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NPDC 21

Keynote Address – Professor Dame Ottoline Leyser

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>> [ Music playing ].

>> Good morning, everyone, I'm Janet Beer, Vice Chancellor of the University of Liverpool. I would like to welcome you all virtually to the 2021 National Post-Doc Conference. Before we begin, a couple of general house keeping notes. This session is being recorded, and will be made on the NPDC21 pages next week. Any questions you have can be asked via the Q&A function. It is, of course, disappointing not to be holding this event in person, and to be welcoming you all to the beautiful city of Liverpool. I would nevertheless like to place on record my immense gratitude to the post-doc community in Liverpoool.

In designing what looks to be an action packed and engaging day with sessions ranging from active well-being to a panel discussion on collaborative research practices. I would like to thank you all for attending today's event, and helping to ensure that the National Post-Doc Conference for 2021 remains just that, a genuinely national event, where researchers from across the country can meet, interact and learn from one another. I do hope you enjoy the rest of your day. To introduce our keynote speaker this morning, I would like to hand over to one of the cochairs of the University of Liverpool's Research Staff Association, Dr Katy Roscoe, who is also an Early Career Fellow in the School of Law and social justice, in the department of sociology, Social Policy and Criminology.

Over to you, Katy.

>> DR KATY ROSCOE: Thank you. Thank you, Professor Dame Beer. I'm here as just one of the 13 post-docs at Liverpool who made up the organising committee for the National Post-Doc Conference 2021.

We're honoured to be bringing the biannual conference to the north of England for the very first time in partnership with the NH. We are delighted to have 1300 registrations today from 100 institutions and from more than 20 countries. It's been a truly incredible experience to work so closely alongside other post-docs, especially as part of our steering group of 24 post-docs from 14 universities across all four nations of the UK.

In other words, this conference is an event by post-docs for post-docs.

We are also very grateful for the support of staff at the academy for organising and facilitating this conference, we couldn't have done it without you.

Our heartfelt thanks also to our fantastic sponsors without whom this event could quite literally not have been possible. Thanks to our partner, the N8 Research Partnership, our platinum sponsors, UKRI, IBM, Codeswitch consultancy, Singular Talent, our gold sponsor, C-Dice, the Centre For Postdoctoral Development in Infrastructure and Cities, and our bronze sponsors, Inkpath and Facebook Reality Labs. Of their generous sponsorship has enabled us to bring together a rich and diverse range of speakers from across the world, to put accessibility and inclusivity at the centre of the conference.

Any time you get post-docs together, you can be sure a stream of creativity and enthusiasm will follow. The conference reflects this. In its harnessing of innovative forms of digital engagement, its emphasis on community building, and by offering development opportunities to prepare post-docs for a range of careers.

The conference theme, new realities, stronger connections, successful futures, reflects this.

We've designed the programme today to speak to the particularity, but also the breadth of post-doc experience. Some of us work in labs, others in libraries and many now work from home. Today is an opportunity to build connections with post-docs from a huge range of disciplines and backgrounds, hailing from all across the world and working all across the country. For me personally working as a criminologist, it's been fantastic to collaborate closely with my peers in humanities and social sciences, science and engineering, and health life sciences to organise this conference.

We urge you to make connections today beyond your narrow research special isms and to celebrate our common traits as post-docs.

We are all dedicated to expanding frontiers of knowledge, we're all looking for a greater sense of community and we are all invested in developing of our skills for future careers where in industry or higher education. The keynote panel discussions reflect the many roles that post-docs move on to and celebrate the great range of skills that post-docs have, as researchers, innovators, teachers, mentors, and pun speakers.

To name just a few.

In organising this event, we were conscious that a billing part of the appeal is the chance to meet other post-docs. Though we can't do that in person, we have built in opportunities to network with each other virtually. Over the past eight weeks, post-docs have played games together, and chatted over coffee during our preconference networking events. Today we urge you to keep making connections, meet other delegates as well as our platinum and gold sponsors in our dedicated networking rooms.

Add your name to our connections board or browse our virtual poster competition on the birth and ask questions to their creators. Search the convention hashtag, #NPDC21. Now, it is my great pleasure to welcome you to the first formal settle of the NPDC programme with a keynote provided by Professor Dame Ottoline Leyser. Professor Leyser is the chief executive of the UK Research and Innovation, UKRI, and research botanist at the University of Cambridge. Prior to this, she was director of the seines by far Atlanta also at the University of Cambridge, an interdisciplinary research institute combining cell biology about computational models to elucidate the dynamical systems underpinning the growth of plant development. She has made important contributions to understanding the role of plant hormones in developmental plasticity, using Arabidopsis as a model system.

Professor Leyser has a long-term interest in research culture and the effects on quality and effectiveness of research systems. She has chaired the Nuffield council on bioethics and has been actively engaged in work aimed at generating a more inclusive, and engaged culture. She's also worked extensively in science policy. She's a fellow of the Royal Society, a member of Leopoldina and EMBO and an international men of the US national academically of sciences in 2017 she was appointed Dame Commander of the Order of the British Empire for services to plant science, science in society and equality and diversity in science. It's wonderful to have you here today, a warm welcome for whom keynote, by everyone for everyone supporting people across the research and innovation landscape, over to you, Professor Dame Leyser.

>> PROFESSOR DAME OTTOLINE LEYSER: Thank you so much for that very kind introduction, and just delighted to be able to contribute to this conference. It so much embodies all of the things I hold dear and all of the things that you heard about in that introduction to the conference very much what I'm about and why I made fairly recently the move from active research to full-time research policy as chief executive of UK Research and Innovation. So I have some slides and I'm going to share my screen with you.

I hope everyone can see that.

So UK Research and Innovation for people who don't know is the largest public sector funder of research and innovation in the UK, but 60 percent at the moment of the public sector funding for research and innovation flows through UKRI. We are a relatively new organisation that brings together the nine preexisting research and innovation funding bodies in the UK and that's the seven disciplinary research councils who people on this call might be more familiar with, things like the engineering and physical sciences research council, or the humanities research council, also innovate UK, that's the UK's innovation agency, and research England who work very closely with the equivalent bodies in the devolved administration to fund research and knowledge exchange directly into universities.

So we are a public body and we are obviously accountable to government because of the very large amount of taxpayers money that we are responsible for but crucially we are part of the UKRI research and innovation system working in partnership with academia and business, the public sector, the third sector and, of course, also international partners.

So that's who we are.

And just to give you a brief overview of the kinds of things that we do, we have a very wide range of tools available to us to support the whole research and innovation system. So if you look at this very rapid breakdown of our funding for this year, a little bit more than 10 percent goes directly to support people. So that's mostly Ph.D. studentships but also a range of early career and later career fellowship schemes that we run through the various councils and some of them cross-disciplinary across all the UKRI activity. We spend about 12 percent of our budget on fully open response mode grants.

Many post-docs, for example, are employed on those project grants awarded to principal investigators in universities and 12 percent of our budget goes on fully open calls, the way that people can apply for money to do pretty much anything they want.

There's about 7 percent on targeted calls. So areas that we think are particularly important, exciting, need some focused investment.

But those are still kind of response mode but in a particular area.

And so that is from a lot of people in academia, people think very straightforwardly that those grant calls are what we do, but it's a comparatively small portion of our budget, and it's a smaller portion the money that goes directly into universities in block grants, so-called QR, this is the money that's awarded on a formula associated with the research excellence framework that we run every seven years or so to assess for the quality of the research outputs, the research environment and the research impact that goes on in universities.

So 21 percent of our funding goes in those block grants, we spend 12 percent on infrastructure of all kinds and scales and sizes. We directly run quite a number of research institutes and research facilities, that's also about 10 percent of our budget and then in the more innovation space, 7 percent on challenge led funding, addressing key challenges in the industrial sector and 7 percent on those completely open response mode calls but this time for supporting small businesses and innovation, and 3 percent on these catapults, that are these important centres that link together the academic research base with the industrial research base, and the industrial research base is about two-thirds of the overall UK research and development activity. So it's really important sector.

6 percent on international collaboration of various sorts and at the moment we, of course, have funding dedicated to the COVID response in a variety of ways. So those are the inputs and then the outputs are many and diverse and the impacts are many and diverse and I won't spend time going through them but that diversity, I think, is crucial in fostering for the UK this really vibrant research and innovation system, which is what we all want to see, and what the country needs.

So I view the role of UKRI very much as stewards of this system.

And I am a bit confused because this is not the slide I was expecting. [ Laughter ]. Okay. It's all right. Good. So we are stewards of the research and innovation system, and the way that I like to articulate this vision, it's to foster an outstanding research and innovation system in the UK, and this needs to give everyone the opportunity to contribute and everyone -- from which everyone can benefit.

So enriching lives locally, nationally, and internationally.

And this is really important. It's by everyone, for everyone mission that we have already heard about reflected in the goals of this conference.

And we have a whole variety of tools to do that, to deliver on this vision. And I have already talked a little bit about money which is obviously a really important tool that we can invest. But we can also catalyze and invest and bring people together in a different permutations and combinations. The incentives that we have are also really important. Our role to bring those people together to embed this deep connectivity across the system and to collaborate with all of these other key actors in the system is crucial in building this thriving, inclusive research and innovation system that connects all the parts up.

Connects discovery to prosperity and to public good.

So that brings me, I think, to what I consider to be core principles for how we can do this. And these core principles need to underpin everything that we do, everything that we think about and how we work. And absolutely essential is diversity. To get that creative thriving system that's going to come up with all kinds of new cool ideas and come up with all kinds of cool ways to innovate and add value whether that's financial or cultural or societal value.

All of those extraordinary new ideas and the extraordinary people catalysing those ideas, coming up with those ideas and the systems and infrastructures that allow them to do that and deliver that, all of that needs diversity at all scales and in all contexts. So we need diversity of people, diversity of approaches, diversity of funding mechanisms to support those people. Everything we do I think we need to ask ourselves, do we have represented here the right diversity in whatever it is that we are doing?

And that diversity then only works, only delivers the extraordinary value of diversity if it's properly connected up. So diversity with collaboration and connectivity is what really creates the vibrant and pioneering system that we need to deliver for the UK and indeed more widely.

So diversity with connectivity and together that supports resilience, a resilient, robust system, and, again, we need to think about that in the way that we fund, for example, is our system financially sustainable? Can it cope the kind of challenges that are thrown its way like the COVID-19 crisis, for example? So diversity, connectivity, resilience, none of this is impossible unless we are engaged with the much wider system and with society more generally.

I think it's crucial that all the barriers that currently exist between the research and innovation system and wider system are broken down, solved so that research and innovation is considered a really embedded part of our cultures and our values because it is research and innovation that gives us all individually and collectively the agency we need to make positive change in our world.

So mapping that specifically onto people, this is a post-doc conference and post-docs are the community of focus here.

People are obviously absolutely crucial to all of this.

But the way we conceptualise people in the research and innovation system at present I think is far, far, too narrow. We tend to think about these lone researchers and innovators beavering away in a library, in a dusty archive or in a laboratory all by themselves coming up with brilliant ideas in this lone genius model.

I think this whilst -- there are some lone geniuses out there, and they are very welcome, nonetheless for most of us, our work -- and even for those lone geniuses, their work is absolutely incredibly dependent on a much wider range of people. You might think of people immediately around you contributing to the environment, giving you the things that you need to do your job.

But actually, much more broadly than that, even the people you can't see, there are thousands of people working in the research and innovation system who are absolutely crucial to its effective function who would never label themselves as researchers or innovators but nonetheless are a key part of the system.

And it's absolutely vital that we recognise those people. If I am rewarding a research grant to a principal investigator to support a particular project on which a particular post-doc is employed doing a brilliant job, pushing that research forward, that grant also supports through either direct or crucially the indirect costs on that grant all of these people, the librarians, the finance administrators, the project managers, all these people, archivists, librarians are funded by those indirect costs to support the system, and it's important that the inputs of all these people are valued and recognised as being a core part of the system.

There's a number of reasons for that: First of all, they are, and we are deeply grateful for their activities but secondly it's a really important element of breaking down this notion of research and innovation as the domain of the lone genius.

Many people who don't see themselves in that role nonetheless come in and are excited to be able to contribute to the research and innovation system through these other roles and then recognising once they are there their wider capability and opportunity to move between roles in that system is also extremely important. So I think thinking about this system in a wide way is a really important part of opening the doors of the system to a much wider range of people and improving the diversity of the people coming into the system. So one of the things that UKRI are doing to try to showcase this much wider range of roles, and I would encourage you to go and along at our Wednesday is 101 jobs that change the world projects, where we are celebrating the contributions to the system of a very wide range of people who wouldn't necessarily consider themselves to be researchers and innovators.

So if you are working with anyone who you think should be featured, please get in touch and in any case, I would encourage you to go and watch some of the clips of these fantastic people who are making the research and innovation system happen alongside all of those who would label themselves as researchers and innovators. As I say, I think this is a really important part of taking down the walls that currently exist between research and innovation and wider society, and taking down the walls that exist inside the research and innovation system that are preventing the flow of people and ideas across all the different institutions and organisations that conduct research and innovation and unless we really can join this system up, embed that really deep connectivity that you were hearing about in the introduction, across all areas and levels of the system, and that includes the movement of people right across the system, and with them, the movement of ideas, until we can do that, I don't think it's going to work properly. Until we do that, we are going to have this very Balkanised systems, with people sitting in their department and disciplinary silos, and that is ensuring that everyone can contribute to the system and everyone can benefit. So connectivity, diversity with connectivity requires much greater join-up across the system as a whole.

And I think the way we conceptualise research and innovation careers is a problem to embedding this deep diversity with connectivity. We tend to think of it like this. There is only one research career, it involves doing an undergraduate, going immediately into a Ph.D. and from there into postdoctoral research, and from there you can become a lecturer or professor, and up you go on the greasy academic pole, and that's what it looks like. Maybe if you are adventurous, you might actually branch out into industry. This to me is a tiny fraction of the way a research career can go, and to create that really open, accessible, inclusive, connected, collaborative system, we need to break the model of the research career as this kind of linear pathway with a sort of anchor in the straightforward academic career path. We need to think of it much more as a dynamic network.

And so there are many, many jobs in the world that are -- that both would benefit from more people with active research experience going into those jobs, but also the active research system in the academic research and innovation base would benefit massively from people coming out of those jobs into the research system.

So no linear pathways, much more of a network, much more flow of people and ideas between all of these boxes is important.

Of course, the standard academic path still exists within these boxes and indeed this is very much the path that I myself have followed until very recently moving into this role at UKRI, which I consider to be a science policy role but we need to be much more open to much more dynamic and diverse careers.

So, for example, maybe you leave school and go into a job like working in the care sector and you work in the care sector for a bit, and you go, oh, actually, I really any to get some better qualifications so I can expand my role in the care sector, you go to university main to study nursing or physiotherapy or something like that and you get your undergraduate degree, and you go back into the care sector to continue to build your career and you're working in the care of sector, and you think, actually, I can see that there are some issues here that could be solved and we need to do some research in this particular area to understand how to address these problems.

So then maybe you go and do a Ph.D. to look at -- to explore the research questions that you have identified through your practice-based experience and from your Ph.D., you think, "Oh, I could develop a kind of app that would really help this community in the care sector, I'm going to start a microcompany." So you become an entrepreneur and you develop your app and it does okay and is taken on by some larger company, with whom you go and work for a bit and then you think, actually I need to kind of broaden my experience out, and to do that, this R&D system that I'm currently working in in industry doesn't capture all that I want to do, and you go into a postdoctoral role, like the people on this call and pursue that research path for a bit longer and maybe from there, you think, oh, I can take all of this experience that I have picked up and really contribute to policy development and so you move into a think tank, for example.

So many, many charts and pathways through this graph, and we need to think of all these things as open to all of us all the time, and ask ourselves every day, am I -- are my personal values in my career, is what I want to achieve being best reflected in the job I'm currently doing? And if not, what are my opportunities for delivering or for kind of working towards my -- a life that really reflects those values, so success criteria that I have for my own life, rather than feeling trapped in some particular and narrow career path.

And that, I think is a key problem that we have with our current system. People feel who are on those career paths, on the one hand it's exciting and fulfilling and there are extraordinary things going on. I have had a wonderful time following this path myself, but, on the other hand, it -- the way it's conceptualised at the moment is incredibly narrowly framed and, of course, at every stage it's very competitive.

And the work that I did with the Nuffield Council on Bioethics as mentioned previously led strongly to the conclusion which has been repeated in many studies since that people on this career path feel that the system is hypercompetitive.

We're in an era of hypercompetition and more importantly, the rules for winning that competition for moving along this pathway are disproportionately focused on a very small number of measures, and that that can incentivise all kinds of poor research practices and also create an incredibly intense, pressure cooker environment that can support really damaging behaviours like bullying and harassment and also can crush the kind of creativity and risk-taking that we need for really high quality research.

And then a really important element of that study or analysis that was done on that project was that virtually all the stakeholders in the system, all of them, wherever they sit, however much power they do or don't have view that the rules for winning the competition are somehow out of their control.

And that's an element of systems' function that is quite common. If you have got a complex system with lots of things interacting to support ting behaviours in this case particular notions about what success looks like, what winning the competition should look like, it can be quite hard to shift them because everyone has to move together. But, on the other hand, everybody can move together and my strong motivation for me moving into UKRI was to try to catalyze that kind of change to improve our research culture to relieve some of these pressures, and deliver the benefits that we need. And that maps very strongly on to the whole issue of precarity because people in the middle of that currently very narrowly defined and constrained pathway are have very precarious position, particularly the people on this call, post-doc positions are inherently precarious or at least short term because they are funded on fixed term project grants to deliver or to work on particular projects and given that there are always going to be far more ideas for fantastic research and innovation activity than there is money to support them, and given that what's really exciting and cutting edge and what's really important for translation and impact and which areas need particular focus, all of those things will change over time, it is this dynamic fixed term project funding is an inherent part of the system and it's not going to go away.

So we need to find ways to reduce the stresses and tensions of people on different versions of that career pathway in a way that reduces the extraordinary pressures that are driven into the system by the current culture that surrounds fixed term project funding and in general, that surrounds the notions of what a high-quality career looks like in the research and invitation system.

So, I mean, very locally, part of that should be mitigated by the dual support system I described at the beginning. Whilst we fund into the research and innovation system on fixed term projects in this response-made way, funding for particular projects that support, for example, post-docs, it's a dual support system. So a larger amount of money goes into universities in these block grants, so if we have the balance right between those two components, and if the incentives in the university system are right, there should be some -- there should be ways to manage the fixed term nature of project grants in a careful and responsible way that supports the careers of postdoctoral researchers, early career researchers in general.

But a really important point is that in terms of moving along that career path, the number of permanent lectureships and professorship positions which are, of course, partly to do with research but also hugely to do with teaching and the other requirements in universities, that's always going to be a constrained route.

The vast majority of people doing Ph.D.'s and in the postdoctoral community will not become lecturers and professors.

And whilst there is some scope for longer term research positions in universities, the idea of the postdoctoral phase in the career being a long-term, stable position for anybody who enters it is not viable given the nature of the fixed term funding and project grants but more importantly from my point of view, it's not desirable for anybody. It's not desirable for supporting that career diversity that I think is so crucial for the research and innovation system more generally. It's not desirable for improving the culture of the research system, to welcoming the wider and more diverse set of people into and out of the system. And all of that requires, to support it, much broader definitions of success. So those three bullet points weave together to suggest to me that we need to think very carefully about the incentives that we have in the system and the success criteria, and the things that we really reward and value.

And we need to do that for a whole variety of reasons but one of the frameworks which I personally find really valuable for thinking about this is the so-called, "Psychological safety framework" which is developed in management schools. Psychological safety is a really valuable concept. So I psychologically safe environment is an environment in which people feel safe to voice ideas and to disagree constructively with one another. And in research and innovation, this is just crucial.

To me, all the interesting stuff comes from when you disagree with somebody. If you disagree with somebody, what that should trigger in you is an exciting need to step in and discuss that disagreement.

And in a poor research culture, that disagreement triggers a kind of threatened anxiety to step out and withdraw.

And a lot of our research cultures don't sufficiently support constructive disagreement. And that constructive disagreement involves also a desire both to seek and to provide really honest feedback. So disagreement and, yeah, dissent almost that comes from to and from of different ideas and different approaches and different ways of doing things. And it's quite uncomfortable for people to live in that environment. It's much more comfortable if people are endlessly agreeing with you, and telling you you are doing things right, but if you want to create an environment that captures the benefits of diversity which we desperately any in research and innovation, people have to be comfortable with being uncomfortable, with people telling them that they're doing things wrong, all of those things Shannon seen as good and create engaged discussion, not bad, and create insecurity and withdrawal -- should be seen as good and create engaged discussion not bad and create insecurity and withdrawal. That underpins the ability to take risks and experiment, because you can admit your errors and you can ask for help.

And this is what a high quality research environment should look like, in my opinion.

And our current systems are deeply undermining, I think, to a lot of these characteristics. Now, it's possible to create these characteristics even with our current systems through really high quality leadership at all levels in organisations and also in -- every single person has some ability to contribute to this. You as an individual if somebody disagrees with you, you can recognise that, you can breathe in, breathe out, and then step in to that disagreement in a constructive, engaged and positive way. So we all have some power to contribute to this but I make there are opportunities to build environments that are much more supportive of this kind of activity by changing key elements in our research culture.

One of the main things that undermines this kind of environment, all the research shows, is when people feel threatened. People feel threatened in all kinds of ways. But in our current system, particularly in those mid-career -- those early career stages that post-docs operate in, that feeling of precarity is one of the main feelings of threat that undermines people's ability to feel pyschologically safe in this space.

And a huge amount of that, to me, is underpinned by the current assessment systems for research and researchers. And so one of the core things I am really interested to do is to reassert across our assessment systems what we value.

So I think it's really clear that the assessment systems in any community define the things that we value.

And that's no different in research.

And the criteria that we use must, therefore, support all the things that we value and would like to deliver from the research and innovation system. And it's because omission of the things from the things that we are assessing is at least as problematic as inclusion of the wrong things. If things are not on the list of things that are assessed and values, then they will be deprioritised, and I think that's a real problem. I think it's also really important to think about scales in the system. The system collectively needs to deliver a whole range of things, that doesn't mean that every single individual has to do all the things.

One of the problems that we have in conceptualising research and innovation as the domain of these lone geniuses, is that increases the probability that we map down all of these delivery requirements onto individuals rather than onto groups, collections, collaborations, and it's the collective that has to be delivering, not the individual.

And so we need to support a system that encourages diversity, diversity of input, all those axes of diversity but with collaboration and our assessment system needs to think about that and support that really carefully. So simultaneously, I hope, that kind of assessment system will support creativity, productivity, and these key elements of psychological safety.

So what does that really mean, really quickly?

It means that we need to value different sorts of projects, we would be very happy to fund the discovery, completely open, blue skies stuff but also more applied, targeted projects. We need to be able to fund projects that generate resources, data, technology, and all of those kinds of things as well as projects that test hypotheses or explore ideas.

We need to fund work that is about establishing the generality of a new idea, for example, or reproducibility as well as that kind of pioneer groundbreaking stuff.

And at the moment it's not clear that those things are equally valued. And we don't have good ways to balance our portfolio of investment across those kinds of projects in a way that I think is sufficiently transparent that that's what we're doing.

We imagine that somehow or other, there's only one type of excellence and we can deliver that full range of activities through a single definition of excellence and I don't think we can.

I think we need to be much more explicit about the range of things that we want to achieve and ensure that our funding systems are supporting all of those things. People, really important that we support that diversity of people, so people on a very traditional career path, absolutely, but also all kinds of much more unusual career paths, as I have mentioned, both in terms of people coming into the system in the first place but also how they move through it.

And that includes the sector in which people are working but also the discipline in which they are working. The approach they are taking, all of those things and then, of course, different people will want to take career breaks for a whole variety of reasons and we need to be able to support that. So capturing, building assessment systems that really value that kind of diversity, I think is important. And then we all, I think, are fully aware that in order for the system to work, it's not just your research outputs that matter. It's a much wider range of contributions, so training and mentoring the next generation of researchers and teaching those kinds of activities are crucial to a really helpful research and innovation system and having those activities done in a way that is properly embedded in active research is crucial. And there are much wider services to the research and innovation system is crucial, refereeing, organising fantastic conferences like this, all of those kinds of things and, of course, engaging deeply with key communities, different publics, the policy community, all of these kinds of activities are crucial to building that connected, diverse system that we need.

We need to invest time and, therefore, invest value in connectivity which a lot of these things support.

And that's one of the reasons that the UKRI, we are rolling out the Resumé For Researchers, which is a narrative style CV that asks people to explain how they are contributing in those kinds of different ways that allows people complete freedom to explain what their contributions are. Not restricted to a small number of things that "count" as contributions, like a publication in a particular journal, for example, but giving people the opportunity to contribute in different ways, and that's what we need. We need to free people up to contribute to these key activities that people understand that it's all about but your contribution can come through a whole variety of different ways.

That, I think, is the key to shifting the focus of our assessment system away from this very constrained, pressure driven narrow set of things that are not very much in one's control into that much wider set of activities that support the kind of diversity and quality of activity with collaboration, with connectivity, with engagement that we need for the system to truly thrive. This is part of a much broader endeavour that is underpinned the government's people and culture strategy that allows us to think about the entire system and to create that system where creativity and engaged collaboration are right at the heart of what we do.

And so there's a whole range of activities ongoing.

A new deal for postgraduate researchers, the forum for tackling bullying and harassment. We are going to create an end to end review of our peer review system, is it incentivising the right kinds of things, and this will underpin the wider body of work to ensure that research culture is properly incentivised in the process. I will stop there, and I'm keen to hear your questions and comments. Thank you.

>> CHRIS DAY: Okay. Thank you very much, Ottoline.

My name is Chris Day, I'm the Vice Chancellor of Newcastle University and chair of the N8 research collaboration of the eight northern research intensive universities. Inning tell the huge amount of interest. Indeed many of the questions that have been posted which you can say, I know Ottoline you have answered as you have gone along. But we do have ten minutes, perhaps just to follow up on some of those points that you have made.

So I will just pick up a couple of these questions. I suppose an obvious provocation to your question around psychological safety, what can UKRI do to improve psychological safety within research culture especially with regards to principal investigators?

So the actual practical things that you can do as funders to improve that situation, Ottoline?

>> PROFESSOR DAME OTTOLINE LEYSER: As I say, I do think the way that we assess individuals is -- and research in general is crucial to that. We need ways to ensure that a much more nuanced approach is embedded. For example, on the Resumé For Researchers, there is that box that says, "How are you mentoring and supporting those around you, and that would be a good opportunity for somebody to explain their approach to building that high quality environment. Also very interested in leadership, leadership training, providing the space for people to think about how they work and they work with others. That's what leadership is about. Partly because we have this very narrow focus on how many papers we have published and how many grants we have, leadership tends to be confused with an annoying administrative duty that you do when it is your turn rather than a core part of everybody's responsibility in the system. Leadership is also not just for senior managers.

It's for everybody. Everybody has a leadership role in the environment in which they work. And so I would definitely encourage everyone to engage in any opportunity that they have to think about their personal leadership style and what that does to support that psychologically safe environment.

So, yes, UKRI have a key responsibility, for example, in the assessment criteria that we use and the things that we value like, have you done leadership training? That could be a very important question that people answer on the resumé for researchers but it's a much broader responsibility.

>> CHRIS DAY: I guess relate to that is a question from Lucy Williams but the importance of mentoring for the next generation and how that is for all of us and the question she has posed is how we can raise that up the agenda? Is it part of what you were describing in terms of the broader stuff that isn't on a current standard CV which is all about my grants and publications? Is it something to do with the way we present ourselves?

>> PROFESSOR DAME OTTOLINE LEYSER: Absolutely. That's a crucial part of it. Even where it is on the current CVs, it tends to be a list of the people who have been in your research group and what they are doing and what they're doing now with the idea that if they are now a fancy university, that's a good thing and if they're not, that's a bad thing.

I find that deeply shocking [ laughter ]. Because to me the whole point about mentoring is to understand, yeah, the values and aspirations and so on of the people you are working with and try to find ways to support them to realise their personal ambitions, to find the career path that matches their values.

And that's our job as mentors and as, you know, line managers all of those things.

And, yeah, it's a values shift that all of us have a responsibility to try to achieve. UKRI definitely has a role in the way we assess people as I said in the kinds of activities that we do to support directly those activities. So future leadership fellowships we run, for example, have a leadership programme that includes considering those kinds of things.

But obviously, you know, in your role in the universities also have a really important part to play in embedding high quality mentoring right across the whole system.

>> CHRIS DAY: Absolutely. Perhaps a slightly more provocative question, but not unexpected, the short question is do you think REF in its current form should be abolished? It's a suggestion that the role REF machine encourages this whole, how many papers have you got, encourages this behaviour. It isn't designed to do that, but obviously as head of UKRI they will be interested in hearing your view on how the REF fits into your view of improving the research culture?

>> PROFESSOR DAME OTTOLINE LEYSER: Absolutely I do think the REF is important and I think it's -- there's so much we can learn from the way the REF has been -- has evolved over the years that speak exactly to these agendas. On the one hand, it can embed the wrong incentives. I think that's the case.

On the other hand, it's a massive tool for embedding the right incentives. So I think REF reform is a really important process that's currently -- so there's a review of the REF currently going on for the next one and trying to learn everything that we can from REF's present and past and from the wider incentives across the research system to construct a process that supports that really high quality research culture is key. And for me part of that is recognising that where we put in place a system that's supposed to assess entire universities, it's supposed to assess at quite a high level what a university is doing with that block grant that we put in, because of our focus on the individual in a system, those incentives get instantly mapped right down onto the individual. That's a key tension. Somehow we have to depersonalise the REF, I make to try to support universities and researchers to think about building those high quality research environments without it becoming about what individual people can deliver.

>> CHRIS DAY: Yeah, and, in fact, obviously the changes for this round were designed exactly to do that, to talk about that collective view of a department, not what that individual and, therefore, papers and the old system encouraged. These questions are interlinked and interested with your concept of the porosity between sectors. We discussed this yesterday in the Russell group's meeting with Paul nurse who is doing this review of the ecosystem, and we described how common it was to be aware of people moving out of academia into industry but perhaps not so much happens in the, say, US system where it's quite common for them to move bang. That general moving to and fro which, of course, brings all sorts of advantages.

So a lot of the questions for you here are sort of all around the issue of what UKRI can do to make that porosity easier, that moving back and to different sectors, I don't know how much you have got in place or are thinking about doing, Ottoline but obviously the current funding system favors the linear model. How can the funding environment encourage this movement?

>> PROFESSOR DAME OTTOLINE LEYSER: Absolutely. There's a variety of things that we can do. We can have schemes that explicitly fund those movements, and that goes right across the whole system, so, you know, kind of internships for people very early in their careers or Ph.D.'s to give them a flavour of what the opportunities are, later fellowships that move people in all or any direction, but a lot of the problems, and why I'm so obsessed with the system, is that universities can be reluctant to hire people that don't tick REF boxes, if you know what I mean. So those REF boxes are important.

But also, the ability of people who come in from industry and then apply for a response made research grant to evidence their track record in a way that doesn't depend on how many grants and papers you used to have, and that's entirely possible.

And we are absolutely embedding that through the resumé for researchers.

>> CHRIS DAY: Yeah, in Newcastle, we have a system called professors in practice, where you go up the academic title tree with a completely different looking CV typically people coming out of industry that don't have the papers and grants but clearly have the innovation, applied research background from their particular career path and we don't want to prevent them from being able to go up the career scales, and I'm -- I'm sure that other universities have something similar.

One of the tensions, and the last question that's there talks about this. This idea that some of the use of QR might be to give that sort of landing to post-docs who are between grants, I guess. Would be a shorthand for what you suggested and, of course, universities do that. A lot of the questions are around how you ensure -- how you ensure that universities use their QR for that purpose and what proportion of it, and, you know, it's a sort of deal, isn't it, really in our dual funding system that universities make a decision on who and what they want to support in between grants to keep it going but, you know, the notion that QR can simply be kept to keep post-docs going indefinitely isn't possible happen. But how do you see that tension between the traditional grant model and the precariousness that you spoke about so eloquently?

>> PROFESSOR DAME OTTOLINE LEYSER: It is a balance and it's a tricky balance and it's different in different disciplines and in universities with different mixes of activity and so on. One of the things that that I find interesting in this debate more generally is that, you know, we need diversity.

And if you need to support diversity, you cannot have simple rules about what success looks like with a narrow set of things on the list.

Because that inherently crushes diversity.

And that is very true for this one here. We can't come in and say, "Universities must spend X percent of their money doing X." Because every university is different, they will have different approaches and different opportunities but what we can say is really important, that universities think carefully about the support they put in for early career researchers and are able to articulate what that is in a clear way and are -- and there's some accountability that they really are delivering that.

And in principle I think a well-designed REF should be an opportunity to do that, and, in fact, the current environment statement should be an opportunity to do that. And that's a really important part of the REF process, and that can be linked in other ways to the kind of concordats that are often required to give access to funding schemes.

>> As chair of the REF institutional pilot panel, I can reassure post-docs on this call that that aspect of the environment will be absolutely one of the things that we are looking at, just what kind of environments are universities providing for this group of researchers which are so important for the future pipeline. Ottoline, thank you so much for that. You can see from the questions we could probably go on for a lot longer, your talk has stimulated a lot of talk and encouragement that we have somebody at the helm of our research and innovation organisation that feels so passionately about diversity, inclusivity, connectivity, and so we can go into the rest of the day with a positive attitude about this. Thank you for your talk. For the rest of you, I will just come back to you, Ottoline, sorry, just to remind you that the rest of the day, 30 parallel sessions on diverse topics, active well-being sessions and numerous panel discussions.

I don't know Ottoline whether you wanted to say just a final word there.

>> PROFESSOR DAME OTTOLINE LEYSER: Very quick question about whether we are capturing all of those questions, and I would be interested to have more time to look through them and understand what people are thinkingly and get back to people where I can.?

>> CHRIS DAY: I'm notified in the chat function that we are. We have captured all the questions. So we will send them to you, Ottoline, and I'm sure you will want to sift through them. But I think we have covered the main areas that were brought up as you went through. So thanks again. Thank you.