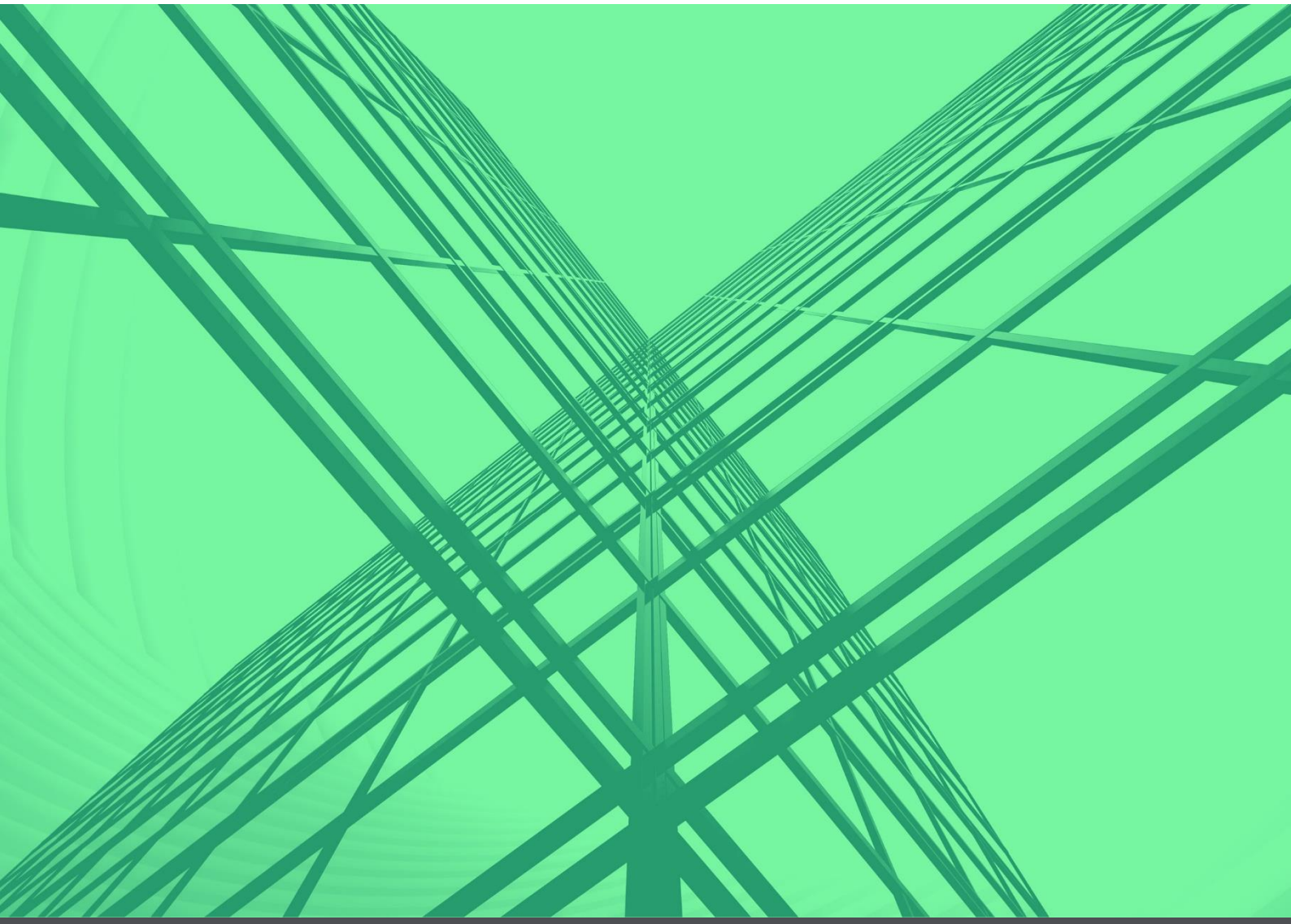
The Institution of StructuralEngineers

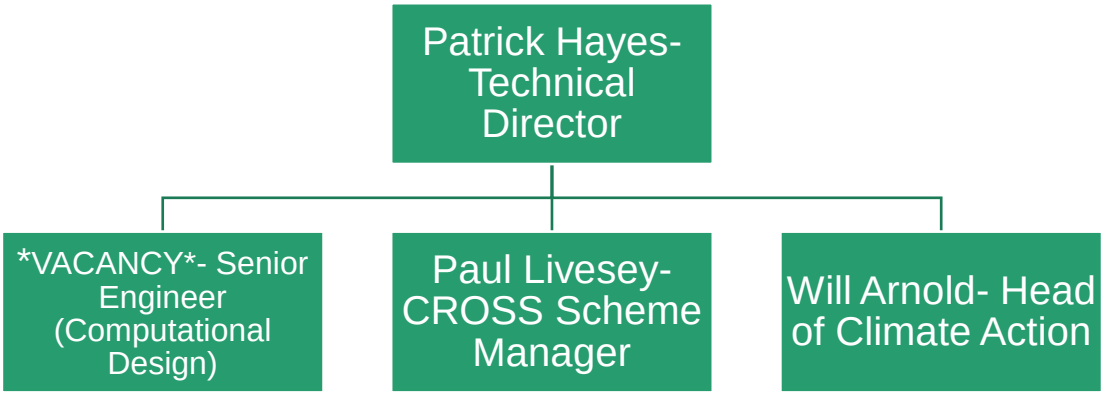
Senior Engineer (Digital Workflows and Computational Design)

CANDIDATE PACK
Full Time
35 hours per week



The Technical Team

Our Technical team are a small team of 3 that report into the Technical Director- Patrick Hayes.



IStructE is the professional body for structural engineers and a charity. We have a global membership who have designed many of the world's iconic structures as well as many of the buildings and bridges we take almost for granted in our daily lives.

Creating safe, sustainable structures for the benefit of the public is at the heart of our remit, with structural engineering a main driver of the impact construction has on natural resources and climate change. The use of digital tools allows us to succeed in our goals.

The Senior Engineer (Computational design) takes a leading role in supporting and developing the technical awareness and understanding of integrated computational design and digital processes across the Institution and its members in meeting our safety and sustainability goals and advancing the science of structural engineering.

The Senior Engineer sits in the Technical team, working alongside the Head of Climate Action and CROSS safety manager. Through the Digital Work Flows and BIM Panels the Senior Engineer develops digital guidance and tools. The Senior Engineer engages with industry and represents the Institution on digital and computational design matters.

Why work for the Institution?

Working for the Institution of Structural Engineers is an opportunity to learn, develop and make a difference.

Join our team of approximately 74 employees and help support our vision to lead, support and nurture the development of structural engineering worldwide.

Our head office is only a short walk from Barbican, Old Street and Farringdon. It's bright, modern and open-plan, supporting a collaborative environment.

We pride ourselves on the flexibility we can provide to our staff and offer a wide variety of benefits to enhance your work life balance and wellbeing as detailed later in this pack.

To thrive with us, bring:

- An open-minded and flexible approach. Enhance our diverse and inclusive team.
- A creative attitude to work. Help us strengthen and improve in a workplace where you are encouraged to innovate and share new ideas.
- Enthusiasm and commitment. Provide our members with the best service possible to maintain our worldwide respected status.
- A friendly and communicative approach. Fit in to our small organisation where staff know each other well and strive to work collaboratively.
- The ambition to take on new challenges. We always look to the future to embrace change, so we continue to evolve.

For more information, please read on :

More about us :

Job description and person specification

1. Job details

Job title: Senior Engineer (Digital Workflows and Computational Design)

Reports to: The Technical Director

Date: May 2024

Location: The Institution's HQ, London or elsewhere as reasonably required.

2. Job purpose

To take a leading role in supporting and developing the technical awareness and understanding of integrated computational design and digital processes across the Institution and its members.

To develop and work on a range of initiatives related to integrated computational design and digital processes, which will create a positive impact on members to ensure that they remain at the forefront of technological changes within their field, with a view to ensuring and supporting personal knowledge enhancement to the further benefit of their clients and wider society.

3. Role and responsibilities

1. Develop a digital strategy in collaboration with the Technical Director and Digital Workflows and Computational Design Panel and BIM (Building Information Modeling) Panel

2. Work with the Digital Workflows and Computational Design Panel and BIM Panel to develop digital tools to support and enable the Institution's safety and sustainability objectives.

3. Support the Digital Workflows and Computational Design Panel and BIM Panel in the delivery of the Institution's technical strategy and provide feedback and input into its development.

4. Work with the Digital Workflows and Computational Design Panel and BIM Panel to define and develop a strategy of engagement on the topic, with members and non-member stakeholders.

5. Undertake research for the Structural Futures Committee as well as the Digital Workflows and Computational Design Panel, to further the understanding of the impact of integrated computational design by our members and other engineers.

6. Act as secretary to the Digital Workflows and Computational Design Panel and BIM Panel. This will include the preparation and circulation of agendas, taking minutes of the meetings, report on progress of actions and the result of decisions, dealing with any relevant correspondence on behalf of the panel and making arrangements for any necessary reporting to be undertaken.

7. Liaise and work closely with other Institution Technical Panels as required (for example the Structural Futures Committee) to support the ongoing development of technical strategy.

8. Organise a Conference on Computational Design Advances to enhance the quality of Integrated Building Design knowledge and understanding within the industry to promote the profession of structural engineering.

9. Prepare and make presentations in Technical Meetings at Institution HQ and Regional Groups to raise awareness and support a culture of knowledge sharing amongst engineers, as required.

10. Plan and organise other seminar(s) to support members' technical understanding of integrated computational design.

11. Identify and build relationships with external organisations working in the same field, or those closely aligned with the topic, to develop joint activities such as conferences, training, seminars etc.

12. Work with internal departments to support the preparation of training courses, technical evening lectures and provide feedback and advice on Digital Workflows & Computational Design, as required.

13. Create and develop a series of articles relating to Digital Workflows & Computational Design for the Institution's journal and website.

4. General responsibilities

1. Network and build positive working relationships, attending relevant conferences, as required.

2. Attend and proactively input into meetings, as required.

3. Make suggestions for improving processes, systems, etc. which support the efficiency and stability of the Institution.

4. To act in accordance with Data Protection laws and pro-actively focus on the quality of data in their own department.

5. Comply with all Institution Policies and Procedures.

6. Any other reasonable ad hoc duties as requested.

5. Communications and working relationships

1. All members of the Institution, as well as potential members and members of the public.

2. Panel, committee and task group members.

3. All employees of the Institution.

4. External bodies – such as other Institutions, construction industry bodies, software companies or regulatory bodies to develop joint working partnerships.

6. Knowledge, skills and experience required

Criteria	Essential/Desirable
Qualifications and Knowledge	
Civil/Structural Engineering degree (or equivalent) or/and Chartered Member of the Institution of Structural Engineers (MIStructE/FIStructE) or equivalent	E(D)
In-depth knowledge and understanding of the structural engineering industry.	E
Demonstrable interest and understanding of the interactions with relevant external bodies.	E
An awareness of the roles and functions of broader construction industry bodies.	E
Demonstrable detailed knowledge of a range of current structural analysis, computational design and BIM software.	E
Expertise and interest in the advancement of computational design tools with an awareness of their use in understanding and communicating structural engineering performance.	E
A knowledge and understanding of GDPR and Data Protection and its application.	E
Skills	
Excellent written and oral communication skills with the ability to present and explain detailed information clearly and succinctly.	E
Excellent organisational skills, able to work independently with minimal supervision and with a systemised/methodical approach to managing multi-stream and complex workloads with the ability to work under pressure to meet tight deadlines.	E
Excellent interpersonal skills which are client focused with a professional approach to work, colleagues and external contacts.	E
Attention to detail, accuracy and the ability to check detailed information; able to critique own work and the work of others.	E
Persuasive and influential, able to build and develop professional networks to promote the Institution's activities.	E
Flexible and resourceful and able to work in a small team, collaborative work with other departments and with volunteers who make up the panels, committees and task groups.	E
Appetite to learn and to build on current knowledge and experience to influence the structural engineering industry.	E
Ability to carry out research into new topics	E

Criteria	Essential/Desirable
IT Skills:	
Word/Outlook/Excel and PowerPoint to intermediate standard.	E
Rhino and Grasshopper (ideally Revit and Dynamo)	E
Experience	
Practical structural engineering across a wide range of projects and the construction industry with the experience of design and working with a broad range of materials is fundamental.	E
A broad working experience in structural engineering and the application of computational methods in practice.	E
Writing effective, complex technical reports and technical guidance documents.	E
Preparing and delivering presentations to technical and non-technical audiences.	E
Managing the operations of a committee or panel or similar, from putting together agendas, organising the meetings, taking minutes and following up on action points.	E
Other	

This job description does not form part of the contract of employment and may be subject to change.

Salary and package details

Salary: £45,000- 55,000 per annum

Contract: Full time – 35 hours a week within a flexi-time system

Benefits: The Institution offers a range of non-contractual discretionary benefits including:

Benefits on commencement:

- Life Insurance (death in service benefit)
- Eye care and glasses- eye tests paid for and contribution towards any glasses specific for DSE use
- Access to some parts of the employee assistance programme
- Pension- can join the pension scheme from any date after commencement in Tier 1 (employer 6%, employee 3% minimum contributions)
- 25 days paid annual leave (increasing with service to 28 days) plus bank holidays and flexi leave
- Flu vaccination voucher

Benefits from three months:

- Pension- automatic enrolment in Tier one: employer 6%, employee 3% minimum contributions
- Pension- you can request to join Tier two: employer 9%, employee 5% minimum contributions
- Full pay sickness absence up to 65 days in a 12-month rolling period
- Income protection insurance: you may be eligible for this support if you are absent due to sickness for a continuous period of 13 weeks or more, subject to acceptance of the claim
- Full access to our employee assistance programme which includes a discounts and savings platform and access to additional health services (e.g. counselling, physio, 24 hour online GP, nutritionist and personal training sessions) via an app-based service

On successful completion of a 6-month probation period, you will be eligible to the following optional benefits:

- Private medical insurance (PMI) currently provided by AXA (voluntary and subject to tax and NI)
- Health cash plan, currently provided by BUPA (voluntary and subject to tax and NI)
- Reimbursement of an agreed and appropriate Membership subscription
- Season ticket loan (non-taxable)
- Cycle to Work Scheme
- Paid maternity, paternity, adoption and carers leave at rates of pay higher than statute, subject to service requirements as per the current policies.

How to apply: the recruitment process

Please submit an up-to-date CV and cover letter demonstrating how you meet the knowledge, skills and experience required for the role as described in the job description. The cover letter should be no more than 500 words.

To apply please see our website.

On receipt, your application will be sifted by the recruitment panel and assessed against the criteria for the role. All successfully shortlisted candidates will be contacted by telephone and invited for interview. We reserve the right to close or extend this position depending on application numbers. Therefore, we would urge candidates to apply as soon as possible.

If you have not heard from the Institution within two weeks of your application, it is with regret that you have been unsuccessful on this occasion. Due to the volume of applications we receive we cannot write to all applicants.

Applicants must possess a current right to work in the UK.

The Institution does not hold a visa sponsor licence, therefore, applicants who do not have the right to work in the UK and/or require visa sponsorship in order to continue working in the UK cannot be considered.

The selection process will consist of a job-related assessment followed by a virtual interview with the manager for this post, Patrick Hayes- Technical Director, Jane Black- Head of Technical Secretariat Services, and a member of the Human Resources Team. The interview will comprise of competency questions designed to test your skills and experience required for this role. It also gives you the opportunity to ask any questions you may have about the role, the team or the Institution. The second stage of the selection process will be a face-to-face interview with Patrick Hayes- Technical Director and Darren Byrne- Deputy CEO.

We want to support you. If you require any reasonable adjustments during our recruitment process, this could be for the application, assessment and/ or interview, please let us know as soon as possible so that adequate provisions can be made for you.

The Institution of Structural Engineers

With over 32,000 members working in 105 countries, we are the world's largest membership organisation dedicated to the art and science of structural engineering.

The Institution is an internationally recognised source of expertise and information concerning all issues that involve structural engineering and public safety within the built environment.

The core work of the Institution is to support and protect the profession by upholding professional standards and acting as an international voice on behalf of structural engineers.

Governance

The Institution of Structural Engineers is governed under its Royal Charter, bye-laws and the applicable regulations.

The Institution Council consists of the President, Vice-Presidents, past Presidents, representatives of regional groups and members who are elected for a period of three years. The Institution is supported by an executive of 70 staff. The Board is the governing body of the Institution. Its members are the Institution's Trustees.

Our values

We strive towards a structural engineering profession that is built on competence, accessibility, and community.

Competence

Championing competence is at the core of everything we do.

We offer a wide range of opportunities for our members to develop, refresh and extend personal competencies. We also help members specialise by offering tailored courses, resources and specialist qualifications.

Accessibility and diversity

We are committed to making the structural engineering profession more accessible. We are constantly reviewing our routes to membership to provide flexibility in the process, offering more choice for all our candidates.

We value diversity and the perspectives people from different backgrounds bring to the engineering profession. We work with other professional bodies and our members to identify and remove barriers to anyone becoming a structural engineer.

Community

We work to create an international community of structural engineering excellence, facilitated by our digital platforms, Regional Group activity and networks of special interest.

For more detailed information about the Institution please visit our website.

Our Work

Climate Change
The climate emergency is the greatest threat to our planet. Structural engineers have a responsibility to help mitigate its effects by changing the way buildings and infrastructure are designed, commissioned and constructed. The Institution, our Climate Emergency Task Group and Sustainability Panel, supports these vital efforts through its role as an international centre of knowledge, sharing information and opinion with its membership and beyond.

Resilience
The Institution support the efforts to build resilient communities- taking measures to avoid, reduce, resist and aid recovery from extreme events including Tsunamis, flooding, explosions and seismic events. Our Humanitarian and International Development Panel as well as our Seismic and Dynamic Events Panel includes experts from regions around the world. They help structural engineers confront the challenges faced by the poorest and most vulnerable people and progress activities to support the development and understanding of seismic and resilient design.

Safer Structures
Structural engineers consider the safety of structures from design and construction through to operation and demolition, in accordance with local legislation. The Institution of Structural Engineers along with CROSS investigates failures and near misses (including Grenfell) in order to share knowledge and insight to Structural Engineers to avoid any potential or future disasters.

Young Members
IStructE is committed to ensuring the profession of Structural Engineering is accessible to everyone. We offer tailored visits, events and networking opportunities to our young members to help them get support at a crucial time in their career. Our values extend to our work in education that encourages young people from diverse backgrounds to choose and access structural engineering careers.

Support
Our Benevolent Fund offers support to current and former IStructE members and their dependants going through tough times who may need financial support. Partnered with Anxiety UK, our members will also be able to quickly access therapeutic support if needed and have access to a range of learning materials to support managers and their staff on mental health awareness.

Organisational Structure