

# Chapter 7

## Alive Together—Interdisciplinary Practice in Human/Non-Human Relationships



Louise Mackenzie and Anna Olsson

### Introduction

Perhaps never more than now, in a time of ecological and pandemic crisis, ‘*animals are entering our lives*’ [1]. The way humans relate with non-humans is changing as humanity begins to understand the fullness of our impact upon the environment and other species within it. Interdisciplinary approaches bring unique opportunities to explore these relations through new forms of engagement, yet at times, this engagement can in practice mean little more than the negotiation or contracting of skills and resources. Here, we present an educational approach to working with human/animal relationships that moves beyond an exchange of services to develop deep collaborative practices.

The scholarly study of human–animal relationships is inherently interdisciplinary, involving disciplines situated within the arts, humanities, the social sciences and the life sciences. This includes, for example, work within the fine and applied arts, philosophy and ethics, critical animal studies, anthrozoology, human–animal interactions, applied ethology and animal welfare science.

Interdisciplinarity can offer many possibilities. Bringing differing perspectives together can lead to the development of new working practices, relationships and associated challenges [2, 3]. Contemporary European examples that embrace these interdisciplinary challenges include research groups such as the Cultural Negotiation of Science [4] as well as project-based networks such as the international Hybrid Lab Network [5] and Animal Research Nexus [6].

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## Non-Transactional Interdisciplinary Approaches

Interdisciplinary approaches bring new ways to engage with human/animal relationships, yet many initiatives are in practice transactional, limited to one actor providing something the other needs. Drawing from our experiences working in the Cultural Negotiation of Science research group in the United Kingdom (UK) [4] and the European Hybrid Lab Network [5], we propose that the greatest benefits from interdisciplinary working require a level of risk-taking and trust that moves beyond transactional arrangements to the development of deeply collaborative interdisciplinary practices that can be transformational.

Coming from distinct examples of interdisciplinary backgrounds, we (artist, Louise Mackenzie and ethologist, Anna Olsson) first met during an iteration of the Hybrid Lab Network, an interdisciplinary teaching and learning workshop led by i3S, University of Porto, in collaboration with University of Aalto in Finland, Waag Society in the Netherlands and Alma Mater Europaea in Slovenia. It was during this experience that we formed the seeds of the short course, *Alive Together* [7] that we later ran with the support of the Hybrid Lab Network [5].

Artist Louise Mackenzie's work focuses on human interaction in and with the environment and in particular our relationships with other species. She explores this through working with other disciplines who also relate to the environment and non-humans in their practices. Mackenzie completed her PhD with the Cultural Negotiation of Science research group in the UK. This group is based within the Department of Arts at Northumbria University but has a strong interdisciplinary focus, with researchers meeting to share their cross-disciplinary practices and develop skills in interdisciplinary working methods. Within this research group, Mackenzie has developed previous interdisciplinary modules, including *Ways of Working* [8] and *Working Together*, focused on exploring and expanding methodologies at the intersection of arts, humanities and sciences. Louise continues to develop interdisciplinary working practices at Newcastle University as a researcher in the Hub for Biotechnology in the Built Environment.

Ethologist Anna Olsson is an animal welfare scientist with a farm animal background, now working in the biomedical research institute i3S at the University of Porto. Her own research is focused on behaviour of laboratory rodents and companion animals, and on ethical issues in the use of animals in research and biotechnology. She is also involved in strategic initiatives to Replace, Reduce and Refine research with animals. She leads a research group and organises training to prepare scientists for a responsible use of animals in experiments. Prior to *Alive Together*, she developed interdisciplinary teaching initiatives in science, ethics and society for PhD students in basic and applied biology. *Science Takes Time* [9] was her first art-science project.

Together we developed the short course, *Alive Together*, born from a shared understanding that interdisciplinary projects are at their most successful when participants come together through a mutual interest in the subject matter and have the opportunity to explore and build skills together, rather than co-opting one another

on a transactional basis. We therefore share our experience of *Alive Together* as an example of interdisciplinary practice that encourages individuals to move to the edge of their respective practices in order to meet and in doing so, has the potential to be transformational for both course participants and for human/animal relationships. Through describing the methodology, course content and outcomes, we will demonstrate how *Alive Together* challenges disciplinary approaches to understanding human/animal relationships through the provision of deep engagement with new skills, time for relationships to be nurtured and grow, and space for developing collaborative projects that are generated through trust, respect and understanding, rather than transactional needs. Such approaches actively critique existing ways of working and lead to processes, practices and outcomes that transcend disciplinary boundaries.

## Context

First, we will set the context for the broad scope of cross-disciplinary relationships by introducing the terms STEM and STEAM (explained further in the next paragraph) and why we suggest that although well intentioned, the situating of these terms within the sciences can be problematic. We then go on to introduce interdisciplinary case studies, including examples from our own practice, where practitioners move towards the edge of their discipline to explore other fields in ways that are non-transactional. Then we introduce the project, *Alive Together*, as a template for risk-taking and innovation in developing interdisciplinary working practices.

The terms STEM and STEAM have done much to highlight the potential of interdisciplinary working. These terms should be familiar to most in an educational context as a pedagogical approach in many countries that begins with school-age children to bring different disciplinary skills to bear on real-world problems. STEM is an acronym for Science, Technology, Engineering and Mathematics, first introduced in 2001 by the U.S. National Science Foundation [10] and the acronym STEAM was later founded by Georgette Yakman, originally denoted as, ‘*Science and Technology, interpreted through Engineering and the Arts, all based in elements of Mathematics*’ [11]. Today, STEAM is often more widely—and problematically—interpreted as adding the arts to STEM. There is a tension therefore between STEM, STEAM and the arts. Not only is the entirety of the arts—not to mention the humanities—encapsulated within a single letter, but this letter was literally slotted in as an afterthought to the perceived value of science, engineering and mathematics. Thus, by virtue of the initiative arising through the sciences, the arts and humanities are not afforded an equal footing. This scenario is systemic beyond school education as funding streams tend to focus on either the arts or the sciences, with arts funding increasingly marginalised in times of economic crisis. Thus, the potential for both the arts and sciences to work together on an equal footing is limited, with artists receiving at best a supporting role in scientific funding

bids and occasionally, scientists receiving the same role in (generally smaller) arts funding bids.

This pedagogical and economic framework sustains a cultural divide between the sciences and arts which serves to perpetuate a transactional model of working. Whilst interdisciplinary research groups are now common, most initiatives are still based within one discipline and engage another discipline for the provision of a specific service. Art, for example, is often employed as a tool to illustrate objects as perceived or processes as described.

Looking beyond STEM and STEAM to contemporary interdisciplinary approaches, we suggest that the starting point for interdisciplinary projects should be, '*How can this (non-STEM) question be addressed through collaborative and critical engagement?*'.

For interdisciplinary projects to move beyond transactional models, we suggest that they must embrace the full skill sets of artists, which extend beyond the purely practical arts. Whilst the use of art in service to science can be invaluable in an explanatory capacity, often the situated perspective of the observer is lost. Art in the service of science foregoes the capacity of art as critical tool. Artists are trained to look at problems from different angles and to generate questions in the mind of the audience. Artists can use their craft to challenge the status quo, to look beyond depiction and use their imaginative capacities to consider perspectives less readily seen or understood. Furthermore, as highlighted by the research of the arts-led Cultural Negotiation of Science research group in the UK, it is the very meeting point of the arts, humanities and other disciplines that brings into focus questions that had not previously been identified. By moving towards the edge of one's disciplinary knowledge and embracing a level of uncertainty, there exists the capacity to tolerate ambiguity and therein lies the potential for transformation [12].

*'We were travelling towards different vocational destinations; neither of us was, as yet, located in our respective disciplinary silos. Consequently, we could tolerate the differences that lay ahead of us, especially those associated with the different values that art and science place on ambiguity'. Dorsett in [12].*

## Case Studies

As part of the Cultural Negotiation of Science research group, Louise Mackenzie developed two linked interdisciplinary projects: *Ways of Working* and *Working Together*. *Ways of Working* [8] a collaboration with the Biochemical Society in the UK brought together artists, scientists, ethicists and humanities scholars to explore working methodologies in a day-long workshop format. The workshop presented an opportunity to address questions that are common to the arts, sciences and humanities around ways of seeing, methods of working and approaches towards developing interdisciplinary practice. Acknowledging that all practices are creative, the workshop focused on 'ways to practice' that allow for time, space, error and specifically,

what we can learn from questioning existing methods of working. Over the course of the day, participants formed into groups and developed fledgling project ideas as a means to test hybrid working practices together. The event led to significant interest in developing ongoing project-based activities and ultimately generated the project *Working Together* [13] as a collaboration between the Cultural Negotiation of Science art research group and the Department of Applied Sciences at Northumbria University. *Working Together* was devised as a means to develop interdisciplinary methodology through exploring the collaborative potential of the use of human cells in both artistic and scientific research. Over a period of 6 months during the restrictions imposed by the COVID-19 pandemic, *Working Together* used remote exercises and discussions through Zoom to develop imaginative approaches that generate novel insights into the processes, ethics and regulations around working with human cell lines. Esoteric laboratory diaries were used to draw attention to overlooked aspects of human cell care, whilst speculative exercises enabled a reimagining of the liveliness of human cells, leading to discussions around ancestry, identity and the necessity of detachment. The project led to the creation of a field-based interdisciplinary workshop and a short film reflecting upon the process of working together.

As part of the high-profile biology PhD program GABBA at the University of Porto, Anna Olsson designed and co-taught an interdisciplinary one-week course in Ethics, Science and Society, together with science communicator Júlio Borlido Santos. The fortunate combination of highly engaged and talented students who had been handpicked for this program, and total freedom for Anna and Júlio as course coordinators to develop content and format, allowed this course to become a workshop in the true sense of the word. This is true not only for the students but also for the teachers. During over 10 years, different approaches were tested to guide students with a science background in using a variety of channels and formats to communicate pertinent topics in biology with non-scientists. The basic approach was always a combination of theory with project-based hands-on work, with the two running in parallel throughout the week, culminating with the student groups presenting their project. The theory component included regular lectures covering relevant disciplines such as science communication, bioart, philosophy of science and bioethics with occasional more specific guest presentations (i.e. video games as science communication or utopian thinking as a research tool). For the project component, the model is based on a predefined portfolio of key aspects of presentations (e.g. type, audience and duration) that are combined with topics coming from papers published the previous month in the high-profile generalist journals *Science* [14], *Nature* [15] and *PNAS* [16]. Through a draw, each group gets their own unique combination to work with, which could be a 20-min slideshow presenting a mathematical modelling paper at a congress for anaesthesiologists or a 5-minute theatre presentation for a retirement activity centre on the capacity of domestic chicks to process numbers! The complete surprise element and the fact that the students are not previously familiar with the topics add an important element of challenge and capacity building, where the students often initially think they have been given an impossible task, but typically deliver clear and inspired projects in the end.

The authors of this chapter met during a teaching and learning course as part of the Hybrid Lab Network, where we shared ideas on ways in which different disciplines approached the negotiation and development of human/animal relationships. We were both aware of the work of UK-based interdisciplinary group, Animal Research Nexus, a six-year project which works to increase the understanding of social relations in the various contexts of animal research. Animal Research Nexus [6] has delivered a number of projects that function at the intersection of the social sciences and science, often engaging public and scientific audiences through creative methodologies. Projects include: *The Mouse Exchange*, which engages public audiences in conversations about the life of laboratory mice through the creation of felt mice complete with travel passports; *Vector*, a sophisticated interactive role play where participants act out the role of an Animal Welfare review body; and *Labelling Animal Research*, which uses a seemingly simple task—creating a medicine label that declares a product has been tested on animals—as a means to draw out the ethical issues around laboratory testing. These projects struck a chord with both of us as means by which to engage the public in the subject of animal welfare and we identified an opportunity to engage a wider research audience. Whilst it is of course important to engage the public in the wider questions around animal research, it is also vital that animal researchers and scientists who connect with animals in some way through their research have the opportunity to debate and explore these same questions if we are to move beyond ‘informing’ the public to truly ‘engaging’ with them. By extending who is involved in interdisciplinary project creation and decision-making, we can begin to build a necessarily multi-layered picture of the field of human/animal relationships.

## Alive Together

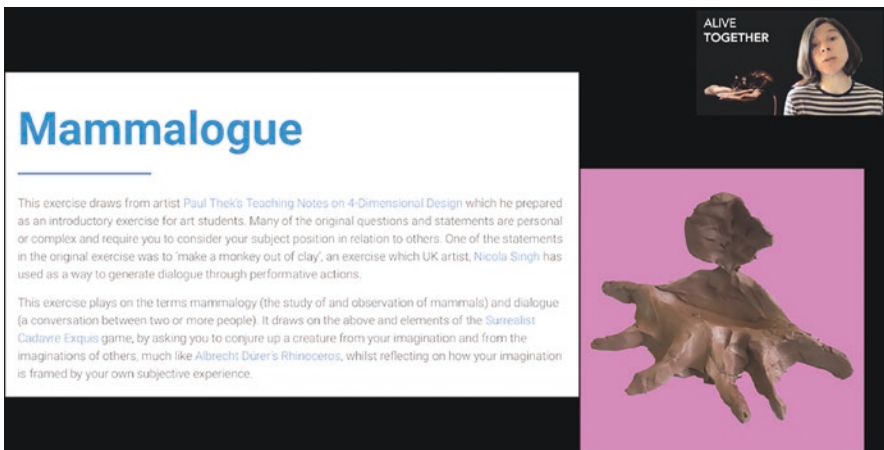
*Alive Together* is a global community of interdisciplinary researchers with a shared passion for the study of human/animal relationships, formed with the support of the Hybrid Lab Network, a European project to advance training in Higher Education across Art, Science, Technology and Humanities. The rationale behind *Alive Together* was to develop a methodology and toolkit for interdisciplinary working that focused on human/animal relationships. Our firm belief was that the translation of science into art should not be our goal, but rather the mutual understanding of the field of human–animal relationships through the different lenses presented by the arts, sciences and humanities.

Over a two-week period in November and December of 2020, 17 international participants, including artists, ethologists, anthrozoologists and humanities scholars came together online for the short course *Alive Together I: Human/Animal Relationships in Crisis?* Our aim was to invite participation through questions that intersect disciplines when exploring human, animal and multispecies relationships. Questions such as: what does it mean for humans to be alive together with animals when our ecological future is precarious? What are the core skills humans must

develop to sustain good working relationships across disciplinary and species boundaries? and How can interdisciplinary approaches inform the ways in which humans and animals co-exist together?

Although online, the course was structured to encourage the maximum contribution from all participants through a series of lectures, exercises and case-study discussions, all building towards the development of self-selected interdisciplinary project groups. Spreading the course across two weeks allowed participants to gradually get to know one another through exercises in pairs, in small groups and in discussions following each activity or lecture (Fig. 7.1). Core subject lectures in the first week provided the framework for interdisciplinarity. From the arts, Louise Mackenzie discussed examples of approaches to the exploration of human/animal relationships from her own research and through contemporary art history. From the sciences, ethologist Anna Olsson shared and demonstrated methodologies for observing animal behaviour. Guest speakers were also invited, including award winning interdisciplinary artist Maja Smrekar, who shared her long-term research on the human–dog bond and novelist Daisy Hildyard, who led participants through a series of exercises that consider the non-human perspective through literature.

From this initial structure, participants were encouraged to move towards the edge of their respective practices and to explore methodologies from other disciplines during activities including exercises and case studies. Although participants self-selected for the course and therefore the desire to work in an interdisciplinary environment was anticipated to be high, we were aware that working with other disciplines may still be new territory for some. It was therefore important for us to create an environment that would foster collaborative working. This meant establishing opportunities for participants to get to know one another and understand each other's specific interests in the field of human/animal relations.



**Fig. 7.1** Louise Mackenzie introduces *Mammalogue*. This exercise encourages dialogue between scholars from different backgrounds to find practical ways to bring their differing perspectives together. Screenshot from the Alive Together course

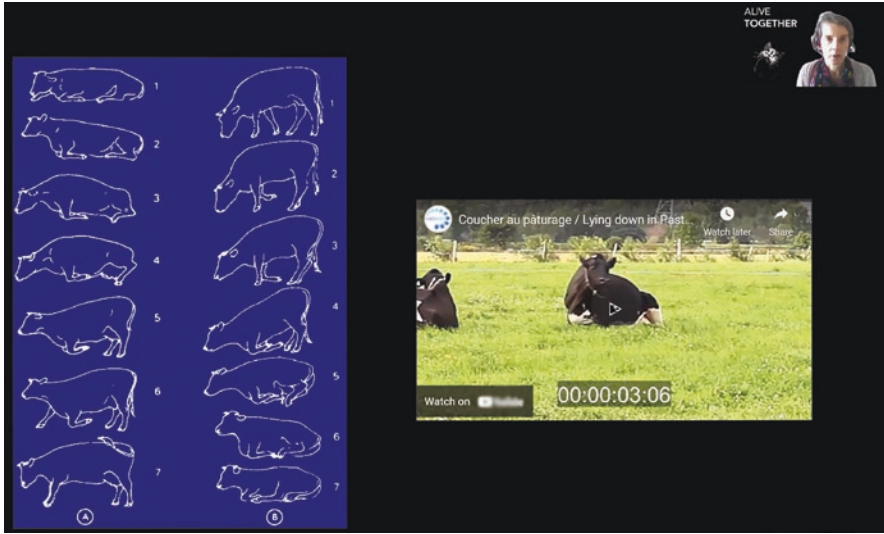


We adopt what we describe as a ‘ground up’ approach to interdisciplinary project-building. This is a strategy that Mackenzie has employed on previous interdisciplinary project-building activities, *Ways of Working* [8] and *Working Together* [13] as part of her research with the Cultural Negotiation of Science group at Northumbria University. Working from the ground up is a deliberate strategy to avoid transactional modes of interdisciplinary working. It involves two core components: providing the opportunity for participants to bond around a common theme and enabling a slow and gradual understanding of the interests and working styles of each participant. In this way, given time and course content that facilitates group dialogue, it is possible for individuals to identify a goal for working together through self-selected groups. This strategy can run the risk of no groups forming, or some members not finding compatible interests with others in the group. In interdisciplinary projects, it is sometimes difficult to avoid an amount of incompatibility as individuals struggle to see how their distinct experience can contribute to a shared goal. One way in which we mitigated this risk was through asking course applicants to provide a paragraph that described their research interests and ideas that they were willing to explore, allowing for a basic pre-screening on the basis of potential compatibility across broad research themes and interests. The second mitigating factor was the design of the course content, which provided both structured and unstructured opportunities for dialogue among participants. Lastly, a listening-centred facilitation of participants, as they began to develop ideas and potential relationships, helped to ensure that the interests and needs of each participant were heard and accommodated within the project groups that were beginning to form.

## Course Content

Three structured lectures provided the core subject content, from which participants could expand and explore their own learning, through case studies and exercises. The lecture on arts and human/animal relationships was given by artist Louise Mackenzie, who reflected upon how she relates to the non-human in her own practice, tracing the concept of the found object in early twentieth century art sculpture through to contemporary forms of engagement with living biological materials. The lecture also gave an overview of contemporary artists whose practices are concerned with human/animal relationships, highlighting differing methodologies and approaches, from performance and participation to sculpture and installation. The lecture on applied ethology (Anna Olsson) introduced ethology as a research discipline in which behaviour is studied using observation and considering behaviour as an evolutionarily adaptive trait. Within the wider discipline, applied ethology focuses on animals that are in some way under human influence, and since an important subset of this research is focused on animal welfare, the lecture addressed





**Fig. 7.2** Anna Olsson delivers the ethology lecture. This introduces participants to different aspects of behaviour, such as the importance of movement patterns as illustrated here. Screenshot from the Alive Together course


the role of behaviour in the study of animal welfare. Finally, methods to observe behaviour in ethology were introduced, including studying patterns of how animals move their body and methods to quantify behaviour (Fig. 7.2). The humanities lecture, by guest lecturer, novelist Daisy Hildyard, focused on techniques for thinking and writing with non-human animals. A second guest lecture by artist Maya Smrekar focused on contemporary artistic practices where the human/animal bond is an approach to exploring wider socio-political questions.

Interspersed between lectures were a structured series of exercises, designed to encourage the testing of new practices whilst simultaneously allowing for the building of relationships among participants. Referencing Roy Ascott's Groundcourse [17] and Paul Thek's Teaching Notes [18], participants were given a series of activities that formed as both ice-breakers and a means to begin to open dialogue on human/animal relationships. Two exercises drawing from collage and bricolage art methodologies aimed to encourage scholars from humanities, arts and sciences to find practical ways to bring their differing perspectives together. The third, durational exercise in *Alive Together*, *Spend time with an animal*, aimed primarily to give participants the experience of observing behaviour systematically. It gave them the opportunity to practice observation of animal behaviour and to consider the variety of means of observation (audible/visible/etc.), and—equally important—it also confronted participants with practical challenges of observation (Fig. 7.3). Case studies drew from projects which exemplify the *Alive Together* methodology. Using strategies such as

**IDEAL CONDITIONS?**

**CONFLICT?**

**LISTEN**




Human added sound  
CNS

Natural akroic sounds  
waterfall


Natural biotic sounds  
Bird song

**Method:** Every 15 minutes document cat behavior for 4 hours total. Photograph cat, describe his behavior in writing, think through purpose of research/observation methods, take "group picture or two individual portraits at each time point.


2:30 am  
**Observations:**  
In sleep curled in ball in bed. Jumps out of bed, goes to food bowl, looks up and greets me w meow, yawn, sits by table where I am, licks paw and washes face.  
Pattern of licking : left paw lick, rub on eyes, right paw lick , rub on eyes, left paw lick , rub on eyes.



**Facial expression:**




**My thoughts:** Seriously, I'm going to spend 4 hours with this cat. He's just going to sleep all the time. Anticipation of morning pattern: He will eat, go outside, want back inside.



Here she is looking at the cloud above | Daily, still want to know just 20% in 70% looking at my reflection, and I want to do have these interactions, because I believe it is the cloud above she is focusing on at 20% point in time

**Animal chosen:** Indian Parrots (Rose-ringed parakeet)



**Behavior:** Live video was observed moving in cereal grain farms and then sitting on guava tree. Gazing and smelling for ripened Guava to eat.  
Found one ripened Guava to eat. Started to eat from either side and looking around at the same time (was quite alert and aware of other sounds).  
Then continued eating from another side by changing position, but one peculiar behavior was observed twice as soon as they come to know that daylight is fading and sunset will happen soon, it leaved place leaving Guava as it is.  
This behavior was observed in Live videos and also in past experience. Good educators (source of learning) They can mimic good our saying (human speech)

Fig. 7.3 The exercise *Spend time with an animal* gives participants the experience of observing animal behaviour systematically. Examples from participants of the Alive Together course

empathy and anthropomorphism to reveal that the human as much as the animal is a species within what Donna Haraway has described as ‘natureculture’ [19] and that it is not culture that divides us from the animal, but that we are one culture among many species’ cultures, in co-existence.

The exercises guided participants in working together so that, over the two-week duration of the course, participants were able to form self-selected groups based on shared interests. Three such groups formed after the structured section of the course was completed at the end of week one, and met to develop their nascent project ideas during the second week of the course. These groups resulted in three potential interdisciplinary projects: an audio-visual experience of the human/whale relationship through whale song; a toolkit for practicing languages of love and vulnerability in human/animal relationships; and an interactive performance on the many faces of the rat/human relationship (Fig. 7.4). Each project drew on the specific skills of practitioners to present a novel approach to understanding human/animal relationships and participants found the experience transformative for their practices, with all three groups expressing an interest in developing the projects beyond the course itself.



**Fig. 7.4** Artist Mari Keski-Korsu as the Plague Rat, a character in the interactive project *RatHum* created by one of the groups in the first edition of *Alive Together*. Screenshot from the *Alive Together* course

## Discussion

The first edition of *Alive Together* was fully online. This was an adaptation forced upon us by the COVID-19 pandemic, as the original plan was for an in-person one-week workshop. Nevertheless, the online format worked well and was helpful in gathering an international and diverse audience, with participants as far apart as California, India and Finland. It required some creative solutions, in particular for the *Spend time with an animal* exercise, as many participants were in lockdown and participating from their homes. Among the students who did not have a companion animal at home, one chose to observe feral coypu in a nearby park, and another used an online camera stream of free-living rose-ringed parakeets.

To work in participant driven interdisciplinary projects requires participants to have developed a certain level of maturity in order for them to be safe in their own practice. It is a format that works particularly well for people who have at least completed the first level of professional training (if academic, a first degree, however the approach may not be restricted to academics), but may be less suitable to undergraduate students, at least not until their final year of study.

It is interesting to reflect on what the output of the workshop is. In some cases, there have been opportunities for further dissemination of the research developed and work produced by participants [20]. Maybe the greatest value is in the intangible experience of working together in a truly interdisciplinary way. But the workshop also generates projects, which have value in themselves and merit being presented to a greater public than that of fellow participants and teachers. Herein lies a big challenge for *Alive Together* and similar initiatives. The limited duration

means groups are able to produce a prototype but rarely if ever have time to develop into a complete, standalone project. At the end of the workshop, they are highly motivated to continue working together, but no longer being in the workshop context means that other priorities take over and the initial intent is rarely realised. The development of the *Alive Together* course is, in fact, one of the rare exceptions, where a project developed into fruition after the end of the workshop during which it was conceived. This was possible through the support and infrastructure provided by the Hybrid Lab Network. When planning for interdisciplinary workshops which aim to generate projects, it is relevant to consider how to support fledgling projects after the end of the workshop. Highly competent professionals generate projects with great potential even in a short workshop, and maximising the possibility that these projects reach a bigger audience is a relevant secondary aim.

## Conclusion

The context in which *Alive Together* was generated allowed for a truly interdisciplinary approach, with collaborators meeting for the first time around themes that interested each of them both individually and collectively. Despite a wealth of examples of interdisciplinary projects across academic settings, our view is that *Alive Together* is still a rare example of something that reaches comprehensively across arts, sciences, humanities and social sciences and provides a nurturing environment to develop the requisite skills for working together. The project had two key points of focus: one on developing good interdisciplinary working practices and the latter on allowing individuals to find a common interest (in order to aid the former). It is our belief that both are essential ingredients to good interdisciplinary working relationships but even this is not enough to sustain interdisciplinary projects. Support beyond project inception is crucial to maintain the good will, trust and energy generated in project-building environments.

*Alive Together* presents disciplinary approaches to understanding human/animal relationships that could not develop simply through the interaction of one or two disciplines. Rather the methods developed during the course and subsequently by each of the self-selected project groups comes from giving space and time for different disciplines to understand each other's languages and find ways in which to bridge the gaps between them. Through the provision of deep engagement with new skills, time for relationships to be nurtured and grow, and space for developing collaborative projects, trust in each other can be developed, allowing for participants to move beyond the edge of their own discipline into uncomfortable territory, but to do this in a way that feels safe and supported. This gives rise to forms of co-working that are not based on the trading of skills but on the development of approaches that share interests and in doing so, bring about transformational ideas and processes. Such approaches actively critique existing ways of working and lead to processes, practices and outcomes that transcend disciplinary boundaries.

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