

KIRAN DHAKAL, PHD, MPH

Board Certified Toxicologist and Laboratory Director

Apex, NC 27539

keyrun@outlook.com

Phone: 530-405-7200, Email: keyrun@outlook.com

- Diplomate of the American Board of Toxicology (DABT)
- Certified by National Registry of Certified Chemists as Toxicological Chemist (NRCC-TC),
- Qualified for Laboratory Technical Director for high complexity testing as per 42 CFR 493.1443(b)(3)(i)

Willing to relocate: Anywhere

Authorized to work in the US for any employer



WORK EXPERIENCE

Director

2SD Toxicology Services LLC - Apex, NC

January 2020 to Present

- CLIA High complexity laboratory directorship on part-time basis
- Physicians office laboratory setup and consultation
- Laboratory assays validation (PCR, immunoassays, LC/MS/MS)
- Laboratory documentation, accreditation, quality assurance, and inspection preparation
- Mass spectrometry (LC/MS/MS) application services in clinical and forensic investigations
- Toxicology risk assessment services
- Forensic toxicology services

Research Scientist

LabCorp, Occupational Testing Services - Durham, NC

July 2017 to January 2020

- Forensic testing - method development and validation of work place drug tests
- Clinical and forensic toxicology data analysis and presentation
- Preparation of SOPs and assay validation reports
- Clinical laboratory assay development and validation
- Laboratory automation
- Publications and communication in laboratory medicine and toxicology

Scientist

Quality Laboratory Service (Clinical Laboratory) - Union, NJ

July 2016 to July 2017

- Method development and validation for 71 drugs/metabolites in urine using SCIEX 4500
- Method development and validation for 70 drugs/metabolites using in Oral fluid using SCIEX 4500.
- Method development and validation of Vitamin A, E, and Beta-carotene, and water soluble vitamins using Agilent 6410.
- Laboratory documentation and preparation for state (NYSDOH) and federal inspections

Toxicologist/Mass Spec Specialist

Principle labs LLC (Clinical Laboratory) - Bethlehem, PA

July 2015 to November 2016

- Daily operation of AB-SCIEX 4500 LC/MS system
- Method development and Validation of LC/MS/MS methods
- Periodic Calibration of Clinical Chemistry tests in VITROS 5600 (Certified Key Operator)
- Validation of clinical chemistry and toxicology tests
- Quality assurance and laboratory performance improvement
- Credentialing and accreditation activities for PA state and CLIA certification
- Review of LC/MS data
- Reporting out patient data in high complexity tests
- Review of Pharmacogenetics Taqman PCR assays data
- Supervising and training of laboratory technologists

Postdoctoral Research Fellow

Dep. of Molecular Biosciences, University of California, Davis - Davis, CA

June 2014 to July 2015

- Investigated the effect of PCBs in neurodevelopment using primary culture neurons using transfection, PCR, and other techniques in molecular biology
- Investigated effect of DFP, an organophosphate chemical, in persistent neurotoxicity using immunohistochemistry, MRI, and Proteomics techniques
- Contributed in three manuscripts, one as a first author

Graduate Research Assistant

Interdisciplinary graduate program in Human Toxicology, University of Iowa - Iowa City, IA

August 2009 to May 2014

- Investigated metabolism and toxicity of PCB3
- Carried out drug/chemical exposures by inhalation routes in rodents
- Developed an analytical method for LC/MS
- Identified, characterized, and published novel metabolites
- Carried out PK/PD analysis of PCB3 after inhalation exposure
- Tested hepatic toxicity by analyzing serum chemistry, gene expression and histology in rodent model after PCB3 exposure

Graduate Teaching Assistant

Department of Occupational and Environmental health, The University of Iowa

March 2012 to 2013

- Assisted in setting up and maintaining course website for 175:197 Environmental Health
- Responded to student e-mail inquiries, collected and graded exams, read and evaluated student, homework, assisted in the improvement of course content during and after the class
- Trained graduate students and undergraduates in lab rotation

Graduate research assistant

Department of pathobiology, Kansas state university

January 2008 to August 2009

- Investigated inhalation toxicology of metal oxide nanoparticle in vitro
- Carried out research in Inhalation toxicology
- Contributed in two book chapters in Respiratory system toxicology of nanoparticles
- Assisted in analysis of samples in clinical veterinary toxicology lab



EDUCATION

Ph.D. in Human Toxicology

University of Iowa - Iowa City, IA
2014

MPH in Environmental health

Kansas State University - Manhattan, KS
2009

DVM (Doctor of Veterinary Medicine)

Nepal
2003



SKILLS

- **Liquid/Gas Chromatography and Mass Spectrometry (LC/MS/MS)** : Daily, weekly, and monthly maintenance, operation, and troubleshooting of following instruments: Shimadzu and Waters HPLC/UFLC/UPLC systems, Agilent GC, AB-SCIEX, Waters LC/MS systems (10+ years)
- **Immunoassays** : Enzyme linked competitive and non-competitive immunoassays, western blots, Beckman Olympus 4600, Orthodiagnosics VITROS 5600 (Certified Key Operator) analyzers (5 years)
- **Immunohistochemistry and microscopy**: Operation of cryostat microtomes (Thermo), immunostaining, and image analysis by standard confocal microscopy (Nikon) as well as high-content imaging by ImageXpress (Molecular Devices) (1 year)
- **Spectrophotometry** : Operation of standard spectrophotometric instruments used in clinical chemistry laboratories including Atomic Absorption Spectroscopy (AAS) instruments for the analysis of trace elements (5 years)
- **Molecular Diagnostics** : Automatic or manual extraction of DNA and RNA, standard PCR reactions using a kit, genotyping, and allelic discrimination plots for the analysis of Single Nucleotide Polymorphism (SNP) studies (Taqman assays, Life technologies), CYP450 assays and other molecular diagnostics using Thermo Quant Studio (2 years)
- **Study Design**: Non-clinical Toxicology studies for chemical/drugs using both in vivo and in vitro models with specialized training in neurotoxicity, hepatotoxicity and genotoxicity (2 years)
- **Pharmacokinetics/Toxicokinetics**: Reviewer of the journal of Therapeutic Drug monitoring (TDM) and PK/PD analysis (2 years)
- **Toxicology risk assessment**: Health and environmental risk assessment of chemicals using analytical, epidemiological, and GIS techniques (5 years)
- **Clinical Toxicology** : Method development, validation, and interpretation of clinical toxicology tests. Start-up consultation for setting high complexity clinical laboratory, CLIA certification, and CAP/COLA accreditation. (5 years)
- **Forensic Toxicology** : Work-place drug testing using GC/MS and LC/MS, blood alcohol testing head space GC, literature review and presentation in forensic toxicology (3 years)



LINKS

<http://2sdtox.com>

<https://www.linkedin.com/in/kirandhakal>



CERTIFICATIONS AND LICENSES

Toxicology Chemist, National Registry of Certified Chemist (NRCC-TC)

Present

The Toxicological Chemist examination is a comprehensive exam covering the theoretical, fundamental, and practical aspects of toxicology

Diplomate of the American Board of Toxicology (DABT)

Present

- The vision of the ABT is to establish a globally recognized credential in toxicology representative of competency and commitment to human health and environmental sciences.
- The mission of the ABT is to identify, maintain, and evolve a standard for professional competency in the field of toxicology
- ABT encourages the study of the science of toxicology, stimulates its advancement by establishing standards for professional practice, and confers recognition by certification to those who, measured against such standards, demonstrate competence



PUBLICATIONS

Selected Publications

<https://scholar.google.com/citations?hl=en&user=2KBCu7kAAAAJ>



Kiran Dhakal, PhD, MPH, NRCC-T, DABT

University of California, Davis
Toxicology

	All	Since 2015
Citations	179	136
h-index	7	6
i10-index	5	4

TITLE	CITED BY	YEAR
Identification of sulfated metabolites of 4-chlorobiphenyl (PCB3) in the serum and urine of male rats K Dhakal, X He, HJ Lehmler, LM Teesch, MW Duffel, LW Robertson Chemical research in toxicology 25 (12), 2796-2804	56	2012
N-acetylcysteine (NAC) diminishes the severity of PCB 126-induced fatty liver in male rodents IK Lai, K Dhakal, GS Gadupudi, M Li, G Ludewig, LW Robertson, ... Toxicology 302 (1), 25-33	36	2012
Disposition of phenolic and sulfated metabolites after inhalation exposure to 4-chlorobiphenyl (PCB3) in female rats K Dhakal, E Uwimana, A Adamcakova-Dodd, PS Thorne, HJ Lehmler, ... Chemical research in toxicology 27 (8), 1411-1420	30	2014
Comparative Pulmonary Toxicity of Metal Oxide Nanoparticles John A. Pickrell, D. van der Merwe, L. E. Erickson, Kiran Dhakal, M. Dhakal ... Nanoscale Materials in Chemistry: Environmental Applications 1045, 225-233	18 *	2010
Sources and toxicities of phenolic polychlorinated biphenyls (OH-PCBs) K Dhakal, GS Gadupudi, HJ Lehmler, G Ludewig, MW Duffel, ... Environmental Science and Pollution Research 25 (17), 16277-16290	16	2018
Toxicity of inhaled nanomaterials JA Pickrell, LE Erickson, K Dhakal, KJ Klabunde Nanoscale Materials in Chemistry, Second Edition, 729-769	8	2009
Small animal toxicology essentials S Gwaltney-Brant Wiley-Blackwell	7	2011
PCB 95 promotes dendritic growth in primary rat hippocampal neurons via mTOR-dependent mechanisms KP Keil, GW Miller, H Chen, S Sethi, MR Schmuck, K Dhakal, JW Kim, ... Archives of toxicology 92 (10), 3163-3173	4	2018
Persistent behavior deficits, neuroinflammation, and oxidative stress in a rat model of acute organophosphate intoxication M Guignet, K Dhakal, BM Flannery, BA Hobson, D Zolkowska, A Dhir, ... Neurobiology of disease	3	2019
Pulmonary System JA Pickrell, K Dhakal, S Gwaltney-Brant Small Animal Toxicology Essentials, 95-98	1	2013

TITLE	CITED BY	YEAR
Sulfate conjugates are metabolite markers of inhalation exposure to 4-chlorobiphenyl (PCB3) K Dhakal University of Iowa		2014
Comparative in vitro estimates of inhalation toxicity of selected nanoparticles K Dhakal Kansas State University (Thesis)		2009