CURRICULUM VITAE

Amarjit 'Al' Luniwal, PhD

Education

2011 Ph. D. (Pharmaceutical Sciences - Medicinal Chemistry), University of Toledo, Toledo, OH
2003 M. S. (Medicinal and Pharmaceutical Chemistry), University of Technology of Madhya Pradesh, India
2001 B. S. (Pharmaceutical Sciences), Maharshi Dayanand University, India

Professional Experience

12/2015 – Present Medical Research Manager
NAMSA (North American Science Associates, Inc.)
Duties: ISO 10993 Part 1: Evaluation and testing within a risk management process and ISO 14971, Medical Devices – Application of risk management to medical devices; ISO 10993 part 4: Selection of tests for interaction with blood; ISO 10993 part 5: Tests for in vitro cytotoxicity; ISO 10993 part 6: Tests for local effects after implantation; ISO 10993 part 10: Test for irritation and skin sensitization; ISO 10993 part 11: Tests for systemic toxicity; ISO 10993 part 12: Sample Preparation and Reference Materials; ISO 10993 part 18: Chemical Characterization of Materials and serving as the Study Director for GLP studies and as the single point of control for straightforward multidisciplinary (in vivo and in vitro biocompatibility, chemistry, microbiology) preclinical projects; rely on experience, education and judgment to develop testing strategies, establish schedules, budget and quality commitments, and manage internal team members; performing a variety of tasks that may not have been done at NAMSA before, as well as accurately recording, analyzing and interpreting data; Review of final reports for scientific credibility and accuracy; Unexpected results and failure investigation; Failure root cause investigation and analysis; Corrective and preventive action plan design and evaluation; Technical support and consultation to sales and technical advisors on clients' testing needs.

01/2014 – 11/2015 Principal Chemist
NAMSA (North American Science Associates, Inc.)
Duties: ISO 10993 Part 1: Evaluation and testing within a risk management process and ISO 14971, Medical Devices – Application of risk management to medical devices; with primary focus on ISO 10093 part 18: Chemical Characterization of materials by testing results interpretation to support ISO 10993 part 17: Establishment of allowable limits for leachable based risk assessment of the extractable and leachable for biosafety and safety margin determination. Special study protocol design and development; Test method development and validation; Review of final reports for scientific credibility and accuracy; Unexpected results and failure investigation; Failure root cause investigation and analysis; Corrective and preventive action plan design and evaluation; Technical support and consultation to sales and technical advisors on clients' testing needs.

7/2012 – 12/2013	Senior Chemist NAMSA (North American Science Associates, Inc.) **Duties**: ISO 10993 part 1: Evaluation and testing within a risk management process. Primarily involved in ISO 10093 part 18: Chemical Characterization of materials by performing routine USP and EP monograph testing as well as complex USP and EP monographs using wet chemical and analytical instrumentation (e.g., Gas Chromatography and High Performance Liquid Chromatography). Scheduling of testing activities, accruing of appropriate materials/instrumentation and document testing activities on miscellaneous observation records, and perform a variety of new tasks. Performed several projects including study design and feasibility studies as well as method development and validation protocol writing. Actively participates in group discussions involving problem solving utilizing effective communication skills and technical expertise in material characterization. Familiar with standard concepts, practices, and procedures within a chemistry laboratory. Performs a variety of tasks that may not have been done at NAMSA before. Accurate recording of raw data in logbooks and on worksheets, analysis of data, and calculation and interpretation of the results of data. Development and improvement of documents such as standard operating procedures (SOPs). Some direct client contact and training other chemists.
2011 – 2012	Department of Chemistry, University of Toledo Position: Postdoctoral Associate **Duties**: Expressed metK gene in E. coli, expressed and purified S-adenosyl methionine synthase enzyme; performed enzyme characterization using biochemical assays. Designed and synthesized several enzyme inhibitors with good activity. Developed several analytical methods for both chiral and purity analysis using several chromatographic techniques.
2006 – 2011	Center for Drug Design and Development, University of Toledo Position: Graduate Assistant **Duties**: Performed several synthetic and analytical method development project that involved synthesis and isolation of natural products from soy utilizing several tools such a HPLC, FTIR and proton and C-13 NMR.
2005 – 2006	College of Pharmacy, University of Toledo Position: Graduate Teaching Assistant **Duties**: Performed teaching, proctoring, and grading assignment along with Org. Chem. Laboratory teaching.
2004 – 2005	Central India Institute of Technology Position: Lecturer **Duties**: Taught several undergraduate pharmaceutical sciences courses and labs.
2003 – 2004	Mahakal Institute of Pharmaceutical Sciences Position: Lecturer **Duties**: Taught several pharmaceutical courses to pharmacy undergraduate students.

PROFESSIONAL MEMBERSHIPS

Society of Toxicology – Full Member since 2016
American Chemical Society
Honor Society, Phi Kappa Phi
Indian Pharmaceutical Association

CERTIFICATIONS

- RESEARCH COMMERCIALIZATION INTRODUCTORY COURSE CERTIFICATION, National Council of Entrepreneurial Tech Transfer (NCET2).
- UNIVERSITY OF TOLEDO RADIOLOGICAL SAFETY CERTIFICATION, University of Toledo.
- FOREIGN PHARMACY GRADUATE EQUIVALENCY COMMITTEE (FPGEC) CERTIFICATION, National Association of Boards of Pharmacy (NABP).

SCIENTIFIC PUBLICATIONS & BLOGING

- D. E. Stec; K. John; C. J. Trabbic; **A. Luniwal**; M. W. Hankins; J. Baum; T. D. Hinds Jr, Bilirubin Binding to PPARα Inhibits Lipid Accumulation. *PloS one*, 11, e0153427 (2016).
- S. P. Zano, P. Bhansali, **A. Luniwal**, R. E. Viola, Alternative substrates selective for S-adenosylmethionine synthetases from pathogenic bacteria, *Archives of Biochemistry and Biophysics*. 536, 64–71 (2013).
- R. Jetson, N. Malik, A. Luniwal, V. Chari, M. Ratnam, P. Erhardt, Practical synthesis of a chromene analog for use as a retinoic acid receptor α antagonist lead compound, *Eur. J. Med. Chem*. 63, 104-108 (2013).
- J.G. Sarver, J.A. Trendel, N.R Bearss, L. Wang, **A. Luniwal**, P.W. Erhardt and RE. Viola, Early stage efficacy and toxicology screening for antibiotics and enzyme inhibitors, J. *Biomol. Screen*. 17, 673-682 (2012).
- **A. Luniwal**, L. Wang, A. Pavlovsky, P.W. Erhardt and R E. Viola, Molecular docking and enzymatic evaluation to identify selective inhibitors of aspartate semialdehyde dehydrogenase, *Bioorg. Med. Chern.*20, 2950-2956 (2012).
- Y.Y. Shan, CM. Zhang, L.Q. Tang, Z.P. Liu, N.R Bearss, J.G. Sarver, **A. Luniwal** and P.W. Erhardt, Syntheses of 2,3-diarylated 2H-benzo[e][I,2]thiazine 1,l-dioxides and their 3,4-dihydro derivatives, and assessment of their inhibitory activity against MCF-7 breast cancer cells, *Med. Chem.* 7,561-571 (2011).
- **A. Luniwal** and P.W. Erhardt, Total syntheses of (±)-vestitol and bolusanthin III using a Wittig strategy, *SynLett*, 1605-1607 (2011).
- **A. Luniwal**, R Khupse, M. Reese, J. Liu, M. El-Dakdouki, N. Malik, L. Fang and P.W. Erhardt, Multigram Synthesis of Glyceollin I, *Org. Proc. Res. Dev.* 15, 1149-1162 (2011).
- **A. Luniwal**, R S. Khupse, M. Reese, L. Fang and P. W. Erhardt, Total Synthesis of Racemic and Natural Glycinol, *J. Nat. Prod.*, 72, 2072-2075 (2009).
- Advances in Medical Device Materials – Part 1: Polycarbonate Resins. Posted on 04/29/2015, blog.
- Advances in Medical Device Materials. Part2: Synthetic Collagen Fibers & Trimethylene Carbonate/Lactide/Glycolide Polymers. Posted on 04/29/2015, blog.

PATENTS & BOOK CHAPTER

- P.W. Erhardt, R S. Khupse, and **A. Luniwal**, Methods for synthesizing glycinols, glyceollins I and II and isoflavenes and chromanes using a Wittig reaction, and compositions made therewith. *United States Patent*, US 8507549B2 (2013).
- **Luniwal, A.**; Jetson, R.; Erhardt, P. W. "Selective Estrogen Receptor Modulators (SERMs)" a Book Chapter in *Analog-Based Drug Discovery III (ABDD III)*, WILEY-VCH, **2013**, ISBN: 978-3-527-33073-7.

PODIUM PRESENTATIONS

- **Luniwal, A.** "Our Efforts toward Development of Species Selective Antibiotics" Departmental Seminar Series, the Department of Chemistry, University of Toledo, OH, January 2012.
- **Luniwal, A.** "Synthetic Scale-up and Process Optimization of Glyceollin I, a Novel Natural Product That Displays Interesting Anticancer Activity" 240th ACS National Meeting, August 2010, Boston, MA (ACS Travel Award).
- **Luniwal, A.** "Total Synthesis of (±)-Vestitol" 30th Annual Sigma Xi Student Research Symposium, University of Toledo, October 2009, Toledo, OH.
- **Luniwal, A.** "Total Synthesis of (-)-Glycinol" 42nd Mid-Atlantic of Graduate Students Symposium in Medicinal Chemistry (MAGSS)'09, June 2009, Toledo, OH.
- **Luniwal, A.** "Medicinal Chemistry and STEM Degree Programs." 42nd MAGSS'09, June 2009, Toledo, OH.

POSTER PRESENTATIONS

- **Luniwal, A.**; Pavlovsky, A.; Erhardt, P. W.; Viola, R. "Molecular Docking and 3D-QSAR Studies for Design and Development of Selective Aspartate Semialdehyde Dehydrogenase Inhibitors" the 31st Midwest Enzyme Chemistry Conference, October 2011, Chicago, IL; 242nd ACS National Meeting, August 2011, Denver, MA.
- **Luniwal, A.**; Erhardt, P. W. "Total Syntheses of Racemic and Natural Glyceollin II" 240th ACS National Meeting, August 2010, Boston, MA (ACS Travel Award).
- **Luniwal, A.**; Erhardt, P. W. "Total Syntheses of Vestitol and Its 3-Ene Relative" 239th ACS National Meeting, March 2010, San Francisco, CA.
- **Luniwal, A.**; Erhardt, P. W. "Total Synthesis of 3-Hydroxymedicarpin" 239th ACS National Meeting, March 2010 San Francisco, CA.
- **Luniwal, A.**; Erhardt, P. W. "Total Synthesis and Molecular Docking Studies of a Glabridin Analog Having Tyrosinase Inhibitory Activity" 32nd National Medicinal Chemistry Symposium, June 2010, Mineapolis, MN.
- **Luniwal, A.**; Mittal, R.; Erhardt, P. W. "Mechanistic Studies for *O*-debenzylation of Sulfur-Containing Substrates Having Therapeutic Importance by Using Pentamethylbenzene/TFA" 5th Annual BioOhio Conference, October 2008, Dublin, OH; 41st MAGSS'08, July 2008, Detroit, MI; 31st National Medicinal Chemistry Symposium, June 2008, Pittsburgh, PA; Graduate Student Research Symposium, University of Toledo, April 2008, Toledo, OH.

AWARDS & FELLOWSHIPS

- The National ACS Travel Award for 240th ACS National Meeting & Exposition, Boston, MA, August 2010.
- The Wayne and Dorothy Hoss Fund for Graduate Education Travel Award for 239th ACS National Meeting & Exposition, San Francisco, CA, March 2010.

- Junior Research Fellowship, University Grant Commission, Government of India, 2001 to 2003.