

**Research Assistant (0.82 FTE – 29hrs/week)
School of Simulation & Visualisation (SimVis)
Fixed Term (5 Months)**

The Glasgow School of Art

The Glasgow School of Art is one of Europe's leading independent university-level institutions for the visual creative disciplines. Our studio-based, specialist, practice-led learning and research draws talented individuals with a shared passion for visual culture and creative production from all over the world.

Originally founded in 1845, today we have 2150 students studying across architecture, design, digital, fine art and history and theory. As we develop new academic programmes and enhance our areas of expertise and inter-disciplinarity, our ambition towards 2018 is to grow our student community in Glasgow by 25%, and continue to grow our research profile and campuses in Singapore and the Scottish Highlands and Islands. Our internationalisation strategy is embedded across our academic programmes and research, connecting the GSA with some of the world's leading universities and specialist higher education institutions.

Recognised by the Scottish Funding Council as an independent, specialist institution the GSA is an important and integral part of Scotland's higher education provision. Working in partnership with universities across Scotland and the UK, our degree programmes are validated by the University of Glasgow. The University of Glasgow has validated our programmes since 1992 and whilst the Senate of the University has ultimate responsibility for the awards, there is maximum delegation to the GSA for its own quality assurance procedures. The School, through its Academic Council, is also responsible for the development, monitoring, evaluation and updating of its academic framework.

Our 185 academic staff, 80% of which are research active, form a strong creative community united in the ambition to see GSA positioned as a global leader in studio based research and teaching, transforming thinking by developing creative approaches with new audiences, locally, nationally and internationally. As one of the UK's largest and most intensive research communities for the visual creative disciplines, GSA's research activity is clustered into the following interdisciplinary themes:

Architecture, urbanism and the public sphere

- Contemporary art and curating
- Design innovation
- Digital visualisation
- Education in art, design and architecture
- Health and wellbeing
- Material culture
- Sustainability

Moving forward GSA has ambitious plans to develop its research profile further through internal collaboration and new partnerships with National and International Organisations. We recognise the distinctive contribution made by visual creative disciplines within the rapidly growing interdisciplinary research agenda and seek to position GSA as a global leader in this field. This will involve development and mentoring of GSA's own research talent, recruitment of the best new staff, the securing of higher levels of external research funding to support research projects and further growth in the scale and activity of GSA's PhD community.

While we are firmly rooted in Glasgow, one of Europe's leading creative cities, we are international in outlook with one of the UK's highest percentages of international students and one of Scotland's largest percentages of students from the rest of the UK. Over the last five years over £65 million has been invested in our estates including the recently opened Reid

Building. Further investment is currently being planned which will create a cohesive creative campus with the iconic Mackintosh Building at its core.

We have a total income of over £30m, and our aim is to cultivate conditions in which the GSA can continue to achieve great things through what we do, with whom we do it and through creative approaches build on our existing strengths and distinctive assets, in order to:

- Achieve excellence and leadership in student-centered studio-based learning
- Engage with new audiences through inter-disciplinary research
- Extend our global reach and creative engagement
- Be a robust and efficient institution – maximising our resources and our potential

The Studio

Our studio-based approach to learning and innovation has particular relevance in the 21st Century. The place of the studio in creating the environment for inter-disciplinarity, peer learning, critical enquiry, experimentation and prototyping can help to address many of the grand challenges confronting society and contemporary business. It provides space to bring disciplines together, exploring problems in new ways to find innovative solutions. Studio is at the heart of our pedagogy, how we work and how we engage with others.

The School of Simulation and Visualisation

SimVis (formerly the DDS) is the fourth School of the Glasgow School of Art. SimVis combines academic study at Masters and PhD level with a range of research and commercial activities. Over the last nineteen years, SimVis has grown significantly, concentrating on its core areas of activity which are primarily the development of new technologies, tools, techniques and methodologies that support new media and digital content creation. In particular, core research focuses on interaction, user-centered interfaces, haptics, gesture recognition, 3D sound and real-time photorealistic 3D visualisation, Virtual and Augmented Reality simulations.

SimVis has been successful in winning industrial research contracts and research funding from a range of funders including the Ford Motor Company (across UK, EU and USA centres), QinetiQ, BBC, Historic Scotland, National Museums of Scotland, Glasgow City Council, Welsh Government and Scottish Government through the Scottish Funding Council and NHS Education for Scotland. SimVis was also the first art school based research centre to be awarded a grant from the Engineering and Physical Sciences Research Council (EPSRC).

SimVis currently offers four distinct taught postgraduate programmes and pathways: MDes Sound for the Moving Image, MSc Medical Visualisation & Human Anatomy, MSc International Heritage Visualisation and MSc Serious Games and Virtual Reality as well as a range of opportunities for doctoral study.

SimVis is located at The Hub within the new Digital Media Quarter at Pacific Quay in Glasgow, where it continues to build on its successes by developing new areas of research and commercial activity with a range of partners and research collaborators.

The Role

Job Title	Research Assistant
Location	School of Simulation and Visualisation
Reports to	Dr. Matthieu Poyade
Job Purpose	<p>To carry out software design and implementation within the AFRC Route to Impact funded project - Advanced Virtual Reality Simulations for Dangerous Working Environments and Accident Scenario Training - of an immersive and interactive chemical industry training exercise which will consist of (1) a non-interactive virtual 'walk through' tour of the Chemical facilities; and (2) an interactive simulation of critical H&S procedures for the chemical industry</p> <p>To refine existing development by implementing an accurate manufacturing procedure in the simulation To Design and implement a scaffolding strategy to enhance procedural learning capabilities and Develop an accident scenario</p> <p>To contribute to the research and knowledge transfer profile of the Glasgow School of Art through actively engaging in and supporting its research and knowledge transfer activity</p>

Relationships

Internal Contacts:

- Head of School of Simulation and Visualisation
- Head of Research, SimVis
- Research staff within SimVis

External Contacts:

- University of Strathclyde (Dr. Marc Reid)
- Advanced Forming Research Centre (AFRC – David Grant)

Key Accountabilities

Responsibilities will include:

- Technically support and ensure the efficient running of the AFRC Route to Impact funded project - Advanced Virtual Reality Simulations for Dangerous Working Environments and Accident Scenario Training
- Implement a refined GSK procedure and manufacturing environment in the simulation: This will involve: (1) fixing order of events, (2) improving user experience through more intuitive user-centred interactions, (3) improving virtual instruction provision.

- Work with 3D modelling software for the development of the assets and animations that populate the digital environment
- Design and implement scaffolding strategies to enhance procedural learning capabilities: This will allow users to experience self-paced learning based on the provision of instructions and performance feedback throughout the safety training simulation
- Develop an immersive and interactive Chemical Industry training exercise which builds upon a scaffolded approach. This will be accomplished using VR hardware and software expertise resident in the School of Simulation & Visualisation at the Glasgow School of Art, and in collaboration with Health and Safety team at GSK under the professional assessment of University of Strathclyde (Dr. Marc Reid)
- Design and Integrate accident scenario: Moving beyond basic procedural training, we now aim to simulate an accident scenario to support decision-making for gas leaks
- Develop the project deliverables in collaboration the members of the research team
- To liaise and work with other team members as appropriate.
- Contribute to dissemination of the project outcomes and public engagement activities in collaboration with the project team.
- Comply with all GSA policies and procedures including Research Data Management and the GSA Research Ethics Policy

Outreach

The Research Assistant is expected to contribute to relevant technical publication outputs in collaboration with the research team.

Teaching

There are no teaching duties associated with this post.

Key Challenges

- Contribute to the strategic planning of the development throughout the project
- Ensure that the research is carried out to timescales and deliver the agreed objectives.
- Ensure the digital tool is fully functional by the end of the contract and ensure its operability beyond the duration of the project.
- Undertake administrative duties appropriate to the post and any other duties as may be deemed appropriate by the research team

Person Specification

Experience and knowledge

The post-holder must possess a postgraduate qualification in a Computer related discipline or equivalent experience in relevant areas (e.g. 3D modelling and Animations, Visualisation and Human Computer Interaction, Game Development). In addition, the post-holder must demonstrate:

- Experience in and current knowledge of research in data visualisation;
- Experience of working in mixed discipline environments, and comfortable in working with creative and technical disciplines;
- An effective approach to planning and organising work;
- High standards of research conduct including ethical aspects.

Skills

The post-holder will be a motivated individual and a team player, with strong interpersonal, organisational and communication skills. The successful candidate will demonstrate:

- To have a solid experience with graphical modelling platforms (e.g. 3DStudio/Blender and/or Maya);
- To have a strong experience in C# scripting on Microsoft Visual Studio, and Shaders programming, and possess strong front end GUI skills with a good knowledge of the Unity Game Engine and Virtual Reality Hardware implementation (VR Headset & Motion Tracking);
- Strong skills in digital design (e.g. Photoshop, Gimp, Krita...);
- Knowledge of System Modelling Language (SysML) and Unified Modelling Language (UML) in order to offer a relevant software engineer approach to the project;
- IT skills including graphical presentation (e.g. Microsoft Visio);
- Ability to work individually and as part of a team, to agreed objectives, and to tight deadlines;
- Personal discretion in working with materials which have a degree of industrial sensitivity;
- Strong presentation skills for a range of audiences;
- Strong written communication skills;
- High levels of motivation, creativity and initiative.

Terms and Conditions

Contract	5 months fixed term
Probationary Period	It is recognised that there is an inevitable 'settling in' period in any post. The probationary period is therefore an opportunity for the employee to fit within the culture of the School. It should also be determined during this time whether the job is in line with expectations as expressed in pre-appointment discussions, interview and as set out in the Job Description. The probation period for this role is 1 month.
Salary	Grade 5 (£26,495 - £30,688) per annum
Hours	29 hours per week
Holidays	30 days plus 11 statutory holidays per annum
Pension	Option to join the Local Government Superannuation Scheme
Notice Period	1 month