



<b>Job title</b>	Research Associate/Fellow (KTP Finisher)	<b>Job family and level</b>	Research and Teaching Level 4 (Appointment will be Level 4 Career training grade where an appointment is made before PhD has been completed)
<b>School/ Department</b>	School of Chemistry	<b>Location</b>	The GSK Carbon Neutral Laboratories

## Purpose of role

To develop a novel polyurethane which processes like a thermoset plastic and possesses the same mechanical properties (high strength, chemical resistance, temperature resistance and low creep/deformation), yet has an augmented polymer backbone which can reversibly break the crosslinker to render the material both recyclable and capable of self-healing.

	<b>Main responsibilities</b> (Primary accountabilities and responsibilities expected to fulfil the role)	<b>% time</b>
1	Gain an understanding of Trelleborg's products and processes, markets and supply chains.	5%
2	Design linkers and synthetic route	5%
3	Synthesis and characterisation of labile linkers	20%
4	Production of small-scale polymer and test of linker reversibility	20%
5	Optimisation of linker design for controlled degradation and synthesis of new linker with potential embedded 'submarine' catalyst	20%
6	Testing of 2nd generation linker for controlled degradation	20%
7	Evaluation of self-healing properties	10%

## Person specification

	<b>Essential</b>	<b>Desirable</b>
<b>Personal skills</b>	<ul style="list-style-type: none"> <li>• Have an excellent command of the English language with written and verbal communication that is clear and easy to understand</li> <li>• Be able to clearly communicate complex information</li> <li>• Be able to build strong alliances with colleagues and stakeholders and engage effectively with personnel in a wide range of roles</li> <li>• Be self-starting and pro-active, and have the ability to work in a team to meet deadlines and to prioritise tasks</li> <li>• Be enthusiastic and self-motivated with the drive to embed new knowledge and take full ownership of the project and the results.</li> <li>• Have the ability to plan a project, execute the plan and make adjustments according to delays and technical issues.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Have an awareness and understanding of commercial drivers</li> <li>▪ Have a firm foundation and knowledge of sustainability and sustainable chemical practices.</li> </ul>
<b>Knowledge and experience</b>	<ul style="list-style-type: none"> <li>▪ Experience in challenging synthesis and advanced analytical science and techniques.</li> <li>▪ Experience of clean technologies and methods, including as exemplars, AI/ML methods, synthetic electrochemistry, flow chemistry in route development or advanced kinetics and advanced NMR experimentation.</li> <li>▪ Experience of mechanistic study including the development and use of kinetic models.</li> <li>▪ Experience of writing reports and conducting effective bibliographic research.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Relevant industrial experience (including industrial placements)</li> <li>▪ Experience of managing budgets</li> <li>▪ Thermal analysis</li> </ul>
<b>Qualifications, certification and training (relevant to role)</b>	<ul style="list-style-type: none"> <li>• Hold a PhD (or close to completion) in Sustainable Chemistry, Chemical Engineering, Chemical Process Engineering or a closely related discipline.</li> </ul>	
<b>Other</b>	<ul style="list-style-type: none"> <li>▪ Have a commitment to continuing professional development</li> </ul>	<ul style="list-style-type: none"> <li>▪ Be willing to travel</li> </ul>

	<ul style="list-style-type: none"><li>▪ Be willing to undertake appropriate further training and to adopt new procedures as and when required.</li><li>▪ Be available to start the position in September 2024</li><li>▪ Be committed to maintaining confidentiality at all times</li><li>▪ Have a commitment to observing Equality &amp; Diversity policies at all times</li></ul>	
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The University of Nottingham is focused on embedding equality, diversity and inclusion in all that we do. As part of this, we welcome a diverse population to join our work force and therefore encourage applicants from all communities, particularly those with protected characteristics under the Equality Act 2010.

## Expectations and behaviours

The University has developed a clear set of core expectations and behaviours that our people should be demonstrating in their work, and as ambassadors of the University's strategy, vision and values. The following are essential to the role:

- Valuing people** Is friendly, engaging and receptive, putting others at ease. Actively listens to others and goes out of way to ensure people feel valued, developed and supported.
- Taking ownership** Is clear on what needs to be done encouraging others to take ownership. Takes action when required, being mindful of important aspects such as Health & Safety, Equality, Diversity & Inclusion, and other considerations.
- Forward thinking** Drives the development, sharing and implementation of new ideas and improvements to support strategic objectives. Engages others in the improvement process.
- Professional pride** Is professional in approach and style, setting an example to others; strives to demonstrate excellence through development of self, others and effective working practices.
- Always inclusive** Builds effective working relationships, recognising and including the contribution of others; promotes inclusion and inclusive practices within own work area.

## Key relationships with others

