Who in America 2011
- Auburn University Graduate Faculty Level 1: Oct 2009-Oct 2016
- Outstanding Student Award 2009 (*Nepal Vidhya Bhusan Ka*), awarded by the President of Nepal, Dr. Ram Baran Yadav.
- Outstanding Student Award 2009 (*Nepal Vidhya Bhusan Kha*), awarded by the President of Nepal, Dr. Ram Baran Yadav.
- The French Government Scholarship for Master's Degree Study, 2002-2003.
- The Asian Institute of Technology Alumni Association Prize, 2003.
- The Yoshiro Takasaki Prize, Asian Institute of Technology, 2003.
- Outstanding Student Award, Tribhuvan University, 2001.
- Nomination for ORAU Ralph E. Powe Junior Faculty Enhancement Award 2009 from Auburn University

### **Memberships**

- American Society of Agricultural and Biological Engineers.
- American Chemical Society.
- American Institute of Chemical Engineers.
- Institute of Biological Engineers.

### **Services**

- Served as a junior faculty advisor for ASABE Student Chapter (2009-2010)
  - Coordinate Samuel Ginn College of Engineering Recruiting event (E-day) on Feb 26, 2010
  - Lawnmower Clinic on March 06, 2010. Generated almost \$3000 for Auburn ASABE student Chapter
- Served as a VC of Public Relations for ASABE Alabama Section (2009-present)
  - Prepare 2010 Newsletter for ASABE AL Section and disseminate various activities to the AL ASABE section members
- Served as a moderator in a session titled "Challenges in Biomass Feedstock Logistics and Processing - Part 2 (BE-12b)" during the American Society of Agriculture and Biological Engineering's annual meeting on June 21-24 2009, Reno, NV.
- Member of FPE-709 Biomass Energy & Industrial Products Committee (2009-present).
- Represent Biosystems Engineering Department during 2008 and 2010 Summer Graduation

### **Professional Development**

- Cross-Cultural Perspectives on University Teaching and Learning. Feb. 19 & 20, 2010. Student Activities Center. Organized by the Biggio Center at Auburn University.
- New Faculty Scholar Program
  - Course Design Workshop on Saturday August 29, 2009 (9:00 am -4:00 pm) by Dr. James Groccia at Biggio Center at Auburn University.

- Publish and flourish: become a prolific scholar workshop on Saturday October 10, 2009 (8:30 am-12:30 pm) by Dr. Tara Gray from New Mexico State University
- Introduction the Academic Portfolio on September 14, 2009 (12:00 pm-1:30 pm)
- Engaging in the Scholarship of Teaching and Learning: The Classroom as a Natural Laboratory on September 29, 2009 (12:00 pm-1:30 pm)

## **Research Grants**

### **Current (Total \$2,718,156)**

1. M. R. Eden (PI), C.B. Roberts, S. Taylor, S. Adhikari. Value oxygenate and olefin co-products from biomass fractionation and advanced catalytic conversion processes. USDA-NIFA (01/11 - 12/15) \$ 1,000,000.
2. Sushil Adhikari (PI). Carbon dioxide recycling for fuel and power production using a biomass gasification platform. Funded from Alabama Agriculture Experiment Station (10/01/10- 09/30/12). \$50,000.
3. S. Taylor, C. Roberts, S. Adhikari, M. Eden. Systems based approaches for conversion of biomass to bioenergy and bioproducts. U.S. Department of Energy (07/2009 – 09/2011). \$951,500
4. Sushil Adhikari (PI). Learning while Playing. Daniel F. Breeden Endowed Grant Program. The Biggio Center of Auburn University (05/01/2010-04/30/2011). \$1,360.
5. M.R. Eden (PI), C.B. Roberts, S. Taylor, S. Adhikari. Integrated Biorefinery Optimization through Biomass Fractionation, Gasification and Advanced Catalytic Conversion Processes. Southeastern Sun Grant Regional Grants (12/09-11/11) \$312,500.
6. Sushil Adhikari (PI). Collaboration between Lampung University, Indonesia and Auburn University to Foster Bioenergy Activities. Office of International Agriculture, Auburn University (12/11/09-08/30/1010). \$4, 987.
7. Emily Carter (PI), Brian Via, Sushil Adhikari, Maobing Tu, and Oladiran Fasina. Conversion of small diameter pine into bio-oil for moisture resistance wood products. USDA-Forest Service (07/01/2009-01/30/2011). \$219,533.
8. Sushil Adhikari (PI). Feasibility study of ethanol production from Jerusalem Artichokes. Alabama Department of Agriculture and Industries (03/09-12/10). \$1,000 (seed-grants).
9. Sushil Adhikari (PI) and Oladiran Fasina. Bio-oil production from underutilized biomass feedstocks and its upgrading. Funded from Alabama Agriculture Experiment Station (10/01/08- 09/30/10). \$50,000.
10. Steven Taylor (PI), Sushil Adhikari, Oladiran Fasina, Ed Loewenstein and Mark Hall. Municipal power generation from gasification of urban biomass wastes. Alabama Department of Economic and Community Affairs (10/08-10/09) \$127,276

### **Pending**

1. S. Taylor (PI), M.R. Eden, S. Adhikari, O. Fasina, C. Roberts and M. Tu. Systems based approaches for optimizing biopower production and carbon capture from woody biomass – Phase I: gasification of woody biomass and downstream warm

gas cleanup strategies. Electric Power Research Institute (EPRI) – Southern Company (01/10/09-01/09/10) \$769,715.

2. S. Taylor, S. Adhikari, O. Fasina, John Fulton, Christopher Roberts, Mario Eden, Tom Gallagher, Conner Bailey, Steve Duke, Sean Forbes, Charles Eick, Mark Hall and Quinghua He. Securing America's energy future: building a science and engineering corps skilled in biorefining. USDA-NIFA (01/11 - 12/15) \$4,996,781.

**Peer-Reviewed Publications** (\*indicates the work of MS or Ph.D. students supervised by Dr. Adhikari).

### **2010**

1. Gayan Nawaratna, Sandun Fernando and **Sushil Adhikari**. Response of titanium isopropoxide-based heterogeneous amphiphilic-polymer-catalysts for transesterification. *Energy & Fuels*. Vol. 24, pp. 4123-4129.
2. Gayan Nawaratna, **Sushil Adhikari**, Donald E. Lacey and Sandun Fernando. Reforming glycerol under electro-statically charged surface conditions. *Energy & Environmental Science*. DOI: 10.1039/C0EE00047G.
3. Suchithra T. Gopakumar\*, **Sushil Adhikari**, Harideepan Ravindran, Ram B. Gupta, Oladiran Fasina, Maobing Tu and Sandun Fernando, 2010. Physicochemical properties of bio-oil produced at various temperatures from pine wood using an auger reactor. *Bioresource Technology* 101, pp. 8389–8395.
4. Gopal Gautam\*, **Sushil Adhikari** and Sushil Bhavnani, 2010. Estimation of biomass synthesis gas composition using equilibrium modeling. *Energy & Fuels* 24 (4), pp. 2692–2698.

### **2009**

5. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2009. Hydrogen production from glycerol: an update. *Energy Conversion and Management*, Vol. 50, pp. 2600-2604.
6. Agus Haryanto, Sandun Fernando, Lester Pordesimo S. D. Filip To, Philip H. Steele and **Sushil Adhikari**, 2009. Hydrogen production through water gas shift reaction: thermodynamic equilibrium vs. experimental results over supported Ni catalysts. *Energy & Fuels*, Vol. 23 (6), pp 3097–3102.
7. Shetian Liu, Sanjana R. Musuku, **Sushil Adhikari** and Sandun Fernando, 2009. Adsorption of glycerol from biodiesel washwaters. *Environment Technology*, Vol. 30(5), pp. 505-510.
8. Agus Haryanto, Sandun Fernando, Lester Pordesimo and **Sushil Adhikari**, 2009. Upgrading of syngas derived from biomass gasification: a thermodynamic analysis. *Biomass and Bioenergy*, Vol. 33, pp. 882-889.
9. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2009. Kinetics and reactor modeling of hydrogen production from glycerol via steam reforming process over Ni/CeO<sub>2</sub> catalysts. *Chemical Engineering and Technology*, Vol. 32(4), pp.1-8.

### **2008**

10. **Sushil Adhikari**, Sandun Fernando, S. D. Filip To, R. Mark Bricka, Philip H. Steele, and Agus Haryanto, 2008. Conversion of glycerol to hydrogen via a steam reforming process over nickel catalysts. *Energy & Fuels* Vol. 22(2), pp. 1220-1226.

11. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2008. Hydrogen production from glycerin by steam reforming over nickel catalysts. *Renewable Energy* Vol. 33, pp. 1097-1100.

#### **2007**

12. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2007. Production of hydrogen by steam reforming of glycerin over alumina supported metal catalysts. *Catalysis Today*, Vol. 129 (3-4), pp. 355-364.
13. **Sushil Adhikari**, Sandun Fernando, Steven Gwaltney, S. D. Filip To, R. Mark Bricka, Philip H. Steele, and Agus Haryanto, 2007. A thermodynamic analysis of hydrogen production by steam reforming of glycerol. *Int. Journal of Hydrogen Energy*, Vol. 32(14), pp. 2875-2880.
14. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2007. Glycerin steam reforming for hydrogen production. *Transactions of ASABE*, Vol. 50(2), pp. 591-595.
15. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto, 2007. A comparative thermodynamic and experimental analysis on hydrogen production by steam reforming of glycerin. *Energy & Fuels*, Vol. 21(4), pp. 2306-2310.
16. Agus Haryanto, Sandun Fernando, and **Sushil Adhikari**, 2007. Ultrahigh temperature water gas shift catalysts to increase hydrogen yield from biomass gasification. *Catalysis Today*, Vol. 129 (3-4), pp. 269-274.
17. Ram M. Shrestha, Nazrul Islam, N. T. Kim Oanh, **Sushil Adhikari**, Sudhakar Yedla, Kejun Jiang, Ucok Siagian, Nguyen Dinh Tuan, and Joy Abrenica, 2007. Strategies for the promotion of cleaner and energy efficient technologies in the urban transport system in selected Asian cities. *International Journal of Environment and Pollution*, Vol. 30, pp. 45-58.
18. Sandun Fernando, **Sushil Adhikari**, Kiran Kota, and Ranjitha Bandi, 2007. Glycerol based automotive fuels from future biorefineries. *Fuel*, Vol. 86 (17-18), pp.2806-2809.

#### **2006**

19. **Sushil Adhikari**, Sandun Fernando, and Mark Novotny, 2006. Nanoparticles production from glycerin via electrospray and size measurement. *Transactions of ASABE*, Vol. 49 (4), pp. 1269-1272.
20. Sandun Fernando, **Sushil Adhikari**, Chauda Chandrapal, and Naveen Murali, 2006. Biorefineries: current status, challenges and future direction. *Energy & Fuels*, Vol. 20 (4), pp. 1727-1737. **Highly accessed article in 2006**
21. **Sushil Adhikari** and Sandun Fernando, 2006. Hydrogen separation techniques. *Industrial & Engineering Chemistry Research*, Vol. 45, pp. 875-881. **Highly accessed article in 2006.**
22. Sandun Fernando, Milford Hanna, and **Sushil Adhikari**. 2006. Lubricity characteristics of selected vegetable oils, animal fats and their derivatives. *Applied Engineering in Agriculture*, Vol. 23 (1), pp. 5-11.

#### **2005**

23. Ram M. Shrestha, Gabriel Anandarajah, **Sushil Adhikari**, Kejun Jiang and Zhu Songli, 2005. Energy and environmental implications of NO<sub>x</sub> emission reduction from the transport sector of Beijing: a least-cost planning analysis. *Transportation Research Part D: Transport and Environment*, Vol.10, pp.1-11.

24. Agus Haryanto, Sandun Fernando, Naveen Murali, and **Sushil Adhikari**, 2005. Current status of hydrogen production techniques by steam reforming of ethanol: a review. *Energy & Fuels*, Vol. 19, pp. 2098-2106. **Highly accessed article in 2005/2006.**

### **2003**

25. **Sushil Adhikari**, S. Kumar, and Pinij Siripuekpong, 2003. Performance of household grid-connected PV system in Thailand. *Progress in Photovoltaics: Research and Applications*, Vol. 11: pp.1-8.

### **Presentations at Conferences/Workshops**

(\*indicates the work of MS or Ph.D. students supervised by Dr. Adhikari; presenter is underlined).

1. Harideepan Ravindran\*, **Sushil Adhikari**, Oladiran Fasina, Emily Carter, Brian Via and Maobing Tu. Production and in-situ upgrading of bio-oil from under-utilized forest biomass *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 20-June 23, 2010, Pittsburgh, PA.
2. T.J. Robinson, B. K. Via, M. Tu, **S. Adhikari**, O. Fasina, and E. Carter. 2010. Optimization of pyrolysis procedure for improved moisture resistance and reduced material costs in wood product manufacture. Council on Forest Engineering Annual Meeting, June 6-9, 2010, Auburn, Alabama (poster).
3. T.J. Robinson, B. K. Via, M. Tu, **S. Adhikari**, O. Fasina, and E. Carter. 2010. Determination of the effectiveness of pyrolysis oil as a moisture resistant treatment for wood. Forest Products Society 64th International Convention, June 20-22, 2010, Madison, Wisconsin (poster)
4. Suchithra T. Gopakumar\*, Harideepan Kumar, **Sushil Adhikari**, Ram B. Gupta and Oladiran Fasina. Simultaneous Reforming and Hydrodeoxygenation of Bio-Oil for Liquid Fuels Production *presented at American Institute of Chemical Engineers (AIChE) Meeting, November 8-13, 2009, Knoxville, TN.*
5. Suchithra T. Gopakumar\*, **Sushil Adhikari** and Ram B. Gupta. Influence of Pyrolysis Parameters on Individual Component of Bio-Oil *presented at American Institute of Chemical Engineers (AIChE) Meeting, November 8-13, 2009, Knoxville, TN.*
6. Gopal Gautam\*, Christian Brodbeck, **Sushil Adhikari**, Sushil Bhavnani, Oladiran Fasina, and Steven Taylor. Gasification of underutilized forest biomass and agricultural residues for CHP application *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 21-June 24, 2009, Reno, NV.
7. Suchithra T. Gopakumar\*, **Sushil Adhikari**, Oladiran Fasina, and Steven Taylor. Bio-oil upgrading for liquid fuels production *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 21-June 24, 2009, Reno, NV.
8. Sage D. Copeland, Michelle L. Mayer, and C. Kyle Shuman. Salinity-gradient solar pond design for APAC Midsouth, Inc.-Opelika, AL. *Poster presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 21-June 24, 2009, Reno, NV. **Second Place for**

**Undergraduate Poster Presentation and supervised by Sushil Adhikari.**

9. D.K. Mullenix, J.P. Fulton, M. Dougherty, E. Cebert, O.O. Fasina, W.C. Zech, and **S. Adhikari**. Optimizing irrigation rates for an experimental energy crop rotation *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 21-June 24, 2009, Reno, NV.
10. S. Taylor, O. Fasina, C. Brodbeck, **S. Adhikari**, and R. Walt. Outreach, education, and research using a mobile system for woody biomass gasification and combined heat and power generation *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 21-June 24, 2009, Reno, NV.
11. Agus Haryanto, Sandun Fernando, Lester Pordesimo and **Sushil Adhikari**. Thermodynamic analysis of increasing hydrogen yield of syngas produced from biomass gasification *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 29-July 02, 2008, Rhode Island, RI.
12. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto. Hydrogen production from renewable alcohols over Pt and Ni catalysts *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 17-20, 2007, Minneapolis, MN.
13. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto. Hydrogen production from renewable alcohols over Pt and Ni catalysts *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, June 17-20, 2007, Minneapolis, MN.
14. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto. Steam reforming of glycerin for hydrogen production over Ni catalysts *presented at Fuel Chemistry Division of American Chemical Society Meeting*, March 25-29, 2007, Chicago, IL.
15. **Sushil Adhikari**, Sandun Fernando, Steven R. Gwaltney, and Agus Haryanto. A thermodynamic analysis of hydrogen production by steam reforming of glycerol *presented at Fuel Chemistry Division of American Chemical Society Meeting*, September 26-30, 2006, San Francisco, CA.
16. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto. Sugar reforming for hydrogen production *presented at Fuel Chemistry Division of American Chemical Society Meeting*, September 26-30, 2006, San Francisco, CA.
17. **Sushil Adhikari** and Sandun Fernando. Nanoparticles production from glycerin via electrospray for hydrogen production and size measurement technique *presented at Annual International Meeting of American Society of Agricultural and Biological Engineers*, July 9-12, 2006, Portland, OR.
18. Agus Haryanto, Sandun Fernando, and **Sushil Adhikari**. Increasing hydrogen production from biomass gasification through water-gas shift reaction *presented at Annual International Meeting. American Society of Agricultural and Biological Engineers*, July 9-12, 2006, Portland, OR.
19. **Sushil Adhikari**, Sandun Fernando, and Agus Haryanto. Glycerin Steam reforming for hydrogen production *presented at International Symposium on Hydrogen from Renewable Sources and Refinery Applications in American Chemical Society Meeting*, March 26-30, 2006, Atlanta, GA.

20. Agus Haryanto, Sandun Fernando, and **Sushil Adhikari**. Producing sustainable hydrogen from biomass gasification coupled with water gas shift catalysis presented at *International Symposium on Hydrogen from Renewable Sources and Refinery Applications. American Chemical Society Meeting*, March 26-30, 2006, Atlanta, GA.
21. Sandun Fernando and **Sushil Adhikari**. Exploration of glycerin based automotive fuel for sustainable transportation presented at *Institute of Biological Engineering Meeting*, March 10-12, 2006, Tucson, AZ.
22. **Sushil Adhikari** and Sandun Fernando. Hydrogen separation from synthesis gas presented at *Annual International Meeting of American Society of Agricultural and Biological Engineers*, July 17-20, 2005, Tampa, FL.
23. Agus Haryanto, Sandun Fernando, Naveen Murali, and **Sushil Adhikari**. Current status of hydrogen production techniques by steam reforming of ethanol at *International conference on Energy, Environment and Disaster*, July 24-30, 2005, Charlotte, NC.
24. **Sushil Adhikari**, S. Kumar, and Pinij Siripuekpong. Comparison of amorphous and single crystal silicon based residential grid-connected PV systems: case of Thailand presented at *14th International Photovoltaic Science and Engineering Conference*, January 26-30, 2004, Bangkok, Thailand.
25. **Sushil Adhikari**, S. Kumar, and Pinij Siripuekpong. Experience from a grid-connected PV system: case of Thailand presented at *2nd International Conference on Role of Renewable Energy Technology for Rural Development*. October 12-14, 2003, Kathmandu, Nepal.

### Publications in Review

(\*indicates the work of MS or Ph.D. students supervised by Dr. Adhikari).

1. Suchithra T. Gopakuma\*, **Sushil Adhikari** and Ram Gupta. Production of Hydrocarbon Fuels using Catalytic Pyrolysis under Different Gas Environments. Submitted for review in *ChemSusChem* on Sep 13, 2010.
2. Liang Wei, Anshu Shrestha, Maobing Tu, and **Sushil Adhikari**. Biochemical and Hydrothermal Conversion of Softwood Hemicellulose to Ethanol and Furan Derivatives. Submitted for review in *Energy & Fuels* on Aug 27, 2010.
3. Suchithra T. Gopakumar\*, **Sushil Adhikari**, Ram Gupta and Sandun Fernando. Influence of Pyrolysis Operating Conditions on Bio-Oil Components: A Microscale Study in a Pyroprobe. Submitted for review in *Energy & Fuels* on Aug 06, 2010.
4. Gopal Gautam\*, Christian Brodbeck, **Sushil Adhikari**, Sushil Bhavnani, Oladiran Fasina, and Steven Taylor. Gasification of underutilized forest biomass and agricultural residues for CHP. Submitted for review in *Applied Energy* on June 30, 2010.
5. Suchithra T. Gopakumar\*, Harideepan Ravindran, **Sushil Adhikari**, Ram B. Gupta, Oladiran Fasina, and Steven Taylor. Effect of pyrolysis temperature on physical properties of bio-oil from agricultural residues and woody biomass. Submitted for review in *Energy Conversion and Management* on April 18, 2010.

6. Agus Haryanto, Sandun Fernando, Lester Pordesimo S. D. Filip To, Philip H. Steele and **Sushil Adhikari**. High temperature water-gas shift reaction over nickel catalysts for hydrogen production: effect of GHSV, metal loading, and dopant materials. Submitted to *Biomass & Bioenergy* journal for review.

### **Extension Publications**

1. Mark Hall, **Sushil Adhikari** and Steven Taylor, 2009. Producing biodiesel for municipal vehicle fleets from recycled cooking oil. p. 25

### **Invited Presentation at Conferences and Universities**

1. **Sushil Adhikari**, 2010. Hydrogen production from glycerol: an update presented at *American Oil Chemists' Society Annual Meeting, May 16-19, Phoenix, AZ*. (Invited Speaker)
2. Biomass gasification and fast pyrolysis. A guest lecture for a course FORN 7970 (Forest Bioproducts Technology) on August 25 and 27, 2009.
3. Biomass gasification: challenges and opportunities. A guest lecture for course CHEN 4470 (Senior Design) on January 26, 2010.
4. Biomass gasification. A guest lecture for course MECH 5970/6970 (Renewable Energy Resources and Applications) on April 12, 2010.

### **Graduate Student Advised**

1. Served as a Major Professor:
  - a. Gopal Gautam, Master's student (Biomass Gasification and Tar Quantification). Graduated in August 2010. Currently working at Lehigh Cement Company, Baltimore, Maryland as an Engineer.
2. Served as a Committee Member:
  - a. Sandeep Kumar, Ph. D. student (Biocrude from Sub- and Super-critical Water). Graduated in May 2010. Employed at Old Dominion University as an Assistant Professor.
  - b. Brad Littlefield, Master's student (Physical Characterization of Pecan Shells). Graduated in August 2010.

### **Graduate Student Advising**

1. **Suchithra Gopakumar**, Ph. D. student (Bio-Oil Upgrading). Major Professor
2. **Harideepan Ravindran**, Master's Student (Bio-Oil Production Optimization). Major Professor
3. **Chad Carter**, Master's Students (Biomass Torrefaction). Major Professor.
4. **Avanti Kulkarni**, Biomass Gasification, Major Professor
5. **Shyamsundar Ayalur Chattanathan**, Hydrogen Production, Major Professor
6. **Nourredine Abdoulmoumine**, Gasification and Pyrolysis, Major Professor
7. Adam Byrd, Ph.D Student (Hydrogen Production using Supercritical Water). Committee Member
8. Joseph E. Durham, Ph.D Student (Fisher-Tropsch Process for Liquid Fuels). Committee Member
9. Daniel Mullenix, Master's student (Biodiesel Production). Committee Member
10. Liang Wei, Master's student (Cellulosic Biomass Pretreatment). Committee Member