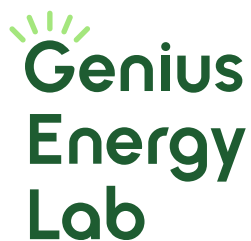


Corporate CV

June 2025



Genius Energy Lab Limited Corporate CV

Genius Energy Lab is an industry-leading design and consultancy practice built on over 20 years of experience in the global low and zero-carbon sector. We have extensive experience designing and implementing large-scale GSHP systems and are the preeminent ground source heat pump designers working in the UK today. Our work is fully certified and carries Professional Indemnity Cover of up to £10,000,000.

We have extensive international experience and are one of the most experienced practitioners of ground source heat pump technology working globally.

Genius Energy Lab is a high-performance consultancy providing services to customers such as Microsoft, Kensa Group, Hoare Lea, AECOM and the UK Government.

Our services include:

- GSHP system design pre-feasibility and feasibility studies
- Low-carbon energy systems research and development and techno-economic analysis
- Geological analysis and geotechnical design
- Hydrogeological assessments
- Ground source heat pump system design pack including feasibility, design, modelling & specification
- Post-installation system analysis
- Ground loop design training
- Energy Services Company (ESCO) technical support
- Expert witness
- Low-carbon industry lobbying

Our Credentials

- Genius Energy Lab are an AECOM 5* supplier
- Diverse and specialist GSHP engineering team - two members of which have PhDs with theses focused on GSHP system analysis and optimisation. An additional team member is working towards achieving her PhD
- In-house geologists
- Specialist hydrogeology advice closed loop and open loop, ground and water source design specialisms
- Our Chief Technical Officer holds Certified Geoexchange Designer (CGD) certification In-house software developed to optimise solutions and cut lead times
- ISO9001 and ISO14001
- Members of the Ground Source Heat Pump Association (GSHPA)
- We are Constructionline Gold members



Clients we've worked with:



Our Leadership Team



Richard Davis

Co-founder, Director & CEO

Rich has worked in renewables for over a decade, and has extensive achievements in operations, governance, marketing, business development and growth. He previously held senior roles in the IT and telecommunications sector. He is also a retired operational technical rescue Firefighter and as part of this role, was selected as a team member for UK International Search and Rescue (UK-ISAR).



Chris Davidson BSc CGD

Co-founder, Director, Chairman & CTO

Chris holds a degree in Theoretical Physics from Imperial College London. Chris has worked in the heat pump industry since 2001 and has extensive experience designing and implementing large-scale GSHP systems. Chris has overseen initial feasibility, detailed design and system performance monitoring and improvement. As head of the policy development committee at the Ground Source Heat Pump Association (GSHPA), Chris plays a key role in shaping UK energy policy.



Duncan Rae

Business Development Director

Duncan graduated from Brunel University with a joint BSC Hons in Sport and Geology and joined the team as Director in 2020. He has been instrumental in our growth, delivering year-on-year increases in revenue. Duncan has over 20 years' experience developing new business channels and is an expert in business-to-business sales growth and building trusted advisor relationships with our clients.



Sarah Shepherd

General Manager

Sarah joined the team in 2021. Sarah brings leadership skills from 16 years working as a Firefighter and Crew Manager with Leicestershire Fire and Rescue Service. She has been instrumental in developing our processes to maximise our efficiencies to deliver to our growing client base.



Alistair McKnight

Account Director

Alistair supports our client relationships and the sales function and has worked in the property industry for over two decades developing business relationships and focusing on client care after completing his studies in Business Management.

Our Engineering & Delivery Team



Chris Davidson

Chairman of the Board | Chief Technical Officer | Ground Loop Modelling Lead

Location: East Midlands

Project Involvement: System Specification | System Modelling | Performance Analysis & Verification

A graduate in Theoretical Physics from Imperial College London, Chris has worked in the heat pump industry since 2001 and has extensive experience designing and implementing large-scale GSHP systems. Chris has overseen initial feasibility through detailed design, system performance monitoring, and improvement. As lead for lobbying at the Ground Source Heat Pump Association (GSHPA) and a previous Association for Decentralised Energy (ADE) member, Chris plays a key role in shaping UK energy policy via high-level government access. Genius Energy Lab is a high-performance consultancy providing services to customers such as Microsoft, AECOM, Hoare Lea, Kensa Group, and the UK Government.

Skills:

- Unrivalled heat pump industry experience from the theoretical to the practical
- One of the few certified design professionals operating in the UK today – The Certified GeoExchange Designer Certification is administered by the Association of Energy Engineers
- Expert communicator and trainer in advanced technical subjects

Experience:

- Chris has been a prolific designer of heat pump systems, including open and closed-ground loop systems, for over 20 years. His installations include prestigious and innovative projects such as One New Change in London, The Earth Sciences Building at The University of Oxford and the largest Ground Source Heat Pump system in the UK at Kingsmill Hospital, Mansfield.
- Chris has designed hundreds of installations at the domestic scale, from large stately homes to multiple social housing projects such as the recent Kensa installation for Enfield Council, which has helped to reduce fuel poverty in over 400 apartments across eight high-rise tower blocks.
- In 2016 Chris was appointed by BEIS as a peer reviewer of the UCL / University of Westminster Renewable Heat Premium Payments reports, "Compliance with MCS Standards", "Reasons for Good & Poor Performance", "Case Studies". He later received the following feedback from the BEIS project coordinator Penny Dunbabin, "Chris Davidson and Richard Davis undertook a peer review of three technical reports relating to heat pump performance produced by BEIS's contractors, RAPID-HPC. The reports were between 70 and 200 pages long and highly technical. Their peer reviews were insightful, concise, clearly laid out, and delivered on time. I have had good feedback from our contractors concerning their comments."
- Chris has particular expertise in optimising the hybrid use of low-carbon technologies, including Solar PV, Solar Thermal, Combined Heat & Power, Air and Ground Source Heat Pumps, Battery Storage, Phase Change Materials and Advanced Building Controls.



Josh Turner

Engineering Manager

Josh joined the team in 2022. He achieved a PhD in the school of Civil Engineering investigating the long-term performance of ground source heat pumps in the UK. Prior to this, he graduated with a first class Masters degree in Mechanical Engineering from the University of Leeds.

- Analysis of over 15 years' worth of data across non-domestic and multi-occupancy systems
- Involvement in developing a policy brief for heat pump systems with shared ground heat exchangers
- Additional publications in collaboration with the IEA Heat Pumping Technologies Annex 52 and the Net-Zero Infrastructure Industry Coalition
- Previously appearing as Body Structures Innovation Engineer at Aston Martin Lagonda, Design Engineer at Thumbsat, Electrical and Systems Engineer at Caterpillar

Notable Projects:

- Prestigious and historic office building retrofit, City of London



Ellis Laird

Senior Design Engineer

Ellis has a first-class honours Master's Degree in Mechanical Design Engineering from the University of Glasgow. She is passionate about promoting women in STEM and has extensive experience in designing ground source heat pump systems.

- Selected for the School of Engineering Excellence list
- Winner of the Scottish Renewables Young Professionals Green Energy Awards, Professional Service Award
- Mentor for a University of Glasgow STEM student through the FemEng mentoring scheme
- Secretary and Sponsorship Manager of FemEng Empowering Woman in Engineering
- Part of the FemEng in Rwanda team, delivering education STEM workshops to schools around the country

Notable Projects:

- Red Lion Court, 10 Story new build office, Central London, full Revit model of boreholes under building



Selvaraj (Raj) Naicker

Design Engineer

Raj achieved a PhD in Mechanical Engineering from De Montfort University for his research on a large-scale geothermal heating and cooling system and his findings have been published in international journals. His skillset extends to IES thermal modelling and low-carbon and net-zero building design. He also holds an MSc in Energy and Sustainable Building design from De Montfort University, MTech Energy Engineering from NIT Trichy and BEng in Mechanical Engineering from Madurai Kamaraj University. Raj has worked in academia, teaching engineering drawing, thermodynamics, thermal engineering and renewable energy to undergraduate students at affiliated colleges of Anna University, Chennai.

Publications include:

- Long-term high frequency monitoring of a large borehole heat exchanger array, Renewable Energy
- Performance analysis of a large geothermal heating and cooling system, Renewable Energy
- Geothermal heat pump system operational data: high frequency monitoring of a large university building
- Validation of vertical ground heat exchanger design methodologies, STBE

Notable Projects:

- White Friar and Grey Friar Court, multi-residential retrofit, Salford



Stephen Weston

Design Engineer and Geologist

Steve is our Design Engineer and Geologist. He graduated from the University of Hull with a BSc in Geology and a Masters in GeoEnergy from the University of Edinburgh. He is passionate about improving efforts to decarbonise our energy industry, particularly through utilisation of the subsurface. He loves to travel and is a keen hill-runner, cyclist and mountaineer and loves to spend his free time exploring the Scottish Highlands.



Declan Andrews

Graduate Design Engineer

Declan is a graduate of Imperial College London, with an MSc in Sustainable Energy Futures. Before moving to the UK, he studied Physics and Mechanical Engineering on a dual-degree program, earning a BA in Physics from Whitman College and a BSc in Mechanical Engineering from Columbia University, from which he graduated Magna Cum Laude.



Ruth Shalini Goonawardena

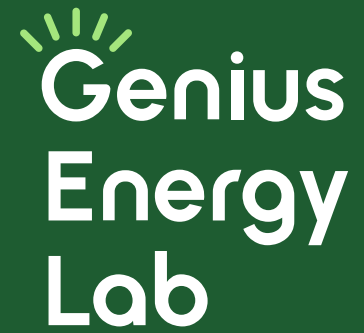
Graduate Design Engineer

Ruth holds a degree in Mechanical Engineering from Monash University, with a strong academic interest in sustainable technologies. She is particularly motivated by the role of engineering in addressing global environmental challenges.

Our Policies

- [Anti Bribery Policy](#)
- [Anti Money Laundering Policy](#)
- [Anti Slavery Policy](#)
- [Environmental Policy](#)
- [Equality and Diversity Policy](#)
- [Privacy and GDPR](#)
- [Service Agreement](#)

If you'd like to discuss any of our policies please contact Richard Davis via rd@geniusenergylab.com



Thanks for your time!

For more information or to speak with us about
your project please contact us:

whitecoat@geniusenergylab.com