

# IChemE Medals and Prize Winners 2025



Medal	Winner	Winning paper/supporting information
<p><b>Trustees Medal</b></p> <p>The Trustees Medal is awarded to a volunteer who has given exceptional service to an IChemE project.</p>	<p><b>Stephen Richardson</b> FREng CBE</p>	<p>Stephen Richardson FREng CBE is being recognised for his exceptional efforts to review and improve processes and the experience for partner universities during 2023 and 2024. The judges also noted Professor Richardson's outstanding commitment to the profession and the institution, exemplified by many decades of volunteer engagement across a very wide range of roles.</p>
<p><b>Andrew Medal</b></p> <p>The medal recognises a major contribution relevant to the science of formulation of heterogeneous catalysts.</p>	<p><b>Andrew Beale</b></p>	<p>Andrew Beale has carried out novel, highly impactful interdisciplinary work that underpins understanding, design and formulation of new catalysts. It brings new understanding of relationships between catalyst structure and performance. His work has underpinned formation of spin-out companies. His work is widely applicable to catalytic processes and takes understanding of catalysis to a higher level.</p>
<p><b>Ambassador Prize</b></p> <p>The Ambassador Prize is awarded to a volunteer who has made exceptional contributions, likely within an IChemE Special Interest Group, Member Group or as an ambassador for the Institution and/or profession more widely. This prize is typically awarded in recognition of a sustained period of work on a short to medium term project.</p>	<p><b>Mary Stewart</b></p>	<p>For pivotal contributions to a wide range of IChemE activities focusing on clean energy and climate action. Mary's passionate, clear-thinking and visionary leadership within the Energy Community of Practice and engagement with the Technical Executive Committee for the United Nations Framework Convention on Climate Change was reflected in her key contribution to developing IChemE's statement on Climate Change and its implications for just transition.</p>
<p><b>Clean Energy Medal</b></p> <p>The medal is awarded to an individual in recognition of outstanding service in the field of Clean Energy, including but not limited to mitigation of climate change, reduction of pollutant emission and reducing utilisation of non-renewable feedstocks.</p>	<p><b>Christos Markides</b></p>	<p>For research leadership in the clean energy field and contributions in the areas of solar and waste heat innovations, working across academia and industry.</p>

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<p><b>Davidson Medal</b></p> <p>The Davidson Medal recognises individuals who have been active mentors in industry or academia.</p>	Rainer Freudenberger	For his lifelong commitment to excellence in mentoring in the chemical engineering profession. The impact of his mentorship is seen not only within his own company but also in connection with education, research and others in the chemical process industries. He has demonstrated both quality of depth and long term commitment to mentoring younger generations of chemical engineers.
<p><b>Donald Medal</b></p> <p>The Donald Medal is awarded to an individual for outstanding services in biochemical engineering.</p>	Daniel Bracewell	For outstanding contributions and unwavering dedication, which have significantly advanced their field and inspired countless others. This groundbreaking, inspirational research in downstream bioprocessing, bioseparations and cell-free synthesis processes has strengthened fundamental understanding of recovery of biological products and underpinned collaborative development of industry-relevant solutions and commercial spinout activity.
<p><b>Franklin Medal</b></p> <p>The medal is awarded to an individual in recognition of outstanding service in the fields of occupational health, safety, loss prevention and care for the environment.</p>	David Green	For an outstanding contribution to chemical engineering and care of the environment over many years. Due to significant work in many national and international committees, advisory groups and for striving for improved care of the environment beyond his clients and business. His tireless efforts well beyond his 'day job' make him a worthy winner.
<p><b>Greene Medal</b></p> <p>The Greene Medal is awarded to an individual who has made the most commendable long-term contribution to the progress of IChemE.</p>	Ian Shott CBE	For outstanding contributions to IChemE over the last 20+. During this time he served as Technical Vice President and President, with initiatives including the creation of IChemE's first technical roadmap, the <i>Biofutures Report</i> , and a strengthening of IChemE's global footprint. His generous donations enabled the creation of the Sustainability Hub and an overhaul of the Benevolent Fund.
<p><b>Guggenheim Medal</b></p> <p>The medal is awarded to an individual who has made a significant recent contribution to research in thermodynamics and/or complex fluids.</p>	Clare McCabe	For seminal research contributions to computational models and methods in fluid-phase thermodynamics, deepening understanding of self-assembly in complex fluids addressing problems of high societal importance. For wide impact on the field through successful research in two continents, as well as positive impact through mentoring and through inclusion of under-represented minorities.

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<b>Hanson Medal</b> The Hanson Medal is awarded to the author or authors of the best article to appear in <i>The Chemical Engineer</i> magazine each year.	Duncan Barker	Duncan Barker's article, 'Imagining What Chemical Engineering Will Look Like In 50 Years' ( <i>The Chemical Engineer</i> , issue 990/991), is a distinctively and uniquely interesting and engaging story of the author's family which also directs our thoughts to the future and informs our current efforts in the chemical engineering profession.
<b>Hutchison Medal</b> The Hutchison Medal is awarded for both practical and wide-ranging, philosophical, or thought-provoking published papers.	Ayeon Kim Heehyang Kim Yus Donald Chaniago Hankwon Lim	<b>Carbon dioxide removal from the oceans: Carbon dioxide emission and techno-economic analyses of producing renewable synthetic methane</b> ( <i>Sustainable Production and Consumption</i> , 41: 21–35) presents an innovative, thought-provoking approach to CO <sub>2</sub> extraction from the oceans as a route to reduce atmospheric levels. In addition, the paper presents a process to utilise this CO <sub>2</sub> for the manufacture of renewable methane and explores interesting scenarios and their impact on net CO <sub>2</sub> emissions.
<b>Macnab Lacey Prize</b> The Macnab-Lacey Prize is awarded to the undergraduate student design project team whose design project submission best shows how chemical engineering practice can contribute to a more sustainable world.	Imperial College London	The winning team developed an outstanding design for green ammonia production from water and air, applying renewable energy resources and employing the principles of green engineering and applying relevant sustainability metrics. The team used software for detailed design and optimisation, considering diverse sustainability criteria and process economics. The judges were impressed by the depth and range of the study.
<b>Junior Moulton Medal</b> The Junior Moulton Medal follows the same criteria but recognises the best author, or co-author, who has graduated within the last ten years (excluding career breaks) at the time of submission of the paper.	Lauren M. Lopez Quan Zhang Orion Dollar	<b>Application of automated network generation for retrosynthetic planning of potential corrosion inhibitors</b> by Lauren M. Lopez, Quan Zhang, Orion Dollar, Jim Pfaendtner, Brent H. Shanks and Linda J. Broadbelt ( <i>Molecular Systems Design and Engineering</i> , 9: 352–371) demonstrates a clever network generation approach to identify chemical pathway synthesis. The work introduces novel concepts such as helper molecules and is found to be able to generate three-step pathways in a way that would be impossible otherwise. The application of this to corrosion inhibitors shows its practical value and also illustrates how it can be applied to the retrosynthesis of other products too.

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<p><b>Senior Moulton Medal</b></p> <p>The Senior Moulton Medal is awarded to the author, or authors, of the most meritorious paper published by IChemE during the last year.</p>	<p>Federica Tamburini Sarah Bonvicini Valerio Cozzani</p>	<p><b>Consequences of subsea CO2 blowouts in shallow water</b> by Federica Tamburini, Sarah Bonvicini, and Valerio Cozzani (<i>Process Safety and Environmental Protection</i>, 183: 203–216) provides a clear, detailed and practical treatment to an important and topical area of safety – carbon dioxide subsea storage. The paper provides a quantitative framework for risk assessment in this area by bringing together several interesting modelling elements establishing a new capability to an important technical area.</p>
<p><b>Nicklin Medal</b></p> <p>The Nicklin Medal is an early careers award that recognises talented chemical engineering researchers.</p> <p>Nominees must, at the time of the awards nomination deadline, have no more than ten years postdoctoral research experience (excluding career breaks) and should have produced international quality research outputs.</p>	<p>Helena Wang</p>	<p>For impactful research in energy materials with significant potential towards several UN Sustainable Development Goals. Wang's excellence is demonstrated by the numerous fellowships she has received, her excellent publication record, her track record as an innovator with already one patent to her name, and her demonstrated leadership.</p>
<p><b>Junior Sargent Medal</b></p> <p>The medal is awarded to a promising early career academic or industrial individual who has already made a significant recent contribution to the research of computer-aided product and process engineering. The contribution could encompass, but need not be limited to, a concept that has promoted much interest, the solution of an unsolved problem, new methods/tools leading to innovative processes/products, or a significant advance of the state of the art within the area of process systems engineering.</p>	<p>Antonio Del Rio Chanona</p>	<p>For pioneering research incorporating machine learning into process systems engineering that has been applied to several interesting bioprocesses, and for collaborative work with BASF on the resilience and sustainability of global supply chains.</p>
<p><b>Sargent Medal</b></p> <p>The medal is awarded to an individual who has made a significant recent contribution to research into computer-aided product and process engineering. The contribution could encompass, but need not be limited to, a concept that has promoted much interest, the solution of an unsolved problem, new methods/tools leading to innovative processes/products, or a significant advance of the state of the art within the area of process systems engineering.</p>	<p>Marianthi Ierapetritou</p>	<p>For her outstanding research contributions to fundamental topics in process systems engineering, such as flexibility analysis and supply chain optimisation, and her impact on the use of process systems engineering methods in the pharmaceuticals and biopharmaceuticals industries.</p>

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<p><b>Sharma Medal</b></p> <p>The medal is presented to an individual who has, across their career, made a significant contribution to the field of chemical engineering research. The judging committee will consider: originality and impact of research, innovation, professional standing, and other indicators of esteem indicated by the nominee/nominator.</p>	<p><b>Ian Saxley Metcalfe</b> FREng</p>	<p>For an outstanding and prolific research record that is strongly aligned with the Sustainable Development Goal on energy. Professor Metcalfe's research, based on a deep understanding of the structure, chemistry and thermodynamics of materials, has led to numerous groundbreaking improvements at the intersection of science and sustainability, notably in the fields of membrane engineering and catalysis.</p>
<p><b>SIESO Medal</b></p> <p>The SIESO Medal seeks to raise awareness of process safety among science, business and engineering students.</p> <p>The medal will be awarded annually to an individual or group of students for the best presentation of a major accident and the learning outcomes.</p>	<p><b>Princess Diana Dube</b></p>	<p>For a well-presented, well-referenced and engaging paper and graphic art that gave a good account of an important but relatively unknown incident – the explosion of an LPG road tanker in Boksburg, South Africa in December 2022.</p>
<p><b>Warner Medal</b></p> <p>The Warner Medal will be presented to an individual, normally in the early stages of their career, who has shown exceptional promise in the field of sustainable chemical process technology, nuclear technology or in making chemical engineering more accessible to a wider scientific community.</p>	<p><b>Greg Alexander Mutch</b></p>	<p>For research shedding new light on adsorbents and membranes, especially for carbon capture, for extraordinary outreach work and engagement with socio-political implications, including via podcasts, public lectures, magazine articles and contributing to curation and delivery of an art exhibition exploring the social impact of the energy transition.</p>
<p><b>Underwood Medal</b></p> <p>The medal is awarded to an individual who has made a significant recent contribution to research into computer-aided product and process engineering. The contribution could encompass, but need not be limited to, a concept that has promoted much interest, the solution of an unsolved problem, new methods/tools leading to innovative processes/products, or a significant advance of the state of the art within the area of process systems engineering.</p>	<p><b>Stefano Brandani</b></p>	<p>For her outstanding research contributions to fundamental topics in process systems engineering, such as flexibility analysis and supply chain optimisation, and her impact on the use of process systems engineering methods in the pharmaceuticals and biopharmaceuticals industries.</p>