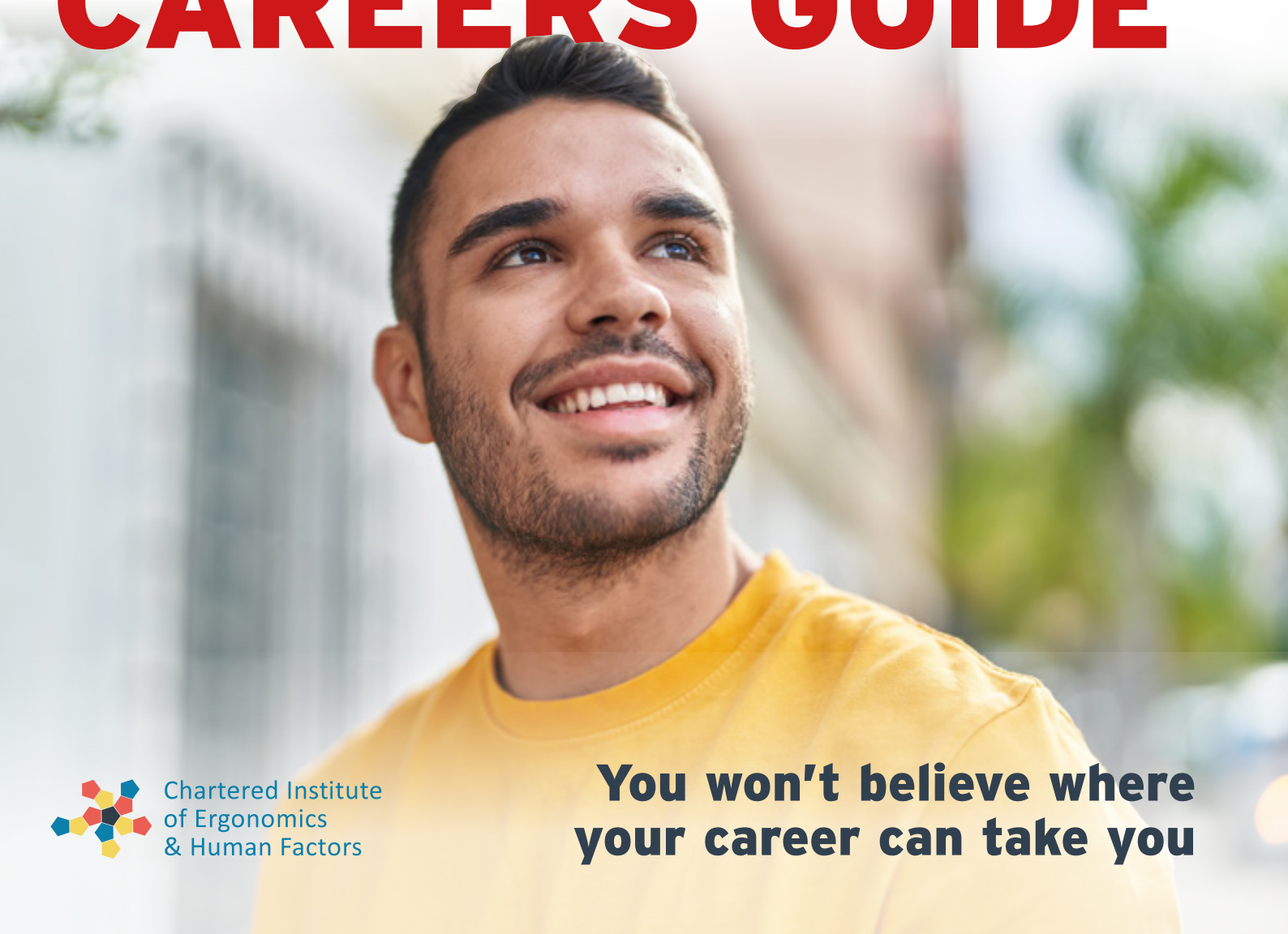
ERGONOMICS & HUMAN FACTORS CAREERS GUIDE



Chartered Institute of Ergonomics & Human Factors

You won't believe where your career can take you

Shape Your Future in Human Factors with AtkinsRéalis

Explore how Human Factors is central to engineering a better future for our planet and its people.

Where do you dream about developing your career? It's got to be in a place like AtkinsRéalis, where you'll learn from industry leaders in a culture that values innovation, collaboration, and individual impact. But with AtkinsRéalis, you won't just be starting a job. You'll be on an exciting journey offering variety, flexibility, and a rewarding sense of purpose.

Human Factors at AtkinsRéalis is about using data and design to make things safer, more efficient and more accessible. Our teams are intrigued and challenged by a broad portfolio of work from Hinkley Point C, to High Speed 2, airport design and innovative defence projects. Our teams work across a range of industries including Transportation, Nuclear and Power, and Aerospace, Security, Design and Technology.

Wherever you join us, you'll enjoy an inclusive culture of knowledge-sharing and innovation. Shape your career across diverse industries, offering expertise in Human Factors, Ergonomics and Behavioural Science. We work on everything from the design of:

- Military vehicles
- Submarine systems
- Nuclear reactors and power plants
- Railway control centres and driver's cabs

- ...essentially, anywhere there is a human in the system!

You can be part of landmark projects at the forefront of complex engineering and innovation including:

- Cyber security awareness
- Military digital transformation
- Digital railway transformation and implementation
- Robotics and automation
- Nuclear power and supporting the energy transition

The work we do enhances human performance in high risk industries to create safe, effective and efficient systems.

You deserve to thrive

No matter where you are in your career, at AtkinsRéalis you'll discover inspiring development opportunities. Whether you're working towards CIEHF chartership, refining your technical competence or developing your leadership skills, you'll be supported with bespoke careers mentorship.

ACCREDITED Registered Consultancy

Explore, and even apply for Early Careers and Experienced Hire jobs now: careers.atkinsrealis.com

AtkinsRéalis

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A CAREER IN ERGONOMICS AND HUMAN FACTORS

Making life better

You'd have to go a long way to find a career as varied, exciting, challenging and rewarding as this.

Where else could you sit in the cockpit of a fighter plane, stand on an oil platform out at sea, drive a high-speed train and walk in a virtual world?

Where else could you watch close-up a surgical operation, air traffic control, a power plant start-up or robots building state-of-the-art vehicles?

And you don't even have to choose between them! Ergonomists and human factors specialists might experience many of these situations during their career.

'Experience' is the key word here – and that's what makes the difference between a career in this discipline and any other.

EXPERIENCE LIFE

It's your job to make life better in some way (no pressure then) and the best way to do that is to understand exactly what someone else is experiencing by putting yourself in their shoes (not literally, although you could if you were designing shoes).

By doing this and then applying your specialist knowledge about people and their capabilities and limitations, you'll be able to help develop their tools, equipment, tasks and workspaces to make their jobs safer, more efficient and more productive, while also helping to make them more comfortable, more motivated and happier.

It's a big ask, but it's within your grasp as a qualified ergonomist and human factors specialist. ●

VARIETY, EXCITEMENT, CHALLENGE AND REWARD – IT'S ALL HERE

ERGONOMICS AND HUMAN FACTORS: WHAT'S THE DIFFERENCE?

NOTHING! They're two terms that mean the same thing.

Some countries, some organisations and some sectors tend to use one term, some the other.

We use both interchangeably depending on the most popular use in a particular sector. ●

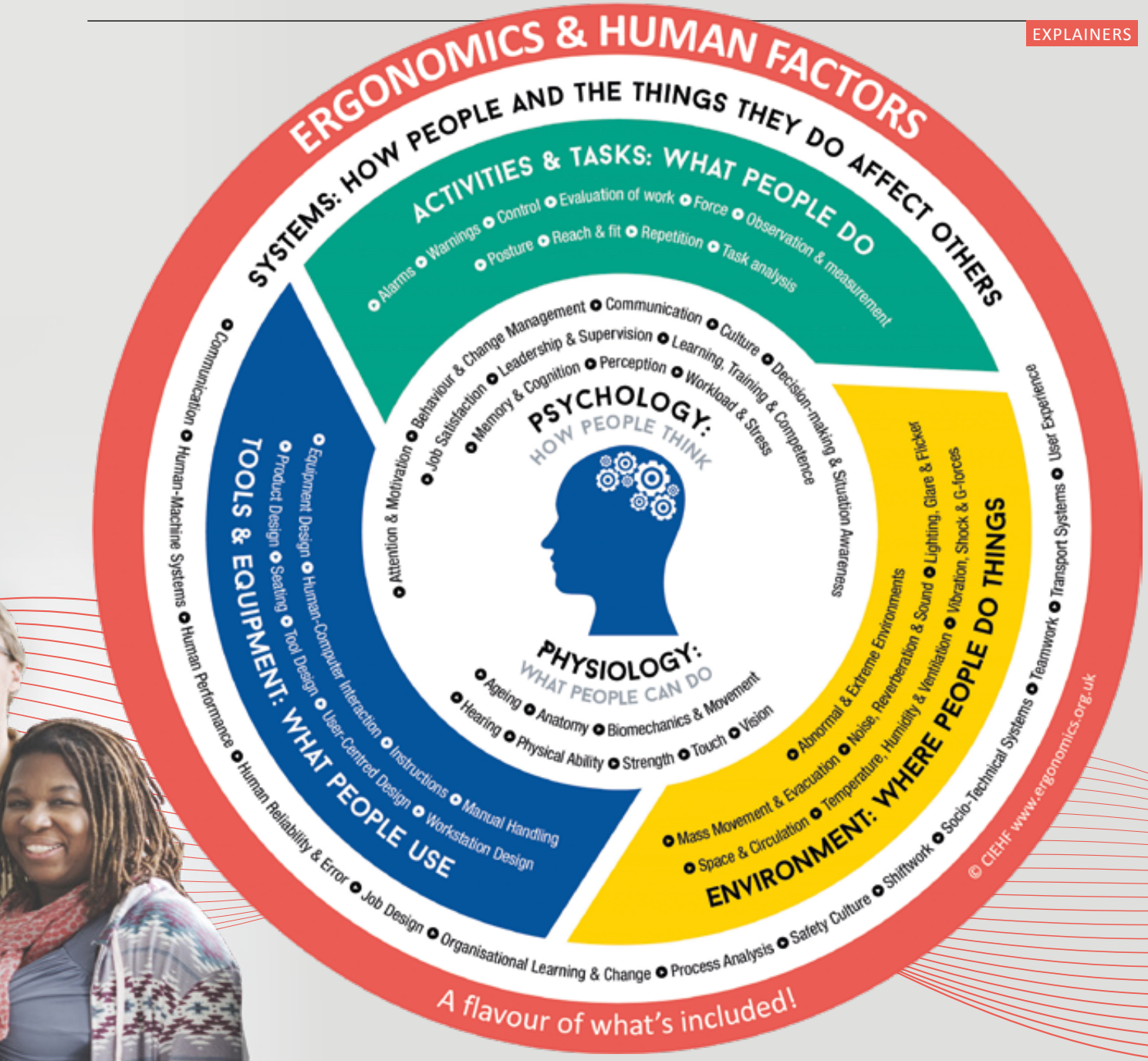
IT'S ALL ABOUT UNDERSTANDING PEOPLE

Putting people at the centre lets us help create a better world

Ergonomics and human factors is a science-based, human-centred discipline that brings together what we know about how people think and what they do.

It can be applied in any sector, wherever people interact with things, places and of course, other people.

So, if you have a background in, for example, healthcare, transport, energy, defence, manufacturing or sport, or if your interest lies in psychology, physiology, design, engineering or human behaviour, then this could be the career for you.


ERGONOMICS & HUMAN FACTORS
SYSTEMS: HOW PEOPLE AND THE THINGS THEY DO AFFECT OTHERS
ACTIVITIES & TASKS: WHAT PEOPLE DO
Alarms • Warnings • Control • Evaluation of work • Force • Observation & measurement
Posture • Reach & fit • Repetition • Task analysis
PSYCHOLOGY:
HOW PEOPLE THINK
Attention & Motivation • Behaviour & Change Management • Communication • Culture • Decision-making & Situation Awareness
Job Satisfaction • Leadership & Supervision • Learning, Training & Competence
Memory & Cognition • Perception • Workload & Stress
PHYSIOLOGY:
WHAT PEOPLE CAN DO
Ageing • Anatomy • Biomechanics & Movement
Hearing • Physical Ability • Strength • Touch • Vision
TOOLS & EQUIPMENT: WHAT PEOPLE USE
Equipment Design • Human-Computer Interaction • Instructions • Manual Handling
Product Design • Seating • Tool Design • User-Centred Design • Workstation Design
ENVIRONMENT: WHERE PEOPLE DO THINGS
Abnormal & Extreme Environments
Mass Movement & Evacuation • Noise, Reverberation & Sound • Lighting, Glare & Flicker
Space & Circulation • Temperature, Humidity & Ventilation • Vibration, Shock & G-forces
Communication • Human-Machine Systems • Human Performance • Human Reliability & Error • Job Design • Organisational Learning & Change • Process Analysis • Safety Culture • Shiftwork • Socio-Technical Systems • Teamwork • Transport Systems • User Experience
A flavour of what's included!
© CIEHF www.ergonomics.org.uk

ONE SECTOR, MANY CHANCES TO GROW

You can gather a wide range of skills and experience in a single sector. For example, in pharmaceuticals, you could study the tasks involved in the manufacturing process, the design of interfaces used on equipment, access for maintenance and the workspace layout. You could look into labelling, packaging and supply chain logistics. You may be involved in medical device design, carrying out user trials to understand how a device might be operated and under what circumstances. You might run awareness campaigns to highlight the impact of human factors among the workforce. In all these examples, you could expand your expertise and make a real difference. ●

FEED YOUR INTERESTS

There's a host of opportunity for you in all sectors, whether you're into the latest high-tech products or love being involved in creating a new outdoor landscape. Human factors enables you to feed your interests and grow your expertise, while at the same time influencing the work of others. In construction, for example, you'll help keep people safe while enabling them to perform at their best, collaborating in teams in challenging environments.

HOW MY CAREER STARTED

Make the connection between your interests and ergonomics

KATIE RIDDOCH

I went to a careers fair and heard the phrase 'human factors' for the first time. A year later, I'm working as a User Centred Designer, particularly enjoying speaking to people and bringing their ideas to life!

COURTNEY GRANT

I originally wanted to be a Clinical Psychologist but during the second year of my Psychology bachelor's degree, I attended a lecture called 'Cognitive Ergonomics' and everything changed! The lecturer played a powerful video showing the human factors leading to a major accident. At the end, you could hear a pin drop. Even hours later, I couldn't stop thinking about it. I'd found a new path!

ROB BECKER

I began my career by joining a graduate scheme after completing my MSc in Human Factors & Ergonomics. It was fantastic for getting exposure to exciting and varied work with a team of talented colleagues.

> ***"EVEN HOURS LATER, I COULDN'T STOP THINKING ABOUT IT. I'D FOUND A NEW PATH!***

BEN SUDALL

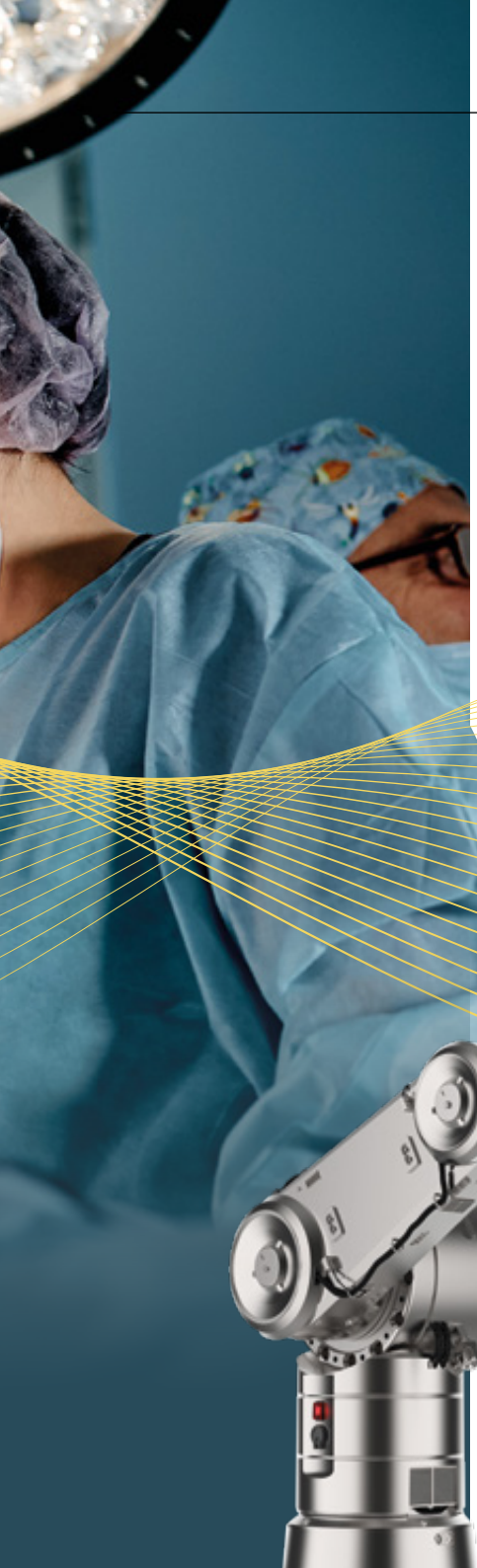
Ten years into my career I realised how unfulfilling and boring my job was and I was facing another 30 years of the same. That scary thought prompted me to look around for other options including taking a career quiz on prospects.ac.uk. The third result down, just after brain surgeon and horticulturist, was 'ergonomist'. This was something I hadn't heard of before but the more I read about it the more boxes it ticked: interesting, diverse, practical and theoretical, make a difference to people, decent pay and progression. That was seven years ago and it's still ticking those boxes and more!

SID SHYAMSUNDAR

I'd just started my Master's in Psychology and I walked into the wrong classroom. The lecturer spoke about human factors and I sat there riveted, realising that this had been my calling all along. I was so inspired that I wrote my Master's thesis on human factors and aviation psychology in the flight deck. Now I'm a human factors engineer.

SOMETIMES EXCITING, OFTEN INSPIRING AND ALWAYS INTERESTING

You'll see and experience things that you'll always remember



As an ergonomist or human factors specialist, you'll study people and the products, tools and equipment they use at home, at play and at work, the places in which they live and work, the transport they use to get around, and the systems they interact with that keep day-to-day life functioning properly.

If you're looking for a comfortable 9 to 5 office job, where you know exactly what you're going to be doing every day, then this isn't for you!

As a practising ergonomist and human factors professional you could find yourself outside in all weathers, working nights, working away from home but you'll see and experience things that you'll always remember.

The work is sometimes exciting, often inspiring and always interesting.

What other single job allows you access to such varied workplaces?

You could be in a hospital looking at the safety of patients and staff. You could be in a nuclear power station examining the controls and displays used by the operators. You could be in a design studio working on a new prototype for a cutting-edge product. You could be on a submarine looking at operating and living conditions. Or you could be studying the latest ideas for autonomous vehicles.

Whatever you do, you can be sure it really will make a difference!

You could work in academia, in a consultancy or within an organisation, on your own or in a group.

Whatever the situation, ergonomics and human factors is full of people with varied interests and differing expertise who are united by a passion for working with others to make their lives easier.

You'll often work in multidisciplinary teams with designers, engineers, psychologists, healthcare professionals or IT specialists, for example, to develop a new idea or to identify and devise a solution.

Having a background yourself in one of these disciplines can be a valuable asset but isn't a requirement.

"THIS DISCIPLINE IS FULL OF PEOPLE UNITED BY A PASSION FOR MAKING LIFE EASIER

WHY I LOVE MY CAREER

The rewards are many and varied

NORA BALFE

There's never a dull day, with endless opportunities and ways to apply human factors. You might find yourself standing in a control tower, a train cab or on a factory floor figuring out how to improve working conditions for the people there – but also just really enjoying yourself!

> ***"THERE'S NEVER A DULL DAY, WITH ENDLESS OPPORTUNITIES***

KNOWING I'M IMPROVING PEOPLE'S LIVES MEANS I GO TO WORK MOTIVATED TO MAKE THE BIGGEST IMPACT I CAN

ROB BECKER

I love human factors because it gives me access to a huge variety of exciting industries and disciplines – it's hard to become bored!
I find a lot of satisfaction in enhancing user experiences through thoughtful system design, from cockpits through to cybersecurity.

FIONA CAYZER

I've had the opportunity to work on some amazing programmes covering all aspects of the design lifecycle, from detailed requirements, rapid prototyping, design and development through to human-in-the-loop assessments in high fidelity simulators!

SID SHYAMSUNDAR

I love solving problems and I get to do it every day! I solve issues like where to place a switch, how to display information on a screen, how to reduce pain and injuries for workers, and how to build a system that ensures users are safe. Every little thing makes a difference.

SAM FARRAR

I love my career as I can work on landmark and world-changing projects from rail to nuclear and from defence to net zero. Representing the end users and knowing I'm improving people's lives means I go to work motivated to make the biggest impact I can. I work as part of a great human factors team and this network gives me opportunities to push myself to develop into the best professional I can be.

A CAREER WITH ENDLESS OPPORTUNITY

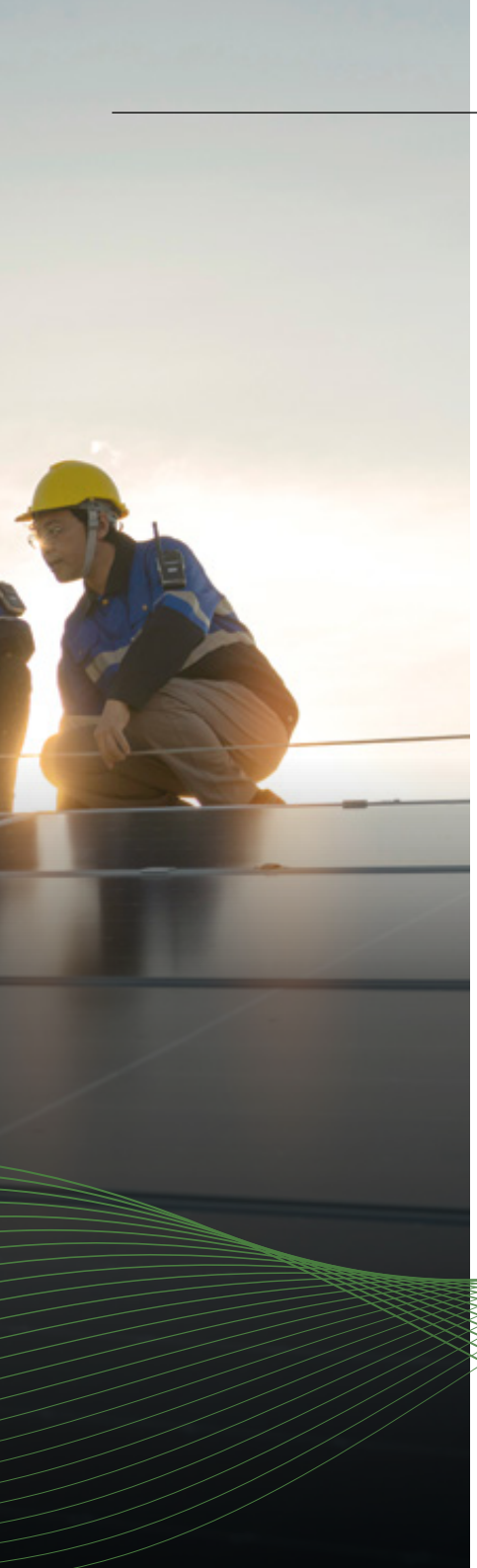
From graduate to career changer, there's always an open door

This is a career open to anyone at any stage of their working life, from new graduates keen to make their mark to more experienced professionals qualified in a different discipline and looking for a change of direction or focus.

This isn't a discipline that takes years to get to the top but equally you'll never stop learning. If you work hard and get a good breadth and depth of knowledge, skills and experience, you could become Chartered after three or four years following graduation.

As a relatively new discipline (the term ergonomics was only coined in 1949), there aren't thousands of qualified ergonomists out there, so if you find a niche that you're particularly interested in, you could become an expert and the go-to person for that topic.

> ***"THIS ISN'T A DISCIPLINE THAT TAKES YEARS TO GET TO THE TOP***



BE A PEOPLE PERSON

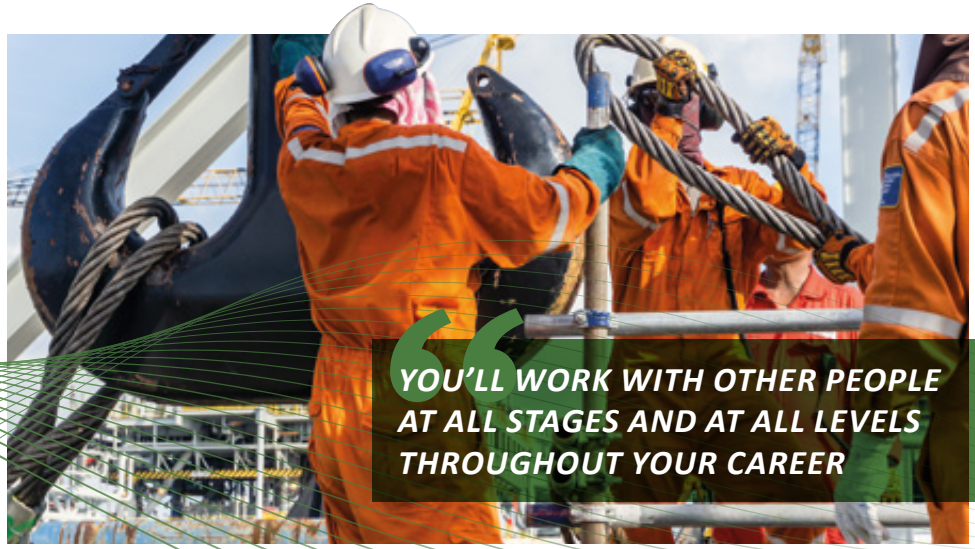
A good mix of education and skills is key

You'll need a good overall level of education and a keen interest in understanding people. You'll generally need a first degree which could be in human factors or in a related subject such as psychology, engineering or design. Whatever you've studied, you'll bring value to the profession.

You could study for a second degree, such as an MSc, where you could start to specialise if you wish, for example, in industrial sectors, transport or healthcare.

If your particular interest lies in research, you could study for a PhD or join a research group at a university.

And above all, you need to be a people person with good soft skills. You need to be able to listen and to communicate effectively, to work in groups or on your own and to be able to empathise with the people you deal with.



"YOU'LL WORK WITH OTHER PEOPLE AT ALL STAGES AND AT ALL LEVELS THROUGHOUT YOUR CAREER

WHAT I DO

You'll experience things you never thought possible

> ***I WORK ON HUMAN AUTONOMY TECHNOLOGY THAT COULD FIND ITSELF IN A SIXTH GENERATION FIGHTER JET, WHICH IS EXTREMELY EXCITING***

JULIE ARMOUR

Helped by research and using workers as experts that add to my background of knowledge, I've applied solutions used in Australian nursing homes to engineering problems in the shipbuilding yards of Singapore.

JESS BARKER-BOTHAM

I work on Human Autonomy Technology that could find itself in a sixth generation fighter jet, which is extremely exciting. I get to design assessments, meet aircrew and speak to stakeholders about my recommendations.

MILO THOMAS

I joined the military air domain and have been involved in a variety of engaging projects including the development of high-altitude long-endurance platforms. I look forward to developing my career, exploring future products for national security.

KATE PRESTON

Every day is different! I spend most of my time working on my PhD, which involves interviewing participants, analysing data or simply writing my thesis. I also work a few hours a week for a fantastic company which gives me industry experience and opens my eyes to how I can apply the knowledge I've gained to the real world.

MY ADVICE TO YOU

Help is always at hand to guide your career

JESS BARKER-BOTHAM

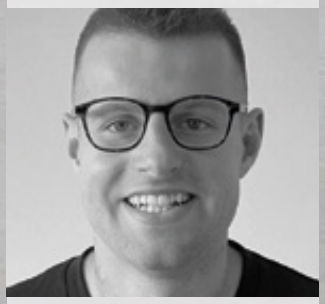
If you like the sound of human factors but you have no experience, don't let that stop you! My background in mechatronics has really helped me and given me an edge by understanding other types of engineering such as systems and electrical.

ROB BECKER

Always prioritise users, fully understanding their needs and recognising that 'good' design depends on accommodating the diverse set of individuals who'll use your system.

KATE PRESTON

Get involved. Join CIEHF and its groups, attend webinars, participate in the yearly conference (try to volunteer if you're a student) and take every opportunity thrown your way. Speak to everyone you can who's involved in human factors and ensure you and your work are remembered. That's what I did, and it's had the biggest influence on my career so far!



SAM FARRAR

Do things that you enjoy! It's your career, and you get to choose how you spend it. Find things you're passionate about and enjoy spending your time working on them – it'll enable you to do your job so much better.

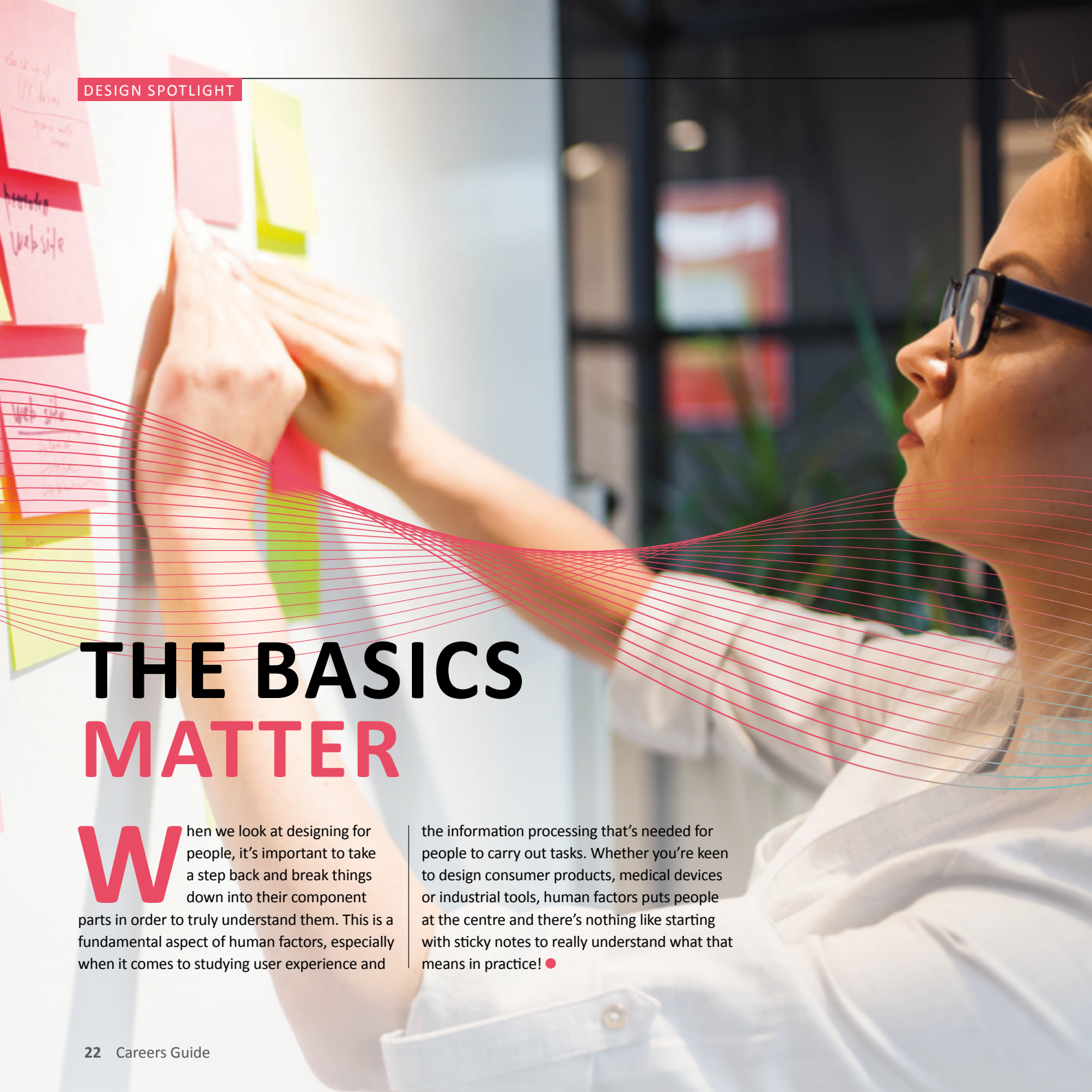
BE BRAVE, TAKE CHANCES AND TRY SOMETHING NEW. IN HUMAN FACTORS, IT'S HIGHLY LIKELY YOU'LL SUCCEED

FIONA BIRD

Know your values and have a clear understanding of what's important to you. Be brave, take chances and try something new. In human factors, it's highly likely you'll succeed.

EMILY THORNE

Don't worry if you're not technically minded because you don't need to know all the details of how a system works. You do need to understand how users will interface with it though, so if you enjoy focusing on people then you'll love human factors as a career.



THE BASICS MATTER

When we look at designing for people, it's important to take a step back and break things down into their component parts in order to truly understand them. This is a fundamental aspect of human factors, especially when it comes to studying user experience and the information processing that's needed for people to carry out tasks. Whether you're keen to design consumer products, medical devices or industrial tools, human factors puts people at the centre and there's nothing like starting with sticky notes to really understand what that means in practice!

EXPECT THE UNEXPECTED

The ability of humans to react to unexpected events, to assimilate a wide range of information and to make rapid decisions based on experience is critical in a wide range of sectors, for example, in air traffic control, in nuclear control rooms and in railway signalling centres.

Creating interfaces that enable people to gather information they need in the right format and at the right time is a real skill - one which can be learned using human factors principles. So if your interests lie in how people interact with technology, a career in human factors design could be for you.

WE CAN POINT YOU IN THE RIGHT DIRECTION TO GET YOU TO WHERE YOU WANT TO BE

MAKING IT HAPPEN

With equal opportunities for everyone, let us help you towards that dream career

The Chartered Institute of Ergonomics & Human Factors is here to support you. We can point you in the right direction to get you from where you are now, to where you want to be.

We accredit degree and vocational training courses in ergonomics and human factors so you can be sure they're full of quality content and are run by qualified teachers, lecturers and trainers.

We run events, both regionally and nationally, face-to-face and online, where you can learn more about research, practice and the latest thinking in particular sectors.

You can meet your peers, network with others already working in an area that interests you and discuss your aspirations with potential mentors.

We have an online jobs board where you'll find quality, relevant vacancies for graduates to consultant positions in a variety of leading organisations in every sector. ●

JOIN THE CIEHF

Being a member of the CIEHF opens the only route to Chartered status and gives you many other valuable opportunities. For example, we can help you raise your profile by providing you with chances to present your work and ideas, arranging publication of articles you write, and giving you exposure through our PR and social media outlets.

One of the most important benefits of membership is becoming part of the community. This can be invaluable in finding mentors, colleagues, collaborators and future employers.

We can help you find out about the amazing opportunities that are available to you as an ergonomist and human factors professional.

So why not consider it as a career?

After all, you won't believe where it can take you.

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- Nuclear
- Defence
- Wind
- Hydrogen
- Carbon Capture and Storage
- Rail and Transport
- Conventional Power

Career opportunities for Human Factors graduates and professionals

- Registered consultancy with the CIEHF
- Join a global team of chartered Human Factors experts
- Develop knowledge and skills to meet CIEHF

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Cranfield University

Make a lasting improvement

to performance and safety

Safety and Human Factors in Aviation MSc

As demand for human factors and safety expertise continues to grow, this master's degree has been designed to provide industry with graduates who are equipped with the necessary skills and knowledge, learnt through a mix of lectures and practical exercises. Synthesising the study of human factors with the study of safety and safety assessment, the course content creates a powerful combination that adds value in a range of applied aviation and safety critical contexts. This course is accredited by the Chartered Institute of Ergonomics and Human Factors (CIEHF).

www.cranfield.ac.uk/SHFA