

Pravindya Rukshani Haputhanthri

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EDUCATION

Monash University, Victoria, Australia – PhD, School of Chemistry **05/2017**
Dissertation: “A Spectroscopic investigation into the interaction of novel Platinum(IV) and Platinum(II) anticancer drugs with DNA and cells” (Advisor: Prof. Donald McNaughton)

Mississippi State University, Mississippi, USA – MSc, Department of Chemistry **11/2011**
Dissertation: “Surface-enhanced Raman Spectroscopy of Thiobarbituric Acid (TBA) and TBA Reactive Compounds” (Advisor: Prof. Dongmao Zhang)

University of Peradeniya, Sri Lanka – BSc, Chemistry (Honors), Department of Chemistry **05/2006**
Honours project: “Removal of Zinc ions from aqueous medium using feldspar” (Advisor: Prof. Namal Heenkenda)

ACADEMIC EXPERIENCE

Research Experiences **05/2005 – 12/2016**

- Characterized Platinum (Pt)-based anticancer drugs obtained from the Deacon research group
- Studied DNA interaction with Pt complexes DNA using vibrational spectroscopy methods
 - Infrared (IR), IR imaging, Synchrotron IR, Raman, Surface Enhanced Raman (SER) spectroscopy, Atomic force microscopy (AFM)
- Characterized Pt complexes using other spectroscopy techniques
 - NMR, X-ray, cyclic voltammetry, UV-Vis spectroscopy
- Performed quantum chemical calculations on Pt complexes
 - Gaussian 09 program package
- Investigated the effect of Pt-based anticancer drugs on fixed and live cancer cells
 - IR spectroscopy and multivariate analysis (cell lines: HeLa, HT29)
- Participated in different projects conducted at synchrotron mid-IR beamline single cell imaging
- Investigated the ultrasensitive detection of thiobarbituric acid reactive compounds with surface-enhanced Raman spectroscopy
- Determined the binding affinity, packing, and conformation of thiolate and thione ligands on gold nanoparticles
- Studied the drastic pH and concentration dependent surface-enhanced Raman spectra of thiobarbituric acid
- Performed quantum chemical calculation on tautomers of thiobarbituric acid
 - PQS program package
- Investigated the modeling of removal of Zinc ions from aqueous medium using feldspar using atomic absorption spectroscopy

Internship, École Polytechnique Fédérale de Lausanne, Switzerland **10/2014-11/2014**

- Characterized Platinum (Pt)-based anticancer drugs binding with DNA using Atomic Force Microscopy (AFM)

Teaching Experiences

- Demonstrator, Monash University, Australia **03/2014–11/2016**
- Teaching Assistant, Institute of Chemistry Ceylon, Sri Lanka **05/2012–11/2012**
- Teaching Assistant, Department of Chemistry, Mississippi State University, USA **08/2008–08/2011**

INDUSTRY EXPERIENCE

Chemist, Dreamron (Pvt.) Ltd, Sri Lanka (Cosmetic industry) **08/2006–05/2008**

- Performed quality control and quality assurance tests for cosmetic products
- Developed new cosmetic products
- Improved the quality of current products

- Developed a titration method for the determination of acetone in the mixture containing isopropyl alcohol and acetone

LEADERSHIP AND ORGANIZATION ACTIVITIES

Vice President : Sri Lankan Students Association of Mississippi State University year, 2009/2010
Member : American Chemical Society, Leo Club of Horana Metro, and Chemical Society University of Peradeniya

HIGHLIGHTS

Research : IR, Synchrotron IR, IR imaging, Raman & SER spectroscopy, Cell Culture, Multivariate Analysis
Software : Origin lab, Endnote, OPUS, Unscrambler, Matlab (PLS Tool Box)
Publications : 3 Journal Articles, 1 Published Book, 2 International Conference Presentations and 2 Posters
Training : Hazardous Substances, Dangerous Good Awareness, Biosafety, Disposal and Handling Biological Waste, Six Sigma, First Aid (with CPR)
Subjects : Chemistry, Molecular Biology and Biotechnology, Biology, Food Science, Management

PUBLICATION

Books

- **Haputhanthri P. R.** SERS of thiobarbituric acid (TBA) and TBA reactive compounds. Lambert Academic Publishing, Germany. (ISBN 978-3-659-10646-0), 2012.

Journal Articles

- Al-Jorani, K; **Haputhanthi, R.**; Deacon, G. B.; McNaughton, D.; Wood, B. R.; Li, H. L.; An investigation into interaction of some organoamidoplatinum complexes with ovarian cancer cells using ATR-FTIR spectroscopy. Analyst, 2018, DOI: 10.1039/x0xx00000x
- **Haputhanthi, R.**; Ojha, R.; Izgorodina, E. I.; Guo, S-X.; Deacon, G. B.; McNaughton, D.; Wood, B. R.; A Spectroscopic Investigation into the Binding of Novel Platinum(IV) and Platinum(II) Anticancer Drugs with DNA. Vib. Spectrosc. 2017, 92, 82–95.
- Ansar, S. M.; **Haputhanthri, R.**; Edmonds, B.; Liu, D.; Yu, L.; Sygula, A.; Zhang, D. Determination of the binding affinity, packing, and conformation of thiolate and thione ligands on gold. J. Phys. Chem. C 2011, 115, 653-660.
- Zhang, D.; **Haputhanthri, R.**; Ansar, S.; Vangala, K.; De Silva, H.; Sygula, A.; Saebo, S.; Pittman, C. Ultrasensitive detection of thiobarbituric acid reactive compounds with surface-enhanced Raman spectroscopy. Anal. Bioanal. Chem. 2010, 398, 3193-3201.

Conference Presentations

- **Rukshani Haputhanthri**; Glen B Deacon; Ruchika Ojha; Donald McNaughton; Ewelina W. Lipiec; Bayden R. Wood; “Vibrational spectroscopic investigation into the binding of platinum complexes with DNA” ACOVS 10, (2014)
- **Pravindya Haputhanthri**; “Dongmao Zhang. “Drastic pH and concentration dependent surface-enhanced Raman spectra of thiobarbituric acid.” SERMACS Meeting, (2010)

Poster Presentations

- **Rukshani Haputhanthri**; Glen B Deacon; Ruchika Ojha; Donald McNaughton; Ewelina W. Lipiec; Bayden R. Wood; “Vibrational spectroscopic investigation into the binding of platinum complexes with DNA” ACOVS 10, (2015) (First place)

- **Pravindya Haputhanthri**; Dongmao Zhang. "Ultrasensitive detection of thiobarbituric acid reactive compounds using surface-enhanced Raman spectroscopy." FACSS Meeting, (2009). (Third Place)

REFERENCES

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