

## CERAMIC TECH CHAT

Episode 48

Title – “Networking as an emerging professional: Alessandro De Zanet”

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### INTRO

McDonald: “I’m Lisa McDonald, and this is Ceramic Tech Chat.

Networking in the materials science community can feel daunting when viewed as a requirement for career development. But when viewed as an opportunity to build relationships with people interested in the same things you are, it can become an exciting journey rather than tedious destination.”

De Zanet: “Networking is not something that you do to get something. But it’s a very genuine experience in which you just share your experience. And then maybe some collaborations will start, but it’s not the real aim. It’s more about the exchange of your experience, your stories. And that’s right.”

McDonald: “That’s Alessandro De Zanet, Materials Research Fellow at Leonardo Labs in Rome, Italy. Since joining ACerS six years ago as a graduate student, Alessandro has gotten involved in the Society in many ways, including most recently as co-chair of the Young Professionals Network.

In today’s episode, Alessandro will discuss some of the many platforms through which students and young professionals can network and build relationships with others in the materials science community. In addition, listeners will get a sneak peek at the reimaged annual student issue of the *ACerS Bulletin* magazine, which publishes online June 6.”

(music)

### SECTION 1

De Zanet: “My journey in the ceramics world was quite close to never begin. I decided to start my career in materials taking first my bachelor’s and then my master’s degree in materials engineering. And unfortunately, there were not many courses on ceramics during that time. So, I just had one course, an introductory course on ceramics, during my bachelor’s and another course on advanced materials during my master’s.

But I discovered there was a course on advanced materials for energy. And that course was not part of the course catalog of materials engineering. But it was in the catalog of energy engineering at my university. During that time, my girlfriend, she was attending that course. She told me, and I was, ‘Oh, okay. This is a very interesting course. I will take that one, too.’

So, I just struggled a little to be able to participate in that course because it was outside of my course catalog. But thanks to that experience, in the end, I met my supervisor, professor Monica Ferraris, and I moved my first steps inside the ceramics world because during that course, I prepared a presentation on ceramics matrix composites [CMCs] as materials for nuclear applications. So, that was the seed for my master's thesis topic. So, it was everything very interconnected, but it started by chance, actually."

McDonald: "And sometimes it's those little things that happen on a whim that just set your course on a completely different, fantastic path."

De Zanet: "Yeah. And I think that it works all the time. I think that most of our careers, in the end, is also affected by random choices or random events. Sometimes you go to an event that you think will be the most interesting event of your life and nothing happens. Then you go to another one, you have no expectations, and you meet great persons, maybe some collaborations start. And it's why I think that sometimes it's also good to do something without a clear understanding of what will be the outcome, particularly when it comes to engaging with others.

So, during that year, my master's thesis with professor Monica Ferraris at Politecnico di Torino on the topic of ceramic matrix composites used in nuclear applications, I discovered a lot, and I became very obsessed with ceramics at that point. So, I decided to go on with a Ph.D. on that topic. Then I didn't work anymore on nuclear application, but I continued to work on aerospace and energy applications using the CMCs. So, I developed this passion for ceramics."

McDonald: "When you started working with these materials, was it more on the experimental side or the theoretical and simulation/modeling side?"

De Zanet: "Since the lab was very well equipped, I started working experimentally. So, we used some software, of course, for analysis and characterization. But I never started to work on modeling and simulation. I just had a very short experience during a secondment in Bordeaux in France, in the group of professor Gerard Vignoles. During that time, I got my first exposure to modeling and simulation. But it was a very short experience, unfortunately, because when I started my Ph.D., it was in 2019, so just before the COVID-19 pandemic started. And so for almost all the time, I was not able to travel. So in the end, I just had to make a very short secondment, but it was a very nice experience. And it helped in my mind because I think that when you're used to doing experimental work, you develop a certain mindset that is different because you are more used to try things and then try to understand how things work.

Instead, when you're doing modeling and simulation, you're doing quite the opposite. You try to understand what are the underlying mechanisms and then you try to test them. And so merging the two parts, I think that is fundamental right now because you need to get a very comprehensive understanding to reduce the amount of experiments you have to run and also to keep pace with the very fast technological revolution in the materials world right now. You have to be very fast in developing new materials."

McDonald: “So, while you weren’t too much into the modeling and the simulation during your studies, you have started to use it a bit more now that you’ve entered into the industrial world after graduation. So, let’s talk a little bit about how you came to Leonardo Labs.”

De Zanet: “Consider that when I started my Ph.D., I didn’t want to start a Ph.D. to enter in academia. I wanted to continue to work on the topic of my master’s thesis because I wanted to, it was like, ‘Okay, I work on these materials for one year, and now it is finished? But I want to continue to work on these materials.’ So, I started my Ph.D. with the idea just to get new skills and deepen my knowledge of both joining technologies, surface treatments, and ceramic matrix composites.

So, when my Ph.D. was going to finish, I started to look around for opportunities in industry. And I had two main drivers. One was that I wanted to still be in a place in which I can do research, no matter if this research is directly made by me or it’s more like a role of research management. But I wanted to still be involved in research. And I was also very dedicated to find, you know, some place in which I could leverage my existing network. And also, try to be active in fostering the collaboration between academia and industry. This was one of the topics that passionate me, so I was very eager to find a place in which I could give my contribution to create ecosystems for research.

While looking for this, I also participate in many events. I have a strong passion also for stories, so I took that time also to get engaged with other personal experiences of looking for jobs. So, I met a lot of people that were trying to transition from Ph.D. to academia, from Ph.D. to industry, too. And it was funny to see how many experiences you can collect and how easy it is sometimes if you have something in common for people to share their experiences. So, it was a very good period of my life, also in terms of personal development because I got in touch with a massive amount of stories.

And at some point during an event, I got to know about Leonardo Labs, which are part of Leonardo Company. Leonardo Company is a company based in Italy working in the field of aerospace, defense, and security. So, Leonardo Labs have been created as a technological hub that has the time to incubate new technologies that are critical and relevant for the company.

At that time, Leonardo Labs were quite a new initiative because it was like two or three years old when I discovered about that. And I was fascinated by the idea of having a company that for fostering innovation decided to create technological hubs that have the aim to find technologies of interest, carry out research, and finally validate them before making the technology transfer to the business units.

And it was very interesting also because they were thought to be a sort of ecosystem of technological hubs that work with universities and research centers. So, it was a very good fit for me because I was looking for a way to continue to do research but also to get more responsibilities in terms of research management while in the collaborations between the

university system and industry. So, it was a very nice fit for me. And so, that's how I started."

McDonald: "Your story, really I think, helps showcase the importance of talking with and networking and getting to know people who are going through the same things as you. You know, sometimes, especially maybe you don't have the most supportive environment in school. It can feel kind of like an isolating and very singular experience. But by being able to reach out and hear about other people your age or slightly older who have gone through these exact same worries, anxieties, how do I make that transition, it really helps you feel more connected and lets you see all the possibilities that you can do afterwards. And like in your case, you were able to find that nice straddle between academia and industry with Leonardo Labs."

De Zanet: "Yeah. That was a great thing because I was already lucky during my Ph.D. because I was in a group where there were many Ph.D. students, so I never felt that feeling of isolation that unfortunately many fellow Ph.D. reported when sharing their experience. But yes, at that point, you don't have a real understanding or, for sure, you don't have direct experience of how is the work outside of academia, and in particular, which types of careers you can follow.

Now, in my case, I continued my career touching on topics that were quite close to my Ph.D. because now I'm working on two research streams. One is adhesion technologies for coatings and for joining of dissimilar materials. And the second stream is ceramics and ceramic matrix composites. So, I was very satisfied also with the topics. But you don't have necessarily to transition in a technical role, you can also move to other roles, like innovation roles or project management jobs.

So, it's important, I think, that the Ph.D. was a good gym for you to understand if you like to do something or not. That's why probably one of the biggest advantages that I got, that I started to be more active outside of the lab during my second year as a Ph.D. student. Once you start, then it's a good way also to try new things. And I think at this point ACerS was a very good support because I had the opportunity to do a lot of things through ACerS."

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## SECTION 2

McDonald: "Let's talk a little bit about how is it that you came to be involved with ACerS?"

De Zanet: "Everything started in my master's thesis. During that time, of course, my supervisor for the thesis was professor Monica Ferraris, and she was super engaged with ACerS. She told me that there was this opportunity to become a member of the Global Graduate Research Network. I was like, 'Why not? Let's discover how things are in the ACerS.' And it was the first year in the Society, and I didn't do much during that time. But I

discovered about the ACerS, I discovered about the Chapters of ACerS, so what in the end makes ACerS an international society.

Later, in 2019, I started my Ph.D., and I was still in the GGRN program. Also because one thing that I'd like to say is that the GGRN was free because it was offered by the Chapter. So, it was a great opportunity for me. And during that time, I became more active. And I remember that there was also the opportunity to write a guest column in the *ACerS Bulletin* during that time. It was still in my first year, and it was very satisfying to have the opportunity to share your experience, your vision, and your preliminary results with someone. And from that I started to volunteer as a moderator for the Online Community of the Energy Materials and Systems Division.

During that time, I also participated in some virtual conferences because of COVID-19. So, I participated in ICACC [International Conference on Advanced Ceramics and Composites]. And during that time, I got my first experience of a networking event: a sort of mixer between students and experienced professionals. And it was very interesting for me because it was the first time getting in touch with very interesting and valuable stories.

It's the sixth year now that I'm a member, but a lot of things happened. So, after the time as a volunteer in the Energy Materials and Systems Division, I also became more active in the Italy Chapter. We organized in 2022 an event called 'Le mille vite del vetro,' so 'The thousand lives of glass,' that was an event to bring together all people working on glass, mainly in Italy. In this year, there will be another edition, and this will be more international. It was also a great way to see how an event is organized.

And later after I left the academic program, I also finished having access to my GGRN program. I then became an Associate member, as a young professional. But later I became one of the co-chairs of the Young Professionals Network in September/October 2023. I was very honored because it was like having the opportunity to contribute even more. And, at the same time, also to meet other people that are young professionals. And I think that in particular for young professionals, this is very critical because it's great to have someone with whom you can share your experiences.

And another thing that is important is since the community is international, you can also get insights on how things work in different parts of the globe. And sometimes you see that the challenges are not so different from one job market to the other. Maybe yes, there are some measured differences, but in the end, there may be things that work in the same way. It's very interesting and at the same time very rewarding also because, in the end, you also feel this sense of community that I think is very important as a professional to not feel isolated in the end. This is a great point also."

McDonald: "It's really valuable to hear your experiences as one of our international members because, of course, we're called The American Ceramic Society, but 35% of our members are based outside of the United States. And so having ACerS International Chapters to be involved in, such as the one that you've talked about, some of the events the Italy Chapter has done, is a really great way to still feel connected and cohesive in this international

environment. But I also know that as the co-chair this year of the Young Professionals Network, you have to network events across time zones, not just the local events that happen within the Italy Chapter. So, can you tell us a little bit about what the YPN is, the Young Professionals Network, and some of the challenges and benefits of stepping into a role within the Society that takes you outside of your local Chapter and connecting with everyone worldwide.”

De Zanet: “Yeah, sure, Lisa. I think that the Young Professionals Network is a great point to start as a young professional in the Society because the context is informal, it’s full of other people that are there to grow together, I would say. It’s a great way to discover the Society while growing together with other professionals. And at the same time, you can also provide value to the Society by organizing events.

So, for instance, we organize practically every month this event called YPN Connect. During YPN Connect, you have one hour, and it’s a mixer event in which you can meet other young professionals and not only because, in the end, it’s open to everyone. So, the good thing with this event is that even people that are not part of ACerS can participate in the event and can meet the YPN community and share their thoughts, share their experience, their stories. And all the time, there is never a lack of topic for conversation because in the end everybody has something to bring to the table and nobody is judging you.

Sometimes, in the beginning, my experience in ACerS was characterized by also a sort of discomfort sometimes of being a nonnative [English] speaker. This has never been an issue within ACerS. I had a very good experience because nobody judged me for that. And at the same time, this is something that is great even during our YPN Connect because the good point is that it’s just an informal context. You can enter, you can listen, you can interact. Of course, the more you interact, the more also I think that you can gain in terms of personal value, but it’s up to you.”

McDonald: “Sounds like the YPN Connect is a really great platform to bring people together, young professionals from all around the world. What are some of the challenges with scheduling those monthly events, though, so that you can keep it open and available to people regardless of the time zone they’re in?”

De Zanet: “For this reason, we try to schedule YPN Connect at a different schedule each month. So, the date and the hour change in order to try to be more flexible and accommodate more time zones. And then yes, it’s challenging because, unfortunately, there are too many time zones and sometimes it’s not possible to accommodate all the people that you would like to invite. So, this is something that we cannot overcome easily, but it’s a good way also for me and the others that are not used maybe to work it out with people in different time zones. Also to experience these kinds of challenges.”

McDonald: “And one thing that’s nice with YPN Connect is since it’s a bit more of an informal platform, you have that flexibility to schedule it at different times and different days each month to bring in different types of crowds of people each time, unlike, for example,

creating a meeting schedule. You know, a virtual meeting is a bit more of a formal, rigid context that you don't maybe have as much flexibility to move around like these informal networking opportunities."

De Zanet: "Yeah, this is a big advantage. And once you enter the YPN community, in the end, the idea is that during that time, you develop as a professional but also as a member of the Society. So, in the end, through the exposure to other members, that is one advantage of being part of the YPN. The other one is that you can volunteer for the Society, you can create value, and you can also discover more about the Society. And, in the end, it's like also sort of training time for your next steps in the Society. So, for instance, before joining another committee or the Divisions, I would say that yeah, it's just my first year in the YPN, but it's really an evolving experience from my side."

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BREAK

McDonald: "ACerS Young Professionals Network aims to provide support, community, and leadership opportunities to members as they transition from students to successful professionals in the broader ceramics society. Learn about the different types of events that YPN organizes and how you can become involved in this network by visiting [www.ceramics.org/ypn](http://www.ceramics.org/ypn)."

SECTION 3

McDonald: "I really liked what you said that some of these groups within ACerS, like the YPN or even the GGRN, Global Graduate Research Network, are training opportunities, so you can start learning how societies work, you can start getting involved, and getting ready for taking that next step into your professional world.

And one of the other training opportunities that we offer is every year in the June/July *Bulletin*, we have what's known as the annual student issue, which is where we allow tons of different students to submit papers and articles on different research topics or personal lives topics and showcase the work that our young emerging professionals are doing.

This year, we are going to be doing a bit of a rebranding and reimagining to expand the annual student section into the Emerging Professionals section so that we can really showcase everything that people are doing from the undergraduate up through the recently graduated. Because as you said, you're not really confined to learning or advancing yourself in one specific part of your career. It's happening at every single stage.

And you're one of our writers for the issue that's going to be coming out in a few weeks right after this podcast episode publishes. And so, what's your take on the importance of having writing opportunities specifically for students? Because you've talked a lot about the importance of networking opportunities, like YPN Connect, but why is it also important to have writing opportunities when you're at a younger education level?"

De Zanet: “I will say that the first thing you can think of is recognition, but I don’t think that is the most important one. If you are like me, my first time writing for the *Bulletin*, for sure recognition was also a great part also because we are new in the Society. You are a new researcher also in science. So it’s great to have the opportunity for you to showcase your research and who you are also.

But probably the best part is that you are not writing a scientific paper or you are not doing a scientific presentation. So, you have to change also your tone of voice. It’s a very different experience because it’s true that probably a lot of people that will read your work, in this case, your article will be [read by] people that maybe have a background in ceramics but is not...okay, each researcher work can be very detailed. So, it’s not that easy to understand a language that is too technical.

So, you have to challenge yourself, try to share what you want to share, your thoughts, your work, but taking in consideration also that the audience can be wide and can look for something different than a technical paper. Because maybe they are interested in your experience, they are interested in what we are doing from a very general point of view. And I think that it is very important. So, I think that each opportunity that you can get for trying to communicate in different way as a student should be taken. And in this case, when you’re writing for the *Bulletin*, the great part is also that you are supporting with this task. So thanks, Lisa.”

McDonald: “And we’re very glad to provide these opportunities because, like you said, it’s not always often when you’re in your student years to have these opportunities to practice more public communication. You’re so in the weeds always having your professors send you journal articles to read. And so, we are very excited to be reimagining the Emerging Professionals section this year and for everyone to get the chance to read it and see all the hard work and good communication that our emerging professionals at ACerS are doing when it publishes on June 6.”

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## CONCLUSION

McDonald: “The groups and resources described in this episode are just some of the many ways that students and young professionals can network and build relationships with others in the materials science community. Above all, the willingness to explore new opportunities even when you are unsure of the outcome can help emerging professionals advance in their careers.

I’m Lisa McDonald, and this is Ceramic Tech Chat.”

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Until next time, I’m Lisa McDonald, and thank you for joining us.”