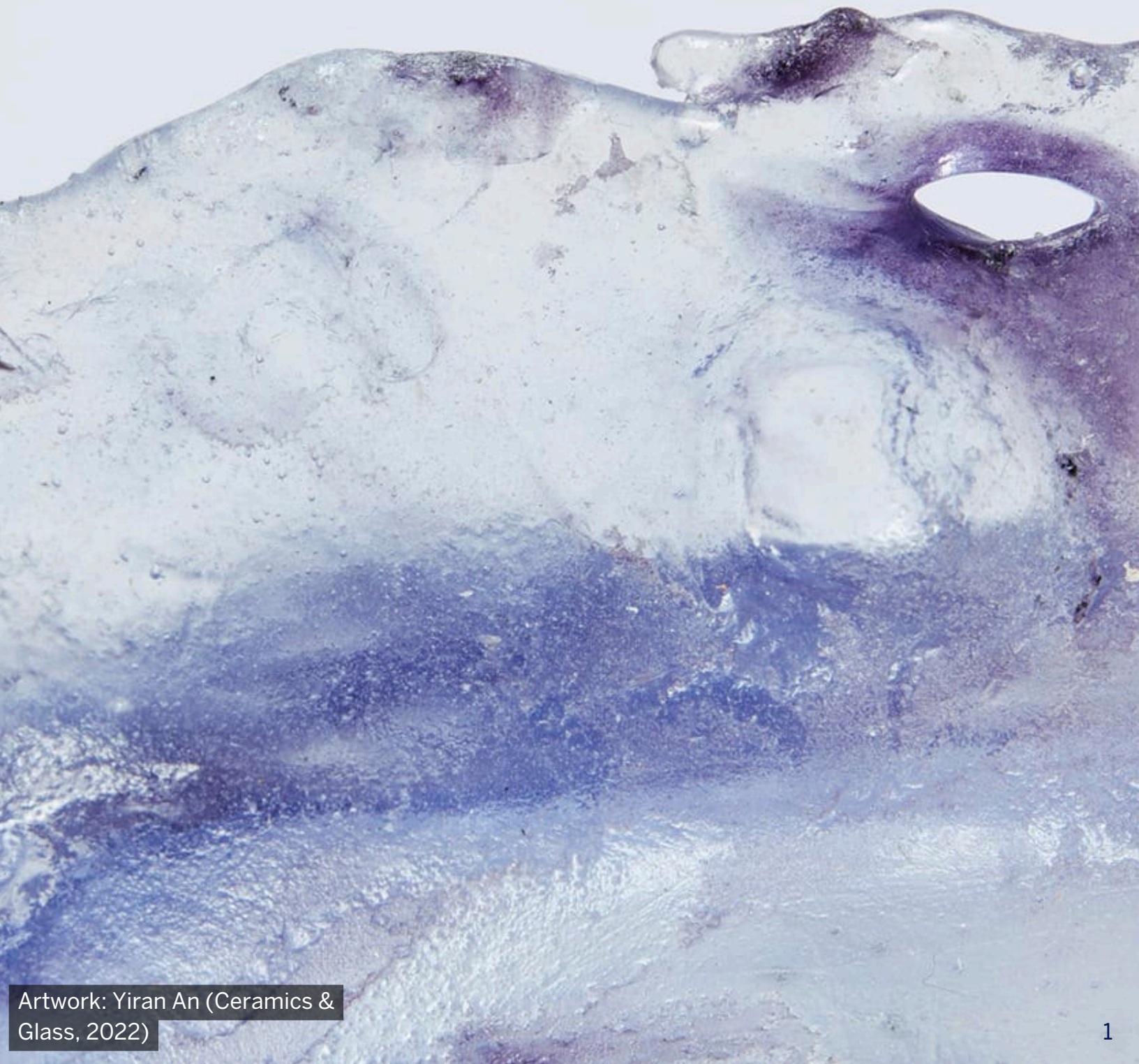


# RCA

# Research Software Engineer November 2024



Artwork: Yiran An (Ceramics & Glass, 2022)



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Photo: Richard Haughton

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# WELCOME TO THE RCA

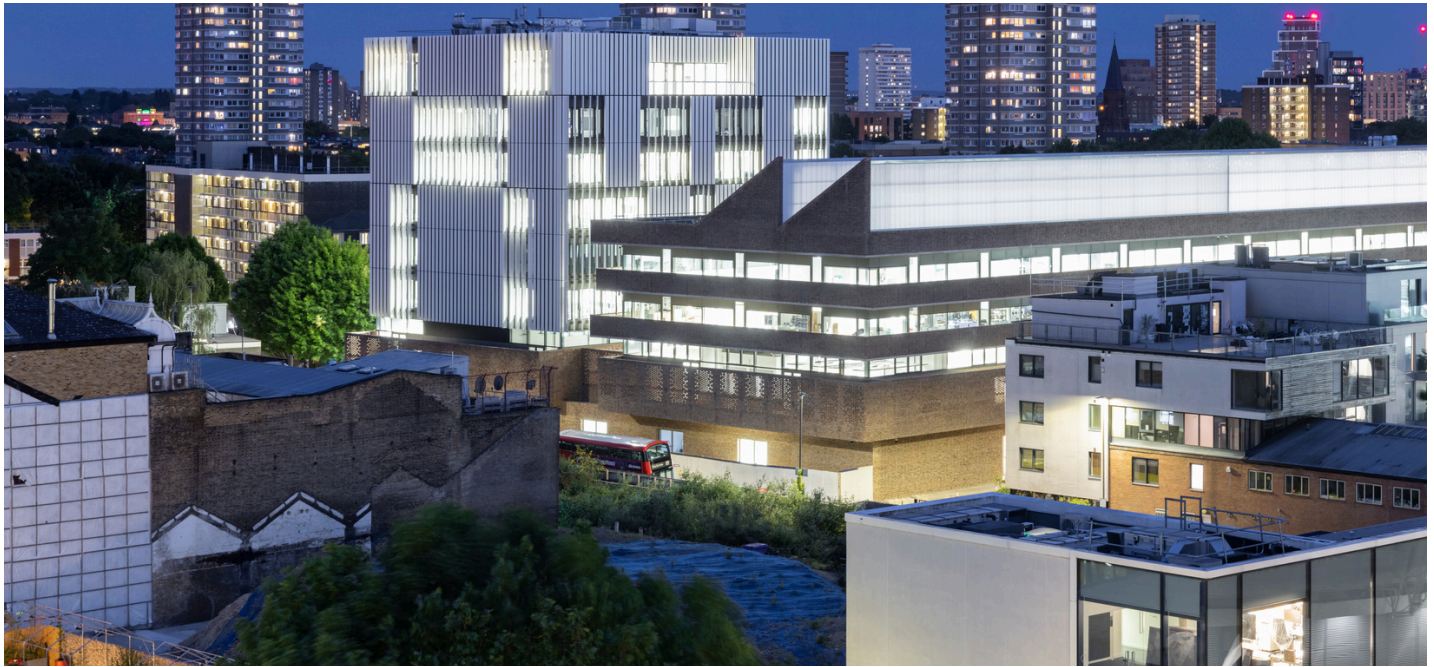


Photo: Iwan Baan

Founded in 1837, the Royal College of Art is the world's largest community of postgraduate art and design students. It is also the oldest art and design university in continuous operation and has been ranked as the world's number one art and design university for a remarkable ten consecutive years, according to the QS World University Rankings by Subject 2024 – the worldwide survey of academic and industry opinion.

The RCA is research-led and recognised in the UK-wide REF (Research Excellence Framework) as the UK's most research-intensive institution – with an increased proportion of the College's outputs classed as 'internationally excellent' and 'world-leading' in the most recent REF assessment of 2021.

Studying at the RCA is the starting point for the world's creative leaders. With more than 25,000 RCA alumni across the globe, the RCA's graduates form a unique international network of artists, designers, creators, and innovators. Every year, RCA alumni are recognised as leaders in their discipline, making national and international headlines for their work, which shapes the world we live in. Its graduate start-up incubator, InnovationRCA, is one of the most successful in the country with a high proportion of female start-up founders and a high 'survival' percentage after five years of trading.

More than 2,800 students are spread across four schools and research and academic departments, studying at Graduate Diploma, MA, MFA, MDes, MArch, MEd, MRes, MPhil and PhD levels. The College's mix of professionalism and creative freedom, together with its renowned academic community and rigorous academic framework provides the ecosystem in which students flourish and achieve their highest potential.





Photo: Richard Haughton

In addition, the RCA has a number of established and planned research centres: the Helen Hamlyn Centre for Design; the Material Science Research Centre (which includes the Materials Futures Research Group and the Textiles Circularity Centre); the Intelligent Mobility Design Centre, Computer Science Research Centre, and a future centre in Drawing. The RCA is also home to one of the UK's most successful university incubators, InnovationRCA.

The RCA espouses a hybrid approach, supporting 'traditional' making and technical skills in fine and applied art and design alongside the foundational sciences, engineering and technology which underpin designers' ability to solve today's global challenges. The RCA champions the value of interdisciplinary learning and was the first art and design university in the world to implement a STEAM (Science, Technology, Engineering, Art and Design and Mathematics) academic vision, with investment in new faculty posts in Materials Science; Computer Science and Robotics alongside art and design disciplines. By applying creative insights to evidence-based science, its staff, students, researchers and start-ups are addressing major global challenges such as rapid urbanisation and transport; loss of biodiversity; ageing populations; unsustainable consumption and production; and the rise of AI.

### Our Strategy

The RCA's strategic vision is to increase its influence on the world stage of globally ranked universities, punching significantly above its weight, and attracting, supporting and convening the world's most talented faculty, students, artists, designers and creative leaders. For more information on The RCA's Strategic Plan 2022–27, please click on this link: [Strategic Plan 2022–27](#).



# Our People



Photo: Richard Haughton

The role of Royal Visitor to the RCA was taken on by The former Prince of Wales – now His Majesty The King – in 2018. The announcement of HM The King’s retained Patronage of the RCA marks the first anniversary of Their Majesties’ Coronation. As part of the official Coronation Concert in May 2023, the Royal College of Art along with The Royal Ballet, The Royal Opera, the Royal Shakespeare Company, and the Royal College of Music came together for the first time ever to create a spectacular one-off performance, with a striking visual backdrop of specially-designed artworks contributed by students from the Royal College of Art.

The RCA’s Chancellor is Sir Jony Ive, and the Pro-Chancellor and Chair of Council is Sir Peter Bazalgette (please see link to Council independent members’ biographies). The RCA’s President & Vice-Chancellor – the CEO of the institution – is Professor Christoph Lindner who joined the College in April 2024.

The RCA’s academic faculty bring world-leading expertise and industry knowledge to the practice-based model of teaching. There is a core academic and research workforce of 196 FTE, supported by around 215 Associate Lecturers and a wide range of Guest Lecturers who bring ‘live’ industry experience into the taught curriculum – for example, Amin Taha of GrantOn design, whose work was twice shortlisted for the RIBA Stirling Prize, in 2017 and 2021, teaches in the School of Architecture; and Yao Yingjia, who is Vice President and Chief Designer at Lenovo teaches in the School of Design.

The RCA combines contemporary and industry-focused teaching perspectives. It also employs a team of 95 highly skilled technicians, many of whom themselves have postgraduate qualifications in their fields of specialism, which range from rapid prototyping and subtractive manufacturing to film and sound engineering, and from digital modelling to metal fabrication and jewellery making.

# Our Values



Photo: Shaun James

The RCA community operates in line with four agreed values:

## **Curiosity**

We have a tenacious commitment to innovation and openness to change. We positively interrogate ideas, assumptions and plans and welcome the honest scrutiny that is alive in a learning community.

## **Inclusion**

We celebrate diversity and embrace difference as a source of strength. We strive for an inclusive RCA community, removing barriers and challenging exclusionary and discriminatory practices.

## **Collaboration**

We value what happens together and we help and support each other to achieve our collective goals. We work in partnership with our students, staff, alumni, institutions and communities across the globe to make a lasting difference.

## **Integrity**

We are always willing to listen, we offer constructive feedback and we promote accountability, building relationships of mutual trust and respect. We are resilient in the face of challenges, pursuing outcomes with individual, cultural, societal and economic impact.



# Computer Science Research Centre (CSRC)



Photo: Richard Haughton

The Computer Science Research Centre (CSRC) launched during the academic year 19/20. Furthering the RCA agenda of linking Science, Technology, Engineering and Mathematics subjects with Art & Design, this new centre will develop new opportunities for interdisciplinary research. The centre pioneers research in priority research areas such as computer graphics and visualisations, smart and interactive technologies, artificial intelligence, and information systems. All research themes encourage interdisciplinary research with academic and industrial partners to innovate techniques and to evaluate their immediate impact.

# Research Software Engineer



Photo: Richard Haughton

## GENERA LABS

GENERA LABS is an innovative and multi-award winning software startup, reinventing the 3D character design workflow, offering cutting-edge tools for instant character clothing creation at scale. It is a real game changer for 3D modellers, character artists, game developers and studios. GENERA STUDIO, the startup`s first service, is a browser-based engine to build and export optimised character clothing in seconds.

## Purpose of Post

This post will work on the Innovate UK funded project, GENERA Smart Engine: AI-driven 3D outfit design, which seeks to answer research and feasibility questions about customizable GenerativeAI 2D and 3D models.

The postholder will conduct cutting-edge research in generative AI 3D generation and explore new products with artificial intelligence, through testing, assessment and benchmarking. This project aims to transfer advanced technologies to GENERA`s existing tech stack. The ideal candidate will have experience with optimised mesh processing, 3D software such as Marvelous Designer, Maya, ZBrush and Substance Painter, and image-to-3D AI generative tools.with a deep understanding of the latest techniques in generative AI for 3D modelling.



## Main Duties and Responsibilities:

- To undertake high-quality, rigorous, and (where relevant) collaborative research which lead to robust research outcomes for this project.
- To develop personal research objectives and interests that align closely with wider project plans, working with the PI to ensure these are in line with the strategic direction of the project, the Centre and of the College as a whole.
- Where appropriate, to prepare and submit funding proposals in collaboration with Centre team members to UK and international research funders, industry partners and other funding sources, to support the Centre's research agenda and the post-holder's own research career development plans.
- In collaboration with team members, to manage the award, ensuring execution of proposed research, efficient management of resources, and effective delivery of research outcomes and impacts.
- To work with academic, industry and third sector partners as appropriate on collaborative research and knowledge exchange to achieve the deliverables of this project.
- To support engagement with partnering companies, undertaking collaborative research and contributing to working relationships to maintain a productive partnership.
- To produce and disseminate research outputs that are effectively shared with the world through appropriate channels (for example books, peer-reviewed journals, conferences) to the discipline.
- To produce research outputs. These outputs may be suitable for submission to the national Research Excellence Framework (REF) exercise, with a quality of at least 3\* as per the REF definition.
- To support communication of research outcomes to a wide variety of audiences, including through public engagement, tailoring content and style to a broad range of specialist and non-specialist audiences.
- To participate in relevant academic, industry, government and policy networks as appropriate, presenting the work of, and representing the project or Centre as relevant.
- To participate in project and Centre team meetings and activities, events and workshops, contributing ideas for development, delivery and promotion of projects.

### Main Duties and Responsibilities:

- To contribute to the RCA Academic community through presentations or teaching in appropriate forums and participation in RCA-wide activities such as Across RCA or Committees and boards as requested.
- Where appropriate, to support the delivery of Executive Education courses and workshops.
- Where appropriate and relevant, to assist the lead researcher in supervision of junior researchers or project workers engaged in projects, ensure they are equipped to deliver outputs within agreed timescales and are undertaking work at an appropriate level.
- To conduct all research reflecting best practice in ethics, integrity, research data management, and research governance, ensuring compliance with RCA policies and external funding terms and conditions and sector standards.
- To ensure compliance with RCA processes and procedures in relation to procurement and use of equipment and facilities, including health and safety policies, working with relevant departments across RCA.
- To ensure confidentiality of sensitive project information is maintained, through appropriate project data protection.
- To undertake general administrative and other tasks relevant as part of the team's and the Centre's work, as required by senior staff.



# Person Specification

## Essential:

- The successful candidate must be able to demonstrate at least one of the following
  - PhD in a relevant field (computer graphics, machine learning, computer game development and technologies, etc.)
  - or equivalent level of experience in a different sector
  - or a Masters degree and significant experience in research projects
- Subject knowledge and proven experience in
  - Proven expertise in optimised mesh processing, with a strong portfolio showcasing skills in low and high poly baking, UV mapping, texture baking, submesh creation, and lighting techniques, specifically for 3D character clothing.
  - Advanced proficiency in leading 3D software such as Marvelous Designer, Maya, ZBrush, and Substance Painter, with expertise in using auto-retopology tools for efficient asset creation.
  - Experience with image-to-3D AI generative tools, including but not limited to Luma, CSM, Alpha3D, Kaedim, and Meshy, with a deep understanding of the latest techniques in generative AI for 3D modelling.
  - Knowledge and experience with digital fashion tools and technologies (e.g., Marvellous Designer, Clo3D) used in creating 3D clothing and digital assets.
  - Experience with game engines and asset production pipelines, particularly Unity, including using plug-ins/SDKs/tools for Unity.
- Evidence of producing quality research outputs relevant to the career stage and discipline; at least two outputs in peer reviewed academic journals and conferences.
- Evidenced experience of contributing to and reporting on projects.
- Demonstrable understanding of good practice in research conduct (including in research ethics, research integrity and handling research data).
- Demonstrable ability to be a collaborative member of a broader team, working constructively with senior staff and supporting the work of less experienced staff or students involved in projects, preferably with experience in Higher Education/industry collaborations in AI and/or 3D modelling
- Evidenced flexibility and confidence to tackle a wide range of tasks, with an open, proactive, creative and problem-solving approach.
- Evidenced excellent writing, communication and presentation skills, able to adopt an appropriate style for a range of specialist and non-specialist audiences.
- Evidenced strong interpersonal and team-working skills.
- Genuine commitment to the aims of the project and of the Centre.

## Desirable

- Experience in game asset production pipelines, including hands-on use of game engines such as Unity, and proficiency with relevant plug-ins, SDKs, and tools for seamless integration.
- Passion for the beauty and fashion industries, with a demonstrated ability to think creatively and conceptualise innovative ideas for showcasing beauty products in immersive and visually compelling ways.

# Pay & Benefits

## Additional Information:

Post: Research Software Engineer

Department: Computer Science Research Centre

Grade: 7

Responsible to: Dr Ali Asadipour, Centre Lead

FTE: 0.5FTE

Fixed-term 6 January 2025 - 31 March 2025



Photo: Philip Vale



### Pension

The Royal College of Art is a member of the Superannuation Arrangements of the University of London (SAUL) which is a contributory defined benefit pension scheme. The college will contribute a sum equal to 16% of your salary while you pay 6%.

### Holiday

27 days paid leave a year plus bank and public holidays normally observed in England and Wales. In addition, the college is normally closed for six days a year, one day on either side of Easter and the remainder between Christmas and New Year. Part-time staff will be entitled to the pro rata equivalent.

### Season ticket loans

Interest-free loans are available for staff to purchase annual season tickets.

### Enhanced maternity and adoption pay

Qualifying employees are entitled to enhanced maternity/adoption pay: 26 weeks' full pay, 13 weeks Statutory Maternity/Adoption Pay. This compares to the statutory provision of 90% of average pay for 6 weeks followed by Statutory Maternity/Adoption Pay for 33 weeks.

### Enhanced paternity pay

Qualifying employees are entitled to six weeks' paternity leave entitlement at full pay.

### Enhanced sick pay

Occupational sick pay after three months' service is three months full pay/three months half pay.

### 24/7 confidential support

Staff and family members in their household have access to a free, external confidential support service for work, financial, legal, family and personal problems 24 hours a day, 365 days a year.

### Occupational health

Occupational Health support for the College is provided by Imperial College's occupational health service at their South Kensington Campus.

### Life Cover

Active members of the SAUL pension scheme automatically receive life cover. A lump sum of four times your salary together with a refund of your contributions and a 2/3 pension for your dependent/spouse is payable should you die whilst in employment.

### Library

All staff are welcome to join the college library.

### Events

All staff are welcome to attend exhibitions, lectures and private views held by academic schools and programmes.



## Equality, diversity and inclusion - Disability and neurodiversity

### Disability Confident

RCA is a Disability Confident Committed employer. You may recognise the logo from our job adverts.

Disability Confident is a government scheme designed to encourage employers to recruit, retain, and develop disabled people. RCA was originally awarded the Disability Confident certificate in October 2022, which broadens and deepens our existing commitment as an employer.

As a Disability Confident Committed employer, we commit to the below core activities:

- ensure our recruitment process is inclusive and accessible
- communicating and promoting vacancies
- offering an interview to disabled people who meet the minimum criteria for the job
- anticipating and providing reasonable adjustments as required
- supporting any existing employee who acquires a disability or long-term health condition, enabling them to stay in work
- at least one activity that will make a difference for disabled people







**10 YEARS**

as the world's N°1  
University for Art & Design

QS World University Rankings by Subject 2015-24

Together, the RCA community can generate change now for a sustainable future everywhere.