

CURRICULUM VITAE

University of Idaho

NAME: McDonald, Armando Gabriel

DATE: January 28, 2021

RANK OR TITLE: Professor

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

OFFICE LOCATION AND CAMPUS ZIP: CNR 102D, MS1132

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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; RMA436/536 Fall 2014-2019; FSP436/536 2020
 Wood Chemistry, FORP502, Fall 2002
 Wood Chemistry, FORP438/538, Fall 2003-2006, Spring 2007-2010
 Lignocellulosic Biomass Chemistry: FORP438/538 Spring 2011, 2013;
 RMA438/538 Spring 2014-2020
 Biomaterials product and process development: FORP491, Spring 2005-2013;
 RMA491 Spring 2014-2019
 Biomass and Biorefinery BAE504, Fall 2006, Spring 2010
 Forest Products Issues and Technology FORP100, Fall 2006-2011
 Introduction to Renewable Materials Issues RMA100, Fall 2013-2019, Spring 2017-2020
 Introduction to Forest and Sustainable Products Issues FSP100, Fall 2020

Students Advised:

Secondary Student Internships:

Casey Cook, HOIST summer internship, 2004

Undergraduate Students:

Veronica Hughes, ECB senior thesis, University of Idaho, 2017
 Karson Leggit, RMA senior project, University of Idaho, 2017
 Chase Behrens, RMA senior project, University of Idaho, 2017
 Isaac Shaw, RMA senior project, University of Idaho, 2017
 Jennifer Mehrhoff, RMA senior project, University of Idaho, 2017
 Bryce Dinger, RMA senior project, University of Idaho, 2016
 David Zack, RMA 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 Pokhrel, 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-
 Berlinda Orji, Ph.D. Environmental Science, University of Idaho, 2020-
 Lucky Ewurum, M.S., Environmental Science, University of Idaho, 2019-
 Krystal Snyder, 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

Graduate Students (cont):

Advised to completion of degree-major professor:

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
 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
 Berlinda Orji, M.E. Chemical Engineering, University of Idaho, 2019-2020

Served on graduate committee:

Adam O'Keeffe, M.S. Biological Engineering, University of Idaho, 2019-
 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, 2016-2020
 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)
 Shuai 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 Schauwecker, Ph.D., 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)

Graduate Students (cont):

Served on graduate committee:

Joey Charboneau, M.S., Chemistry University of Idaho, 2007-2009 (completed)
 Hyun-Seok Kim, Ph.D., Food Science, University of Idaho, 2005-2009 (completed)
 Przemyslaw 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)
 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 (199):**

DePalma, K., Smith, B., McDonald, A.G. (2021) Synergistic Effects of Processing Parameters on The Biochemical and Physical Properties of Tofu Made from Yellow Field Pea (*Pisum sativum*), as Determined by Response Surface Methodology. *Food Science & Nutrition*. DOI: 10.1002/fsn3.2091

Han, Y., Pires, A., Denson, M., McDonald, A.G., Garcia-Perez, M. (2020) Ternary phase diagram of water / bio-oil / organic solvent for bio-oil fractionation. *Energy & Fuels*. 34(12): 16250–16264. DOI: 10.1021/acs.energyfuels.0c03100

Sotoudehnia, F., Mengistie, E., Alayat, A., McDonald, A.G. (2020) Valorization of waste waxed corrugated cardboard via pyrolysis for recovering wax. *Environmental Progress and Sustainable Energy*. e13566. <https://doi.org/10.1002/ep.13566>.

- Guho, N.M., Pokhrel, D., Abbasi, M., McDonald, A.G., Alfaro, M., Brinkman, C.K., Coats, E.R. (2020) Pilot-scale production of poly-3-hydroxybutyrate-co-3-hydroxyvalerate from fermented dairy manure: Process performance, polymer characterization, and scale-up implications. *Bioresource Technology Reports*. 12: 100588. <https://doi.org/10.1016/j.biteb.2020.100588>
- Balogun, A.O., Lasode, O.A., McDonald, A.G. (2020) Higher heating value prediction model from proximate and ultimate analysis data. *Journal of Multidisciplinary Engineering Science and Technology*. 7(8): 12602-12612.
- Xu, Z., Kolapkar, S.S., Zinchik, S., Bar-Ziv, E., McDonald, A.G. (2020) Comprehensive kinetic study of thermal degradation of polyvinylchloride (PVC). *Polymer Degradation and Stability*. 176: 109148. <https://doi.org/10.1016/j.polymdegradstab.2020.109148>
- Lipeh, S., Schimleck, L.R., Mankowski, M.A., McDonald, A.G., Morrell, J.J. (2020) Relationship between attenuated total reflectance-Fourier transform infrared spectroscopy of wester juniper and natural resistance to fungal and termite attack. *Holzforschung*. 74(3): 246-259. <https://doi.org/10.1515/hf-2019-0096>
- Mohamed, M., Abdel-Rahim, A., Kassem, E., Chang, K., McDonald, A.G. (2020) Laboratory-based evaluation of pavement marking characteristics. *Journal of Transportation Engineering, Part B: Pavements*. 146(2): 04020016.
- Orji, B., McDonald, A.G. (2020) Evaluation of the Mechanical, Thermal and Rheological Properties of Recycled Polyolefins Rice-hull Composites. *MDPI-Materials*. 13(3): 667-681. [doi:10.3390/ma13030667](https://doi.org/10.3390/ma13030667)
- Zinchik, S., Xu, Z., Kolapkar, S., Bar-Ziv, E., McDonald, A.G. (2020) Properties of pellets of torrefied U.S. waste blends. *Waste Management*. 104: 130-138. <https://doi.org/10.1016/j.wasman.2020.01.009>
- Sotoudehniakarani, F., Rabiou, A.B., Alayat, A., McDonald, A.G. (2020) Characterization of bio-oil and biochar from pyrolysis of waste corrugated cardboard. *Journal of Analytical and Applied Pyrolysis*. 145: 104722. <https://doi.org/10.1016/j.jaap.2019.104722>
- Lockner, A., Cook, S., Kimsey, M., McDonald, A.G., Shaw, T. (2019) Toxicity to Douglas-fir tussock moth and foliar concentration of individual monoterpenes in Douglas-fir following fertilization and stand thinning. *Northwest Science*. 93(3-4): 163-170.
- DePalma, K., Smith, B., McDonald, A.G. (2019) Effect of processing conditions, biochemical properties, and microstructure on tofu production from yellow field peas (*Pisum sativum*). *Journal of Food Science*. 84(12): 3463-3472. DOI: 10.1111/1750-3841.14940
- Wu, S., Bashir, M.A., Hsieh, H., McDonald, A.G. (2019) Highly efficient biodiesel conversion from soybean oil using liquid-phase plasma discharge technology. *Transactions of the ASABE*. 64(5): 1129-1134. <https://doi.org/10.13031/trans.13534>.
- Adesanwo, J.K., Ajayi, I.S., Ajayi, O.S., Igbeneghu, O.A., McDonald, A.G. (2019) Identification of chemical constituents and evaluation of the antibacterial activity of methanol extract and fractions of the leaf of *Melanthera scandens* (Schum. et Thonn.) Roberty. *Journal of Exploratory Research in Pharmacology*. 4: 31-40. DOI: 10.14218/JERP.2019.00007
- Wang, X., Sotoudehniakarani, F., Yu, Z., Morrell, J.J., Cappellazzi, J., McDonald, A.G. (2019) Evaluation of corrugated cardboard biochar as reinforcing fiber on properties, biodegradability and weatherability of wood-plastic composites. *Polymer Degradation and Stability*. 168: 108955. <https://doi.org/10.1016/j.polymdegradstab.2019.108955>
- Howe, D., Garcia-Perez, M., Taasevigen, D., Rainbolt, J., Albrecht, K., Wei, L., McDonald, A.G., Wolcott, M. (2019) Thermal Pretreatment of a High Lignin SSF Digester Residue to Increase its Softening Point. *Journal of Analytical and Applied Pyrolysis*. 142: 103691. DOI:10.1016/j.jaap.2016.03.012.
- Alayat, A., Sotoudehniakarani, F., McDonald, A.G. (2019) Fermentation of apple pomace using mixed microbial culture to organic acids. *EC Microbiology*. 15(8): 870-884. <https://www.econicon.com/ecmi/pdf/ECMI-15-00706.pdf>
- Alayat, A., Echeverria, E., Sotoudehniakarani, F., Mclroy, D.N., McDonald, A.G. (2019) Alumina coated silica nanosprings (NS) support based cobalt catalysts for liquid hydrocarbon fuel production from syngas. *Materials*. 12: 1810. doi:10.3390/ma12111810.
- Bouhlali, E.D.T., Sellam, K., El Rhaffari, Ramchoun, M., McDonald, A.G., Ouzidan, Y., Ibjibjen, 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*. 7(1): 7-13.

- Wang, X., Yu, Z., McDonald, A.G. (2019) Effect of different reinforcing fillers on properties, interfacial compatibility and weatherability of wood-plastic composites. *Journal of Bionic Engineering*. 16(2): 337-353. DOI: <https://doi.org/10.1007/s42235-019-0029-0>
- 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*. 139: 258-273. <https://doi.org/10.1016/j.jaap.2019.02.014>
- 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.
- Xu, Y., Zinchik, S., Kolapkar, S.S., Bar-Ziv, E., Hansen, T., Conn, D., 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., McIlroy, 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.
- 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/ijrsas-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 *Anacardium occidentale* stem bark extract. *Journal of Pharma Research*. 5(9): 208-212.
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- Xu, Z., Kolapkar, S.S., Zinchik, S., Bar-Ziv, E., Ewurum, L., McDonlad, A.G., Klinger, J.L., Fillerup, E., Schaller, K., Pilgrim, C. (2021) Bypassing energy barriers in fiber-polymer torrefaction. *Frontiers in Energy Research*. *Submitted*.
- Lipeh, S., Schimleck, L.R., Mankowski, M.E., McDonald, A.G., Morrell, J.J. (2021) ATR-FTIR study of Alaska yellow cedar extractives and relationship with their natural durability. *In preparation*.
- Alayat, A., Sotoudehnia, F., Gliniewicz, K., McDonald, A.G. (2021). Preliminary screening for natural bioactive compounds in potato peel fermentation broth. *In preparation*.

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 Hosted:

- 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 Polytechnic Institute, Mexico
 Shupin Luo (2015-2016), Beijing Forestry University, China

Visiting Scholars Hosted (cont):

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 Rabiou (2018-2019, Fulbright), University of Ilorin, Nigeria
 Claudiney Cordeiro (2019-2020), Federal University of Paraná, Brazil

Grants and Contracts Awarded:

Coleman, M., McDonald, A.G. Saurer, J. Maximizing Western forest productivity potential with municipal effluent. USDA-NIFA. 05/2020-04/2024. \$499,957. Proposal # 2019-06529.
 Baker, K., McDonald, A.G., Maughan, M., Xing, T., Woods, D. Cellulosic 3D Printing of Modular Building Assemblies. Idaho State Board of Education IGEM. 08/2019-07/2022. \$895,900. Award # IGEM 20-002.
 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 Titrers 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., Shrestha, 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 Pyrolysis. 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, \$27,000.
- 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:

- McDonald, A.G., Lee, K., Ptak, T., Bar-Ziv, E. Apriesnig, J. NSF-CNH2: Waste to Energy Regimes for a Sustainable Society. NSF. 07/2020-06/2023. \$1,600,000.
- Sabo, R., Stark, N., McDonald, A.G., Matuana, L. Novel Method of Wet Compounding Cellulose Nanomaterials into Polymeric Barrier Films. USDA-NIFA. 01/2021-12/2023. \$499,000.

- Smith, B., McDonald, A.G. A Novel approach to improve sorghum flour functionality through proteolysis of sorghum's hydrophobic storage proteins. USDA-NIFA. 01/2021-12/2023. \$499,000.
- Bar-Ziv, E., Huntoon, J., Odegard, G., Garcia-Perez, M., McDonald, A.G. Waste Plastics to New Composite Material Products, via Chemical Recycling and Reactive Extrusion. DOE. 01/2021-12/2025. \$10,000,000.
- Zinchik, S., Bar-Ziv, E., McDonald, A.G., Klinger, J.L., Hansen, T. Homogeneous, Consistent, and High-Purity Feedstock From MSW. DOE. 01/2021-12/2023. \$1,500,000.
- Cai, L., McDonald, A.G. Hybridizing Wood and Zinc Oxide-Eugenol Cement towards High-performance Building Materials. USDA-NIFA. 01/2021-12/2023. \$300,000.
- Kim S-J., McIlroy, D.N., McDonald, A.G. Engineering Hierarchical Metal Oxide Materials on Zeolite Membranes for Photocatalysis and Electro-photocatalysis Splitting of Water for Hydrogen Production. NSF. 01/2021-12/2023. \$500,000.
- Denton, T., Nawani, P., McDonald, A.G. Collaborative Research: Development of sustainable polymer-nanocomposite materials for packaging applications. NSF, 07/2021-06/2024. \$153,000.
- Bar-Ziv, E., Hansen, T., Brooks, D., Zinchik, S., Klinger, J., McDonald, A.G., Englund, C., Naber, J., Zeaman, J. Conversion of plastic wastes into polymer alloys and composite materials with enhanced properties. REMADE, 07/2021-06/2023. \$6,000,000.
- Ratner, A., McDonald, A.G., Bar-Ziv, E. Production of hydrogen using mixed coal/biomass/plastic through optimized gasification and biochar production. DOE, 01/2021-06/2023. \$500,000.
- Nguyen, Q., Klinger, J., Lin, Y., Brinkmeyer, M., Riga, B., Nelson A., McDonald, A.G., Dumroese, K. Fractionation of wood residues into high-value products and bionutrients for reforestation. DOE, 07/2021-06/2024. \$1,400,000.
- McDonald, A.G. Toward production of lignin-based bioplastics and biocomposites. Sun Grant Program Western Region, 07/2021-06/2023. \$136,306.

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 Served on the search committee for Director, Center for Ecohydraulics Research, UI 2020-.
- Served on the search committee for the Department Chair in Mechanical Engineering, UI 2020.
- Served on the search committee for the Assistant/Associate Professor position in Renewable Materials Program, UI 2018-2019
- 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, 2017-2020

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