ROYAL SOCIETY
OF CHEMISTRY

3. THE APPLICATION PROCESS

There are two ways you can apply for a professional award:

1. A written application.

2. An interview with the award assessors.

The interview option may be more accessible for you for a number of reasons, which might include a disability or learning difference, such as neurodivergence (e.g. autism, ADHD, dyslexia). There is no need to provide any evidence of these in order to apply via the interview route, although you are welcome to submit details of any disability-related adjustments or access requirements in advance of the interview.

5. HOW TO WRITE EXAMPLES IN COMPETENCY-BASED APPLICATION FORMS

In general, we encourage the use of the SHARE format when preparing examples in competency-based applications. Each letter in the word 'SHARE' represents a different component of a good competency example. Using this model in both written applications and for a brief competency report for an interview application helps you to make sure that you cover all the key information that the assessors will want to see.

		changes highlighted
I am part of a team that visits UK airports to evaluate ETD operators. As part of the work, training surfaces contaminated with known quantities of explosives are produced. These training surfaces are then swabbed by the operators, analysed and the results are recorded. Training surfaces must be reproducible and consistent in order to determine the swabbing efficiency of the operator. To produce these training surfaces a validated SOP must be adhered to. By following this procedure both my team and I are confident in the quality of the training surfaces we provide.	• Examples should be written in the first person, not in third person like formal scientific writing. This helps assessors to understand the personal contribution that an applicant has made, and the level of responsibility and autonomy that they are working with. • Acronyms, eg ETD, need to be expanded when used for the first time. • This example would benefit from some more detail regarding exactly what the applicant does to produce training surfaces (the ACTION), and how they are made. The assessors are professional scientists, but may have a different background so the technical aspects should be explained to introduce the principles. • All aspects of the competency should be demonstrated. Here, there is no discussion of the limit of scope of practice. Some thought is required about how this example shows both working autonomously and where additional support has been sought. • Impact of the work on immediate colleagues has been discussed, but the impact on the users of the work could be discussed (the ETD operators).	[SITUATION] I am part of a team that visits UK airports to evaluate ***explosives trace detection systems (ETDs)*** operators. As part of the work ***I produce*** training surfaces contaminated with known quantities of explosives. These training surfaces are then swabbed by the operators, analysed and the results are recorded. [HINDRANCE] Training surfaces must be reproducible and consistent in order to determine the swabbing efficiency of the operator. [ACTION] To produce these training surfaces ***I must strictly adhere to a validated standard operating procedure (SOP). Firstly, I hand clean the test surfaces following a thorough cleaning procedure. The test surfaces are allowed to dry in a clean, non-contaminated area of the trace lab. I use an analytical standard to produce an explosives solution of the correct concentration. To confirm its concentration I analyse the solution by liquid chromatography-mass spectrometry (LC-MS) using a validated method. I check both system suitability and results criteria are acceptable prior to using the solution. If any of these checks fail or are not acceptable, I must then escalate the results to a senior analyst since this is beyond the limit of scope of my practice. The senior analyst will carry out further investigations and maintenance as required and then, when the instrument is confirmed as fit for use, I can continue working autonomously.*** ***I spike the solution onto the clean, dry surfaces using a verified glass airtight syringe. The training surfaces are allowed to dry and I package the surfaces, labelling them appropriately.*** [RESULT + EVALUATION] By following this procedure both my team and I are confident in the quality of the training surfaces we provide. ***By controlling the production of these surfaces we can guarantee that the data we obtain from the ETD operators is reliable, and that results are due to operator performance or the ETD itself.***

6. CONDUCT WITHIN AN APPLICATION

The content of an application for professional registration should be the work of the applicant and we expect all applicants to adhere to our Code of Conduct.

The RSC acknowledges that Artificial Intelligence (AI) tools may appropriately and ethically be employed as aids in composing or enhancing an application. Acceptable uses of AI include:

- translation
- checking and correcting spelling
- checking and correcting grammar
- checking the readability of an application
- generating suggestions for alternative words (online thesaurus)

Applicants bear responsibility for the originality, validity, and integrity of the content of their application, even when employing AI tools for certain elements. Unethical use of AI (for example, generating generic or untrue evidence statements that don't relate to the applicant's personal experi-

7. COMPETENCY EXAMPLES

The examples below will help you identify potential topics for you to discuss in your application form. They are designed to serve as inspiration rather than a complete answer. To make sure that you provide sufficient detail, write your answers for each competency (around 200-400 words) in the format.

Registered Scientists work in many different settings. Here, we have provided examples of some industries and fields that previous applicants have been involved in (it is not an exhaustive list). However, many of these examples can apply to more than one sector so you might find it helpful to look over them all.

		This includes examples from teaching, research and industry technicians		
Analyse, interpret and evaluate data, concepts and ideas to propose solutions to problems. *We are looking for an example of how you observe and interpret the results from your data to draw conclusions and inform your next steps.*	• Solving calibration issues with a lab instrument. • Gathering considerable quality control (QC) data to ensure a particular method is performing well. • Troubleshooting a failed instrument tune to identify a problem with one component, and carrying out maintenance and replacing components. • Reviewing the analytical quality control results for a certain element on one of the instruments which was producing a high bias.	• Conducting a literature review to find the best method of analysis of complex substances, and adapting it to the existing lab equipment. • Proposing an upgrade to an existing, unreliable instrument by testing those from different manufacturers and reporting on cost, efficiency and potential student experience. • Finding an alternative method of analysis for samples which were very small. • Designing experiments to investigate all variables [illegible]		

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Demonstrate effective and appropriate communication skills. *What we are looking for here is an example that you are an effective communicator. The example can be through appropriate oral, written or electronic means.*	• Demonstrating how to complete a new software process when no training time had been allocated. • Communicating to late shift workers about the work done that day using digital recording systems and a shared whiteboard. • Producing prospective costing information for a new method into an Excel spreadsheet and a visual document. • Introducing and conducting weekly meetings to keep analysts up to date with what's happening each week and things to be aware of. • Running instrument demonstrations for lab visitors, going through how the instruments work, capabilities and limitations and offering to answers questions throughout.	• Preparing a presentation for students and staff and later circulating the materials. • Contacting suppliers for quotations and ensure the best price for a product by phoning to request a product sample. • Carrying out an induction for new starters including a tour, a discussion, and instructing staff to read and sign the lab manual. • Compiling a report of trial results for all project stakeholders, ensuring all proposed changes are effectively communicated.	• Preparing a memorandum report to document experimental testing and the results. • Communicating project results to non-analytical colleagues as required to ensure universal understanding. • Keeping team leaders and clients fully posted on the status of ongoing analysis including any problems or setbacks. • Detailing issues with routine lab work via email, with more in-depth discussions as a one-to-one meeting with the team leader.	• Attending weekly team meetings and preparing a set of slides to show progress for the week and allows discussion of any results or potential problems. • Giving a presentation of troubleshooting tips on a metabolic profiling course for external attendees. • Representing other students as a year in industry forum rep at various events. • Staffing a stall at a science festival and explaining scientific concepts to members of the public and of the scientific community.
Demonstrate effective interpersonal and behavioural skills. *This means that you can give an example that demonstrates the skills that you use to interact with colleagues in a constructive way within the work setting. In these situations it may be appropriate to discuss these with your supervisor, as an external perspective is often very useful in this regard.*	• Ensuring fellow colleagues understand what is required of them and the importance of carrying out tasks correctly, through conversations, demonstrations and adapting for different learning styles. • Visiting another laboratory to learn about a particular method to implement an in-house process. • When instrumental breakdowns occur, arranging meetings with external contractors to conduct repair. • Coordinating a number of aspects when an instrument breaks and cannot be repaired by on-site staff.	• Planning lab work for project students through efficient communication and coordinating with a wider group of lab users. • Interacting with a prospective candidate who applied for the post of chemistry technician. • Hosting contractors to clean roof space, and managing negative reactions when the fire alarm was accidentally activated. • Running lab tours for visiting customers and new staff starters.	• Talking a colleague through a procedure they had not undertaken before. • Providing detailed advice to an analyst who was unsure of how to approach a method due to ambiguous wording. • Providing training and making sure to communicate the information clearly and accurately so that the listener fully understands and is content with any instructions received. • Reassuring an analyst who became distressed when a piece of equipment malfunctioned.	• Interacting frequently with external suppliers and engineers for lab maintenance purposes, and maintaining a polite, friendly and professional demeanour. • Networking with others within the NMR community as part of the RSC NMR Discussion Group. • Employing negotiation skills to ensure raw material requests were prioritised by the relevant team so that project critical deadlines were not negatively impacted. • Maintaining a good working relationship with temporary placement students by creating a positive working environment and leading by example.

		This includes examples from teaching, research and industry technicians		
Contribute to the organisation of tasks and resources. *This means that you can give examples of how you have contributed to the running of the laboratory/ workshop/section or other types of working environment.*	• When a new pH meter was installed, completing a new equipment file, relevant control charts, and coordinating training. • In anticipation of a new piece of equipment being installed in a lab – arranging quotes and invoices, making sure there is appropriate space and appropriate access to things like water lines. • Managing a group of analysts and arranging how the work is divided to ensure the vital areas are kept running. • Due to illness and annual leave, organising the team to make sure every method had someone to analyse samples.	• Creating log books for all instruments in a lab to present important information clearly and be able to identify problems in future. • Giving induction training and fire safety training to students at the start of the lab courses. • Creating internal web pages to include information on shared equipment, the responsible contact, how to order consumables and how to book instrument training. • Developing and updating a working schedule when multiple projects are running in a lab to ensure the most efficient usage of heavily used equipment.	• Pre-emptively requesting an order for extra consumables to prevent the possibility of a shortage during a period of increased testing. • Making sure required chemical reagents and standards are within their expiry dates and that any relevant equipment can be made available before commencing any work. • During a lengthy test run, scheduling in other tasks to complete during the time.	• Organising a weekly rota for filling complex instruments with liquid nitrogen. • Creating a raw material tracker spreadsheet on the shared online area which contained all the details of the materials such as lot numbers, location and stock levels. • Streamlining the lab chemical inventory by removing unnecessary columns and adding in hyperlinks and colour codes to flag low stock. • Transferring paper-based records to an electronic system to contribute to making lab systems more environmentally friendly.
Participate in the design, development and implementation of solutions. *This means that you can give an example of 'problem solving' that describes your specific role in helping to overcome a specific problem. For instance it might mean that a process, programme, design, assay, or method suddenly stops working and you are involved in finding out the reason why. Your example should show what your role was in understanding the problem and what your contribution achieved.*	• Investigating the cause of sample and QC failures and implementing a change in the cleaning rota to avoid the issue in future. • Reviewing the batch reporting procedure and developing software to automate steps as appropriate to streamline the process. • Improving a calibration standard preparation procedure to increase reliability and accuracy. • Noticing there was a historic issue of certain element results being high from AQC samples so taking the initiative to resolve this by investigating all possible sources in testing processes.	• Troubleshooting issues which arise when transmitting a method from one instrument to another. • Noticing an issue with a vacuum pump so designing a solution with assistance from Estates to minimise exposure to hazardous substances. • Developing an online booking system for shared instruments. • Running multiple experiments and using statistical analysis software to determine the most effective conditions to fully utilise a particular chemical.	• Noticing an issue with low peak response caused by sample residue build up and trialling a long term solution to increase syringe washes. • Implementing the use of a more efficient solvent in a testing process. • Providing clarity on a procedure when a pharmacopoeia method involved some cross referencing between two different methods. • Instigating a method guidance note which contains advice and recommendations on how to approach a particular test and documents acceptable deviations that the analyst can carry out.	• Investigating in-range, but low test results by looking through old reports and adjusting the procedure according to a change in calculation. • Investigating the cause of low resolution in results, after confirming the instrument was performing correctly and samples had sufficient volume. • Getting to grips with new data recording software, and compiling all problems, glitches and fixes into a shared document. • Undertaking a literature review to explain reaction performance and identifying an alternative procedure.
Contribute to continuous process improvement. *This means that you can give an example which shows how you are aware of progress in your area and seek ways of improving the efficiency of your work. It should describe how you seek to discuss with your supervisor the strategy for achieving this. For instance this could include new and improved methods, new ways to increase throughput, or ways to increase cost-effectiveness.*	• Designing a procedure to reduce known negative bias issues with an instrument. • When a component is discontinued by the manufacturer, identifying a replacement. • Due to workload increase, validating another instrument for a specific testing method as priority. • Applying knowledge of an analytical technique to assist the purchase of a new instrument.	• Contributing to a project to determine the impact of using a new product and proposing solutions to problems arising from time being diverted from other responsibilities. • Creating reference materials and operating procedure/instructions to support use of resources in the lab. • Streamlining chemical administration from a paper-based system to an electronic system inputted on a spreadsheet. • Developing a new project based on supplier interest and previous research.	• Producing a new version of a written analytical method to make it more streamlined with less room for misinterpretation. • Developing novel methods for drugs assays, and progressing the methods to pass pharmaceutical level validation. • Developing and implementing a more formal process for reporting non-conformances. • Helping to establish regular, comprehensive training for new starters.	• Developing a new intake process for commercial trials to handle increased number of samples. • Regularly reviewing the SOPs and updating them with new methods and techniques. • Organising and improving the raw material storage system into a more logical, easy to navigate arrangement. • Providing feedback to software developers suggesting improvements and extra features for ease of use.

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Comply with and promote relevant codes of conduct and practice. *This means that you can give an example of how you comply with a code of conduct (eg. of your professional body) or how you work within and promote all relevant legislative, regulatory and local requirements.*	• Due to working in a UKAS accredited lab, carrying out a health and safety observation regarding bottle disposal to ensure health and safety guidelines are adhered to. • Attending a course on COSHH and creating safety documents as and when necessary. • Adhering to ISO17025 according to UKAS accreditation, including calibrations, maintaining staff competence, circulating any method changes, and preparing for annual audits. • Complying with the company code of conduct and reporting any health, safety or wellbeing flags on a monthly basis.	• Completing a COSHH form for an environmentally toxic chemical so ensuring waste disposal streams were available. • Working to ethics codes as set out by the institution. • Sitting on health and safety boards for the department and wider university through the union. • Attending code of conduct introductory courses and completing other required courses as outlined in the company induction.	• Adhering to company health and safety guidelines, including appropriate use of PPE according to the type of work being carried out. • Adhering to cGMP guidelines. • Complying with the company's confidentiality agreement. • Verifying medications with respect to quality control.	• Abiding by the Royal Society of Chemistry (RSC) code of conduct, demonstrating respect for others, integrity and responsibility. • Reading and understanding all SOPs before undertaking a procedure, and becoming familiar with any updates or changes to these. • Ensuring that all Class 2 laboratory work is carried out in a Class 2 Microbiological Safety Cabinet. • Adhering to any changes or amendments to company policies, procedures and guidelines as a result of the pandemic.
Maintain and enhance competence in own area of practice through professional development activity. *This means that you undertake activities to enhance your competence in your own area of practice ie Continuing Professional Development (CPD) and reflect on its impact on you and others. We are not looking for a list of courses here but evidence of how your CPD benefits your practice and benefits others. Your CPD may include work-based learning, professional activity, formal/ educational, self-directed learning.*	• Taking part in annual appraisals to discuss goal setting and development over the next year. • Attending training courses on chromatography and using these opportunities to network with workers from other organisations. • CPD recording evidences meeting 16 key points of competence as outlined in the governing body regulations. • Following being trained and signed off to analyse samples for specific contents, continuing to develop the knowledge by undertaking reading around the subject.	• Subscribing to magazines and newsletters to enhance and support knowledge of mass spectrometry. • Undertaking a health and safety course to ensure a safe working environment for students and staff. • Attending a green labs seminar/conference focusing on improving green and sustainable practices in the lab. • Completing project management and planning skills training.	• Attending a series of seminars hosted by a representative of a manufacturer on visiting the site. • Seeking out opportunities to attend internal and external training courses. • Attending comprehensive instrument training on a visit abroad. • Working with colleagues from another site to contribute to a method transfer project.	• Reading *Chemistry World* magazine to learn about the most up-to-date chemistry. • Frequently attending NMR discussion group meetings, such as the RSC's NMR Discussion Group meetings, the London NMR Forum seminars, and instrument manufacturer meetings. • Self-directed learning including books, journals and on-the-job training. • Regularly attending divisional seminars to learn from others with a variety of expertise.

8. MAINTAINING RSci STATUS

Everyone who holds RSci status commits to continuous professional development (CPD) to maintain their registered status – it's a mandatory requirement.

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