Sandeep Shun

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PROFILE

- **Provides experience in project planning, reporting and design.** Individually responsible for design and implementation of master's research project.
- **Offers experience in a field and lab setting**. Analyzed myriad samples (water, soil sediments) from field for chemical analysis. Spent 6 months working with a world leading North American company in analytical testing. Performed analysis on bacteria samples and sludge at local wastewater treatment plant for experiment conducted over 168 days for master's thesis.
- **Knowledgeable in statistical programming**. Includes SAS, Microsoft Excel, Graph Pad Prism, non-linear regression analysis, ANOVA, and multiple comparison tests.
- **Responsible** for solely supervising and operating a Peel Region recycling facility.

EDUCATION

- **Master's in Environmental Sciences.** *May 2015 - May 2017*
  University of Guelph, Guelph ON
- **BSc. in Environmental Sciences with major in Environmental Biology.** *September 2011- April 2015*
  University of Guelph, Guelph ON

EXPERIENCE

Environmental Advisor, *Ontario Power Generation (via CPUS Engineering)* *November 2018 - April 2019*

- Addressed the environmental issue of significant Tritium found in groundwater around site by gathering information, producing statistical graphs, and providing interpretation of results; efforts will be used in the end of year report to Canadian Nuclear Safety Commission (CNSC).
- Led the Carbon-14 (C-14) passive monitoring study by collaborating with the Health Physics department to implement passive air monitors at site for C-14 emission monitoring.
- Provided feedback on Environmental Impact Assessments (EIA) for construction projects performed on site; applied Ontario Regulations (O.Reg) from acts such as the Environmental Protection Act; became familiar with Environmental Management System (EMS) ISO 14001.
- Created tracking log for the Emission Summary Dispersion Modelling (ESDM) report; log was used by management to complete 2018 ESDM report to the Ministry of the Environment (MOE).

Site Supervisor, *Envirosystems Incorporated* *February 2018 - November 2018*

- Supervised the Household Hazardous Waste (HHW) department at Region of Peel Heart Lake recycling facility by providing customer service, consolidating reports and scheduling material invoices; ensured the disposal of HHW was completed according to O. Reg 347.
- Acted as a liaison between Envirosystems, Tuff Recycling, and the Region of Peel to maintain proper functioning of the facility.
- Updated in Workplace Hazardous Material Information Systems (WHMIS), Transportation of Dangerous Goods (TDG) Act, and Occupational Health and Safety (OHAS) training.
- Provided logistical support, planning of personnel, and equipment required per day; ensured operations ran smoothly.

Laboratory Technician, *Maxxam Analytics* *June 2017 - December 2017*

- Utilized the Lab Information Management Systems (LIMS) for obtaining and updating job status, inputting data, and following Standard Operating Procedures (SOP's).
- Analyzed 3 batches (48 samples) of soil and water per day by performing Polycyclic Aromatic Hydrocarbon (PAH) extractions and preparing quality control samples; ensured quality specifications required by the client were met within holding time requirements.
- Prepared samples, sub-samples, and reagents using laboratory equipment such as tumblers, pipettes, water baths, vortex, paint shakers, centrifuge, and electrode sensors.

Research Assistant, *University of Guelph* *May 2015 - May 2017*

- Researched the optimal Dissolved Oxygen (DO) concentration that would maximize nitrification rate using a bioreactor to evaluate various DO treatments (2, 4, 6, 8, 10, 12 mg $^{L-1}$) on nitrification.
- Offered environmental significance by assisting treatment plants like Constructed Wetlands to optimize aeration conditions, reducing Ammonia (NH_4^+) and Nitrate (NO_3^-) concentrations in agricultural wastewater.
- Collected 330+ wastewater samples and performed colorimetry tests for the wastewater samples (EPA method 350.1 for NH_4^+, EPA method 350.2 for NO_3^-).
- Used samples to create data sets (ANOVA, multiple comparison, non-linear regression, asymmetric sigmoidal curve), to produce several graphs and tables; conducted experiment for 168 days (6 treatments x 7 days per run x 4 replications).
- Presented the information based on the Ontario Water Resources Act (OWRA); published thesis to evaluate the relationship between DO and nitrification to reduce nitrogen in agricultural wastewater.

Undergrad and Graduate Studies, *University of Guelph* *September 2011 - May 2017*

- Delivered oral and written reports to communicate essential elements of environmental science. Major presentations and reports include:
- **Evaluating the effects of landscape and geology on NO_3^- transport in groundwater.** Gained understanding of how glacial sediments and their characteristics influence the amount of NO_3^- going into groundwater. A better grasp of landscape processes on NO_3^- transport will allow scientists to establish more effective management plans.
- **Exploring the use of green roofs to reduce storm water runoff in urbanized environments.** Assessed if green roof technology could be an effective tool to reduce storm water runoff. Currently, storm water promoted by urban environments causes problems such as eutrophication caused by nutrient runoff and groundwater contamination.

EXTRACURRICULAR ACTIVITY

Safety Representative of Graduate Student Council (GSC), *University of Guelph* *June 2016 - April 2017*

- Conducted safety audits by performing monthly inspections, attending meetings with safety department's to discuss initiatives, and distributed information to students and professors; ensured 12 labs complied with safety standards.