Workshop Speaker	
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Presentation Title	Silicon-on-chip laser based on bound states in the continuum

Biography

Il-Sug Chung received his B.Sc. and M.Sc. degrees in Physics from the Korea Advanced Institute of Science and Technology (KAIST), Korea in 1997 and 2000, respectively and his Ph.D. degree in Information and Communications (Optoelectronics) from the Gwangju Institute of Science and Technology (GIST), Korea in 2006. Since 2006, he has been with the Technical University of Denmark (DTU), Denmark, and currently Associate Professor. In 2018, he has joined the Ulsan National Institute of Science and Technology (UNIST), Korea. He is an author of 96 journal/conference papers including 1 invited review journal paper and 23 invited talks, as well as two book chapters. He is also an inventor of 12 patents. His recognized experts are within silicon-on-chip lasers and high contrast meta-structures. His research interests include theoretical and experimental studies of silicon-on-chip optoelectronic devices as well as their applications in silicon photonics, smart sensors, and quantum photonics.

200 words abstract

We report on a new way of forming compact high-Q micro-cavities, based on quasi-bound states in the continuum. A three-unit-cell structure may exhibit a Q factor of 53k. Using this approach, an optically pumped silicon-on-chip laser has been demonstrated.