

2018 Abridged CV for Lee Douglas Wilson

Contact Information:

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1. ACADEMIC CREDENTIALS:

B.Sc., University of Winnipeg, 1992, Department of Chemistry, Chemistry.
Ph.D., University of Saskatchewan, 1998, Department of Chemistry, Physical Chemistry.

2. OTHER CREDENTIALS:

NSERC Postdoctoral Visiting Fellow, National Research Council of Canada, Steacie Institute for Molecular Sciences – Functional Materials Program, Ottawa, ON. 1999-2003.

3. APPOINTMENTS AND PROMOTIONS (UNIVERSITY OF SASKATCHEWAN):

Assistant Professor, Tenured, May 2004 to June 2012, Department of Chemistry
Associate Professor, Tenured, July 2012 to Present, Department of Chemistry

4. HONOURS (MEDALS, FELLOWSHIPS, and PRIZES)

Graduate Teaching Fellowship, University of Saskatchewan, 1993-1997
Johannson Scholarship, University of Saskatchewan, 1996
Taube Medal, University of Saskatchewan, 1997
Graduate Thesis Award in Natural Sciences & Engineering, University of Saskatchewan, 1998.
Governor Generals Gold Medal, University of Saskatchewan, 1999
NSERC Visiting Fellowship in a Canadian Government Laboratory, NSERC, 1999-2002
Biomedical Conference Travel Fellowship, Temple University, 2003
National Aboriginal Achievement Award (Science & Technology), Indspire (formerly; National Aboriginal Achievement Foundation), 2004.
1st Prize Presentation Award - Organic Chemistry Division, 2nd International Conference on Chemistry and the Environment, 2005, Indore, India.
Saskatchewan Centennial Medal, Government of Saskatchewan, 2006.
NSERC University Faculty Award (Aboriginal Scholar), NSERC, 2004-09
Scientist of the Month (December 2008) – Saskatchewan Science Network (see <http://www.sasksciencenetwork.ca/nominee.aspx>)
Queen's Jubilee Fellow (December 2012- December 2014) – Institute of Chemical Technology, Mumbai, India.
SREDA Best Project Award Finalist (November 2017), Saskatoon, SK.

5. TEACHING RECORD (Since 2004)

5.1 Scheduled Teaching: Undergraduate (UG) and Graduate (G) level courses

General Chemistry, Physical Chemistry (UG), Environmental Chemistry (UG), Physical Chemistry of Materials and Surfaces (UG), Special Topics in Research (UG), Supramolecular Chemistry (G), Thesis Research (UG), Special Topics in Physical Chemistry –Materials Characterization (G), Advances in Chemical Literature (G), Thesis Research (G), Chemical Kinetics (G), and Chemical Thermodynamics (G).

5.2 Unscheduled Teaching

Undergraduate thesis research Projects (1-2 per year average) and summer UG research projects (1-2 per year average) since 2004; 6 UG students from SK Polytechnic since 2009; and 1 UG international student (France; 2009, India; 2016). Undergraduate Summer Research Projects: 15 UG students since 2005. The total of UG trainees is estimated > 75 overall.

Postgraduate students (9 MSc/5 PhD) have completed their thesis projects under my direct supervision. Currently, 7 PhD, 1 MSc, 1 PDF, 1 RA, and 1 Visiting Professor are members of Wilson's research group. I serve as a faculty advisor and examiner on internal/external graduate student committees within the Department of Chemistry and other academic units (College of Engineering, Pharmacy, Soil Science, School of Environmental Science) at the U of S and externally from international universities. HQP are not listed here due to space limitations.

6. RESEARCH CONTRIBUTIONS

6.1 Peer-Reviewed Articles (Abbreviated list beginning from June 29, 2016):

Publications: (Current total 115; not listed due to space limitations)

- [115] Hossain, A. M.; Karoyo, A. H.; Dehabadi, L.; Fathieh, F.; Simonson, C. J. *; **Wilson L. D.*** "Starch Particles, Energy Harvesting and the *Goldilocks Effect*". *ACS Omega*, **2018**, in press. .
- [114] Karoyo, A. H.; Dehabadi, L.; **Wilson, L. D.*** "Renewable Starch Particle Carriers with Switchable Adsorption Properties" *ACS Sustainable Chemistry & Engineering*, **2018**, in press.
- [113] Manaf, N. A.; * Saad, B.; Mohamed, M. H.; **Wilson, L. D.**; Latiff, A. A. "CD based polymer sorbents for μ -solid phase extraction followed by liquid chromatography tandem mass spectrometry in determination of endogenous steroids" *J. Chromatography A*, **2018**, *1543*, 23-33.
- [112] Agobovi, H. K.; **Wilson, L. D.*** "Design of amphoteric chitosan flocculants for phosphate and turbidity removal in wastewater" *Carbohydrate Polymers*. **2018**, *189*, 360–370.
- [111] Udoetok, I. A.; **Wilson, L. D.***; Headley, J. V. Ultra-sonication assisted cross-linking of cellulose polymers. *Ultrasonics – Sonochemistry*, **2018**, *42*, 567-576.
- [110] Dolatkhah, A.; **Wilson, L. D.*** Salt-Responsive Fe₃O₄ Nanocomposites and Phase Behavior in Water. *Langmuir*, **2018**, *34* (1), 341–350.
- [109] Mohamed, M. H., Peru, K. M., Headley, J. V. and **Wilson, L. D.*** Chitosan Biopolymers for Analysis of Organic Acids in Aquatic Environments of Treatment Wetlands. *Journal of Geoscience and Environment Protection*, **2017**, *5*, 214-225.
- [108] Javad, A. H.; Sabar, S.; Ishak, M. A. M. ; Wilson, L. D.; Norrahma, S. S. A.; Talari, M. K.; Farhan, A. M. Microwave-assisted preparation of mesoporous-activated carbon from coconut (*cocos nucifera*) leaf by H₃PO₄ activation for methylene blue adsorption, *Chem. Eng. Commun.*, **2017**, *204*(10), 1143-1156.

- [107] Morin-Crini, N.; Winterton, P.; Fourmentin, S.; **Wilson, L. D.**; Fenyvesi, E.; Crini, G. Water-insoluble β -cyclodextrin–epichlorohydrin polymers for removal of pollutants from aqueous solutions by sorption processes using batch studies: A review of inclusion mechanisms. *Progress in Polymer Science*, **2018**, 78, 1-23.
- [106] Mohamed M. H.; Pirlot, M.; Danquah, M. K.; **Wilson, L. D.** * Use of Industrial Coal Waste Materials as Adsorbents for Textile Effluent Remediation. *Journal of Materials Science and Chemical Engineering*, **2017**, 5, 12-24.
- [105] Shaaban I. A., Karoyo A. H.; **Wilson, L. D.**; Mohamed T. A.* Raman and DRIFT spectra, vibrational assignments and quantum mechanical calculations of centrosymmetric meso-2,3-Dimercaptosuccinic acid. *Spectrochim Acta A Mol Biomol Spectrosc.* **2017**, 183:275-283.
- [104] Kong, D.; **Wilson, L. D.*** Synthesis and characterization of cellulose-goethite composites and their adsorption properties with roxarsone, *Carbohydrate Polymers*, **2017**, 169, 282-294.
- [103] Mohamed, M. H.; Wang, C.; Peru, K. M.; Headley, J. V.; **Wilson, L. D.*** Characterization of the Physicochemical Properties of β -Cyclodextrin–Divinyl Sulfone Polymer Carrier–Bile Acid Systems, *Mol. Pharmaceutics*, **2017**, 14 (8), 2616–2623.
- [102] Agbovi, H. K.; **Wilson, L. D.*** “Flocculation optimization of orthophosphate with FeCl_3 and alginate using the Box-Behnken response surface methodology” *Ind. Eng. Chem. Res.* **2017**, 56, 3145–3155.
- [101] Mahaninia, M. H.; **Wilson, L. D.*** “A kinetic uptake study of roxarsone using cross-linked chitosan beads, *Ind. Eng. Chem. Res.* **2017**, 56 (7), 1704–1712. [Cover Art published]
- [100] Agbovi, H. K.; **Wilson, L. D.***; Tabil, L. G. "Biopolymer flocculants and oat hull biomass to aid the removal of orthophosphate in wastewater treatment". *Ind. Eng. Chem. Res.*, **2017**, 56 (1), 37–46.
- [99] Karoyo, A. H.; **Wilson, L. D.*** “Properties of Supramolecular Hydrogels: An Insight into the Gelation Process” (Special Issue on Colloid Chemistry), *Gels* (Basel), **2017**, 3(1), 1-18. [Feature]
- [98] Udoetok, I. A.; **Wilson, L. D.***; Headley, J. V. “Self-Assembled and Cross-Linked Animal and Plant-Based Polysaccharides: Chitosan–Cellulose Composites and Their Anion Uptake”, *ACS Appl. Mater. Interfaces*, **2016**, 8 (48), 33197–33209.
- [97] Dehabadi, L.; Fathieh, F.*; **Wilson, L. D.**; Evitts, R. W.; Simonson, C. J. “Study of Dehumidification and Regeneration in a Starch Coated Energy Wheel”, *ACS Sustainable Chem. Eng.*, **2017**, 5 (1), 221–231.
- [96] Mahaninia, M. H.; **Wilson, L. D.*** “Modular Cross-Linked Chitosan Beads with Calcium Doping for Enhanced Adsorptive Uptake of Organophosphate Anions, *Ind. Eng. Chem. Res.*, **2016**, 55 (45), 11706–11715.
- [95] Mahaninia, M. H.; **Wilson, L. D.*** “Phosphate uptake studies of cross-linked chitosan bead materials”, *Journal of Colloid and Interface Science*, **2017**, 485, 201–212.[Editor’s choice paper]
- [94] Bhalkharan, S.; **Wilson, L. D.***; “Investigation of Self-Assembly Processes for Chitosan Based Coagulant-Flocculant Systems: A Mini-Review”, *International Journal of Molecular Sciences*, **2016**, 17, 1662-1683. [Invited Review]
- [93] Jawad, A. H.; Nawi, M. A.; Mohamed, M. H.; **Wilson, L. D.** “Oxidation of Chitosan in Solution by Photocatalysis”, *J. Polym. Environ.* **2017**, 25(3), 828-835. 1-8.
- [92] Udoetok, I. A.; **Wilson, L. D.***; Headley, J. V. “Stabilization of pickering emulsions by iron oxide nanoparticles”, *Advanced Material Science*, **2016**, 1(1), 24-33.
- [91] Dehabadi, L.; Udoetok, I. A.; **Wilson, L. D.*** “Macromolecular hydration phenomena: an overview of DSC studies on Nafion and cellulose biopolymer materials”, *J. Therm. Anal. Calorim.* **2016**, 126 (3), 1851–1866.