

JULY 2022

APPLIED PSYCHOLOGY AND HUMAN FACTORS GROUP

School of Psychology, University of Aberdeen

OVERVIEW:

- **NEWS**
- Welcome to new PhD student Sofia Johansson
- Public engagement prize winner
- Psychology internship scheme
- Reaching the final year of a PhD
- High commendation for the APHF group
- Student resilience course

- **RESEARCH**
- Non-technical skills in chainsaw operations
- Innovation, safety and organisational culture
- Visual search during helicopter landing
- Advanced entry student resilience
- Papers and pre-prints

New PhD student

A warm welcome to new APHF PhD student Sofia Johansson. Sofia completed her undergraduate thesis examining fatigue management strategies with the Helicopter Emergency Medical Service under the supervision of Dr Irwin. Sofia is therefore already well experienced in conducting applied research. We look forward to working further with Sofia over the next four years on an SGSSS ESRC collaborative studentship project examining non-technical skills and safety within the forestry context. The project will be supervised by Dr Irwin, Dr Trevethan, Prof Flin and Dr Liggins.

The quarterly APHF newsletter presents an activity summary of the research, industrial and clinical members. If you would like to receive the newsletter direct via email contact a.irwin@abdn.ac.uk.

Psychology internship programme

Dr Oliver Hamlet has recently been working over the last few months within the School of Psychology to set up the school's summer internship programme. As part of a new scheme, the internship programme is geared towards assisting undergraduate students in attaining valuable real-world experience in areas external to academia by means of a full-time summer placement with an organisation.

This summer, 15 internship places were secured with a range of organisations external to the university. These organisations were placed within a range of domains, such as human factors consultancy, clinical psychology, human resources, health psychology, and aviation to mention a few.

With the interns approaching the halfway point of their internships, the school has been delighted with the praise they've received so far. Steve Brett of E3 Compliance Training had this to say about the scheme:

"We have taken two students on to explore further how we can use games based design in our product. We have built an innovative approach to delivering compliance training that people actually engage with rather than the traditional box ticking training."



We wanted to see how we could utilise behavioural science techniques to further develop the engagement in our training.

It is still early days in the project but already Chantelle and Olivia have highlighted interesting concepts that we will explore in a test with a customer to solve a pressing problem for them. We will certainly develop something new for us from the input we have had. The process of getting the project set up was very easy with Oliver guiding us through the process to ensure that we had a project that would fit the time available."

If you and your organisation are interested in joining the scheme next year, get in touch with Oliver at: oliverhamlet@abdn.ac.uk to see how our interns can bring their skills to your work.



Public engagement prize winner

APHF PhD student Ilinca-Ruxandra Tone won the University of Aberdeen public engagement award!

Ilinca won the award based on her regular engagement with UK farmers, encompassing blogs,

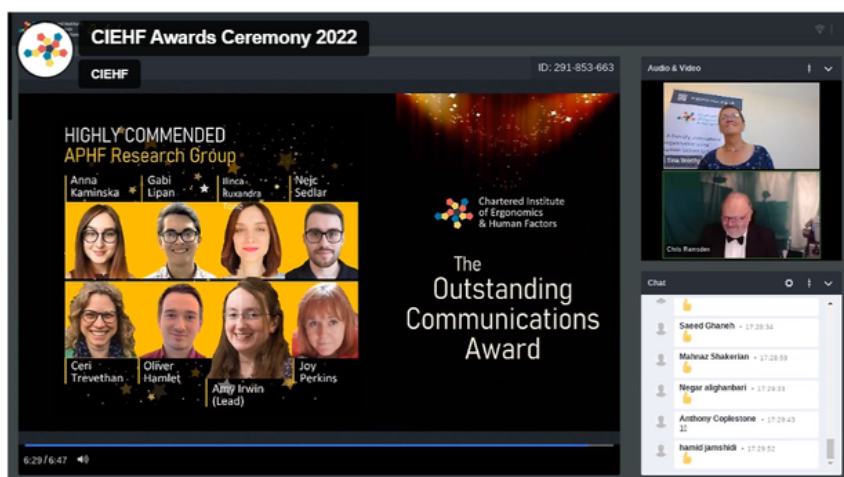
agricultural events, presentations and webinars. Ilinca also worked to develop farmer non-technical skills training in collaboration with Kura Human Factors.

Well done Ilinca!



High commendation for the APHF group

The APHF team were very pleased to receive a high commendation for the Chartered Institute of Ergonomics and Human Factors Outstanding Communications award. This reflects the work done by the entire team to engage with organisations and the general public through a variety of mediums, including newspapers, magazines, webinars, our website, blogs and more!



CIEHF Awards Ceremony 2022

Entering the third year of PhD

Anna Kaminska (SGSSS ESRC collaborative studentship project, University of Aberdeen)

While the photo of my home office is obviously a bit tongue in cheek, it's certainly starting to feel more real as I'm approaching the end of my PhD. Third year has involved a lot of juggling of various parts of research: planning last studies, going over earlier ones and polishing them up, as well as beginning the final write up. The end is finally in sight though, so it's actually very motivating!

Student resilience course

We are pleased to share one of the outcomes of the APHF funded research into student resilience - an online course designed to support and enhance student resilience for all undergraduates at the University of Aberdeen:



STUDENT RESILIENCE: MOVING FROM SURVIVING TO THRIVING

ABOUT THE COURSE:

Resilience has an important role to play in enabling students to manage periods of adversity, to grow, learn and further develop skills into the future. The good news is that resilience can be enhanced via training strategies designed to support and develop psychological and social resources. The even better news is that this module is designed to do just that! The course will introduce you to the topic of resilience and then guide you through the process of enhancing your own resilience via practical strategies and approaches designed to support you through your studies.

5 WEEK COURSE; MICROCREDENTIAL

**NEW
COURSE!**

WEEK BY WEEK

- Week 1: What is resilience?
- Week 2: Dealing with adversity
- Week 3: Coping strategies
- Week 4: Support networks
- Week 5: Reflection

HOW WILL THE COURSE BE TAUGHT?

- ✓ Podcasts / TED style talks
- ✓ Student developed content
- ✓ Interactive activities

PS1015 / PS1515

Innovation versus safety: How to reconcile key elements of organisational culture and success

Dr Ruby Roberts, Aberdeen Business School, RGU gave a presentation to OEUK's HSE conference (28-29th July, Aberdeen) about how innovation culture and safety culture can interact, outlining how to reconcile these cultures for success.

Organisational safety culture has made a significant impact on the offshore energy industry. A positive safety culture places safety as a fundamental organisational value, often resulting in innovative approaches to workplace safety. It is a sub-facet of a company's overarching organisational culture. Multiple sub-cultures may exist across different departments or business units, influenced by managements' values and priorities.

However, what happens when multiple, interlinked organisational priorities conflict (e.g., sustainability, performance, or safety) and how can they be reconciled? Specifically, when safety culture interacts with innovation culture.

Innovation culture values new technology and ways of working, recognising the opportunities that they can offer. Yet, innovation can be uncertain, requires calculated risk taking, and has the potential for negative, unintended financial and safety consequences. As such elements of safety culture may be perceived to conflict with innovation, such as through an unwillingness to trial a nonstandard technology.



Nonetheless, it can offer performance and safety improvements as well as long-term competitive advantage. In the current market and context of the energy transition, innovation is becoming increasingly important, but safety must remain a core priority. So how can a company navigate this complex challenge?

Some organisations approach this tension by compartmentalizing innovation activities within separate departments, away from high-risk operations, and others by only introducing new technology that is fully validated. However, challenges may arise when taking innovation out of the lab and into the field. The presentation will draw on the relevant organisational culture and safety literature to identify methods for aligning multiple, co-existing cultures in which safety and innovation work in synchrony, with the potential to energize the industry.



Non-technical skills for chainsaw operators within forestry

An interview study with chainsaw operators, supervisors and managers has led to the production of a preliminary non-technical skills framework for this complex, dynamic, and high risk industrial area.

The framework encompasses cognitive (situation awareness, decision-making, cognitive readiness, task management) and social (leadership, teamwork & communication) skills. The programme of research and framework can be viewed [HERE](#).



Internship project investigating helicopter pilots information gathering

Nejc Sedlar, APHF PhD student

The ability to effectively perceive and gather information within one's environment is a pre-requisite to achieving a good standard of situational awareness necessary for successful decision-making. Within fast paced and high-risk environments such as those found within aviation, efficient information gathering is of particular importance, be it visual, auditorial, somatosensory, vestibular, or even olfactory. While robust quantitative measures of efficiency have already been developed for visual information gathering, in order to apply these effectively within real world settings, a general understanding of what information is seen as important, and what factors might influence a pilot's ability to obtain this information is required.

To address this, we have conducted an interview study looking into helicopter pilots' self-reported information gathering strategies and behaviours in preparation for a landing. With funding from the Knowledge Exchange and Commercialisation (KEC) Award, and the support of industrial collaborators CHC, Bristow, and NHV Helicopters, we have conducted 21 interviews with pilots from various operational disciplines (e.g. Helicopter Emergency Medical Service [HEMS], Military, Offshore Transport, and Search and Rescue [SAR]). The interviews focused on investigating and identifying the type of information required by pilots, understanding where and how this information is acquired, and finally, identifying the factors that may affect all of these. The analysis of the interviews is currently ongoing. A hierarchical task analysis is being conducted in order to visualise the reported stages of information gathering in preparation for landings, and content analysis is being used to identify the specific factors that impact information gathering strategies/behaviours.

Advanced entry student resilience

Maria Papasyfaki, 4th year Psychology thesis student.

I had the pleasure of working with Dr Heather Branigan and Dr Jacqui Hutchison as a research intern in their project on academic resilience. We were interested in exploring advanced-entry students' views on their experience of transitioning from college to university. My area of interest involved the contextual dimension of the transition, which relates to the changes that occurred to the students' learning environment like teaching, working pace, learning methods, and academic evaluation. The task I undertook as an intern was to conduct Thematic Analysis, a qualitative methodological analysis, across 12 interview transcripts. Throughout my internship, I developed my critical analysis skills as I had the opportunity to review and reflect on my analysis on multiple occasions. My experience as an intern also enriched my knowledge of qualitative research, as I got to practice Thematic Analysis thoroughly, which prepared me for my thesis project, in which I used the same method to conduct my analysis. Lastly, the help and openness of Dr Heather and Dr Jacqui strengthened my confidence. As a result, I now feel more assured of myself when taking the initiative and accepting responsibility. As I am currently applying for my master's degree, it is evident that my internship experience increased my sense of personal, academic, and professional competence, which I am certain that I will benefit from in my future career.

Papers and pre-prints

Pre-prints (papers submitted for review to academic journals but not yet published).

Sedlar, N., Irwin, A., Martin, D. & Roberts, R. A Qualitative Systematic Review on the Application of the Normalisation of Deviance Phenomenon Within High-Risk Industries. Link: <https://psyarxiv.com/tqphk/>

Papers

Irwin, A., Silver-MacMahon, H. & Wilcke, S. (in press). Consequences and coping: Investigating client, co-worker and senior colleague incivility within veterinary practice. *Veterinary Record*.

Conference papers

Tone, I. R., & Irwin, A. (2022). NTS in agriculture–A news media analysis. *Contemporary Ergonomics & Human Factors*, 328: [LINK](#)

Kaminska, A., Irwin, A., Ray, D., & Flin, R. (2022). Culture in helicopter pilots: Case for using the Implicit Association Test. *Contemporary Ergonomics & Human Factors* 273: [LINK](#)



Sedlar, N., Irwin, A., Martin, D., & Roberts, R. (2022). Normalising Deviance Within Industry: A Qualitative Analysis of Incident Reports. *Contemporary Ergonomics & Human Factors*, 267: [LINK](#)

Irwin, A., Tone, I. R., Sobocinska, P., & Liggins, J. (2022). A qualitative exploration of forestry chainsaw operator non-technical skills. *Contemporary Ergonomics & Human Factors*, 325: [LINK](#)



Contact details

If you would like further information about any of the projects featured in the newsletter, would like to join the APHF as an associate member, or would like to explore a potential collaboration with the team please contact Dr Amy Irwin (overall APHF lead) in the first instance:

Email: a.irwin@abdn.ac.uk

Alternatively take a look at the APHF website:

<https://research.abdn.ac.uk/applied-psych-hf/>