



Photo by Remigijus Juškėnas

Great discoveries and inventions begin with great people. Talented personalities are able to resolve beautiful ways to proceed into exciting breakthroughs, they are so brave and confident to work on challenging and risky problems thus allowing one to extend boundaries of knowledge, and, on the other hand, they stimulate a creative and encouraging atmosphere to underpin their enthusiastic teams into focused and ambitious research.

The 4th of April is the 70th Birthday of Arūnas Krotkus – outstanding scientist and great professor, academician, founder of his scientific school, author and co-author of many inventions, innovation driver and inspiration soul of a large variety of scientific projects; organizer of international conferences; person, who built teams across the world to overcome the faced scientific challenges; leader with so advanced ideas that some of them were ahead of their time...

That is why the 4th of April could be a beautiful day to celebrate applied physics and optoelectronics as well – the amazing scientific journey of Arūnas provides us with an opportunity to see illuminating reflections of the most actual scientific problems in optoelectronics starting from hot electron and ultra-fast phenomena in semiconductors, application of porous silicon for solar cells, development of growth technology of low-temperature GaAs and exploration of its properties, optoelectronic terahertz emitters and elaboration of time-domain terahertz spectroscopic systems, molecular beam epitaxy to fabricate

GaBiAs and related compounds, their versatile investigation resulting in recognition as one of the leading groups worldwide in the field...

To be honest, I do not know the recipe of his Great Success. No doubt, many-sided Talent and endless Curiosity. Continuous Courage and Patience to seek Discovery and delve into the Unknown. Arūnas likes to claim that scientific work is very similar to the detective novel. Probably, it can serve as illustration of his thinking and finding solutions...

...once we had a nice talk about terahertz science and technology in his office several weeks ago. It was an amazing conversation, and finalizing it, I said: 'You could do it as you are the Titan of the science' (in Lithuanian "Titan" and "titanium" are the same word).

'No', he answered laughing elegantly, 'I am a bismuth'.

Gintaras Valušis, Director of Center for Physical Sciences and Technology (FTMC), Vilnius

Prof. Arūnas Krotkus and I have been friends for many years. Arūnas visited me at Rensselaer Polytechnic Institute, Albany, New York in October 2002, and I have visited him and his group in Vilnius, Lithuania three times (2008, 2010, and 2017).

Arūnas and I share the same interest in developing novel semiconductor THz emitters and sensors. We often discussed and exchanged ideas on how to best make semiconductor devices to generate and detect pulsed THz waves under short laser pulses. Arūnas has developed several novel methods to produce high-performance semiconductor antennas. In fact, I have tested many semiconducting photoantennas in the past 30 years, and found that Arūnas' antennas are consistently the best of the best. Zomega Terahertz Corp., whose co-founder I am, was a loyal customer of Arūnas regarding photoconducting antennas. In fact, I have tried to follow his recipe as published in the journals and to duplicate these antennas but, unfortunately, to this day, I am still not able to produce antennas as good as his.

Arūnas is very knowledgeable – even in areas beyond the sciences. He reads many history books, and loves to discuss historic events. I often feel that I am so poorly versed regarding European history whenever we expand our conversations beyond science.

I am truly honoured to know Arūnas through our common research interest in THz science and technology. The paper in this special issue I wrote is in honour of Prof. Arūnas Krotkus, and I wish Arūnas a happy 70th birthday!

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