QUEEN'S UNIVERSITY SUPPORT STAFF
POSITION SUMMARY

DEPARTMENT: Chemistry
POSITION NUMBER: 00500759
POSITION TITLE: Instrumentation Manager **GRADE:** 9

Job Summary:

The Instrumentation Manager (IM) oversees the day-to-day operation of the X-ray crystallography facility and surface analysis facility and assists the NMR facility manager with the facility's daily operation. The IM provides leadership in the area of X-ray crystallography within and beyond the Department and supports the Department and external users by effectively managing all aspects of the operation of the X-ray facility. The IM is also responsible for supervising and advising on the maintenance and upgrading of the X-ray facility and the surface analysis facility, training and advising users in the use and applications of the X-ray, surface analysis and NMR facilities. The IM will report to the Head of the Department and the Chair of the Infrastructure Committee.

Duties and Responsibilities:

- The IM will ensure that all X-ray and surface analysis equipment is at peak operating efficiency and ensure that instrument repair is conducted as soon as possible either by internal electronics personnel or service personnel outside the university.

- The IM will supervise the scheduling of the usage of the X-ray, surface analysis and NMR facilities and develop efficient sample handling methods to ensure efficient service. This will include development of maintenance schedule for minimizing down-time of the instruments. The IM will be expected to manage the X-ray and the surface analysis facilities through all growth phases of the Department, including additional instrumentation and an expanding user base within and beyond the Department.

- The IM will support X-ray and surface analysis users through outstanding sample analysis. Results of the analysis will be effectively communicated to users in a timely manner.

- The IM will keep abreast of developments in X-ray crystallography and surface analysis and be capable of modifying the equipment so as to provide new types of analysis to accommodate the research of the Department. The IM is also required to have or develop expertise in crystal growing, unstable sample handling and twinning and disorder structure refinement, and expertise in the interpretation of the X-ray crystallographic and surface analysis (XPS, SEM and SAM) data. It is expected that the IM will actively assist in the preparation of equipment grant applications that will augment and update the capacities of the X-ray and surface analysis facilities.

- The IM will maintain user records for X-ray and surface analysis facilities and be responsible for providing monthly statements of usage to the Department manager or his/her designate. An annual report on the operation, usage and needs is to be presented to the Infrastructure Committee at the end of the University's fiscal year.

Required Background:

- A PhD in Chemistry with a demonstrated expertise in single crystal X-ray crystallography and preferably with experience on powder X-ray diffraction, XPS, SEM and SAM and NMR.
- An equivalent combination of education and experience will be considered.

Special Skills:

- Computer skills: extensive knowledge of the use and modification of X-ray, surface analysis and NMR instrumental software.
- Technical skills: demonstrated expertise in the operation and development of X-ray diffraction analysis, surface analysis and NMR facilities.
- Research skills: must be able to solve problems related to the use and the application of the facilities.
- Multitasking skills: must be able to manage multiple priorities.
- Organizational skills: ability to work to deadlines and prioritize.

- Must be self-motivated and have strong desire to discover, adopt and implement new ideas and techniques.
- Communication skills: excellent in both written and oral, and of the capability to deliver seminars and tutorials.
- Human resource skills: strong interpersonal, motivational, and supervisory skills.

Decision Making:

- Determine priorities in terms of routine vs specialized and short-term vs long-term usage of equipment.
- Assign and prioritize routine and specialized experiments to the instruments and personnel in the facilities.
- Based on cost/benefit analyses, determine if new equipment required or if repair is feasible.
- Make decisions on day-to-day matters arising during the operation of the facilities.
- Determine when to bring to the department Head or Head's Delegate, matters of concern or urgency.

Signatures:

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Incumbent	**Supervisor**	**Department Head**

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Date