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Ecolibrium

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SPECIAL



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and won the day.



One building at a time

Atelier Ten's Priya Gandhi, M.AIRAH, says good design can solve the climate crisis.

Ecolibrium: Tell us a little about yourself

Priya Gandhi: I am driven by the desire to create a built environment that makes a positive impact on the natural environment. I believe that good design can solve the climate crisis, one building at a time and that knowledge-sharing is key to our success as an industry. I use my analysis skills to help developers and design teams create buildings that are good for people and the planet. My diverse background in architecture, engineering, research, and industry helps me identify creative and practical solutions to reduce greenhouse gas emissions.

Eco: When did you first decide you wanted to be an engineer, and how did you get to where you are today?

PG: I have always felt the urgency of the climate emergency, even before I had the right language to articulate it. I couldn't understand how so many adults around me didn't know that we have only one Earth and we couldn't afford to ruin it. I worried about where all the trash went, wondered why humans thought we could pollute the air without consequences, and agonised over destroyed ecosystems.

I wanted to do something about it – I wanted to have an impact. And not just that, I wanted to make the biggest impact that I could. But how? I had no idea. I studied mechanical engineering because I liked math and physics. I went through a series of diverse and disappointing internships, which helped me figure out what I didn't want to do. I actually despaired as I went into my senior year still undecided about where to go after graduation. But finally, in that last year, I joined my university's Solar Decathlon team to be part of an international competition to design and construct an 80m² solar-powered house.

I had a series of "a-ha" moments that year, not the least of which was that buildings were massive greenhouse gas emitters, and if I wanted to make a big impact on climate change – which I did, and do! – this was the field to be in.

Eco: How would you characterise your approach to work? What are the fundamentals to your philosophy and process?

PG: My philosophy is straightforward – good design can solve the climate crisis. Sustainability is a design imperative, whether I'm working on a residential building in the suburbs or a 6 Star Green Star skyscraper in the CBD. If we are not designing for the good of the planet

as well as the good of the people, then what is the point? I have a responsibility – the design team has a responsibility – for the impact of every project I work on.

I am a pretty methodical person. I love creating lists and setting targets. At times it can be easy for me to get lost in the details because of my analytical nature – I do a lot of energy modelling, so digging into controls and figuring out how to model new types of systems can be a really rewarding challenge. At the same time, my approach to work is evolving as I do more project management, where it's important to take a big-picture view to identify the really important aspects and outcomes. And with every project, every problem, I want to go one step further than the last time, to constantly get better and make my projects better.



And with every project, every problem, I want to go one step further than the last time

A model of the Australian Opal Museum.



Eco: Do you have a checklist you always follow at the start of a project?

PG: Absolutely! I love lists – they keep me organised and on track. I am always trying to find ways to streamline and improve our processes, to ensure we have robust analysis checks and quality assurance procedures.

Eco: Are you open to new ideas, or are the old ways the best ways?

PG: I would be a pretty poor sustainability consultant if I did not embrace new ideas. Keeping up with what is happening on the research side of building science is very important to me – and critical to the industry's development and success. At the same time, I think we have a lot to learn from history and keeping things simple. Some of the technology we think of as new and exciting was actually used by the Romans thousands of years ago!

One of the best parts of my job is that I get to collaborate with so many different disciplines because what I do affects every part of a building project. I really enjoy working on projects where I get to collaborate more closely with the architects or engineers on designing specific elements, like the central plant or the building envelope.

Eco: What are your favourite projects you have worked on and why?

PG: While I do a bit of everything related to sustainability, my specialty area is energy modelling. So, while I've been fortunate to work on many interesting projects, some of my favourites are those that have had really sticky or unique modelling problems to solve.

I did some fascinating work last year on ANBG Ian Potter Conservatory – a tropical plant conservatory in the ACT. I worked closely with the building services engineer to model the conditioning systems, running numerous controls tests to figure out the optimum way to maintain strict temperature and relative humidity levels in the most energy-efficient way possible. I really enjoyed the back and forth with the engineer to come up with a solution together.

Another project that I recently worked on was the Australian Opal Centre – an opal museum in regional NSW with ambitious energy independence targets and an enthusiastic and committed client. The energy modelling work for this project was required to size onsite PV and battery systems to get the museum as close to off-grid operation as possible.



Eco: Whom do you admire and why? Do you have a mentor?

PG: I admire people who have passion, integrity and show courage in the face of adversity. One of my role models is Julia Child, a famous American chef who essentially re-taught America how to cook in the 1960s and '70s. She was a cooking show pioneer; in the US her name is synonymous with cooking, and her kitchen is now in a museum. And yet she didn't even know how to cook until she was in her 40s. She had the odds stacked against her – not the least being a woman in a male-dominated field – but her passion, hard work, and what-the-hell attitude led her to success.

I am fortunate to have several informal mentors who I can go to with questions and advice. I have had some opportunities to mentor others in the past and have enjoyed it. I would welcome more opportunities to mentor, especially to help young engineers interested in sustainability and making an impact.

Eco: Are there interesting, funny or quirky facts you could share with us about your work and what you do?

PG: I am part of the fifth cohort of Homeward Bound, a global leadership initiative for women in STEM (science, technology, engineering, maths, medicine) to enable us to influence for the greater good of our planet. This is usually a year-long online program, which culminates in an expedition to Antarctica (yes, Antarctica!) with all 80 women. With the pandemic, the timeline is a bit different, and of course I won't be going to the southern continent this year. The program has been an incredible journey – I've connected with women around Australia and the world, passionate, driven, brainy women who want to make a difference. We are learning valuable skills around communication, visibility, and strategy.



The ANBG Ian Potter Conservatory.

I am a signatory to Engineers Declare, as is my employer, Atelier Ten. My company is also a signatory to the World Green Building Council's Net Zero Carbon Buildings Commitment.

Engineers Declare is an incredibly important movement – as engineers, we can't wait for someone else to solve the climate crisis. We can't wait for building codes and governments to finally make action to achieve our Paris Agreement targets. We need to use the power and influence we have as engineers to do something now, and then figure out how we can do even more.

Eco: What advice do you have for emerging engineers who wish to follow in your path?

PG: Get involved in the industry. Join a committee, apply to sit on a board, reach out to the people who inspire you for a (virtual) coffee. Be proactive and don't let imposter syndrome get in the way.

Eco: What's the most important lesson you've learned throughout your working life?

PG: Is there something you want to see happen? Do it. Be the change. You can't count on anyone else doing it.

Eco: What's next for you, and what are your goals for the future?

PG: I love the work that I do and I want to keep doing more of it. I want to find ways to make a bigger difference and deepen my involvement in the industry.

Eco: What does AIRAH membership mean to you?

PG: I enjoy being part of a national community of engineers and meeting people who want to make a difference in their field.

Eco: If I wasn't an engineer, I'd be a ...

PG: Some other kind of engineer :) What can I say, I am lucky to have found my calling.

Eco: Do you have hobbies or diversions?

PG: Too many to name, the ones that I'm most passionate about right now are dance, crochet, and hiking, and I'm a voracious reader as well.

Eco: My most valued possession is ...

PG: As corny as it sounds, I'm not that attached to my things, other than perhaps photos and mementos of important moments. I've moved around a lot as an adult, so I don't actually have that much stuff.

Eco: Tell us something about yourself others might not know.

PG: I trained for 13 years in classical piano.

Eco: In five years I'd like to be ...

PG: Celebrating Australia fully decarbonising the electricity grid! Although first it would be good if the federal government would commit to a national target ... ■