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(a) Professional Preparation

Bangladesh Univ. Eng. & Technology	Dhaka, Bangladesh	Electrical Eng.	BSc, 2005
Ulm University	Ulm, Germany	Communication Technology	MSc, 2008
Technical University of Munich	Munich, Germany	Electrical Engineering	PhD, 2012

(b) Appointments

2018-Current	Assistant Professor, OSU
2014 – 2018	Assistant Project Scientist, Electrical & Computer Eng., UCSB
2013 - 2014	Postdoctoral research scholar, Electrical Eng., UCLA
2012	Postdoctoral fellow, Electrical & Computer Eng., McGill University

(c) Products

(i) Five (5) products most closely related to the proposed project

1. S. Arafin, A. P. McFadden, B. Paul, S. N. Hasan, J. Gupta, C. J. Palmstrøm and L. A. Coldren, "Study of wet and dry etching processes for antimonide-based photonic ICs," *Opt. Mater. Express*, vol. 9, no. 4, pp. 1786-1794, Mar. 2019. https://doi.org/10.1364/OME.9.001786
2. S. Arafin, G. Morrison, M. Mashanovitch, L. A. Johansson, and L. A. Coldren, "Compact low-power consumption single-mode coupled-cavity lasers," *IEEE J. Sel. Top. Quantum Electron*., vol. 23, no. 6, pp. 1-9, May. 2017. http://doi.org/10.1109/JSTQE.2017.2703161
3. S. Arafin, A. Simsek, S.-K. Kim, S. Dwivedi, W. Liang, D. Eliyahu, J. Klamkin, A. Matsko, L. Johansson, L. Maleki, M. J. Rodwell, and L. A. Coldren, "Towards chip-scale optical frequency synthesis based on optical heterodyne phase-locked loop," *Opt. Express*, vol. 25, no. 2, pp. 681-695, Dec. 2016. https://doi.org/10.1364/OE.25.000681
4. Y. Alaskar*, S. Arafin*, D. Wickramaratne, M. A. Zurbuchen, L. He, R. K. Lake, and K. L. Wang, "Towards van der Waals epitaxial growth of GaAs on Si using a graphene buffer layer," Adv. Funct. Mater., vol. 24, no. 42, pp. 6629-6638, Aug. 2014. *equal contribution. https://doi.org/10.1002/adfm.201400960
5. S. Arafin, A. Bachmann, K. Kashani-Shirazi, and M.-C. Amann, "Electrically-pumped continuous-wave vertical-cavity surface-emitting lasers at 2.6 µm," *Appl. Phys. Lett*., vol. 95, no. 13, pp. 131120(1-3), Oct. 2009. https://doi.org/10.1063/1.3240406

(ii) Five (5) other significant products, whether or not related to the proposed project.

1. 3. R. Arefin, S. H. Ramachandra, H. Jung, W. You, S. M. N. Hasan, H. Turski, S. Dwivedi, S. Arafin, "III-N/Si3N4 integrated photonics platform for blue wavelengths", IEEE J. Quant. Electron., vol. 56, no. 4, pp. 1-9, May 2020. https://doi.org/10.1109/JQE.2020.2993634
2. S. Arafin, A. Simsek, M. Lu, M. J. Rodwell, and L, A. Coldren, "Heterodyne locking of an integrated optical phase-locked loop with on-chip modulators", *Opt. Lett*., vol. 42, no. 19, Aug. 2017. https://doi.org/10.1364/OL.42.003745
3. A. B. Ikyo, I. P. Marko, K. Hild, A. R. Adams, S. Arafin, M. -C. Amann and S. J. Sweeney, "Temperature-stable mid-infrared GaInAsSb/GaSb vertical-cavity surface-emitting lasers (VCSELs)," *Nat. Sci. Rep.*, vol. 6, pp. 19595 (1-6), Jan. 2016. http://doi.org/10.1038/srep19595
4. S. Arafin, S. Arafin, X. Liu, and Z. Mi, "Review of recent progress on nitride nanowire lasers," (invited), *SPIE J. Nanophotonics*, vol. 7, no.1, pp. 074599(1-27), Sept. 2013. https://doi.org/10.1117/1.JNP.7.074599.
5. S. Arafin, A. Bachmann, K. Vizbaras, A. Hangauer, J. Gustavsson, J. Bengtsson, A. Larsson, and M.-C. Amann, "Comprehensive analysis of electrically-pumped GaSb-based VCSELs," *Opt. Express*, vol. 19, no. 18, pp. 17267-17282, Aug. 2011. https://doi.org/10.1364/OE.19.017267

(d) Synergistic Activities

- Program Chair in Integrated Photonics Research, Silicon and Nanophotonics in OSA's Advanced Photonics 2021
- Technical Program Committee in "S&I3 Semiconductor Lasers" in OSA's CLEO 2021, San Jose, CA, USA
- Subcommittee Chair in Photonic Integration and Packaging (PIP) in IEEE Photonics Conference 2021 (annual meeting), Vancouver, BC, Canada
- Local Arrangement Chair in 78th Device Research Conference (DRC), The Ohio State University, Columbus, OH, USA
- Guest Editor of the Feature Issue on "Mid-Infrared Lasers for Medical Applications" in Biomedical Optics Express, OSA, 2018