

# THE AWARDS 2020

## Technological or Digital Innovation of the Year

<b>Institution name</b>	University of Glasgow
<b>Submission title or project name</b>	Three-dimensional molecular visualisation software for experiential learning through virtual reality.
<b>Nominee/key personnel</b>	Prof Edward Tobias; Mr Adam Dundas; Dr Neil McDonnell; Prof Fiona Macpherson
<b>URL</b>	<a href="https://www.gla.ac.uk/research/az/cspe/projects/vrar/projectmobius/">https://www.gla.ac.uk/research/az/cspe/projects/vrar/projectmobius/</a>
<b>Submission</b>	<p>To overcome widespread student difficulties in understanding molecular structures and their roles in disease mechanisms, innovative software was developed, using the latest virtual reality (VR) technology. Uniquely, Glasgow University's Molecule Viewer software enables students to view, analyse and understand normal and disease-causing forms of complex molecular structures, displayed side-by-side in three dimensions. Several built-in technologies, including virtual cameras, videoconferencing-compatibility and precise 3D measurement, further enhance interactivity.</p> <p>The leading-edge software's compatibility with the rapidly-growing international Protein Data Bank (now including coronavirus molecules and 165,000 other structures) allows educational and research use, across multiple courses, universities and hospitals. Recent further software development enables interactive remote VR teaching, with students all sharing and discussing the lecturer's view, thus surmounting social-distancing barriers. Simultaneous participation of numerous students permits significant equipment-cost and staff-time savings.</p> <p>Students' comments have included: "highly engaging", "hugely enjoyable and informative" and "a game-changer in the future of biology teaching".</p>