PROGRAM DATE: 2019-07-18

PROGRAM NAME: WOMANITY – WOMEN IN UNITY

GUEST NAME: PROFESSOR ALISON LEWIS - DEAN – FACULTY OF ENGINEERING & BUILT ENVIRONMENT – UNIVERSITY OF CAPE TOWN

SPEAKER	TRANSCRIPTION
DR. MALKA	Hello, I'm Dr. Amaleya Goneos-Malka, welcome to 'Womanity – Women in Unity'. The show that celebrates prominent and ordinary African Women's milestone achievements in their struggles for liberation, self-emancipation, human rights, democracy, racism, socio-economic class division and gender based violence.
DR. MALKA	Joining us on the line today from Cape Town is Professor Alison Lewis who is the Dean for the Faculty of Engineering and The Built Environment at the University of Cape Town. Prior to this post she served as Head of the Chemical Engineering Department at UCT and was Director of the Crystallisation and Precipitation Unit. Welcome to the show Prof Lewis!
PROF LEWIS	**Thanks very much; thanks for having me on.**
DR. MALKA	To begin with, as Dean for the Faculty of Engineering and Built Environment, could you tell us more about the college and some of the responsibilities that come with holding this position?
PROF LEWIS	**Yes. There's sort of two main areas that I need to focus on, the first one would be on the university itself and part of the expectation of the dean of the faculty is to contribute to institutional leadership and direction and then of course the second part is the faculty itself and my responsibility here is to develop and implement a strategic vision and ensure that what we're doing here is high quality education at both undergraduate and postgraduate levels as well as focusing on our research and one of the things we pride ourselves on in the faculty is that our research is really speaking to complex global problems and that as Engineering and Built Environment professionals we feel are superbly placed to contribute to solving those.**
DR. MALKA	So you're really looking at real world problems as well as being able to invest in our youth so that they become educated in their specific domains.
PROF LEWIS	**Couldn't have said it better myself.**
DR. MALKA	I've had a lot of practice. I also noticed that part of your deanship activities, you wrote a paper with Prof Penelope Andrews who we also hosted on this show previously and this was about transformation and de-colonisation at the University of Cape Town and I think it's such an important topic which is really rearing its head; what were some of your key take-outs for implementation from that paper?
PROF LEWIS0	**Well I think so part of what we're trying to do in the faculty is delivering on our vision. I think we have great fundamentals so I'm very proud and probably quite parochial in Engineering and the Built environment believing that we have...the basics are absolutely right but I think we really need to think about our context and that was what the de-colonisation discussion was and is all about. So, if we're going to truly live up to our vision as a faculty, which is really to engage with key issues of natural and social worlds and be global citizens, then we have to think about what does a de-colonised education look like; what are the roles of engineers in building society and creating greater equality and I think that's really a good progressive question for us to engage with.**
DR. MALKA	And what types of factors, because we, you know, we talk about this, some people say well we need to have for instance more people of colour in terms of

	representation; what were some of the factors that you're trying to implement at the college itself for de-colonisation of let's say the curriculum?
PROF LEWIS	**Yes, well I think...so you've mentioned diversity and I think that's really, really one of our strong pillars and it's not only for representation but also because we believe that complex problems need diversity to solve them. If you only have one type of person in the room, you're only going to get one type of solution, so we really want a mixture of all different types to be able to bring their intellect to bear on those kind of problems and then in terms of curriculum, there is an argument that, you know, you can't de-colonise ..... dynamics and you can't de-colonise structures, which I think is true but I think it's also context based, so the kind of examples that you use, the kind of reference points that you use I think a lot of our examples are based on the US and we can actually use examples that come from Africa and sort of...and start to develop like relevant and context specific curricula, but at the same time also allow our students to have the opportunity to be able to practice anywhere in the world, so really having a global view.**
DR. MALKA	I think those are going to be wonderful changes which will put people at an advantage because often I think, within my limited experience, we are less confident that let's say our western counterparts, because we're not utilising localised examples.
PROF LEWIS	**Absolutely and I think...there's a...I mean there are many layers to the de-colonisation discussion but I think one of them is challenging the whole mode of thinking that we have. So one of the really interesting books that I've been reading is a book called "De-colonising Universities" by de Sousa Santos, he's actually a Brazilian author and what he says is that it's binary thinking that has led us into these very complex global problems. So we think for example, that nature is here to be exploited, the planet is here to be exploited by humans and it's either the success of the individual or the success of the group and many other examples he gives of binary thinking and I think that's really challenging for us to re-examine the way we look at for example our planet and its resources.**
DR. MALKA	And that leads me very nicely into my next question; some of your research initiatives are oriented around contaminated water and utilising methods which have a mutual benefit, one in terms of being able to purify the water and also the contaminants into useful products. Not only does this have fantastic economic and environmental benefits, but it also speaks to the issue of sustainability because we really....like I had a colleague on the other day who said there is no "Planet B".
PROF LEWIS	**That's right yes and I think this whole discussion of rethinking waste and reframing them as resources because in fact what you call waste was, at the beginning of your process, something that you spent a lot of money and time and effort digging out of the ground and purifying and then suddenly when it comes out of the other end of the plant it's called waste, so in fact it's just your original resource but with a different name. So I think that, the rethinking about that and the reframing of waste as potential resources is one of the changing modes of thinking that I think has freed us to really start looking at true sustainability.**
DR. MALKA	Can you tell us a little bit more about some of the significant collaborations or research projects that you've been working on with your counterparts both in South Africa as well as in other areas?
PROF LEWIS	**Well one of the advantages of being an academic is that you get to really collaborate globally and we've been very, very lucky with our collaborations all over the world. Probably our strongest ones have been Netherlands and Brazil and I've got colleagues at Technical University of .....to basically**

	pioneer some of our technology with us as well as colleagues of São Paulo University in Brazil and we actually co-authored a text book together on industrial crystallisation, so that was a really good...one of our really good projects and besides those we collaborate with colleagues in Canada, in China, in Norway, Finland, Sweden, so it's really very, very global and I think what gives me a lot of hope is not only the collaboration but also the fact that our interests and our concerns around using engineering for good is echoed globally.
DR. MALKA	And within the engineering space, it's a...yes of course we've got academic components but it's also a very, very practical discipline; do you think there's been enough collaboration between industry and academia?
PROF LEWIS	**There's always room for more and for better. I think we can learn how to collaborate better, in that in academia we talk one kind of a language and I think in industry the language is usually different. So we focus on asking questions, we really want to delve deep and understand things and we often are really much more interested in understanding than in having a quick solution and often our industrial partners they want something fast, they're not so cared about what it all means as much as solving the problem. So it's kind of also a language connection there. I think where we have been successful is where we've been able to use our mutual strengths. So our good industrial partners come with really meaty problems and we are able to devote time and energy to solving them in a way that our industrial partners just don't have that luxury. So some of our strongest collaborations have been where we've played to our strengths. I do think that there's potential for more collaboration. I think that industry potentially doesn't understand the value that academics and research at university can deliver; they think of us as in our ivory towers, being a little bit removed from reality, but I think that that's not true and I think we can really change that conversation by learning how to work together.**
DR. MALKA	That speaks a lot to the point that you alerted to us earlier in terms of the diversity issue of bringing in those multiple perspectives.
PROF LEWIS	**Yes, yes, very much so and we want to talk to NGO's and small businesses and communities and other educational institutions; a range of different partners, not just big corporate industry.**
DR. MALKA	Science, technology, engineering and maths subjects have been cited as pivotal for jobs of the future, but yet, when we look at various reports, they consistently report that women have been under-represented in those disciplines, which is obviously going to create a knowledge gap and a disadvantage for this segment of the population when it comes to work and job opportunities in the future. In your opinion, given your role as dean, as well as being a chemical engineer, do you think the environment in South Africa is supportive enough towards female scientists?
PROF LEWIS	**I don't think so and I don't think it is in, you know, worldwide. There's something that happens to girls at a young age that turns them off stem subjects and so I think that you know by the time it gets to making a university choice it's already way, way too late. So my view is, and I'm not the expert on this at all, but I think it's around stereotypes; it's around young girls not associating themselves with these kinds of careers. One of the things that has hit home to me was a comment that I read which said that when we present engineering as an option we focus on maths and science and we focus on that you've got to be good at these difficult subjects, whereas when we talk about medicine we don't focus on biochemistry and organic chemistry, we focus on treating patients. So I do think that engineering is missing something there in not presenting ourselves as a career that is really people**

	centred and I think that that's one of the things that maybe is off-putting about engineering as a career choice.
DR. MALKA	You became a chemical engineer; what inspired you?
PROF LEWIS	**[Laughs} It's not a very good story. I was told, first of all, that chemical engineering was the most difficult degree aside from actuarial science at university and I was also told that engineering was not for girls, so I immediately decided that this is what I wanted to do. So it was a very obstructionist and rebellious kind of decision.**
DR. MALKA	So still you proved people wrong and you've gone on to make a fantastic career out of this.
PROF LEWIS	**I've enjoyed it really very, very much and I mean I do think that the kind of...the thinking skills that all of the engineering disciplines teach are...they're universal, so it's not just around chemical and chemical processes or around electrical or mechanical engineering, it's really about teaching you how to think, how to solve complex problems, bigger picture systems understanding and I think that is tremendously exciting.**
DR.MALKA	So besides introducing more of a people-centric human element to try to make the field of engineering more attractive to younger girls; what other types of interventions would you propose?
PROF LEWIS	**I think the human element is one and I think that's universal, not just for girls, but for boys as well. I just think that as a profession we're just not selling ourselves in a very accessible way. If you think of an engineer, I don't know what you think of, but probably it's somebody wearing hardhats and safety boots and standing next to a bulldozer building a road or something, so it's not a very...it has a particular picture and I suppose what we'd like to say is ja, that's one of the pictures but there are many, many other opportunities for people in engineering. I think the other is that we are really facing an emergency as a planet and the kind of skills that we need to solve climate change and global warming are engineering type of skills. So if you're interested in a future for humanity, then girl or boy, this is the kind of career that you should choose.**
DR. MALKA	And in that vein, what types of opportunities would be available? I mean we know that you do a lot of work with water pollutants for instance, which is obviously a critical factor in terms of sustainability and aiding our planet; what other types of opportunities or industries could people go into?
PROF LEWIS	**Well if I look at research in the faculty, it ranges from...we have architecture, planning and geomatics in our faculty, so they do a lot of work around cities and urbanisation and around, you know, city planning and research related to sustainable cities right through electrical engineering looking at renewable energy and power, through water treatment that comes in civil engineering as well as chemical engineering; things like the Day Zero that Cape Town experienced and a lot of interesting work that has been done around that. So for example one of our researchers showed that if you just captured all the storm water that fell in Cape Town you'd be able to fill all of our reservoirs and meet all of our needs, so just...even just simple research like that. So I would say between...**
DR. MALKA	...that's an incredible finding...
PROF LEWIS	**...isn't that amazing? So between energy, water, cities and a whole lot of other sort of systems type global problems, including climate change and global warming, I would say the 21st Century, the really wicked problems that need to be solved mostly live in this faculty.**
DR. MALKA	You've got a big job ahead of you.
PROF LEWIS	**[laughs]**

DR. MALKA	Because we're a gender show we always look towards developments, especially from a leadership perspective and one thing that struck me this year is that the University of Cape Town currently has a really strong board of female leadership in place, from the vice chancellor to your three deputy vice chancellors to your deans, which obviously includes yourself. The picture of women in leadership, however, in corporate South Africa, is appalling, to be blunt...
PROF LEWIS	**Mmmm, mmm...**
DR. MALKA	...there was...Business Women's Association South Africa's 2017 study showed that in JSE listed companies, women only account for 29% of executive managers and just 4.7% of CEO's; so what has the University of Cape Town done right to improve the representation of women in leadership?
PROF LEWIS	**I'm not really the expert on that but I think that one thing that springs to mind is it's time for change and I think there are more women coming through the ranks. So one of the statistics that I know is a well-known UCT statistic, is that 88% of the professors at UCT are men. So just in terms of seniority, up until very recently, there haven't been sufficient women professors to be able to apply for the high-level posts. So I do think it's partly a timing thing and I think it's also partly just a climate thing. Look I do think there's more of an acceptance of women in leadership and once you get a few women who are successful and effective, then the door is open for more.**
DR. MALKA	I was listening to an interview with Christine Lagarde a couple of weeks ago and she was confronted with this point of view of when she assumed her position as Head of IMF, that usually when women are appointed to top positions it's either that the business or organisation is at a precipice and about to fall off the cliff, so you're sort of brought into a role where it's not just a glass ceiling, but it's this glass cliff, and how she's managed to bring the organisation back together and in some instances that you're almost primed to fail because the organisation is so far gone and then it becomes; well we appointed a woman and it's the woman's fault that it went wrong.
PROF LEWIS	**Yes, I've recently heard that and I think it's really...it's quite disturbing and I think it's an interesting perspective. I mean I would love to listen to that interview and I would love to hear what Christine Lagarde has to say. Ja, I think that sounds extremely worrying.**
DR. MALKA	But from a role-model point of view, visibility is really important, you know, many people visualise someone and they look towards them, especially younger students as they're growing up to, I guess identify with somebody else for a potential role or field that they'd like to pursue, so given the strong representation of female leadership at UCT, how do you think that accessibility to you as role-models, what impact do you think this has on students, especially young women?
PROF LEWIS	**I think it's massive, I mean obviously I'm not a student myself so I can't answer for students, but if I look at our vice chancellor, she has an enormous social media following and a lot of it is students who absolutely just think she is wonderful and I think she is making huge strides in just sending the message of this is possible and this is what you need to do and you too can be like me, all those kinds of things and it's very, very inspirational and makes what she's doing more accessible.**
DR. MALKA	She's very accessible; I have heard about her 03:00 am club which....
PROF LEWIS	**Ohhh [laughs]**
DR. MALKA	...I'm glad I'm not part of, I have to say, but really, really motivational.
PROF LEWIS	**Yes, absolutely and I think she's really got the right vibe there and the tone that she has is very, very much around if you really want this you have to work really hard, as you say, the 03:00 am club and she's just got that really, really well.**

DR. MALKA	Staying with the topic of gender, I came across an interesting study which was done by McKinsey a few years ago which raises the issue of likability bias, where it's said that "success and likability are positively correlated for men, but negatively correlated for women." So if a woman is competent then she doesn't seem nice enough, but if she seems nice, then she seems less competent and this bias often surfaces in the way that women are described both in terms of when they're passing and their performance reviews, but on the other hand, when a woman asserts herself she's often called aggressive, ambitious and out for herself, but when you apply these scenarios to men, if they exert these same types of behaviours, then he's seen in a completely positive light and as a result we end up having these double standards where women could face penalties in the workplace by missing out on hiring opportunities. What's your opinion on the subject of bias?
PROF LEWIS	**I think it's really interesting and I've read that research as well as...I'm sure the one that you know about which was done by Harvard Business School where they gave the students, I think it was MBA students, a case study of Harriett and Harry and....**
DR. MALKA	...an identical CV....
PROF LEWIS	**...yes, exactly the same but the only difference was the gender and then students were asked to rate the person's CV or the person's profile and they found Harry to be very employable, you know, sort of the right kind of dynamic, committed employee and they found Harriett to be quite off-putting and not very good for employing. So I think...I mean I think that's quite pervasive. I have a little bit of reservation about I suppose...well let me put it another way; I do think that when you get more women in an organisation and you don't just have one or two token women, then the climate does start to change. If you're only one, then you represent your entire gender, whereas if you are three or four women, or, as you've pointed out UCT executive there's a lot of women, then you start to see a little bit of variation and you start to see some granularity and I think then that kind of very crude gender bias starts to disappear.**
DR. MALKA	Hopefully more of it will occur and...
PROF LEWIS	**...yes, absolutely....**
DR. MALKA	...that other institutions can take some lessons from UCT.
PROF LEWIS	**Mmmm, mmmm....**
DR. MALKA	Today we're talking to Professor Alison Lewis who is the Dean of the Faculty of Engineering and the Built Environment at the University of Cape Town. We would love to receive your comments on Twitter:@WomanityTalk. You are listening to 'Womanity – Women in Unity' on Channel Africa, the African Perspective, on frequency 9625 KHz, on the 31 meter band. Also available on DSTV, Channel 802.
DR. MALKA	Prof Lewis, turning more towards a personal perspective, one of the questions that I'd like to ask you now is about your personal journey. In some of the conversations we've had with various guests who've reached tremendous achievements in their respective fields we talk about some of the factors that they consider have contributed to their success. Some people speak about hard work others talk about their upbringing or perseverance; in your opinion what would you say have been some of the key drivers to your success?
PROF LEWIS	**Well I think probably the most important thing is privilege. I had the privilege of having a grandmother who went to UCT and a mother who went to UCT so it was kind of expected that I would go to university and I think that especially looking at a lot of our students in my faculty today, many, many of them are first generation university students. So I really have to acknowledge the fact that my privileged upbringing pointed me here, so I**

	think that was a really important part of it. I think a fair amount of luck. I think what you brought up before about role-models and having a perspective that this was something that I could do, also, I think played a huge role.
DR. MALKA	And can you share with us some of the moments, pivotal moments in your life when you were growing up?
PROF LEWIS	**I think as I said my grandmother was a specialist anaesthetist, which in her day was unusual, and my mother was a pilot, which in her day was also very unusual, so I think there was a sense that women in my family kind of went against the grain. I think if I look at my life as a student, probably the most pivotal moment in my life was getting involved in anti-apartheid struggle and that happened most directly when I was a student at university but while I was still a school student I was involved in teaching after hours at a school set up by what was then called The Institute of Race Relations and that made a huge impression on me. So I actually think that if I were to try and draw a theme through my life, probably that would be the most profound theme.**
DR. MALKA	Going back a little, your grandmother being an anaesthetist, your mom being a pilot; both of those roles were completely untraditional for women....
PROF LEWIS	**...that's correct, ja....**
DR. MALKA	...did they mention like what directed them into becoming a pilot and anaesthetist respectively?
PROF LEWIS	**I don't know why my grandmother became an anaesthetist but my mother actually was a maths and science teacher, she was...she told me very much that she was brought up to be not seen, not heard. She was one of five children and she had three brothers, so the girls were really trained to be quiet and submissive, so she went...she did go to university, she trained...she did chemistry and maths and then the natural profession for her was to be a teacher. When she got married she gave up her honours degree because my father didn't want her to work, so actually it was very, very traditional and patriarchal and then when she was, I think it was 36, it seemed very old to me at the time but now it seems young, she went off in secret and took flying lessons because she wanted to do something that wasn't about kids and wasn't about school and wasn't about I suppose being a subservient wife and mother. So she broke out in her own little rebellion and from the flying lessons ended up flying 747's.**
DR. MALKA	Gosh, well a fantastic midlife crises to happen but to eventually find her freedom.
PROF LEWIS	**Yes, ja.**
DR. MALKA	Besides your mom and your grandmother, who would you say have been some of the other strong women in your life?
PROF LEWIS	**Two other examples I can think of are somebody called Professor Gerda van Rosmalen who is a female professor at Technical University of ..... in the Netherlands and the only female professor in her chemical and mechanical engineering department and I met her when I was quite a new academic. I was sent to do an industrial crystallisation course and she was the lecturer and we really just hit it off and she has become an incredible mentor and advisor to me and really whenever I feel stuck with a problem I email or call Gerda, so she's really been an amazing support to me, especially in research but on lots of other topics as well and then I think joining the chemical engineering department there were a couple of older women students that really paved the way for me. So I'm very conscious and very respectful of the role that older women mentors play because they have been very important for me.**
DR. MALKA	Of course, they've walked the journey and they've got that...
PROF LEWIS	**...absolutely, ja....**

DR. MALKA	...support structure in place. What would you say has been the best lesson that you've learned throughout your career, or lessons?
PROF LEWIS	**Shew; probably stay true to yourself and stay true to your values. I think sometimes I've had young women asking me like what about a career plan and what is strategic and what should I do now to make my CV look good and those kind of questions and my answer to that always is you must do what feels right for you and is coherent with your values and doing something because it looks good or doing something for other...because other people might approve or not approve to me is not a good path to go. So I would say the one thing that stood me in good stead, where I felt like I have made good decisions is when I have been true to myself and my values.**
DR. MALKA	But it is a challenge, particularly for younger people, because I guess of competition that's in the workplace now, of as you said most of the people that are coming into university this is first generation graduates so there's a lot of hope and weight that they carry on their shoulders, that when they leave with their qualification that they're going into the workforce and that they're going to have to be able to pay back.
PROF LEWIS	**So I agree, I think it makes it very difficult, obviously you can't make a decision completely in isolation, so that's in engineering called a constrained problem. But nonetheless within the constraint you can still choose to make decisions I think that are consistent with your own values.**
DR. MALKA	And finally, as we close out our conversation today, could you please share a few words of inspiration or wisdom or encouragement that you'd like to pass on to younger women in the continent who are listening to us?
PROF LEWIS	**Well I suppose the best I can do is to echo what Kgethi always says in her social media feed which is it really does take hard work and believing in yourself and I do think finding a mentor, identifying people that you think are living their best life and true to their values I think stands us all in good stead.**
DR. MALKA	So being you, I think is the big message that comes out there.
PROF LEWIS	**I couldn't say that strongly enough.**
DR. MALKA	Thank you so much for joining us and sharing your journey thus far and we wish you every success as you continue within the faculty.
PROF LEWIS	**Thank you so much and thanks so much for the chance of the interview.**
	PROGRAMME END