Annual Corporate Member Appreciation Event
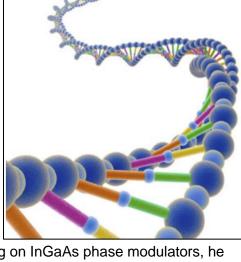
Optics for DNA Sequencing
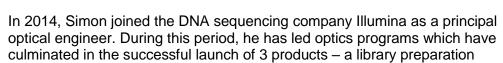### Simon Prince, Principal Optical Engineer, Illumina

Abstract: The talk will cover the basics of DNA and sequencing for physicists and engineers with as little chemistry or biology as possible. Starting from the history of the human genome sequencing project ($3B in 2003), we move through the advances in sequencing technology to today's products where the sequencing cost has dropped to <$1k. Each sequencer is made of watt class lasers, illumination engines and epi-microscopes. We'll look at the microscope technology and designs using custom objectives and sensors that are pushing resolution limits.

About our speaker:

Simon has been working in optics, opto-electronics and imaging since 1995 when he completed a PhD in optical computing at Heriot Watt university in Edinburgh. After post-docing on InGaAs phase modulators, he moved into the defense environment working on optical designs for systems such as infra-red countermeasures, missile fusing systems and laser designators. In 2001, he emigrated to the USA working for the consultancy company Optics 1 (Westlake Village) owned by Bob Fischer.

In 2014, Simon joined the DNA sequencing company Illumina as a principal optical engineer. During this period, he has led optics programs which have culminated in the successful launch of 3 products – a library preparation machine (Neoprep), a factory scale sequencer (Novaseq) and a point-of-care sequencer (iSeq). These machines all utilize some form of epi-fluorescent imaging or detection to detect the DNA bases.

Wednesday, December 12th, 2018

Reception & _Corporate Member exhibits_: 6:00 pm (no host bar)
Dinner: 7:00 pm; Talk: 8:00 pm
Meal: Pasta, Chicken or Meat Lasagna
Members: $35 by Dec. 7, $40 after
Non-Members: $40 by Dec. 7, $45 after
(OSSC Student Members $10 by Dec. 7, $20 after)
Attend the Talk for Free by Registering

Venue: Angelo's and Vinci's
550 N Harbor Blvd, Fullerton, CA, 92832
714-879-4022
On-line Registration: www.ossc.org or
Contact: Alex Small
Events@ossc.org, 240-672-7639
Corporate members can reserve exhibit tables during online registration.