Bioinformatics and Digital Health including AI

2024

Introducing our cross-disciplinary team

We have worked with companies in the bioinformatics field for over 10 years and have built this team with the special requirements these types of cross-disciplinary inventions need.

The team includes:
- Biotech attorneys who have an academic background and patent experience in bioinformatics, biological statistics, and AI.
- Electronics and software attorneys who have a core background in software and AI, with further degrees and patent experience in biotech, software inventions, and AI.
- Mathematics attorneys with an applied mathematics background plus post-graduate research in biotech.

Because of this experience our team has in the middle ground between life sciences, mathematics, and software, we are well equipped to handle the varying complexity we see in these types of inventions: from complex biotech to complex AI/mathematics, and inventions with complexity from both sides.

When putting together a team for any client, the team will often contain an attorney from the computing side AND an attorney from the biotech side. We believe this makes us stand out from other firms, and allows us to provide robust patent drafting, prosecution, FTO and opposition work in bioinformatics and AI.

Our team has drafted patent applications for: AI cancer diagnostics; AI personalized medicine; AI microbe detection; and bioinformatics methods for analyses of microbiome sequencing and other types of sequencing including next generation sequencing.

Our team has successfully prosecuted applications for: *in silico* drug testing; bioinformatics methods for metagenomic sequencing; and mathematical methods for analysing abnormalities associated with diseases in samples.

We also have successfully defended key bioinformatics patents for clients in EPO opposition proceedings; and provided freedom to operate opinions on, for example, AI-based immunotherapy drug design and AI-based *in silico* structural analyses.

As well as patent attorneys, we also have IP solicitors as part of the team who specialise in trade secret protection. Trade secret protection is important to safeguard and show value in the databases companies in the AI field have.

In summary, we provide an overall package of tailored patent expertise with practical advice on patenting and/or trade secret protection in the bioinformatics and digital health space.

For more details on our specialised team, see below.

Lauris Kemp

Partner & Patent Attorney, Bioinformatics and Digital Health team leader

Lauris has a strong science background with a first degree in Immunology and Biochemistry; and a PhD and 6 years postdoctoral experience as a protein crystallographer. It is this crystallography background that allows her to work broadly across computational biology and AI.

Increasingly her portfolio of drafting and prosecution work involves AI. She has worked on bioinformatics/AI applications for: in silico drug discovery; AI cancer diagnostics based on images and based on DNA patterns; AI microbial detection; single cell sequencing; duplex sequencing; nanopore sequencing; AI protein structure determination and AI-based immunotherapy drug design.

Lauris has also successfully defended key bioinformatics patents for her clients in EPO opposition proceedings.

More information about Lauris > Full Profile
Contact Lauris > lkemp@hgf.com

Janine Swarbrick

Patent Director, Bioinformatics and Digital Health team leader

Janine specialises in drafting and prosecuting patent applications in computing focussed technologies with a strong interest in digital health applications. She has extensive experience in supporting clients across a range of technologies implementing AI-based solutions, including personalised medicine, speech therapy and data management in the health space. She brings her patenting expertise alongside a strong academic background including a Physics MSci and PhD in nanoscience, and time as a postdoctoral researcher at the ESRF synchrotron in Grenoble, France.

More information about Janine > Full Profile
Contact Janine > jswarbrick@hgf.com

Sofie McPherson

Patent Director, Bioinformatics and Digital Health team leader

Sofie specialises in software, artificial intelligence and connected medical ecosystems in a range of medical applications including training, diagnostics, and treatments. She has drafted and prosecuted patent portfolios relating to medical imaging including AI used for identifying functional features and diseases and AI for improving and generating medical images.

Sofie has a degree in Materials Engineering in Medicine and a PhD in Biomaterials. She has practical and academic experience in tissue engineering, electron microscopy, and material characterisation systems including raman spectroscopy and fourier-transform infrared spectroscopy.

More information about Sofie > Full Profile
Contact Sofie > smcpherson@hgf.com

Chris Benson

Partner & Head of Electronics

Chris has an academic background which enables him to work with world-leading inventors, in particular to advise on the patentability of software-based inventions.

Chris has a keen interest in the cross-over between computing and biotech and has prosecuted many applications involving bioinformatics analyses in the sequencing field, for example in foetal abnormality testing.

More information about Chris > Full Profile
Contact Chris > cbenson@hgf.com

Claire Green

Trainee Patent Attorney

Claire has a first-class degree in Neuroscience and an MSc in clinical statistics. Claire also has a PhD in Precision Medicine applying AI models to inflammation signatures to help understand neurological disorders.

Claire has drafted AI patent applications for cancer diagnosis, provided patentability opinions for AI-based microbe detection, and provided FTO analysis for AI-based immunotherapy drug design.

More information about Claire > Full Profile
Contact Claire > cgreen@hgf.com

hgf.com

Matt Cassie

Partner & Patent Attorney

Matt has significant technical, academic, industry, and professional experience to enable him to work with technologies across software and artificial intelligence, and had developed AI algorithms for 3 years for a company before becoming a patent attorney.

He has drafted and prosecuted patent applications in areas including medical imaging, analyses of DNA structure, and AI drug design.

More information about Matt > Full Profile
Contact Matt > mcassie@hgf.com

Claire Irvine

Partner & Patent Attorney

From her first days in the patent profession, Claire has been involved with many of the major innovations in the life sciences' field. These have spanned immunology-related therapeutics, RNA therapies, synthetic biology, and genetic diagnostics, including applications of bioinformatics.

This continues as a partner of both the specialist HGF CRISPR and microbiome IP teams.

More information about Claire > Full Profile
Contact Claire > cirvine@hgf.com

Susan Keston

Partner & Patent Attorney

Susan is an EPO oppositions specialist. In patent revocations, Susan's team has a full revocation rate of over 70% which compares with a 46% EPO average revocation rate. Susan uses her finely tuned ability to spot weaknesses in granted patents to her Clients' advantage by utilising it to draft and prosecute patents for her clients that are more resilient to attack by their commercial competitors. Susan has successfully defended a patent directed to AI use in crop genetics working in tandem with a Life Sciences patent attorney, an integrated approach that is our Team's key strategy. Susan has also drafted patents directed to medical imaging using AI and diagnostic software and has a keen interest in this area.

Susan has a Doctorate in Quantum Field Theory which involved solving complex mathematical problems using high-performance computing. As a patent attorney, she has over a decade of experience in computing hardware and software including protecting instruction sets.

More information about Susan > Full Profile
Contact Susan > skeston@hgf.com

Susan Riley

European Patent Attorney

Susan has a broad interdisciplinary background with a MSci in Physics with Theoretical Physics and a PhD in Electronic and Electrical Engineering.

Susan has a keen interest in AI and has prosecuted and drafted multiple AI-related applications in a variety of fields, including bioinformatics and oncology. Her work in biotechnology has been praised by academics and clinicians alike for its high quality.

More information about Susan > Full Profile
Contact Susan > sriley@hgf.com

Stephanie Jackson

Patent Attorney

Stephanie graduated with a degree in Physics from the University of York followed by an MRes degree in Neuroscience. After graduation, she spent time working in a small company specialising in biometric systems.

She has experience prosecuting and drafting applications across computing and software-based fields, including MedTech. She has a particular interest and experience in drafting and prosecution in the field of medical imaging, including implementing AI-based solutions.

More information about Stephanie > Full Profile
Contact Stephanie > sjackson@hgf.com

Cassie Smith

Patent Attorney

Cassie's academic background is in applied mathematics and statistical physics. Prior to joining the patent profession, she worked particularly on the interface of biology and computing. Her work included stochastic modelling of population dynamics.

More information about Cassie > Full Profile
Contact Cassie > csmith@hgf.com

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Michelle Davies

Partner & IP Solicitor

Michelle is a highly experienced transactional IP specialist. Michelle provides strategic and transactional IP advice to clients in a wide range of sectors including trade secret protection and has specific expertise within the pharmaceutical and life sciences sector having worked 12 years with AstraZeneca and with a BSc in Pharmacology & Physiology.

More information about Michelle > Full Profile
Contact Michelle > mdavies@hgf.com

Christie Batty

IP Solicitor

Christie has experience in both complex multi-jurisdictional litigation and a broad range of licensing agreements.

Christie has a keen interest in advising clients on protecting, managing, and defending against the misappropriation of their trade secrets.

More information about Christie > Full Profile
Contact Christie > cbatty@hgf.com