Clean Air Programme

ECR Resource

Air Quality: Career Profiles

ARCHIT MEHRA

Industry: Data & AI Consulting

CURRENT ROLE

- Data & AI Consulting Lead – Methods Analytics (2024 – Present)

EDUCATION & CAREER PATH

- **BSc in Chemistry with Industrial Experience** – University of Manchester (2012–2016)
- **Industrial Placement:** Domino Printing, R&D (Ink Formulation) (12 months)
- **PhD in Atmospheric Chemistry** – University of Manchester (2016–2020)
- **Research on Air Pollution in Beijing using a Time-of-Flight Chemical Ionisation Mass Spectrometer**
- **Postdoctoral Researcher** (**Indoor Air Quality**) – University of Chester (2020–2021)
- **Data & AI Consultant** – Chaucer (Bip Group) (2021–2023)
- **Senior Data Strategist** – Methods Analytics (2023–2024)
- **Transition to Data & AI Consulting Lead** – Methods Analytics (2024–Present)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- "I really enjoyed my time in academia, especially my PhD, but I chose a different path for reasons like stability, pay, and frequent relocations."
- "The transferable skills from a PhD are invaluable—the way of thinking, confidence, and ability to challenge ideas are highly valued in industry."
- "While I loved my research, continuing in academia meant a patchwork of postdoc contracts worldwide, which wasn't sustainable for me financially or personally."

CAREER INSIGHTS AND REFLECTIONS

- "I have enjoyed every aspect of my career, and the blend of experiences I've had enables me to bring a unique perspective to every situation."
- "What I enjoy most is the high-impact nature of my work, spanning multiple high-profile projects."
- "I love that I get to stay up to date with the latest advancements, continuously learning and applying new insights."
- "A key part of my role is critical thinking in AI—asking not just 'what can AI do?' but 'should it do this?'"

FUTURE PLANS

- "I am happy and well-settled in my role leading a specialist Data & AI consulting team."
- "I still get to work on the cutting edge of AI innovations, maintaining the excitement of being at the forefront of research."
- "One of the biggest advantages of industry is the shorter timelines for real-world impact—something I find incredibly fulfilling."
- "Our core value is 'To Solve. For Good.'—which aligns perfectly with my personal and professional goals."

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Don't undervalue your skills – Your PhD experience is packed with transferable abilities.

Reflect on what you enjoyed most – Was it coding, problem-solving, or collaboration? That can guide your next step.

Explore your options – There are great careers outside academia that align with your skills and interests.

Use your network – Connect with professionals on LinkedIn, attend events, and ask questions.

Do your research – Moving out of academia is a big decision, so gather as much insight as possible.

CHRIS EMSLIE

Industry: Retired

CURRENT ROLE

- Retired

EDUCATION & CAREER PATH

- **BEng in Mechanical Engineering** – University of Sheffield
- **PhD in Polymer Optical Fibre Fabrication** – University of Southampton (also held a Research Fellowship)
- **Marketing Executive** – York Ventures & Special Optical Products (a university spin-out)
- **Postgraduate Diploma in Marketing (Dip.M)** – Southampton Institute
- **CEO of Fibercore Limited** – Led the company for 18 years, overseeing five acquisitions, global expansion, and growth across multiple industries
- **Final decade focused on mergers, acquisitions (M&A), and finance** – Fibercore was sold to Amoco Technology Inc., Scientific Atlanta Inc., Cisco Systems, and H.I.G. Capital, where I became a co-owner before a final acquisition **by Humanetics**

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I didn't plan to do a PhD—it was a practical decision after struggling to find a job that truly interested me. It gave me time to explore my options, and instead of academia, I ended up in a commercial role at a university start-up.
- That move changed everything. I never expected to become a CEO or lead a company through multiple acquisitions, but the entrepreneurial path turned out to be a perfect fit.

CAREER INSIGHTS AND REFLECTIONS

- I found my career incredibly fulfilling. It allowed me to work at the highest levels across multiple industries, from communications and medicine to aerospace and defence. I thrived on the variety and challenge, especially as I moved into mergers and acquisitions.
- Leading Fibercore through global expansion was a major highlight. I enjoyed blending technical innovation with business strategy, working with world-class teams to drive growth. Most importantly, my career gave me the freedom to retire early and spend more time with my family, which has been the most rewarding part.

FUTURE PLANS

I'm officially retired, but I like to keep my brain active, so I still take on a few things:

- Expert Witness work for a London-based law firm
- Delivering STEM career talks at local schools
- Serving on an IEEE Industry Awards Committee

It's just enough to keep me engaged without the pressure of full-time work.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Finish your thesis before moving into industry. Once work takes over, it's much harder to go back and complete it.
- Be open to opportunities. The best career moves often happen unexpectedly. Don't dwell on what could have been—focus on what's ahead.
- Money isn't everything. After a certain point, job satisfaction matters more than salary. Find work that excites and motivates you.

EMMA MARCZYLO

Industry: Government

CURRENT ROLE

- Principal Toxicologist, UK Health Security Agency

EDUCATION & CAREER PATH

- **BSc Biochemistry and Molecular Biology,** Lancaster University (3 years)
- **PhD Biochemistry and Molecular Biology,** University of Leeds (4 years)
- **Postdoctoral Research Fellow,** The Leicester School of Pharmacy, De Montfort University (3 years)
- **Postdoctoral Research Fellow,** MRC Toxicology Unit (2.5 years)
- **Investigator Scientist,** MRC Toxicology Unit (3.5 years)
- **Senior Toxicologist,** Health Protection Agency/Public Health England (4 years)
- **Principal Toxicologist,** Public Health England/UK Health Security Agency (9 years)

HOW HER PATH DIFFERED FROM EXPECTATIONS

- Originally, I expected to follow a traditional academic route toward a Professorship. Instead, my career has been much more varied—moving between academia and government—and has expanded my skills far beyond what I first imagined. Early on, this non-linear path fed my imposter syndrome, but over time, I learned that being versatile is a huge asset in government science. No two days are the same: I might be conducting experiments, presenting at conferences, collaborating on risk assessments, or training others. The variety keeps things exciting and challenges me daily.

CAREER INSIGHTS AND REFLECTIONS

- I feel very fulfilled in my career. I rarely wake up dreading work, and overall, I still love what I do. Earlier in my career, I thrived on learning new scientific skills and techniques. Now, I find huge satisfaction applying scientific knowledge to real-world public health challenges, working with passionate, like-minded colleagues. Being a valued scientist in a positive environment is what keeps me motivated to continue growing and contributing.

FUTURE PLANS

- I plan to stay at the UK Health Security Agency because the mission to apply science for public good strongly aligns with my values. The agency also offers stability, excellent benefits, and opportunities for leadership development, even if bureaucracy can be frustrating. Overall, the meaningful work and brilliant people make it an environment I want to continue growing in.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Say yes to opportunities that push you outside your comfort zone.
- Learn when "good enough" is truly enough—and when to say no.
- Be proactive about your career development.
- Find support through mentors, peers, and networks.
- Embrace wiggly, non-linear career paths.
- Love what you do—and strive for work-life balance.

Clean Air Programme

FLORENTIN BULOT

Industry: Air Quality Measurement & Data Science

CURRENT ROLE

- Chief Technology Officer (CTO), Air Quality Measurement Company (Starting Soon)

EDUCATION & CAREER PATH

- **Master of Engineering** – Centrale Paris, France (6 years)
- **Research Engineer** (**Chemical Processes**) – Trappes, France (1 year)
- **Consultant** (**Waste & Coastal Management**) – Morocco (3 years)
- **PhD in Air Quality & IoT** – University of Southampton, UK (4 years)
- **Research Fellow** – University of Southampton, UK (1 year)
- **Research Engineer** (**Environmental Data**) – Marseille, France (2 years)
- **Transition to CTO Role in Air Quality Measurement**

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- "I initially aimed to stay in academia and applied for grants, but I wasn't successful on my first attempts."
- "I needed to settle down to start a family, so moving frequently wasn't an option."
- "This was a major barrier, but I may explore ways to return to academia in the future through a different route."

CAREER INSIGHTS AND REFLECTIONS

- "I like the variety I have had during my career. It allowed me to develop a wide range of skills."
- "I enjoy having experience in both academia and industry, which gives me a broader perspective."

FUTURE PLANS

- "I have no idea what the future holds—I am about to start my new position as CTO."
- "I previously thought I would stay in my last role much longer, but opportunities and working conditions shift quickly, making it hard to predict what's next."

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Develop transferable skills – This opens doors beyond academia.

Don't limit yourself to academia – Research can be done in many settings.

Prioritise yourself – Your well-being, hobbies, and support network matter most.

Avoid burnout – It takes a long time to recover, so protect your balance early on.

Clean Air Programme

GARY FULLER

Industry: Academia/Clean Air Champion

CURRENT ROLE

- Senior Lecturer, King's College London, now Imperial College (15 years)
- Clean Air Champion
- Science Contributor, The Guardian (15 years)

EDUCATION & CAREER PATH

- **BSc Physics** – University of Sussex & Uppsala Universitet (3 years)
- **Temporary jobs** in warehouses & finance (2 years)
- **Analyst** in an occupational hygiene consultancy (3 years)
- **Self-employed analyst** (3 years)
- **Air quality technician** & team manager in public sector/university (15 years)
  - Diploma in **Environmental Pollution** Control – Open University (2 years, part-time)
  - **PhD in Environmental Science** – King's College London (9 years, part-time)
- **Senior Lecturer**, King's College London (15 years)
- Contributor to **The Guardian** (15 years)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I always wanted to do applied science and later applied environmental science, but I never had a career plan.
- In my 20s, I moved in and out of fragile jobs, taking opportunities as they came but feeling frustrated that I couldn't contribute as I wanted. I never imagined I'd end up in my current role.
- I started academia late, earning my PhD at 43 while already in a university science role, making my path quite different from most researchers.

CAREER INSIGHTS AND REFLECTIONS

- Throughout my career, I've focused on applied research for national and local governments, driven by my ambition to provide scientific evidence for practical and policy applications. As a Clean Air Champion, I now represent a broad portfolio of world-class research rather than just my own.
- Writing for The Guardian is one of the most enjoyable parts of my career. It gives me an excuse to explore a wide range of scientific studies and highlight important new findings. I love being able to tell stories about science and amplify the work of researchers at all career stages.

FUTURE PLANS

- I'd love to continue in my current role, but funding is finite. Retirement will come, but I still have a strong desire to learn, contribute and explain science. Maybe late-career researchers could benefit from their own networking events and workshops?

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Engage with others – Talk to people about their work, share your own, and attend conferences, seminars, and meetings.
- Support & collaborate – Helping others will strengthen your network and create opportunities through expert panels, working groups, and conferences.
- Recognise academia's challenges – The time demands and work culture can be overwhelming. Work-life balance matters.
- Be kind to yourself – Set boundaries, take breaks, and give yourself permission to step away. Your work will be more productive as a result.

JAMES EASTON

Industry: Intellectual property

CURRENT ROLE

- Patent Attorney (Trainee)

EDUCATION & CAREER PATH

- **MChem in Chemistry** – University of Southampton (4 years)
- **PhD in Computational Chemistry** – University of Southampton (5 years)
- **Trainee Patent Attorney** – **Including PGCert in Intellectual Property Law** – Queen Mary University of London (3 years)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- When starting my PhD, I planned to continue in academia. However, I realized that academia wasn't the right fit for me. Working on long-term projects with no defined endpoint didn't suit my work style.
- Becoming a parent during my PhD added extra challenges, especially when writing my thesis and starting my current job. I had to learn to be productive while balancing everything, but it was possible with support.

CAREER INSIGHTS AND REFLECTIONS

- I enjoy the mix of science and law in my work, which has a real-world impact. Although my job isn't directly related to my PhD research, I still use the skills I developed, particularly my chemistry knowledge.
- The intellectual challenge of the work keeps me engaged, and while cases develop over time, I never spend too long on any one piece of work.

FUTURE PLANS

- I'm still early in my career, aiming to fully qualify as a patent attorney and eventually enter partnership at my firm. The career development and well-defined progression are very appealing.
- I enjoy my work, and despite being busy, I rarely feel overworked. Even at this early stage, I feel my contributions are valued.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Be prepared for the possibility that your career might take you outside of academia. There's no shame in changing paths to find what's best for you.
- Consider science-adjacent roles that allow you to stay engaged with science without performing active research.
- Identify and leverage your transferable skills, like time management and analysing complex documents, which can be valuable in various industries.

LUCY ANDERSON

Industry: Environmental & Public Health Research

CURRENT ROLE

- SPHR Transdisciplinary Research Fellow, University of Bristol

EDUCATION & CAREER PATH

- **BSc Biological Sciences,** University of East Anglia (3 years)
- **MRes Ecology & Environmental Science,** University of York (1 year)
- **PhD Environmental Science,** University of Leeds (3 years)
- **Research roles in the charity sector** (10 years)
- **Transdisciplinary Research Fellow,** University of Bristol (Present)

HOW HER PATH DIFFERED FROM EXPECTATIONS

- My career has been far from linear! After my PhD, I moved into the charity sector, leading research for environmental and public health campaigns, most recently as Head of Research at Global Action Plan. I gained experience in policy-focused research, behavioral change campaigns, and science communication—skills I wouldn't have developed by staying solely in academia.
- Initially, I worried that being outside academia for so long would limit my ability to return. However, maintaining academic connections, publishing when possible, and collaborating across sectors helped demonstrate the value of transdisciplinary experience. In reality, my cross-sector background has been an asset.

CAREER INSIGHTS AND REFLECTIONS

- I find my work deeply fulfilling. I love using research to tackle real-world challenges and generate evidence that drives change. My PhD gave me research skills that apply across disciplines, and I've worked on major environmental and public health issues—from air pollution to sustainable supply chains.
- Moving between the charity and academic sectors has shaped my perspective. In NGOs, I learned to work under real-world constraints and focus on immediate impact. Academia allows for deeper exploration of complex questions. My biggest motivation is ensuring my research influences policy and practice.

FUTURE PLANS

- I aim to keep building my research career around air pollution, climate change, and public health. My current fellowship has given me a unique opportunity to bridge environmental and health research, and I hope to secure a long-term academic role. While academia has its challenges —slow funding cycles and bureaucracy - it provides a platform for meaningful work with real-world impact.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Don't be afraid to step outside academia. My time in the charity sector gave me invaluable skills and perspectives. That said, maintaining academic links—through publications, advisory roles, and collaborations—can help keep doors open.
- Use AI and automation wisely. Automating routine tasks frees up time for deeper thinking and collaboration—just ensure it's used ethically.
- Prioritize clear science communication. Misinformation is rampant. Researchers must engage transparently, explain methods clearly, and tailor communication for different audiences.
- Engage with the public. There's a growing shift from seeing the public as passive recipients of research to recognizing them as key collaborators. Involving communities from the outset ensures research is relevant and impactful. Seek out opportunities to engage and learn from different perspectives.

Clean Air Programme

MARK NICHOLS

Industry: Private Sector Consultancy

CURRENT ROLE

- Principal Consultant

EDUCATION & CAREER PATH

- **BSc (Hons) Environmental Resource Management,** UWE Bristol
- **MSc Environmental Policy,** University of Bristol
- **Consultant,** Air Quality (2 years)
- **Senior Consultant** (5 years)
- **Associate** (1.5 years)
- **Principal Consultant** (2.5 years)
- **IAQM** Committee Member
- **Associate Research Fellow,** Centre of Earth Observation Science, University of Brighton (2020–2024)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I didn't have a clear career path early on—I was broadly interested in environmental issues and eager to explore different disciplines. Even during my MSc, I wasn't sure where I'd specialize. Over time, I found a balance between private-sector consultancy and academic contributions, preparing air quality impact assessments while engaging in research and presenting at conferences. My journey has reinforced that career paths don't have to be linear, and opportunities often emerge through experience.

CAREER INSIGHTS AND REFLECTIONS

- Working in air quality consultancy is highly rewarding. There's a strong sense of purpose in contributing to environmental protection and sustainable development. I also enjoy the variety—balancing technical analysis, fieldwork, and strategic project planning keeps things engaging. The impact of my work, from policy influence to real-world environmental improvements, is incredibly fulfilling.

FUTURE PLANS

- I plan to stay in private sector consultancy because of the diverse opportunities for collaboration. I work with professionals from a range of disciplines—transport planners, ecologists, engineers—creating endless opportunities for cross-sector learning. The variety and fast-paced nature of consultancy make it an exciting and fulfilling career choice.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Stay in your own lane. Don't compare your progress to others—air quality is a broad field with space for different specialisms.
- Join a professional body early. Organizations like the IAQM offer networking, mentorship, and career development opportunities that become invaluable over time.
- Build connections. Attending early career events and engaging with professional networks can open unexpected doors.

MATT LOXHAM

Industry: Academia

CURRENT ROLE

- Professorial Fellow

EDUCATION & CAREER PATH

- **MBiochem, University of Oxford** (**2001**) – Left after one term
- **BSc in Pharmacology,** University of Sheffield (2002-2005)
- **Research Technician in Asthma Pharmacology,** University of Sheffield (2005-2006)
- **Career break** in NHS administrative work (2006-2009)
- **Integrated MRes/PhD** in Biomedical Science (Respiratory Biology), University of Southampton (2009-2013)
- **Postdoctoral Researcher** in pollution/allergen/virus effects on airways (2013-2016)
- **Southampton Marine and Maritime Institute** Research Fellow (2016-2017)
- **BBSRC Future Leader** Fellowship (now BBSRC Fellowship) (2017-2020)
- **NIHR Southampton Biomedical Centre** Senior Research Fellowship (2020-2021)
- **BBSRC** David Phillips Fellowship (2021-2026)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- There was no set career plan, and much of the success in securing fellowships came down to luck and strong mentorship. A major surprise was the sheer volume of administrative work and emails that accompany seniority.
- The pressure to excel in all areas to stay competitive creates a treadmill effect, making it difficult to maintain balance. The decision to follow research interests rather than a strictly strategic approach may also pose challenges for future progression.

CAREER INSIGHTS AND REFLECTIONS

- Fulfillment in academia has fluctuated over time. The intellectual challenge—learning new things, developing ideas, and making discoveries that can ultimately benefit people—is incredibly rewarding. Working with dedicated colleagues, discussing science, and seeing new ideas succeed is an amazing experience, especially when mentoring others. The interdisciplinary nature of research keeps things fresh and engaging.
- However, over the years, the increasing burden of administration, funding pressures, and excessive reporting requirements have taken away from the core scientific work. Time for deep thinking and creativity has diminished, making a healthy work-life balance harder to maintain. The shift toward treating people as metrics on a spreadsheet rather than individuals has also been disheartening. In hindsight, the early years of Fellowship were the most fulfilling, when research was the main focus without excessive external pressures.

FUTURE PLANS

- The future is uncertain. Increasing administrative pressures and decreasing engagement with core scientific work make staying in academia less appealing. However, the love for discovery and research remains strong, making the choice to leave a difficult one.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Read, think, and discuss—science is more than just publishing.
- If you have a clear career goal, take the necessary steps—but remember, nothing is guaranteed.
- If unsure, focus on what you enjoy to make the most of your time.
- Keep an eye on alternative paths and maintain connections in other fields.
- Beyond research itself, the work environment and colleagues matter most.
- Get some decent mentors. Not just one, but a few, different ones, who can offer advice and support in different aspects of your career, as appropriate to your needs.

MATTHEW CLARK

Industry: Public Sector / Local Government

CURRENT ROLE

- Air Quality Programme Manager, Local Authority

EDUCATION & CAREER PATH

- **BSc Biology,** University of York (3 years)
- Lab Technician (1 year)
- **PhD,** University of Leeds (6 months, discontinued)
- **MSc Environmental Health,** University of Derby (2 years)
- **Student Placement,** Environmental Health, Local Authority (1 year)
- **Local Authority Air Quality Lead** (Shropshire, 9 years)
- **PGDip Public Health,** University of Chester (2 years)
- **Local Authority Air Quality Programme Manager** (Hertfordshire, 3 years and ongoing)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I never expected to end up in local government. After my BSc, I started a PhD but realized after six months that it wasn't the right fit—one of the hardest but best decisions I've made. Initially, I assumed local authority work would be rigid and process-driven, but I discovered environmental health offered constant learning opportunities. Now, 15 years later, I'm reconnecting with research, forging partnerships between academia and local authorities, and even stepping into a PhD co-supervisor role—something I never expected in this field.

CAREER INSIGHTS AND REFLECTIONS

- I feel fulfilled in my role, especially because I still get to ask critical questions and challenge existing practices. Local authority work can be frustrating, but it's also incredibly rewarding. You work alongside dedicated people striving to improve local communities, and you can see your efforts translate into real, tangible actions.

FUTURE PLANS

- The local authority landscape is evolving, and I see major opportunities in interdisciplinary partnerships between academics and practitioners. My role has already allowed me to contribute to national discussions—speaking at the Environmental Audit Committee, attending parliamentary events, and advising on DEFRA's AQIS review. I plan to continue building networks and preparing for new opportunities as they emerge.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Don't be afraid to step away from something if it's not right for you—it's better to pivot than to stay on the wrong path.
- Diversify your experiences across academia, government, and industry—multiple perspectives make your insights more valuable.
- Build strong networks and connections—you never know what questions will arise or who you'll need to collaborate with in the future.

MOHAMED GHALAIENY

Industry: Government

CURRENT ROLE

- Air Quality Scientist, Defra Air Quality Evidence Team

EDUCATION & CAREER PATH

- **Freelance Journalism,** Free Speech Radio News + Palestine TV (2001–2004)
- **BSc Environmental Science,** The University of Manchester (2004–2007)
- **PhD Atmospheric Chemistry,** The University of Manchester (2007–2012)
- **Conflict and Environment Observatory** (2012–2014)
- **Career/Caring Break** + Healthcare Assistant (2014–2015)
- **Literary Translation,** Arabic-English (2014–present)
- **Research Data Analyst,** Manchester Metropolitan University Business School (2015–2016)
- **Postdoctoral Researcher,** Brunel University London (2017–2018)
- **Air Quality Scientist,** Defra (2018–present)
- **Career Break,** Cycling Instructor (2023–2024)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I never had a fixed career goal, just a two-step plan: gain interesting skills and find interesting work. There were low points—finishing my PhD left me disillusioned with academia, and struggles with mental health during my doctorate knocked my confidence. Still, those experiences taught me resilience and flexibility. When specialist roles weren't available, I leaned on broader skills like data analysis to keep progressing, which proved invaluable over time.

CAREER INSIGHTS AND REFLECTIONS

- Fulfilment comes from remembering why I'm here: to do impactful work at the interface of science, analysis, and government policy. Being part of a huge, complex organisation like Defra creates enormous opportunities to carve out your own niche within what can seem like a rigid system. Yes, there's bureaucracy, but it serves governance and accountability. I've been lucky to work alongside brilliant teams, and finding (or creating) a supportive environment is key to long-term satisfaction without becoming too siloed.

FUTURE PLANS

- I'm happy at Defra—the supportive culture suits my life, and I still feel like I'm growing. I reflect often to make sure I'm not simply staying comfortable; as long as I continue to learn and challenge myself, I see no reason to move on.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Experiment and collaborate: work with different people to discover what suits you.
- Don't always wait for permission: sometimes showing initiative builds a stronger case.
- Champion your work: learning to market yourself is crucial for progress.
- Don't despair: you have more control over your path than you think.
- Build a broad skillset: transferable skills open doors across sectors.
- Let go of perfection: realistic standards lead to better progress and less burnout.

MOLLY HAUGEN

Industry: Hardtech

CURRENT ROLE

- **CEO** – Aetosense (1 year, Cambridge-based)

EDUCATION & CAREER PATH

- **Bachelor's Degree in Chemistry** – University of Minnesota (4 years)
- **PhD in Chemistry** – University of Denver, Colorado (4 years)
- **Postdoctoral Researcher** (**Engineering Department**) – University of Cambridge (5 years)
- **Transition to Industry** – CEO of Aetosense

HOW HER PATH DIFFERED FROM EXPECTATIONS

- I never imagined I would enter the startup world or be leading a company.
- Living in the UK and working in this field has been an unexpected but rewarding experience.
- COVID-19 was a major challenge, particularly in staying motivated and adjusting my career path to fit personal life needs.

CAREER INSIGHTS AND REFLECTIONS

- I enjoy my work because every day is different, and I thrive in a dynamic, ever-changing environment.
- My role allows me to apply not just my academic background, but also a variety of life experiences.
- Running a company was never part of my original plan, but it has been an exciting and meaningful journey.
- The opportunity to contribute to air quality improvements through technology is incredibly fulfilling.

FUTURE PLANS

- I plan to stay in my current role as long as it continues to make sense for everyone.
- I believe in the importance of the work we're doing, and I feel I am the right person for the job at this time.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Say yes to opportunities that challenge you, even if they make you nervous.

Say no to things that don't fulfil you—though some tasks will always be less exciting.

Never be the smartest person in the room – surround yourself with people you can learn from.

Expand your skill set – developing new abilities can help you grow and open doors to unexpected opportunities.

NOEL NELSON

Industry: Scientific Civil Service

CURRENT ROLE

- Atmospheric Scientist, Met Office

EDUCATION & CAREER PATH

- **BSc in Physics & Maths** – University of Sheffield (4 years)
- **MSc in Environmental Science** – University of Surrey (2 years)
- **Atmospheric Scientist, Met Office** – 34 years

CAREER HIGHLIGHTS & KEY CONTRIBUTIONS

- Contributed to the early development of the NAME model for dispersion modelling at the Met Office.
- Led the Weather and Health Initiative, linking weather patterns to NHS workload predictions.
- Established the Met Office's environmental consultancy group to apply scientific expertise in industry.
- Secondments & Collaborations:
- Defra Air Quality Policy Unit – Gained insight into how science informs policy.
- Royal Commission on Environmental Pollution – Assisted in research for Command Reports.
- Pirbright Institute – Improved modelling of atmospheric transmission of animal diseases, leading to better surveillance.
- SPF Clean Air Research Programme – Oversaw commissioned research to advance air quality understanding.

CAREER INSIGHTS AND REFLECTIONS

- "I originally pursued environmental science out of concern for the natural world, wanting to make a difference."
- "Early on, environmental science wasn't a popular career choice, but I found satisfaction in contributing to solutions rather than problems."
- "In recent years, I've enjoyed working at the intersection of science and policy, where my strategic thinking is well suited."

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- "I wasn't always in control of my career direction. Moving to Defra was necessary when the Met Office relocated to Exeter, but it turned out to be a great opportunity."
- "As an ECR, I imagined a quiet, research-focused career, but I was eventually promoted into managerial and advisory roles."
- "While I enjoy mentoring and working with people, I sometimes miss the hands-on scientific work."
- "Remaining connected to core science is important—it's difficult to provide expert advice without truly understanding the research."
- "Racism was a significant barrier during my early career. While progress has been made, some challenges persist. Workplace environments must continue evolving to ensure fairness and inclusivity."

FUTURE PLANS

- "I plan to stay at the Met Office, working on environmentally relevant projects."
- "I enjoy contributing to external organisations, including:**
- Institution of Environmental Sciences
- Institute of Air Quality Management
- Clean Air Advisory Panel for the Welsh Government
- "My work allows me to engage with international committees on climate change and environmental issues, which I hope to continue for years to come."

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Be flexible – Careers rarely follow a straight path. Stay open to unexpected opportunities.

Say yes to experiences – Exposure to different projects and collaborations can lead to incredible opportunities.

Don't aim to be invisible – Engaging with others will open doors.

Learn from failure – Mistakes are part of the process. Be honest about challenges and ask questions.

There are no 'dumb' questions – Curiosity drives innovation, especially in new and evolving scientific fields.

Clean Air Programme

PAUL YOUNG

Industry: Climate Risk

CURRENT ROLE

- Head of Science, JBA Risk Management (2.5 years)
- Visiting Professor, Newcastle University (0.5 years)

EDUCATION & CAREER PATH

- **MSci Chemistry with Environmental Science** – University of Bristol (4 years)
- **PhD Atmospheric Chemistry** – University of Cambridge (~4 years)
- **Postdoctoral Researche**r – University of Cambridge (1 year)
- **Postdoctoral Researcher/Research Scientist** – NOAA/University of Colorado (4 years)
- **Lecturer** – Lancaster University (5 years)
- **Senior Lecturer** – Lancaster University (5 years)
- **Transition to Industry** – JBA Risk Management

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I never expected to leave academia. Despite knowing how competitive it is to secure a permanent academic job, often relying on luck, I became increasingly frustrated with the bureaucracy and the declining conditions in the sector. Looking back, I wish I had received more support with grant applications early in my career, especially in handling rejections. Having mentorship in grant writing would have been incredibly beneficial for me as a new researcher.

CAREER INSIGHTS AND REFLECTIONS

- I enjoy my current role, which lets me play to my strengths, contribute to scientific strategy, and bridge the gap between academia, industry, and regulatory bodies. I value the freedom to shape my work and engage in areas like staff training, marketing, and product development. My career took an unexpected turn from academia to industry, driven by frustrations with increasing managerialism, research funding challenges, and deteriorating working conditions in academia. However, my skills transferred well, making the transition smooth.

FUTURE PLANS

- Yes. My current job was a good "soft landing" from academia, and it is one that I have been fortunate enough to largely shape myself. I have been pleased to find that the bits I like from academia (see Q1) are also very transferable into this industry.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Explore opportunities – Attend seminars and events; you never know what might lead to your next job or inspire new research.
- Network – Speaking to professionals in various roles helps map out career possibilities.
- Consider alternatives to academia – Industry also offers fulfilling research careers.
- Recognise trade-offs – Academia provides intellectual freedom but comes with grant struggles, while industry can have a more direct impact but may limit research focus.
- Seek mentorship – Pairing new academics with experienced researchers for grant writing could improve success rates.
- Remember – Your job doesn't define your entire identity!

PHILIPPA DOUGLAS

Industry: Government

CURRENT ROLE

- Principal Air Quality Scientist, Environment Agency

EDUCATION & CAREER PATH

- **BSc Physical Geography with Chemistry,** Keele University (3 years)
- **PhD Assessing Exposure to Bioaerosols from Composting Facilities,** Cranfield University (4 years)
- **Research Associate** (**Postdoc**), Small Area Health Statistics, Imperial College London (3 years)
- **Research Fellow,** National Heart and Lung Institute, Imperial College London (1.5 years)
- **Senior Environmental Public Health Scientist**, UK Health Security Agency (4 years)
- **Principal Air Quality Scientist,** Environment Agency (2 years and ongoing)

HOW HER PATH DIFFERED FROM EXPECTATIONS

- As a PhD student, I aspired to an academic career, believing it was the only way to teach and conduct research. Coming from a background with limited exposure to other options, I didn't realise the breadth of careers available. Over time, working with peers, building collaborations, and expanding my network showed me there are many rewarding opportunities outside academia. Working in public bodies has allowed me to do impactful research without the pressures of publishing quotas or constant grant applications. It's been a rewarding and eye-opening journey.

CAREER INSIGHTS AND REFLECTIONS

- I am a proud public servant. My career allows me to conduct high-quality research that directly impacts society while maintaining a healthy work-life balance and managing my non-visible disability. It's not about chasing the next "shiny thing," but about understanding how innovations can improve future practices. Every piece of work we do is driven by real-world needs and has the potential to make a tangible difference. That sense of purpose and meaningful impact makes my career truly fulfilling.

FUTURE PLANS

- I currently see myself staying in the public sector. Compared to academia and some industries, it offers greater job security, flexible working, excellent leave entitlements, and strong pension benefits. Of course, challenges like bureaucracy and red tape are part of the role, but the positives outweigh them. That said, I remain open to new opportunities—never say never.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Take and seek opportunities—you'll build skills and broaden your network.
- Embrace failure—it happens to everyone and is essential for growth.
- Be proactive—whether asking for help, advice, or negotiating terms, don't be afraid to speak up.

RUARAIDH DOBSON

Industry: Philanthropic Funding / Air Quality Policy

CURRENT ROLE

- Head of Data, Clean Air Fund

EDUCATION & CAREER PATH

- **BSc Microbiology,** University of Glasgow (2007-2011)
- **Political & Policy Work** (British Lung Foundation, ASH Scotland, others) (2011-2018)
- **PhD Health Science**, University of Stirling (2015-2019) + Research Assistant Work
- **Postdoctoral Research** (2019-2022)
- **Private Sector** – Air Quality Tech (2022-2024)
- **Head of Data,** Clean Air Fund (2024-present)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I never had a rigid career plan—more of an evolving process. It's easy to imagine a structured path (PhD → postdoc → lecturer → professor), but life isn't always that linear. Plans break down, but you adapt.
- I initially assumed I'd follow the academic route, but funding challenges, job scarcity, and the pandemic pushed me to explore other options. That led me to air quality tech, where I gained valuable experience managing teams and applying research.
- Working outside academia before my PhD gave me perspective on career possibilities. Universities operate in their own way, and outside experience helped me see what I wanted—and what was realistic.
- I've also done part-time consulting, which kept me engaged in academia while broadening my skills. Teaching and MSc supervision, for example, let me stay connected to research while exploring new opportunities. It's worth considering if you have the time.

CAREER INSIGHTS AND REFLECTIONS

- I get to talk to fascinating people about air pollution data all day—honestly, they'd probably have to pay me not to do it. Like any career, there are challenges, but ultimately, I'm working on something that matters to me and to the world. I wouldn't trade that.

FUTURE PLANS

- I'm still settling into my role at the Clean Air Fund, but I'm excited about the international scope of our work. There's a huge gap in air quality data—while it's widely available in the Global North, regions like sub-Saharan Africa lack critical information. Helping bridge that gap is incredibly meaningful.
- Long-term, I want to focus on turning air quality data into action. Many places don't just need more data—they need tools and strategies to use it effectively. That's the challenge I'm most interested in solving.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Know your worth – Your skills are valuable in and outside academia, and you don't have to settle. You have more career flexibility than you might think.
- Build your network – Conferences, emails, and LinkedIn messages can open doors you never expected. Many opportunities come from simple conversations.
- Balance matters – Your career won't be defined by one paper or opportunity. Work hard, but don't let late nights become the norm. Life outside work matters too.

Clean Air Programme

SARAH MOLLER

Industry: Academia

CURRENT ROLE

- Senior Research Fellow, National Centre for Atmospheric Science (NCAS), University of York

EDUCATION & CAREER PATH

- **MChem, 4 years**
- **PhD in Atmospheric Chemistry Measurement,** University of York, 4 years
- **Postdoc** (**York**), overlapping with PhD write-up, 2 years
- **Education & Development Manager,** NCAS (Leeds), 1 year
- **NCAS liaison** with Defra (50% FTE) & Postdoc (York & Defra), 3 years
- **NERC Knowledge Exchange Fellow** (two consecutive fellowships) & Research Fellow (York & Defra), 9 years
- Air Pollution Theme Leader for NCAS
- **Seconded to Defra** as a Senior Research Fellow (2 years)
- **Promoted to Senior Research Fellow** (York, NCAS) in 2020 after maternity leave
- **Since 2024, Senior Research Fellow,** NCAS at York

HOW HER PATH DIFFERED FROM EXPECTATIONS

- I never had a structured career plan—initially, I saw postdoctoral work as temporary while I figured out my next steps. I considered a transition into science communication but realized I could fulfill that passion within a research role.
- My initial collaboration with Defra turned into a long-term opportunity that shaped my independent research career in ways I never anticipated. Encouragement from colleagues and unexpected opportunities played a huge role in shaping my path, reinforcing the importance of staying open to new directions.

CAREER INSIGHTS AND REFLECTIONS

- I feel fulfilled in my role, even though I frequently feel overworked—it's a trade-off I accept because I genuinely enjoy my work. My inability to say no often stems from my passion for engaging with brilliant colleagues, tackling meaningful projects, and influencing policy with research.
- What I find most rewarding is the opportunity to discuss ideas, explore new questions, and connect research to real-world impact. Whether it's delivering evidence to policymakers or shaping atmospheric science discussions, I thrive on these interactions and collaborations.

FUTURE PLANS

I plan to stay in my current role for as long as I can secure funding. I love the freedom to pursue research that interests me, the flexibility to collaborate, and the conversations that spark new ideas and opportunities. As long as I can keep shaping my own path and making an impact, I'm happy to stay.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Luck plays a role in career progression, but you can create your own luck by embracing opportunities and staying open to new connections.
- Approach every project and interaction with curiosity—you never know where it might lead.
- Engage with people outside your immediate field; collaborations and conversations can open unexpected doors.
- Stay flexible and don't worry if you don't have a clear career plan—many paths unfold through experience rather than careful design.

SOPHIE MORRIS

Industry: Public Health

CURRENT ROLE

- Health Determinants Research Collaboration (HDRC) Project Manager

EDUCATION & CAREER PATH

- **Education & Career Path**
- **BSc (Hons) Physical Earth Science** – 3 years
- **MSc Environmental Dynamics and Climate Change** – 1 year
- **Air Quality Public Health Specialist** – 4 years
- **MPH Master of Public Health** – 2 years (part-time while working)
- **Transition to HDRC Project Manager**

HOW HER PATH DIFFERED FROM EXPECTATIONS

- "I initially planned to work in a traditional environmental science role, but my career took a different turn."
- "My first air quality position was in a Public Health directorate, during the peak of COVID-19. This led me to work in outbreak management and health protection, which sparked my interest in public health."
- "I pursued an MPH at the University of Birmingham part-time while working to gain a deeper understanding of public health methodology and global health."
- "My current focus is on the wider determinants of health, blending my scientific background with public health strategy."

CAREER INSIGHTS AND REFLECTIONS

- "I really enjoy my current role and the work that the NIHR-funded HDRC Sandwell does in increasing the role of evidence and data in local authority decision-making."
- "I collaborate with a variety of partners across academia and the voluntary community sector on research projects related to the wider determinants of health."
- "Every day is different, involving engagement with diverse stakeholders and academic partners from over five universities."

FUTURE PLANS

- "I really like the ethos of the HDRC and the culture change the programme aims to bring about."
- "I am passionate about bridging academia with policy and decision-makers, so I plan to stay with the programme for the duration of the funding."

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Be flexible – Careers can take unexpected but rewarding turns.

Demonstrate impact – Focus on how your research can drive real-world change.

Listen to stakeholders – Understanding their needs will make your work more relevant and actionable.

Think beyond research – Ensure your findings translate into practical recommendations for decision-makers.

SUZANNE BARTINGTON

Industry: Public Health and Academia

CURRENT ROLE

- Clinical Associate Professor & Honorary Consultant in Public Health
- Part-time Councillor in Local Government (6 years)

EDUCATION & CAREER PATH

- **BA Hons in Medical & Veterinary Sciences** – University of Cambridge (3 years)
- **MSc in Modern Epidemiology** – Imperial College London (1 year)
- **Research Assistant** – University College London (1 year)
- **PhD in Infectious Disease Epidemiology** – University College London (3 years)
- **Career Break** – 1 year
- **Clinical Medicine Training** – University of Cambridge & University College London (4 years)
- **Foundation Doctor** – North Thames (2 years)
- Public Health Training Scheme – West Midlands (4 years)
- **Clinical Academic Career & Consultant Appointment** – University of Birmingham

CAREER INSIGHTS AND REFLECTIONS

- "Overall, I really enjoy my clinical academic career. The science really motivates me, and I find satisfaction in advancing knowledge to benefit population health."
- "I enjoy working with a broad variety of individuals and organisations inside and outside academia, particularly in translating research findings into policy and practice."
- "Leading the Institute for Global Innovation Clean Air Theme at the University of Birmingham has been particularly rewarding, strengthening interdisciplinary expertise and securing funding for large-scale, multi-centre studies."

HOW HER PATH DIFFERED FROM EXPECTATIONS

- "I never thought I would train in medicine—I originally started training as a vet!"
- "My undergraduate dissertation on BSE transmission in sheep sparked my interest in infectious disease epidemiology, leading me to pursue further study in epidemiology and eventually medicine."
- "It was a long journey to a clinical research career, requiring medical training, a PhD, and the Foundation Programme before specialising in public health."
- "Public health training has been a fantastic experience, offering diverse competency-based skills across local government, UKHSA, and NHS bodies."
- "After completing my Membership Examinations, I became a Consultant and secured a permanent Clinical Consultant role at the University of Birmingham.

FUTURE PLANS

- "I am keen to gain further public health experience in local government."
- "There are a wide range of consultant appointments available both in the UK and overseas, and I am open to exploring these opportunities."

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

Seek advice from a wide range of people – There is no single 'right' answer when making career decisions.

Every role has trade-offs – Your dream job may not always be ideal in every situation.

Don't be afraid to change – If something doesn't feel right, be open to new paths.

Be patient – It may take time to get where you want to be, but persistence is worthwhile.

Value your colleagues – You will remember the people you work with just as much as the work you do!

Clean Air Programme

WILLIAM HICKS

Industry: Air Quality Tech / Clean Tech Startup

CURRENT ROLE

- Co-founder & Chief Scientific Officer (CSO), Air Aware Labs

EDUCATION & CAREER PATH

- **MSc in Air Pollution Management and Control,** University of Birmingham (part-time) (2016–2018)
- **PhD in Air Pollution Measurement & Modelling,** Imperial College London (2018–2022)
- **Postdoctoral Researcher in Indoor Air Quality,** Imperial College London (2022–2023)
- **Entrepreneur in Residence,** Zinc VC Incubator (2023–2024, 6 months)
- **Co-founder & CSO,** Air Aware Labs (2024–present)

HOW HIS PATH DIFFERED FROM EXPECTATIONS

- I expected to remain in academia or move into consultancy, and entrepreneurship wasn't even on my radar during my PhD. Initially, I considered starting a small consultancy, but co-founding a tech startup was a much bigger leap.
- The biggest shift has been navigating uncertainty—financial pressure, investor rejections, and the challenge of building something from scratch. However, working in a startup brings a different kind of risk than academia, where funding for fellowships and research can also be unpredictable. Finding a great co-founder and team has helped manage these challenges and made the experience far more rewarding.

CAREER INSIGHTS AND REFLECTIONS

- My role as a founder and CSO is incredibly fulfilling. The fast-paced, ever-changing nature of startup life keeps me engaged, as I balance fundraising, B2B sales, management, and strategy. What excites me most is bridging the gap between science and real-world impact—translating complex air quality data into actionable insights that can improve public health at scale.
- Having the freedom to shape a company while remaining rooted in science is particularly rewarding. Unlike academia, where progress can be slow, startups operate at an intense speed—every month brings new challenges and opportunities.

FUTURE PLANS

I fully intend to stay at Air Aware Labs. We're at an exciting stage, launching AirTrack, a mobile app that helps users reduce their exposure to air pollution. The company sits at the intersection of environmental science, health, and technology, with huge potential for scale and impact. Having a strong team and mission-driven work makes this an exciting long-term commitment. Of course, financial sustainability is key, but I'm optimistic about our trajectory.

ADVICE FOR EARLY CAREER RESEARCHERS (ECRS)

- Your skills—data analysis, critical thinking, domain expertise—are valuable far beyond academia. Don't be afraid to explore unconventional paths.
- Network widely. Connect with people in industry, policy, and startups. Your expertise is needed in places you might not have considered.
- If you're interested in startups, work at one first. The culture and pace are vastly different from academia. Organizations like the Imperial Enterprise Lab are great entry points.
- Most importantly, enjoy the journey. Step outside your comfort zone—you might find something even more fulfilling than you expected.