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 field and lab experience**. 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. Analyzed bacteria samples and sludge at local wastewater treatment plant for experiment conducted over 168 days for master's thesis.
- **Provides experience with statistical programming**. Includes SAS, Microsoft Excel, Graph Pad Prism, non-linear regression analysis, ANOVA, and multiple comparison tests.
- **Skilled** with analysis and critical thinking. Diligent. Organized. Team player with leadership qualities.
- **Responsible** for solely supervising and operating a Peel Region recycling facility.

EDUCATION

- **Master's in Environmental Sciences.** Completed in April 2017
  University of Guelph, Guelph ON
- **Bachelor of Science in Environmental Sciences with Major in Environmental Biology.**
  Completed in April 2015, Cumulative Grade Point Average - 82.34 %
  University of Guelph, Guelph ON

EXPERIENCE

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

- Gained knowledge on structures used to store nuclear waste (Ex. Quadricells, In-Ground Containers, Tile Holes). Orange Badge 1 training completed, with valid security clearance at Bruce Power Nuclear site until November 2023.
- In charge of the C-14 passive monitoring study. Collaborated with Health Physics department to implement passive air monitors at site for C-14 emission monitoring.
- Addressed the environmental issue of significant Tritium found in groundwater around site. Assisted senior advisor's by gathering information, producing statistical graphs, and providing interpretation of results, for end of year report to Canadian Nuclear Safety Commission.
- Provided feedback on project closure plans, and Environmental Impact Assessments (EIA)
- Created tracking log to assess engineering modifications for Emission Summary Dispersion Modelling report. Process involved frequent communication with Performance Engineering.

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

- Responsible for supervising the Household Hazardous Waste Department (HHW) at Region of Peel Heart Lake recycling facility
- Worked with residents in Region of Peel to assist with management and disposal of their HHW in an environmentally sound manner
- Input inventories into computer, put together manifest, and scheduled material pick-ups
- Updated in WHMIS, TDG, and Occupational Health and Safety training.

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

- Reviewed LIMS summary reports, and followed Standard Operating Procedures (SOPs) efficiently.
- Performed sample preparation prior to analysis. Analyzed soil and water samples by performing Polycyclic Aromatic Hydrocarbon extractions. Prepared QC samples for analysis.
- Met quality specifications required by the client and ensured samples were analyzed within holding time requirements.
- Prepared samples, sub-samples, and reagents. Used laboratory equipment including: tumblers, pipettes, water baths, vortex, paint shakers, centrifuge, and electrode sensors.

Research Assistant, *Unversity of Guelph* *May 2015- April 2017*

- Researched the optimal Dissolved Oxygen (DO) concentration that would maximize nitrification rate. Used bioreactor to evaluate various DO treatments (2, 4, 6, 8, 10, 12 mg $^{L-1}$) on nitrification.
- Offered environmental significance to assist treatment plants like Constructed Wetlands to reduce Ammonia (NH_4^+) and Nitrate (NO_3^-) concentrations in agricultural wastewater by optimizing aeration conditions.
- Collected and analyzed more than 330 wastewater samples for NO_3^-, using an electrode sensor. Performed colorimetry tests. Applied multiple statistical analysis on data sets (ANOVA, multiple comparison, non-linear regression, asymmetric sigmoidal curve), to produce several graphs and tables. Experiment lasted 168 days (6 treatments x 7 days per run x 4 replications).
- Followed/ presented information based on Ontario Water Resources Act. Carried out colorimetry tests (EPA method 350.1 for NH_4^+, EPA method 350.2 for NO_3^-).
- Published thesis to evaluate the relationship between DO and nitrification to reduce nitrogen in agricultural wastewater.

Additional Projects, *University of Guelph* *September 2011-April 2017*

- ***Undergrad and Graduate courses.*** Acquired advanced knowledge of different environmental remediation topics, specifically focusing on improving water quality.
- 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

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

- **Participated as safety representative.** Conducted safety inspections at 12 labs monthly. Attended meetings with safety department to discuss and implement initiatives to ensure safety in labs. Distributed information to students and professors. Reported outcomes to GSC.

Member of the Free the Children Group, Guelph, ON *September 2012-April 2015*

- Engaged with group to fundraise for children who are struggling with food, school and daily living.
- Events included: **Hopscotch4Hope** which raised $22,000, and attracted approximately 850 participants.