Interview: Prof. Dr. Sener Oktik; SISECAM Science & Technology Center

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*Longer article*

**Converting sunshine into electricity / Passion for converting sunshine into electricity**

*One of this year’s Opening Speakers at GPD 2019 has been using his love of sunshine to explore and apply innovations in materials science to make our world a brighter place to enjoy. Ever since* ***Prof. Dr. Sener Oktik*** *of SISECAM Science & Technology Center studied at Durham University in the UK, he’s been passionate about finding more efficient ways to convert sunshine into electricity.*

On June 25, in Tampere, Finland, Oktik will be one of the world-class speakers that will open the event with his presentation entitled “Multifunctional Coatings on Glass for Construction and Automotive Industries.”

The aim of the presentation is first to give the audience a view of the flat glass market across the world. Where is flat glass being produced and what are the markets with the greatest growth potential for flat glass consumption? Additionally, he’ll address the role of multifunctional coatings and their most recent technological developments. How can these coatings add value within the construction and automotive markets?

“The way I describe it is as follows,” Oktik elaborates. “If you sell flat glass, it’s like selling a piece of wood. But if you sell coated glass, you’re selling furniture. So, just by adding a little touch of technology and engineering to the same material, you can add a lot of value to an entire industry.”

Prof. Dr. Oktik fell in love with researching materials for renewable energy when he was first attending university in 1979. “At the time, photovoltaic was just in its infancy,” he says. “I had a wonderful supervisor in the UK who suggested I do my PhD on converting sunshine into electricity and developing materials for that. And ever since, this has been my passion – working to develop better materials for photovoltaic devices.”

**Researching better materials throughout Europe**

After Oktik finished his studies, he went on to work at universities in different countries throughout Europe, lecturing and researching material science, coatings and devices to reach better results in optic, optoelectronic and photovoltaic applications together with renewable energy systems. He also worked for various industrial companies in the role of senior research scientist, technologist and executive at BP Solar (UK), Imperial Chemical Industries plc (UK), Paints Division Slough Research Labs (UK), Industrial Research Labs of Durham University (UK), Anel Group (Turkey) and Arikanli Holding (Turkey).

“Throughout my career, I have been lecturing on material science. And glass and the production of it have always had a very important role to play,” Oktik explains. “So, I’d say I’m an expert on photovoltaic materials and devices. But my main focus is on smart coatings and making devices with coatings. That’s why I got an invitation to give an opening speech at GPD this year on multifunctional coatings on glass.”

Since 2012, Prof. Dr. Sener Oktik has been the Chief Research & Technological Development Officer (CTO) at Sisecam Group in Turkey. He is currently in charge of all corporate activities in research and technological development as well as design and is actively involved in every link of the value chain – from basic science research and pilot trial production to the commercialization of products and technology.

He also serves as a member on the steering committee of the International Commission on Glass and is the honorary chairman of the Turkish Solar Energy Industry Association.

**Where all walks of science converge**

“In fact, converting sunshine into electricity is very much in my heart. Currently, I’m entertaining the idea of using transparent photovoltaic devices on architectural façades. That’s because it’s environmental, it’s experiencing exciting times – and it’s based on fundamental science with technical applications. It spans a large spectrum of physics, chemistry, electricity, electronics – really anything you can think of falls within that subject of generating electricity from sunshine.”

According to him, the photovoltaic sector is currently growing fast, since the technology is maturing every day. “Every year, we keep hearing about new approaches, higher efficiencies – and lower costs. This year alone, the total installation of photovoltaics throughout the world reached about 500 GW. Within the next five to six years, we are talking about the number in terawatts for photovoltaics. The main driver for this huge growth has been the rapid development in energy storage systems,” Oktik continues.

Glass is a very important part of photovoltaic conversion. And multifunctional coatings on glass will just make this material even more important for our future, in his opinion. With the production of ultra-thin glass of less than 60 microns, it will be possible to roll glass on a reel, making it easier, cheaper and more feasible for many applications.

**What he hopes to learn and take away from this GPD**

Prof. Dr. Oktik attended his first GPD two years ago and found it very impressive, useful and well organized. “I also enjoyed meeting many other glass scientists and technologists,” he says.

As a speaker at this year’s GPD event, he is looking forward to meeting entrepreneurs from startups to see if there is an opportunity for collaboration. “We can help the startups, and they can help us, because I feel most good ideas come from aspiring and dynamic minds,” Oktik continues. “The startups have the young guys, but I hope they can also benefit from the old guys’ wisdom.”

He also thanks Glaston for the company’s continued support, making GPD a respectable and sustainable platform for so many years.

**Time to bask in the sun**

Since returning back to his home country in 1995, he has been a missionary of promoting photovoltaic conversion in Turkey.

“I came back to Turkey because I love the nature – and by this, I really mean I love the sunshine. My wife and I are long-distance swimmers. In the summer, we spend about two hours every day swimming,” Oktik says. “And I’m very much into the philosophy of science. I love some of the philosophers’ ideas that changed my life – and I, too, hope some of those ideas will help change the world.”