Position Title
Systems Developer (Submission Systems and CIF validation)

Location
Chester, UK

About the Role
The IUCr is seeking a systems-focused developer to support and improve key journals publishing and validation services. The role centres on the operation and development of checkCIF, the online submission and peer-review system, and associated workflow tools and web pages.

The post-holder will work closely with colleagues to troubleshoot issues across submission and review workflows, respond to enquiries from authors, referees, co-editors and staff, and contribute to the ongoing development of systems and processes. The role also includes practical work with structured scientific files, particularly CIF and LaTeX, and coordination with external services that form part of the submission and validation workflow.

Responsibilities will evolve over time in line with the needs of the journals programme and ongoing development of IUCr's data and validation services. The successful candidate will be expected to work from the IUCr Office in central Chester.

Key Responsibilities

Validation and checkCIF
- Maintain and develop the checkCIF validation service.
- Investigate and resolve validation issues raised by authors, editors, referees and internal staff.
- Coordinate updates relating to validation tools used within checkCIF, including liaison with external collaborators such as the PLATON developer and the CCDC where required.
- Contribute to improvements in validation tools, processes and supporting documentation.

Submission and Peer-Review Systems
- Support and enhance the online journal submission and peer-review system and associated web pages.
- Troubleshoot workflow issues, including submission exceptions, review document generation, file handling and automated processing failures.
- Support referee and editorial workflows, including special cases and non-standard submissions.
- Provide operational support for connected publishing processes, including correspondence and workflow administration where needed.

File and Workflow Support
- Diagnose issues involving submission files and structured content, including CIF, LaTeX, word-processing files and figures.
- Help maintain reliable handling of files and metadata across connected systems and services.
- Contribute to the improvement and automation of routine processes where appropriate.

- Produce or support periodic operational reporting and statistics.

Standards and Data Quality

- Apply practical knowledge of CIF and related validation processes in support of journals workflows.
- Contribute to the maintenance and improvement of IUCr data and validation practices as part of system development and support work.
- Support consistency and quality in the use of crystallographic data within publishing workflows.
- Liaise with COMCIFS and other CIF standards groups to maintain and develop CIF dictionaries.

Candidate Profile

- Has experience supporting and improving web-based systems or workflow platforms.
- Practical familiarity with CIF and scientific data validation or troubleshooting.
- Experience working with file-based workflows, ideally including LaTeX and related submission materials.
- Strong analytical and problem-solving skills.
- Clear and effective communication skills, with the ability to support a wide range of external and internal users.
- Able to coordinate across connected systems and work effectively with colleagues and external partners.
- Demonstrable programming or scripting ability, with the confidence to read, write and troubleshoot code independently (e.g. Perl, Python, FORTRAN or shell).

Desirable skills

Familiarity with checkCIF, PLATON, CCDC workflows, or related validation services.

- Experience reviewing operational processes and implementing justified improvements.
- Understanding of scholarly publishing and peer-review workflows.
- Familiarity with the use of AI in program or system development.