CURRICULUM VITAE

University of Idaho

NAME: McDonald, Armando Gabriel **DATE:** February 10, 2019

RANK OR TITLE: Professor

DEPARTMENT: Renewable Materials Program; Dept. of Forest, Rangeland, and Fire Sciences

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DATE OF FIRST EMPLOYMENT AT UI: December 6, 2001

DATE OF TENURE: tenured, July 2006

DATE OF PRESENT RANK OR TITLE: July, 2006

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Doctor of Philosophy, York University, Toronto, Ontario, Canada. June 1993, Chemistry. Thesis "Lipopolysaccharides from *Campylobacter,*" Supervisor: Dr G.O. Aspinall, Examiner: Dr. J.C. Richards (NRC, Ottawa)

M.Sc., University of Otago, Dunedin, New Zealand , May 1986, Chemistry, with Distinction. . Thesis "Glucofructan Polysaccharides," Supervisor: Dr. D.J. Brasch

Post Graduate Diploma in Science in Chemistry, University of Otago, Dunedin, New Zealand, May 1984,

B.Sc., University of Otago, Dunedin, New Zealand, May 1983, Chemistry and Applied Chemistry

Certificates and Licenses:

Managerial Excellence Programme. Certificate of Practicing Management, December 1999. New Zealand Institute of Management and University of Waikato,

EXPERIENCE:

Teaching, Extension and Research Appointments:

August 2011- , Professor, Forest, Rangeland and Fire Sciences Dept., University of Idaho

July 2006-August 2011, Professor, Forest Products Department, University of Idaho

December 2001-June 2006, Associate Professor, Forest Products Department, University of Idaho.

June 1998-November 2001, Project/Group Leader, Material Discovery, Forest Research.

September 1993-June 1998, Senior Scientist in Wood Materials Chemistry, New Zealand Forest Research Institute.

December 1985-August 1989, Scientist in Carbohydrate Chemistry, New Zealand Forest Research Institute.

TEACHING ACCOMPLISHMENTS:

Areas of Specialization:

Renewable materials chemistry
Carbohydrate chemistry & biochemistry
Wood science
Biopolymer and Biomaterials science
Natural products chemistry
Biomass conversion and biofuels

Courses Taught:

Wood Composites: FORP502 / FORP436/536 Spring 2002-2007, Fall 2007-2009
Biocomposites: FORP436/536 Fall 2010-2013; RMAT436/536 Fall 2014-2018
Wood Chemistry, FORP502, Fall 2002
Wood Chemistry, FORP438/538, Fall 2003-2006, Spring 2007-2010
Lignocellulosic Biomass Chemistry: FORP438/538 Spring 2011, 2013;
RMAT438/538 Spring 2014-2018
Biomaterials product and process development: FORP491, Spring 2005-2013;
RMAT491 Spring 2014-2018
Biomass and Biorefinery BAE504, Fall 2006, Spring 2010
Forest Products Issues and Technology FORP100, Fall 2006-2011
Introduction to Renewable Materials Issues RMAT100, Fall 2013-2018, Spring 2017

Students Advised:

Secondary Student Internships:
Casey Cook, HOIST summer internship, 2004

Undergraduate Students:
Veronica Hughes, ECB senior thesis, University of Idaho, 2017
Karson Leggit, RMAT senior project, University of Idaho, 2017
Chase Behrens, RMAT senior project, University of Idaho, 2017
Isaac Shaw, RMAT senior project, University of Idaho, 2017
Jennifer Mehrhoff, RMAT senior project, University of Idaho, 2017
Bryce Dinger, RMAT senior project, University of Idaho, 2016
David Zack, RMAT summer intern, University of Idaho, 2014
Nikki Yates, ENVS senior project, University of Idaho, 2012
Alan Kycek, Directed Studies, FORP, University of Idaho, 2011
Brandon Higgins, Directed Studies, FORP, University of Idaho, 2010
Jon Slette, Directed Studies, FORP, University of Idaho, 2010
Justin Pattison, Directed Studies, FORP, University of Idaho, 2003
Brent Jacobson, Directed studies, FORP, University of Idaho, 2003
Stephanie Weal, 3rd and 4th year project, BscTech University of Waikato, New Zealand, 2001
Cathy Risch, 4th year Bsc project, Ecole Normale Supérieure, France, 2001
Brendan Lee, 3rd and 4th year project, BscTech, University of Waikato, New Zealand, 1997
Greg Findleyson, 3rd year project, BscTech, University of Waikato, New Zealand, 1996
Marc Fernandez, 4th year project, BSc, Victoria University, Canada, 1995

Graduate Students:
Currently advising-major professor:
Farid Sotoudehniakarani, Ph.D., Natural Resources, University of Idaho, 2018-
Maryam Abassi, Ph.D., Environmental Science, University of Idaho, 2019-
Dikshya Pkhrel, M.S., Natural Resources, University of Idaho, 2019-
Endalkachew Mengisite, Ph.D., Environmental Science, University of Idaho, 2019-
Gurkeerat Kukal, M.S., Environmental Science, University of Idaho, 2019-
Daniel Mottern, Ph.D., Natural Resources, University of Idaho, 2019-

Advised to completion of degree-major professor:
Sang Yeob Lee, M.S., Forest Products, University of Idaho, December 2002
Anand Mangalam, M.S., Forest Products, University of Idaho, 2002-2005
Smith Sundar, M.S., Forest Products, University of Idaho, 2003-2005
Andres Soria, Ph.D., Forest products, University of Idaho, 2002-2005
Carter Fox, M.S., Forest Products, University of Idaho, 2004-2006
Lance Gallagher, M.S., Forest Products, University of Idaho, 2003-2006
Karthik Pillai, M.S., Forest Products, University of Idaho, 2004-2007
James Fabiyi, Ph.D., Forest Products, University of Idaho, 2004-2007
Ayiguli Keyoumu, M.S., Forest Products, University of Idaho, 2005-2007
Lina Ma, M.S., Forest Products, University of Idaho, 2005-2007
Clay Dodson., M.S. Environmental Science, University of Idaho, 2006-2008

Graduate Students (cont):

Advised to completion of degree-major professor:

Shengjun Hu, M.S., Forest Products, University of Idaho, 2008-2010
Janet Dai, M.S., Forest Products, University of Idaho, 2008-2010
Noridah Osman, Ph.D., Forest Products, University of Idaho, 2005-2010
Liqing Wei, M.S., Forest Products, University of Idaho, 2009-2011
Guanqun Luo, M.S., Natural Resources, University of Idaho, 2010-2012
Jowita Laniak, Ph.D., Environmental Science, University of Idaho, 2007-2012
Janet Dai, Ph.D., Natural Resources, University of Idaho, 2010-2014
Hui Li, Ph.D., Natural Resources, University of Idaho, 2010-2014
Yinglei Han, M.S., Natural Resources, University of Idaho, 2013-2014
Shaobo Liang, Ph.D., Environmental Science, University of Idaho, 2010-2014
Liqing Wei, Ph.D., Natural Resources, University of Idaho, 2011-2015
Eric Young, M.S., Environmental Science, University of Idaho, 2015-2017
Farid Sotoudehniakarani, M.S., Natural Resources, University of Idaho, 2016-2017
Abdulbaset Alayat, Ph.D., Environmental Science, University of Idaho, 2013-2018

Served on graduate committee:

Connor Hill, Ph.D. Material Science, University of Idaho, 2019-
Andrés Bretón Toral, Ph.D. Biotechnology, Instituto Politecnico Nacional, 2017-
Zahra Mahdieh, Ph.D. Material Science, University of Montana, 2016-
Brian Harris, Ph.D., Chemistry, University of Idaho, 2005-
Nicholas Guho, Ph.D.., Civil Engineering, University of Idaho, 2010-
Yinglei Han, Ph.D., Biosystems Engineering, WSU, 2015-
Fahmid Tousif, M.S. Civil Engineering, UI – 2018 (completed)
Erik Johnston, Ph.D. Material Science, University of Montana, 2015-2018 (completed)
Mohammad Khan, M.E., Civil Engineering, University of Idaho, 2016-2017 (completed)
Derek Probst, M.E., Civil Engineering, University of Idaho, 2015-2016 (completed)
Samjhana Dahal, M.S., Food Science, University of Idaho, 2015-2016 (completed)
Mohammadali Azadfar., Ph.D. Biosystems Eng, WSU, 2013-2016 (completed)
Andrea Hanson, Ph.D., MMBB, University of Idaho, 2013-2015 (completed)
Daniel Howe, Ph.D., Civil Eng, WSU, 2007-2015 (completed)
Adetayo Mustapha, Ph.D., Chemistry, University of Idaho, 2013-2015 (completed)
Zheting Bi, Ph.D., Biological & Agricultural Eng., UI, 2013-2015 (completed)
Odgerel Bumandalai, M.S. Biosystems Eng, WSU, 2013-2014 (completed)
Ryan Rehder, M.E.., Civil Engineering, University of Idaho, 2011-2014 (completed)
Hesham Tantawy, Ph.D. Chemical Engineering, UI, 2010-2014 (completed)
Carl Morrow, Ph.D., Forest Products, University of Idaho, 2009-2013 (completed)
Hugo Araujo Lino., M.S., Chemistry, University of Idaho, 2012-2013 (completed)
Zhouhong Wang, Ph.D., Biosystems Eng, WSU, 2010-2013 (completed)
Chao-Feng Hsieh, Ph.D., Food Science, University of Idaho, 2009-2013 (completed)
Shaui Zhou, Ph.D., Biosystems Eng, WSU, 2010-2013 (completed)
Tushar Jain., Ph.D., Biological & Agricultural Eng., UI, 2009-2012 (completed)
Tova Sardot, Ph.D., Chemistry, University of Montana 2008-2012 (completed)
Christoph Shauwecker, PhD., Wood Sci. Eng, OSU, 2007-2011 (completed)
Keegan Duff., M.S., Biological & Agricultural Eng., UI, 2009-2011 (completed)
Wei Chen Yu, M.S., Food Science, University of Idaho, 2005-2010 (completed)
Robert Johnson, M.S., Biosystems Eng, WSU, 2007-2009 (completed)
Mackenzie Ellison, M.S., PSES, University of Idaho, 2008-2010 (completed)
Nicholas Guho, M.E.., Civil Engineering, University of Idaho, 2009-2010 (completed)
Zachary Dobroth, M.E.., Civil Engineering, University of Idaho, 2009-2010 (completed)
Isabela Reiniati, M.S., Material Science, WSU, 2007-2009 (completed)
Carl Morrow, M.S., Forest Products, University of Idaho, 2007-2009 (completed)
Joey Charboneau, M.S., Chemistry University of Idaho, 2007-2009 (completed)
Hyun-Seok Kim, Ph.D., Food Science, University of Idaho, 2005-2009 (completed)
Przemysław Brejna, Ph.D., Chemistry, University of Idaho, 2007-2010 (completed)
Naresh Pachauri, M.S., Bio & Agric. Eng., University of Idaho, 2005-2008 (completed)
Erica Rude, M.S., Materials Science, WSU, 2005-2007(completed)

Graduate Students (cont):

Served on graduate committee:

Sudip Chowdury, M.S., Civil Engineering, WSU, 2004-2006 (completed)
Ben LaFrentz, Ph.D. Fish & Wildlife, University of Idaho, 2004-2007 (completed)
Wei Lao, Ph.D. Biosystems Engineering, WSU 2004-2007 (completed)
Jinwu Wang, Ph.D., Civil Engineering, WSU, 2004-2007 (completed)
Carla Blengeri-Oyarce, M.S., Forest Products, UI, 2004-2006 (completed)
Jeremy Higley, M.S., Food Science, University of Idaho, 2003-05 (completed)
Cathy Hunt, M.S., Chemistry, University of Idaho, 2003-2005 (completed)
Holton Quinn, M.S, Chemical Engineering, University of Idaho, 2003-2007(completed)
Leslie Ganus, M.S., Forest Products, University of Idaho, 2001-2003 (completed)
Sharlene Peterson, Ph.D., Engineering, University of Auckland, 1998-2007 (completed)
Stephanie Weal, M.S., Engineering, Waikato University 2003-2006 (completed)
Erik Coats, Ph.D., Civil Engineering, WSU, 2002-2005 (completed)
Ben Harlow, M.S., Forest Resource Management, UI, 2003-05 (completed)
Catherine Riddle, M.S., Chemistry, University of Idaho, 2002-04 (completed)
Kirk Kludt, M.E., Civil Engineering, WSU, 2001-03 (completed)
Jonathon Songster, M.S., Forest Products, University of Idaho, 2002-04 (completed)
Ralf Moeller, Ph.D., Biology, University of Auckland, 1998-2003 (completed)
Xiaowen Yuan, Ph.D., Engineering, University of Auckland, 1999-2003 (completed)
Brendan Lee, M.Sc., Chemistry, University of Waikato, 2000-03 (completed)
Ali Abdallah, M.Sc., Technology, University of Waikato, 2000-03 (completed)
Brian Harris, M.S., Chemistry, University of Idaho, Feb 2003 (completed)
Jason Brandt, M.S., Forest Products, University of Idaho, 2001-03 (completed)
Suzie Carnachan, Ph.D., Biology, University of Auckland, 1996-2000 (completed)

Courses Developed:

Wood composites FORP436/536
Biocomposites RMAT436/536
Wood chemistry FORP438/538
Lignocellulosic biomass chemistry RMAT438/538
Biomaterials product and process development RMAT491
Biomass and Biorefinery BAE504
Introduction to Renewable Materials Issues “Design Project” RMAT100

SCHOLARSHIP ACCOMPLISHMENTS:

Publications, Exhibitions, Performances, Recitals:

Refereed/Adjudicated (178):

Adefisan, O.O., McDonald, A.G. (2019) Evaluation of the strength, sorption and thermal properties of bamboo plastic composites. *Maderas - Ciencia y tecnología*. 21(1): 3-14. DOI: 10.4067/S0718-221X2019005000101.

Adefisan, O.O., McDonald, A.G. (2018) Evaluation of the flexural strength, sorption, rheological and thermal properties of corncob plastic composites. *International Journal of Advanced Engineering Research and Science*. 5(12): 18-25. https://dx.doi.org/10.22161/ijaers.5.12.4

Balogun, A., Lasode, O., McDonald, A.G. (2018) Thermo-chemical and pyrolytic analyses of Musa spp. residues from the rainforest belt of Nigeria. *Environmental Progress and Sustainable Energy*. 37(6): 1932-1941. DOI: 10.1002/ep.12869.

Alayat, A., Echeverria, E., McIlroy, D.N., McDonald, A.G. (2018) Characterization and catalytic behavior of EDTA modified silica nanosprings (NS)-supported cobalt catalyst for Fischer-Tropsch CO-hydrogenation. *Journal of Fuel Chemistry and Technology*. 46(8): 957-966.

Bar-Ziv, E., Xu, Y., Zinchik, S., Kolapkar, S.S., Conn, D., Hansen, T., McDonald, A.G. (2018) Properties of Torrefied U.S. Waste Blends. *Frontiers in Energy Research*. 6: 65. doi: 10.3389/fenrg.2018.00065.

Luo, S., Cao, J., McDonald, A.G. (2018) Cross-linking of technical lignin via esterification and thermally initiated free radical reaction. *Industrial Crops and Products*. 121: 169-179. https://doi.org/10.1016/j.indcrop.2018.05.007.

Alayat, A., Echeverria, E., Mcllroy, D.N., McDonald, A.G. (2018) Enhancement of the catalytic performance of silica nanosprings (NS)-supported iron catalyst with copper, molybdenum, cobalt and ruthenium promoters for Fischer-Tropsch synthesis. *Fuel Processing Technology*. 177: 89-100. https://doi.org/10.1016/j.fuproc.2018.04.020.

Elusiyan, C., Olawuni, I.J., Olugbade, T.A., Orafidiya, O., McDonald, A.G. (2018) Acetylcholinesterase inhibitory effect and characterisation of the essential oil of *Plectranthus aegyptiacus* (Forssk.) C. Chr. growing in Nigeria. *Medicinal & Aromatic Plants*. 7(2): 316-321. DOI: 10.4172/2167-0412.1000316.

Alayat, A., McIlroy, D.N., McDonald, A.G. (2018) Effect of synthesis and activation methods on the catalytic properties of silica nanospring (NS)-supported iron catalyst for Fischer-Tropsch synthesis. *Fuel Processing Technology*. 169: 132–141. https://doi.org/10.1016/j.fuproc.2017.09.011.

Zhang, X., Bo, X., Cong, L., Wei, L., McDonald, A.G. (2018) Effect of alkaline and neutral deinking on properties of old newspaper fibers and recycled polypropylene composites. *Polymer Composites*. 39(10): 3537-3544. https://doi.org/10.1002/pc.24374.

Balogun, A.O., Lasode, O.A., McDonald, A.G. (2018) Thermo-physical, chemical and structural modifications in torrefied biomass residues. *Waste and Biomass Valorization*. 9(1): 131-138. DOI: 10.1007/s12649-016-9787-7.

Howe, D., Garcia-Perez, M., Taasevigen, D., Rainbolt, J., Albrecht, K., Wei, L., McDonald, A.G., Wolcott, M. (2018) Thermal Pretreatment of a High Lignin SSF Digester Residue to Increase its Softening Point. *Journal of Analytical and Applied Pyrolysis*. DOI:10.1016/j.jaap.2016.03.012.

Adefisan, O.O., McDonald, A.G. (2017) Evaluation of wood plastic composites produced from mahogany and teak. *International Journal of Advanced Engineering Research and Science*. 4(12): 27-32. https://dx.doi.org/10.22161/ijaers.4.12.5.

Adefisan, O.O., Wei, L., McDonald, A.G. (2017) Evaluation of plastic composites made with *Laccosperma secundiflorum* and *Eremospatha macrocarpa* canes. *Maderas - Ciencia y tecnología*. 19(4): 517-524. DOI:10.4067/S0718-221X2017005000044.

Wei, L., Argwal, U.P., Luo, S., Hirth, K.C., McDonald, A.G., Matuana, L.M., Sabo, R.C., Stark, N.M. (2017) Preparation and characterization of the nanocomposites from chemically modified nanocellulose and poly(lactic acid). *Journal of Renewable Materials*. 5(5): 410-422. https://doi.org/10.7569/JRM.2017.634144.

He, B., Van Gerpen, J.H., Morra, M., McDonald, A.G., (2017) Lipid-Based Biorefinery. *In*: Bioenergy: Principles and Applications. *Eds*. Li, Y., Khanal, S.K., Wiley-Blackwell, IW, USA, Chapter 26.

Balogun, A., Sotoudehniakarani, F., McDonald, A.G. (2017). Thermo-kinetic, spectroscopic study of brewer's spent grains and characterisation of their pyrolysis products. *Journal of Analytical and Applied Pyrolysis*. 127: 8-16. https://doi.org/10.1016/j.jaap.2017.09.009.

Adesanwo, J.K., Ogundele, S.B., Akinpelu, D.A., McDonald, A.G. (2017) Chemical analyses, antimicrobial and antioxidant activities of extracts from *Cola nitida* seed. *Journal of Exploratory Research in Pharmacology*. 2(3): 67-77. DOI: 10.14218/JERP.2017.00015.

Oyemitan, I.A., Elusiyan, C.A., Onifade, A.O., Akanmu, M.A., Oyedeji, A.O., McDonald, A.G. (2017) Neuropharmacological profile and chemical analysis of fresh rhizome essential oil of *Curcuma longa* (turmeric) cultivated in Southwest Nigeria. *Toxicology Reports*. 4: 391-398. http://dx.doi.org/10.1016/j.toxrep.2017.07.001

Harries, M.E., McDonald, A.G., Bruno, T. (2017) Measuring the distillation curves of non-homogeneous fluids: method and case study of two pyrolysis oils. *Fuel*. 204: 23-27. http://dx.doi.org/10.1016/j.fuel.2017.04.066

Ogunleye, B.M., Fabiyi, J.S., Fuwape, J.A., McDonald, A.G. (2017) Infrared spectroscopy studies of *Ricinodendron heudelotii* wood for its pulp and paper production potential. *International Journal of Scientific Research in Agricultural Sciences*, 4(1): 023-029. http://dx.doi.org/10.12983/ijsras-2017-p0023-0029

Liang, S., Wei, L., Passero, M.L., Feris, K., McDonald, A.G. (2017) Hydrothermal liquefaction of laboratory cultivated and commercial algal biomass into crude bio-oil. *Environmental Progress and Sustainable Energy*. 36(3): 781-787. DOI 10.1002/ep.12629

Bretón-Toral, A., Trejo-Estrada, S.R., McDonald, A.G. (2017) Lactic acid production from potato peel waste, spent coffee grounds and almond shells with undefined mixed cultures isolated from coffee mucilage from Coatepec Mexico. *Fermentation Technology*. 6(1): 139-145. DOI: 10.4172/2167-7972.1000139.

Stankovikj, F., McDonald, A.G., Helms, G.L., Olarte, M.V., Garcia-Perez, M. (2017) Characterization of woody biomass pyrolysis oils' water soluble fraction. *Energy & Fuels*. 31(2): 1650–1664. DOI: 10.1021/acs.energyfuels.6b02950

Luo, S., Cao, J., McDonald, A.G. (2017) Esterification of industrial lignin and its effect on the resulting poly(3-hydroxybutyrate-co-3-hydroxyvalerate) or polypropylene based composites. *Industrial Crops and Products*. 97: 281–291. http://dx.doi.org/10.1016/j.indcrop.2016.12.024

Howe, D., Taasevigen, D., Garcia-Perez, M., McDonald, A.G., Li, G., Wolcott, M. (2017) Steam gasification of a thermally pretreated high lignin corn stover simultaneous saccharification and fermentation digester residue. *Energy*. 119: 400-407. http://dx.doi.org/10.1016/j.energy.2016.12.094

Adesanwo, J.K., Adewusi, I.B., Akinpelu, D.A., Wadim, L.M., McDonald, A.G. (2016) Phytochemical screening, antibacterial activity study and isolation of chemicals from *Anacadium occidetale* stem bark extract. *Journal of Pharma Research*. 5(9): 208-212.

Adefisan, O.O., McDonald, A.G. and Fabiyi, J.S. (2016) Effect of rattan fiber treatments on the strength and sorption properties of cement bonded composites. *Journal of Bamboo and Rattan.* 15(1&2): 1-16.

Stankovikj, F., McDonald, A.G., Helms, G., Garcia-Perez, M. (2016) Quantification of bio-oil functional groups and evidences of the presence of pyrolytic humins. *Energy & Fuels*. 30: 6505-6524. DOI: 10.1021/acs.energyfuels.6b00994.

Balogun, A.O., McDonald, A.G. (2016) Decomposition kinetic study, spectroscopic and pyrolytic analyses of *Isoberlinia doka* and *Pinus ponderosa*. *Biomass Conversion and Biorefinery*. 6 (3): 315-324. DOI: 10.1007/s13399-015-0185-3.

Dziedzic, J.A., McDonald, A.G. (2016) Mass spectrometry data for in vitro protein profiles in early and late stages of Douglas-fir xylogenesis. *Data in Brief*. 7: 1048–1051. doi:10.1016/j.dib.2016.03.083.

Wysocka, K., Szymona, K., McDonald, A.G., Mamiński, M. (2016) Characterization of the thermal and mechanical properties of lignosulfonate- and hydrolyzed lignsolfonate-based polyurethane foams. *BioResources.* 11(3): 7355-7364. DOI: 10.15376/biores.11.3.7355-7364.

Faboro, E., Wei, L., Liang, S., McDonald, A.G., Obafemi, G.A. (2016) Phytochemical Analyzes from the Leaves of *Bryophyllum pinnatum*. *European Journal of Medicinal Plants.* 14(3): 1-10. *DOI:* 10.9734/EJMP/2016/26156.

Luo, S., Cao, J., McDonald, A.G. (2016) Dicumyl peroxide induced interfacial improvements in biocomposites of poly(3-hydroxybutyrate-co-3-hydroxyvalerate) and lignin via in-situ reactive extrusion. *ACS-Sustainable Chemistry and Engineering*. 4(6): 3465-3476. DOI: 10.1021/acssuschemeng.6b00495.

Wei, L., McDonald, A.G. (2016) A review on grafting of biofibers for biocomposites. *Materials*. 9(4): 303. DOI:10.3390/ma9040303.

Kowalski, R.J., Morrow, C.D., McDonald, A.G., Ganjyal, G. (2016) A new technique for cross-sectional density profiling of extruded foods by X-ray scanning. *Food Structure*. 8: 1–7. http://dx.doi.org/10.1016/j.foostr.2016.03.001.

Liang, S., Gliniewicz, K., Gerritsen, A.T., McDonald, A.G. (2016) Analysis of microbial community variation during the mixed culture fermentation of agricultural peel wastes to produce lactic acid. *Bioresource Technology*. 208: 7-12. doi:10.1016/j.biortech.2016.02.054.

Wei, L., McDonald, A.G. (2016) Accelerated weathering studies on the bioplastic poly(3-hydroxybutyrate-co-3-hydroxyvalerate). *Polymer Degradation and Stability*. 126: 93-100. http://dx.doi.org/10.1016/j.polymdegradstab.2016.01.023.

Faboro, E., Wei, L., Liang, S., McDonald, A.G., Obafemi, G.A. (2016) Characterization of dichloromethane and methanol extracts from the leaves of a medicinal plant: *Globimetula oreophila*. *Industrial Crops and Products.* 83: 391-399. http://dx.doi.org/10.1016/j.indcrop.2016.01.008.

Han, Y., McIlroy, D.N., McDonald, A.G. (2016) Hydrodeoxygenation of pyrolysis oil for hydrocarbons production using nanosprings based catalysts. *Journal of Analytical and Applied Pyrolysis*. 117: 94-105. doi:10.1016/j.jaap.2015.12.011.

Smith, S.A., Hughes, E., Coats, E.R., Brinkman, C.K., McDonald, A.G., Harper, J.R., Feris, K., Newby, D. (2016) Toward sustainable dairy waste utilization: Enhanced VFA and biogas synthesis via upcycling algal biomass cultured on waste effluent. *Journal of Chemical Technology & Biotechnology*. 91(1): 113–121. DOI 10.1002/jctb.4706.

Passero, M.L., Cragin, B., Coats, E.R., McDonald, A.G., Feris, K. (2015) Dairy wastewaters for algae cultivation, polyhydroxyalkanote reactor effluent versus anaerobic digester effluent. *Bioenergy Research*. 8(4): 1647-1660. DOI 10.1007/s12155-015-9619-9.

Kengne, B-A, F., Alayat, A.M., Luo, G., McDonald, A.G., Brown, J., Smotherman, H., McIlroy, D.N., (2015) Preparation, surface characterization and performance of a Fischer-Tropsch catalyst of cobalt supported on silica nanosprings. *Applied Surface Science*. 359: 508-514. http://dx.doi.org/10.1016/j.apsusc.2015.10.081.

Liang, S., McDonald, A.G. (2015) Anaerobic digestion of potato peel wastes for methane production. *Waste Management*.46:197-200. http://dx.doi.org/10.1016/j.wasman.2015.09.029.

Liang, S., McDonald, A.G., Coats, E.R. (2015) Lactic acid production from potato peel waste by anaerobic sequencing batch fermentation using undefined mixed culture. *Waste Management*. 45: 51-56. http://dx.doi.org/10.1016/j.wasman.2015.02.004.

Wei, L., Liang, S., Coats, E.R., McDonald, A.G. (2015) Valorization of residual bacterial biomass waste after polyhydroxyalkanoate isolation by hydrothermal treatment. *Bioresource Technology*. 198: 739-745. http://dx.doi.org/10.1016/j.biortech.2015.09.086.

Wei, L., Stark, N., McDonald, A.G. (2015) Interfacial improvements in biocomposites based on poly(3-hydroxybutyrate) and poly(3-hydroxybutyrate-co-3-hydroxyvalerate) bioplastics reinforced and grafted with α-cellulose fibers. *Green Chemistry*. 17: 4800-4814. DOI: 10.1039/c5gc01568e.

Wei, L., Liang, S., Guho, N.M., Hanson, A.J., Smith, M., Garcia-Perez, M., McDonald, A.G. (2015) Production and characterization of bio-oil and biochar from the pyrolysis of residual bacterial biomass from a polyhydroxyalkanoate production process. *Journal of Analytical and Applied Pyrolysis.* 115: 268–278. http://dx.doi.org/10.1016/j.jaap.2015.08.005.

Sivasankarapillai, G., Li, H., McDonald, A.G. (2015) Lignin based triple shape memory polymers. *Biomacromolecules*. 16(9): 2735–2742. DOI: 10.1021/acs.biomac.5b00655.

Dziedzic, J.A., McDonald, A.G. (2015) In-vitro protein expression profile in the early and late stage of Douglas-fir xylogenesis. *Electrophoresis.* 36: 2035-2045. DOI 10.1002/elps.201400561.

Bi, Z., He, B., McDonald, A.G. (2015) Biodiesel production from green microalgae *Schizochytrium limacinum* via in-situ transesterification. *Energy & Fuels*. 29(8): 5018–5027. DOI: 10.1021/acs.energyfuels.5b00559.

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Refereed/Adjudicated (currently scheduled or submitted):

Bouhlali, E.D.T., Sellam, K., El Rhaffari, Ramchoun, M., McDonald, A.G., Ouzidan, Y., Ibijbijen, J., Nassiri, L. (2019) Investigation on chemical composition, antioxidant and antimicrobial potential of Pulicaria mauritanica essential oil applied by direct addition or vapor contact. *American Journal of Essential Oils and Natural Products. Accepted 01/17/2019*.

Salmasi, S.S., Abbas-Abadi, M.S., Haghighi, M.N., McDonald, A.G. (2018) The effect of heating rate and crosslink density on the pyrolysis mechanisms of polybutadiene rubber by TGA. *Waste Management. Submitted.*

Wu, S., Deng, S., Zhu, J., Hsieh, H., McDonald, A.G. (2018) Biodiesel conversion from soybean oil using non-thermal plasma technology. *Bioresources*. *Submitted*.

Mohamed, M., Abdel-Rahim, A., Kassem, E., Chang, K., McDonald, A.G. (2018) A laboratory-based procedure for pavement marking testing and evaluation. *Transportation Research Record*. *Submitted*.

Wang, K., Yu, Z., McDonald, A.G. (2019) The effect of biochar as reinforcing filler on the properties of wood plastic composites. *Journal of Bionic Engineering*. *Submitted*.

Sotoudehniakarani, F., Alayat, A., McDonald, A.G. (2019) Production and characterization of bio-oil and biochar from fast pyrolysis of Chlorella vulgaris algae. *Journal of Analytical and Applied Pyrolysis*. *Submitted*.

Lockner, A., Cook, S., Kimsey, M., McDonald, A.G., Shaw, T. (2019) Monoterpene and nutrient content of Douglas-fir foliage and inner bark tissue following fertilization and stand thinning. *Northwest Science*. *Submitted*.

Balogun, A.O., Sotoudehniakarani, F., McDonald, A.G. (2019) Investigation into coals of different ranks using FTIR and Raman spectroscopy, X-ray diffraction and thermo-kinetic analysis. *Journal of the Energy Institute. Submitted.*

Balogun, A.O., Sotoudehniakarani, F., McDonald, A.G. (2019) Thermal energy predictive model derived from the ultimate analysis of African-origin biomass. *Fuel. Submitted.*

Alayat, A., Echeverria, E., Sotoudehniakarani, F., Mcllroy, D.N., McDonald, A.G. (2019) Evaluation of cobalt decorated alumina coated silica nanospring (NS) support based catalysts for liquid hydrocarbon fuel production from syngas. *Fuel Processing Technology*. *Submitted*.

Post-Doctoral Scholars:

Dr. Noridah Osman, 2011-2012;
Dr. Gopa Sivasankarapillai, 2008-2010;
Dr. Hui Li, 2014;
Dr. Shaobo Liang, 2015;
Dr. Abdulbaset Alayat, 2018-.

Visiting Scholars:

Zeki Candan (2009), Istanbul University, Turkey
Dr. Femi Adefisan (2010, 2015), University of Ibadan, Nigeria
Dr. Issac Titiladunayo (2011), Federal University of Technology, Nigeria
Helena Pohjanletho (2011), Technical Research Centre of Finland, Finland
Dr. Xiaolin Zhang (2013), Xia'an University of Technology, China
Mercy Ogunleye (2013), Federal College of Forestry, Nigeria
Ayokunle Balogun (2013), University of Ilorin, Nigeria
Esther Faboro (2014), Bowen University, Nigeria
Dr. Ma Xiaojun (2014), Tianjin University of Science & Technology, China
Dr. Mariusz Maminski (2014, Fulbright), Warsaw University of Life Sciences Poland
Andres Breton Toral (2015), National Politechnic Institute, Mexico
Shupin Luo (2015-2016), Beijing Forestry University, China
Dr. Christianah Elusian (2017), Obafemi Awolowo University, Nigeria
Dr. Julius Adesanwo (2017), Obafemi Awolowo University, Nigeria
Xiaogian Wang (2017-2019), Beijing Forestry University, China
Abdulkarim Rabiu (2018-2019, Fulbright), University of Ilorin, Nigeria

Grants and Contracts Awarded:

Bar-Ziv, E., McDonald, A.G. NSF PFI-Research Partnerships: Proof-of-Concept and a Prototype of an Integrated Torrefaction-Extrusion Unit for Organic Wastes Streams. NSF. 08/2018-07/2021. $750,000. Award # 1827364.

Humes, K., Coats, E.R., McDonald, A.G., Ryu, J., Feris, K., Delparte, D. Sustaining the Competitiveness of the Food Industry in Southern Idaho: Integrated Water, Energy, and Waste Management. Idaho State Board of Education IGEM. 07/2018-06/2021. $2,100,000. Award # IGEM19-001.

Debolt, S., Robertson, D., McDonald, A.G., Sekhon, R.S. NSF-Track-II: A multiscale, multiphysics-modeling framework for genome-to-phenome mapping via intermediate phenotypes. NSF. 08/2018-07/2022. $6,000,000. Award # 1826715

Vasdekis, A.E., McDonald, A.G., Baker, S. US-DOE. Multi-Modal Imager of Metabolome and Enzyme Dynamics for Co-Optimizing Yields and Titers in Biofuel Producing Microorganisms. 08/2018-07/2021. $1,500,000. Award # DE-SC0019249.

McDonald, A.G. Toward commercial production of lactic acid and anti-microbial agents from food waste. Western SunGrant. 07/2018-08/2019, $149,801. Award # U0994G-D.

McDonald, A.G., Coats, E.R. Cook, S. Acquisition of a GC-MS for Bioproducts Research. Office of Research and Economic Development – Equipment and Infrastructure Support Award. 04/2018-12/2018. $22,560.

Coats, E.R., McDonald, A.G., Feris, K. Engineering an integrated suite of processes to maximize bio-recovery of carbon and nutrients from dairy manure. USDA-NIFA. 05/2018-4/2021. $333,000. Award # 2018-67022-27894

McDonald, A.G., Dual Detector Platform replacement. SBOE-UI. 01/2016-06/2016, $45,000.

McIlroy, D., McDonald, A.G., Cheng, I.F. Advanced high surface area electrodes for electrochemical applications and energy production. Murdock Charitable Trust. 01/2016-6/2017, $110,680.

Williams, R., Hrdlicka, P.J., Magolan, J., Shreeve, J.M., Baker, L.L., Strawn, D., Cheng, I.F., McDonald, A.G., Roll, M.F. Acquisition of a 500 MHz Nuclear Magnetic Resonance Spectrometer. M.J. Murdock Charitable Trust. 01/2015-12/2016, $395,690.

McDonald, A.G. Coleman, M., Brooks, R. Washington DNR Pyrolysis Project. Washington State DNR, 4/14-12/14, $18,261.

McDonald, A.G. and McIlroy, D. Upgrading biomass pyrolysis bio-oil to renewable fuels. NIATT-DOT-TransLIVE, 9/13-8/14, $55,000.

McDonald, A.G. Waters Academic Grant program, 10/12-6/13. $12,000.

Searcy, E., Coats, E., Feris, K., McDonald, A.G., Newby, D. Integrated Approach to Algal Biofuel, Bio-power, and Agricultural Waste Management. INL-LDRD, 10/12-9/15, $600,000.

McDonald, A.G. and McIlroy, D. Pyrolysis bio-oil upgrading to renewable fuels. NIATT-DOT, 9/12-8/13, $82.000.

Feris, K., Coats, E., McDonald, A.G., Guillen, D.P., Hamilton, M. Enhancing greenhouse gas mitigation & economic viability of manure management systems via production of value added carbon sequestering bio-products and soil amendments. USDA-NIFA. 9/12-8/15, $650,000.

Huber, K., McDonald, A.G., Kim, J-Y. Contrast of Russet Burbank and Premier Russet Potato Tissue and Starch Characteristics. J.R. Simplot Company. Jan 2012-Dec 2012, $24,732.

Sablani, S., Bohlscheid, J., Nindo, C., Huber, K., and McDonald, A.G., Vapor Sorption Analyzer Equipment Grant - Decagon Devices, Pullman, WA.

McDonald, A.G. and McIlroy, D. Development of nanocatalysts for the synthesis of biofuels from biomass derived syngas. NIATT-DOT, 9/11-8/12, $104,603.

Coats, E. and McDonald, A.G., Constructing a Pilot-scale Bioplastic Production Facility. Idaho SBOE. March 2011 – Dec 2011, $50,000.

McDonald, A.G., Coats, E., Huber, K. Converting Potato Peel Waste to Bioproducts. J.R. Simplot Company. Jan 2011-Dec 2012, $150,725.

Searcy, E., Briones, A., Coats, E., Feris, K., Keiser, D., Magnuson, T., McDonald, A., Shresth, D. Design and Operational Improvements, and LCA in Anaerobic Digestion of Fermented Dairy Manure Using a 2-Stage process. INL-LDRD, April 2010-Dec 2012, $592,000.

Gorman T.M., McDonald A.G., Bender, D., and Morgan, T. Inland Northwest Forest Products Consortium USDA-CSREES, July 2010-June 2013, $504,000.

Garcia-Perez M., McDonald A.G and Elliott D. Understanding Cellulose Primary Thermo-chemical Reactions to Enhance the Yields of Anhydro-saccharides Resulting from Fast Pyrolisis. NSF, Jan 2010-Dec 2012, $298,863.

Coats, E. and McDonald, A.G., Toward Commodity Biopolymer Production from Dairy Manure. Idaho Dairyman's Assoc. Jan 2010 – Dec 2011, $102,300.

McDonald A.G. and Soria A.J. Bio-oils from high lignin feedstocks Inland Northwest Forest Products Consortium USDA-CSREES, July 2009-June 2011, $36,310.

McDonald A.G. and Morrell, J. Durable Wood plastic composites. Inland Northwest Forest Products Consortium USDA-CSREES, July 2009-June 2011, $54,200.

Wagner F. and McDonald A.G. Energy Consumption at Commercial Dry Kilns. Inland Northwest Forest Products Consortium USDA-CSREES, July 2009-June 2011, $47,409.

Gorman T.M. and A.G. McDonald. Sustainable building materials from at-risk intermountain species. USDA-Forest Products Laboratory, June 2009-May 2014, $100,000.

Coats, E., McDonald, A.G., Makus, L An Interdisciplinary Research Program Advancing Commercial Processes for Converting Organic Waste to Chemical Commodities, UI-FIT, Jun 2009-July 2010, $10,000.

McDonald A.G. and Laborie M-P. The Chemistry of Hot Pressing. Inland Northwest Forest Products Consortium USDA-CSREES, July 2008-June 2010, $44,200.

McDonald A.G. and Soria A.J. Biofuels Development and Evaluation. Inland Northwest Forest Products Consortium USDA-CSREES, July 2008-June 2010, $37,800.

Wagner F. and McDonald A.G. A Lumber Quality and Kiln-Time Implications of High-Temperature Kiln Schedules and Restraint on Inland Northwest Species. Inland Northwest Forest Products Consortium USDA-CSREES, July 2008-June 2010, $44,000.

Coats E and McDonald A.G. Development of a Bio-based Industry Utilizing Municipally-derived Organic Waste: Production of Biological Thermoplastics. Idaho SBOE-HERC, Jan 2008-July 2009, $75,000.

Gorman T.M. and A.G. McDonald. Chemical, physical and mechanical properties of at-risk intermountain species. USDA-Forest Products Laboratory, Aug 2008-Aug 2013, $50,000.

Gorman T.M. and A.G. McDonald. Assessing wood quality characteristics of the Intermountain Forest Resource. USDA-Forest Products Laboratory, Aug 2007-Aug 2012, $130,000.

McDonald A.G., Wagner F. and Paszczynski A. A Proteomic Study of Wood Formation in Douglas-fir using an In-vitro Model System. Stillinger Forestry Research Grant, July 2007-June 2008, $24,000.

Coats E and McDonald A.G. Development of a Bio-based Industry Utilizing Organic Waste Streams (Confined Animal Feedlot and Biodiesel co-Products): Production of Biological Thermoplastics and Natural Fiber-Plastic Composites (NFPCs). Sun Grant Initiative, July 2007-June 2009, $254,916.

Aston, D.E, McDonald, A.G, McIlroy, D, Griffiths, P, and Laborie, M-P. MRI: Acquisition of Confocal Raman, Scanning Near-Field Optical Microscopy (SNOM) System for Wet and Dry Materials and Device Engineering. NSF-MRI, Sept 2006-Aug 2007, 527,000.

Gorman T.M. Shook, S, Nalle, D and A.G. McDonald. Log merchandising and wood quality enhancements. Inland Northwest Forest Products Consortium USDA-CSREES, July 2006-June 2008, $381,672.

Gorman T.M. and A.G. McDonald. Property evaluation of the at risk timber resource of the intermountain west. USDA-Forest Products Laboratory, July2006-June2010, $91,000.

McDonald A.G. and McIlroy, D. Surface modification of wood by UV Laser excitation. Inland Northwest Forest Products Consortium USDA-CSREES, July 2006-June 2008, $77,697.

He, B. Huber, K, Yukslell, G, Chen, S, and McDonald A.G. Curriculum development: biorefinery process analysis and design. USDA-CSREES, Oct 2004-Sept 2007, $284,009.

McDonald A.G. and Gorman T.M. Hardening and dimensionally stabilizing wood. Inland Northwest Forest Products Consortium USDA-CSREES, July 2005-June 2007, $27,540.

McDonald A.G.. Plasticization of Wood. Inland Northwest Forest Products Consortium USDA-CSREES, July 2005-June 2007, $82,080.

Paszczynski, A.P., et al., Proteomics Research Discovery Core Facility, Murdock Charitable Trust Equipment Grant, February 2005, $419,000.

McDonald A.G. et al., Extrusion Capabilities for Materials & Food Research in the Inland Northwest Murdock Charitable Trust Equipment Grant, February 2005, $235,500.

McDonald A.G. and K. Launchbaugh. Carbohydrate Analysis for Bioproducts Research. USDA-CREES-NRI program:, equipment grant # 2005-35504-16083, 2005, $24,750.

McDonald, A.G. and B. He. FTIR Spectroscopy for Wood and Bioproducts Research. USDA-CSREES-NRI equipment grant #2004-03713 August 2004, $24,006.

Laborie, M-P and A.G. McDonald. Physico-chemical aspects of hybrid poplar hot-pressing. USDA-CSREES-NRI grant #2004-3565, August 2004, $204,801.

McDonald, A.G., and M.P. Laborie. Thermoplastics derived from lignin. Inland Northwest Forest Products Consortium USDA-CSREES, July 2004-June 2006, $64,720.

McDonald, A.G. and E. Aston. EPSCOR Instrument Grant, University of Idaho, Research Office, February 2004, $10,000.

McDonald, A.G., F. Wagner, D. Winney, C. Anderson. Understanding Xylem Development in Conifers by In-vitro Studies. USDA-McIntire-Stennis, $62,360, March 2004-March 2006.

McDonald, A.G. and M.P. Wolcott. Improved formulations and/or product design for weatherability and prototype siding and trim components. Office of Naval Research Grant # N00014-03-1-0949, September 2003-05, $111,472.

McDonald, A.G., T. Gorman, and D. Bender. Rapidly Screening the Forest Resource for Wood Quality. Inland Northwest Forest Products Consortium USDA-CSREES, September 2003-05, $71,589.

Laborie M-P, and A.G. McDonald. "Pyrolysis-based Novolacs for Wood-Based Composites" USDA-CREES, Inland Northwest Forest Products Consortium, September 2003-05, $49,891.

McDonald, A.G., K. Huber, and P. Singh. Equipment Funds for Small Laboratory Molder. EPSCOR equipment grant, University of Idaho, Research office, August 2003, $5,500.

McDonald A.G., and K. Cain. Structural and Functional Characterization of an Immunoprotective Lipopolysaccharide (LPS) Component of the Fish Pathogen *Flavobacterium psychrophilum*. Seed Grant, EPSCOR-University of Idaho, April 2003, $9,000.

McDonald, A.G. Small Travel Grant, Research Office, University of Idaho, April 2003, $900

Huber, K., A.G. McDonald and P. Singh. Simultaneous microstructural and calorimetric characterization of foods and biomaterials using thermal microscopy. USDA-CREES-NRI equipment grant program (2003-35503-13697), October 2002, $25,000.

McDonald, A.G. Micro-woodfiber composites. USDA-CREES-NRI program: Improved Utilization of Wood and Woodfiber, 73.0, December 2002-November 2004, $170,000.

Huber, K., A.G. McDonald, and R. vonWandruska. EPSCOR instrument grant, University of Idaho, Research office, August 2002, $15,500.

McDonald, A.G., T.M. Gorman, and M.P. Wolcott. Property enhancements of wood and wood based products from small diameter logs by an electro-heating treatment. Inland Northwest Forest Products Consortium USDA-CSREES, July 2002-June 2003, $64,519.

McDonald, A.G. Small Travel Grant, Research Office, University of Idaho, April 2002, $900.

McDonald, A.G. EPSCOR equipment grant, University of Idaho, Research office, January 2002, $30,000.

Grants and Contracts Pending:

Pasian, C., Yeon-Jeong, K., Atland, J., Lehmann, J., McDonald, A.G., Owen, J. Water efficiency and increased productivity of food crops through nutrient capture and thermochemical stabilization of manure residuals. USDA-NIFA. 04/2018-03/2023. $5,200,000.

Smith, A., Goebel, C., McMurtry, J., Klisky, A., McDonald, A.G. NRT: ENFEWS: Graduate Research to Advance the Sustainability and Security of a FEWS under Fire. 08/2018-07/2022. $2,998,441.

Williams, R., et al., NSF-MRI: Acquisition of a Liquid Helium Recovery System. NSF. 08/2018-07/2019. $200,000.

Humes, K., Coats, E.R., McDonald, A.G. Energy Use at Clearwater Paper: Evaluating the Potential for Innovations with an Integrated Approach to Energy, Water and Waste. AVISTA Energy Research Initiative. 07/2018-06/2019. $90,000.

Bar-Ziv, E., Kelly, S., McDonald, A.G. Low Cost and Improved Properties of Torrefied Wastes-Biomass Blends. DOE. 01/2019-12/2020. $1,000,000.

Sethi, V., Bar-Ziv, E., Kelly, S., McDonald, A.G. Renewable Diesel from Waste Blends. DOE. 01/2019-12/2021. $1,000,000.

Zhao, H., McDonald, A.G., McIlroy, D.N. Catalytic Conversion of Biogas into Liquid Fuels Using Overcoated Nanocatalysts. DOE. 01/2019-12/2021. $1,400,000.

McDonald, A.G., Li, H. Lignin based thermoplastic materials. USDA-NIFA. 01/2019-12/2021. $499,990.

Sabo, R., Stark, N., McDonald, A.G., Matuana, L. Novel Method of Wet Compounding Cellulose Nanomaterials into Polymeric Barrier Films. USDA-NIFA. 01/2019-12/2021. $499,999.

Kumar, K., McDonald, A.G., Sung, C-J., Shrestha, D. Developing sustainable bio-blends for compression ignition systems: A science based approach for improved combustion and emissions performance. DOE. 01/2019-12/2021. $1,400,000.

Coleman, M., McDonald, A.G. Saurer, J. Maximizing Western Forest Productivity Potential With Municipal Effluent. USDA-NIFA. 05/2019-04/2023. $499,957.

Cook, S., Smith, B., Havill, N., McDonald, A.G., Lowrey, L. Creating an Integrated Assessment and Management Plan for the Invasive Balsam Woolly Adelgid in Western North America. USDA-NIFA. 05/2019-04/2023. $499,999.

Gaines, G., McDonald, A.G. Chilton Skis FY 2019 Phase I USDA SBIR, 05/2019-02/2020. $100,000.

Bar-Ziv, E., Gorman, H., McDonald, A.G., Wardropper, D., Kelly, S., CNH2-L: Zero solid waste for a sustainable society. NSF. 09/2019-08/2023. $1,500,000.

Honors and Awards:

NZ-FRI Achievement in Science Award for Inter-Disciplinary Science, April 1997

Carter Holt Harvey-New Ventures Ideas to Business Entrepreneur Awards 2001: Oct 2001.

SERVICE:

Major Committee Assignments:

Served on the search committee for the Assistant/Associate Professor position in Renewable Materials Program, UI 2018-

Served on the search committee for the Assistant Professor position in Conservation Social Science Department, UI 2014-2015

Served on the search committee for Associate Contract Review Officer, UI, 2013

Served on the search committee for the Polymer Scientist position in the Material Science and Chemical Engineering Department, UI, 2011

Served on the search committee for the Polymer Scientist position in the Material Science and Engineering Department, UI, 2007

Served on the search committee for the Polymer Scientist position in the Material Science and Engineering Department, UI, 2003

Served on the two search committees for the Biomaterials position in the Wood Materials and engineering Laboratory, WSU, 2002, 2003

Chair for the CNR committee of committees, 2002-04

Committee member for the UI Safety and Loss committee, 2003-2009

Committee member for the CNR Safety committee, 2005-present

Committee member for the CNR Space committee, 2008-present

Committee member for the CNR Graduate student scholarship committee, 2009-present

Committee member for CNR Curriculum committee, 2013-present

Committee member for CNR Promotion and tenure committee, 2013-2016

Committee chair for Dept. Forests Rangeland and Fire Science promotion and tenure, 2017, 2018

Professional and Scholarly Organizations:

Australian Pulp and Paper Institute Technical Association (APPITA), member, 1993-2010.

Forest Products Society, Member, 2002-present

Society of Wood Science and Technology, Member, 2002-present

American Chemical Society, Member, 2010-present

International Association of Wood Scientists (IAWS), Elected Fellow, 2013-present