Hi! I'm Daniel Blumenthal, a Professor of Electrical and Computer Engineering specializing in optical communications and photonic integration at the University of California – Santa Barbara, Fellow of the National Academy of Inventors, The Optical Society (OSA) and of the IEEE.

Today’s high-speed optical communications technologies work to accelerate the way we work, live and play by connecting people and computers around the world over high speed communication pipes. My lab develops new hardware and communications technologies to solve complex communications, transmission, switching and signal processing problems out of reach with today’s technologies. The primary undertaking of our research is to develop new functions integrated on small chips called photonic circuits, and use these circuits to build networks in ways that save energy and increase the scale of connectivity and bandwidth of data centers and the Internet. We are, in theory, greening future networks while allowing them to scale to accommodate future applications and the systems that rely on those networks.

I am a Professor in the Department of Electrical and Computer Engineering at the University of California, Santa Barbara and Director of the Terabit Optical Ethernet Center (TOEC) and head of the Optical Communications and Photonic Integration (OCPI) group (ocpi.ucsb.edu). I have served as PI for large-scale research programs including DARPA/MTO funded CSWDM, LASOR and iPhod projects at UCSB. In addition, I have served on the Board of Directors for National LambdaRail (NLR) and Internet2 Architecture Advisory Council. I have co-founded two companies, Packet Photonics, Inc and Calient Networks. My research interests are in optical communications, photonic packet switching and all-optical networks, ultra-low loss optical waveguides and silicon nitride photonics circuits, all-optical wavelength conversion and regeneration, ultra-fast communications, InP Photonic Integrated Circuits (PICS) and nanophotonic device technologies. I have published over 410 journal and conference papers, 5 book chapters, and co-authored a leading book on tunable lasers. I have served on technical program committees of international conferences including the conference on Optical Fiber Communications (OFC) and as guest editor for multiple journal special issues.

I will be back at 1 pm ET to answer your questions, and I look forward to sharing with you today. Feel free to Ask Me Anything!
Science AMA Series: I research new hardware and technology for internet communications and optical computers, I'm Daniel Blumenthal, AMA! is still ongoing! After the AMA is finished it will be permanently archived, assigned a digital object identifier (DOI), and formatted as a white paper.

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