Malaika Octavia Durham

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EDUCATION

Doctor of Philosophy in Chemistry (Analytical) Anticipated Sept 2005
Purdue University, West Lafayette, IN
Research Advisor: Dr. Fred E. Regnier
Thesis Research: Development and Application of Serial Lectin Affinity Selection for the Identification on O-glycosylation in Healthy and Diseased Human Serum
Current GPA of 3.41 on a 4.0 scale

Bachelors of Science in Chemistry May 2001
Hampton University, Hampton, VA
Graduated with School and Departmental Honors
GPA of 3.25 on a 4.0 scale

EXPERIENCE

Teaching Assistant Aug. 2001-Present
Purdue University, West Lafayette, IN
- CHM 111: General chemistry for non-scientists
- CHM 115 & 116: General chemistry for engineers
- CHM 200: Fundamentals of chemistry for elementary education
- CHM 224: Analytical chemistry for health sciences and agriculture
- Rated very good to excellent in student evaluations

Research Assistant Jan 2002-Present
Purdue University, West Lafayette, IN
- Project:
  - The development of a global proteomic method for the selection and identification of O-linked glycosylation using multidimensional chromatography and mass spectrometry of peptides (off-line and on-line LC-MS/MS)
- Identify aberrant glycosylation patterns
- Database identification of parent proteins from tandem MS spectra of peptides
- Manager and organizer of group seminars and meetings

Research Intern Summer 2001
ExxonMobil Research and Engineering, Paulsboro, NJ
- Research assistant in High Definition Hydrocarbon Analysis Division.
- Use of HPLC for high definition hydrocarbon analysis of petroleum.
- Worked in team and individual settings.

Research Assistant Jan 1999 – May 2001

Hampton University, Hampton, VA

Separated environmental compounds and chiral drugs using capillary electrophoresis

Analyzed water samples for lead content using atomic absorption

INSTRUMENTATION EXPERIENCE

Mass Spectrometers

Sciex QSTAR™ (ESI-MS/MS)

PerSeptive Voyager DE-RP™ (MALDI-TOF)

HPLCs

PerSeptive BioCAD®

Waters Breeze®

Others

Varian Cary 300 UV-Visible spectrometer

SOCIETY MEMBERSHIPS

Sloan Foundation Fellow

American Chemical Society

National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), Vice President of Purdue University Chapter 2002-2003

Iota Sigma Phi, National Chemistry Honor Society for Women, Secretary of Purdue University Chapter 2004-2005

Beta Kappa Chi, National Science Honor Society

PUBLICATIONS AND CONFERENCES

Durham, M.O., Regnier, F.E. Evaluation of lectin affinity chromatography selection of O-linked glycopeptides for proteomic analysis. *Manuscript in preparation*

Durham, M.O., Regnier, F. E. Use of serial lectin affinity chromatography for the selection of N-and O-linked glycopeptides for proteomic analysis. *Manuscript in preparation*

Durham, M.O., Feasley, C.L., Xiong, L, Regnier, F. A quantitative proteomics approach to identifying cancer markers. NOBCChE National Conference, Indianapolis, IN 2002

Durham, M.O., Feasley, C.L., Xiong, L, Regnier, F. A quantitative proteomics approach to identifying cancer markers. Discover Purdue Analytical Meeting, West Lafayette, IN 2002