Nicholas S. Yama

Curriculum Vitae

nyama8@hawaii.edu
www2.hawaii.edu/~nyama8

Education

University of Hawaii at Manoa 08/2016 – Present
B.S. in Electrical Engineering – Electrophysics Focus
Minor in Physics
GPA: **3.98/4.00**

Research Experience

Milimeter-wave Research Laboratory 08/2018 – Present
University of Hawaii at Manoa · Honolulu, Hawaii
Design and characterization of reconfigurable RF devices using liquid metal. PI: Prof. Wayne Shiroma, Prof. Aaron Ohta

Laboratory for Nano and Micro Photonics 06/2018 – 08/2019
City College of New York · New York City, New York
Optical characterization of valley properties in two-dimensional materials integrated with nanophotonic structures. PI: Prof. Vinod Menon

Microfluidics and Microdevices Laboratory 08/2017 – 12/2018
University of Hawaii at Manoa · Honolulu, Hawaii
Fabrication and testing of droplet-based microfluidic devices to create cell assays for medical research. PI: Prof. Aaron Ohta

Publications

Journal Papers

3. S. Guddala, M. Khatoniar, **N. S. Yama**, G. S. Agarwal, and V. M. Menon, "Optical valley-Hall effect of 2D excitons in hyperbolic metamaterial."
In preparation
2. M. Khatoniar, **N. S. Yama**, A. Ghazaryan, S. Guddala, P. Ghaemi, and V. M. Menon, "Microcavity circular-birefringence-assisted control of valley coherence in bilayer WS_2 polaritons."
In preparation
1. K. Elassy, M Rahman, **N. S. Yama**, W. A. Shiroma, and A. T. Ohta, "Complex permittivity of NaOH solutions used in liquid-metal circuits," *IEEE Access*, vol. 7, no. 1, pp. 150150–150156, October 2019 DOI: 10.1109/ACCESS.2019.2945773

Refereed Conference Proceedings

3. **N. S. Yama**, K. Elassy, W. A. Shiroma, and A. T. Ohta, "Predictive design of a liquid-metal switch actuated by continuous electrowetting," *IEEE Texas Symposium on Wireless & Microwave Circuits and Systems* (*Submitted*: 3 February 2020)
2. S. Guddala, M. Khatoniar, **N. Yama**, and V. M. Menon, "Optical valley-Hall effect of 2D excitons," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, 2019), paper FM4D.2. DOI: 10.1364/CLEO_QELS.2019.FM4D.2
1. M. Khatoniar, **N. Yama**, A. Ghazaryan, S. Guddala, P. Ghaemi, and V. Menon, "Room Temperature Control of Valley Coherence in Bilayer WS2 Exciton Polaritons," in *Conference on Lasers and Electro-Optics*, OSA Technical Digest (Optical Society of America, 2019), paper JTu2A.52.
DOI: 10.1364/CLEO_AT.2019.JTu2A.52

Presentations and Posters

Undergraduate Showcase 12/07/2018
University of Hawaii at Manoa · Honolulu, Hawaii
Presentation of *Droplet generation* at the UH Manoa Fall 2018 Undergraduate Showcase.

Senior Design Poster Session Fall 2018 12/06/2018
University of Hawaii at Manoa · Honolulu, Hawaii
Poster session for capstone design projects. Presented work on *Droplet Generation* project.

2018 Columbia University Materials Research REU Symposium 08/02/2018
Columbia University · New York City, New York
Presentation and poster session on work completed over Columbia University's MRSEC summer REU program. Presented work on valley coherence in bilayer WS_2 polaritons.

Vertically Integrated Projects (VIP) Poster Session Fall 2017 – Fall 2019
University of Hawaii at Manoa · Honolulu, Hawaii
Voted 1st place poster at the Fall 2019 session.

Awards

Association of Old Crows Spectrum Warrior Scholarship 2018 & 2019
Awarded for meritorious electromagnetic spectrum research.

UROP Funding for "Droplet Generation" Project 2018
Funding for droplet microfluidics project awarded by the University of Hawaii's Undergraduate Research Opportunities Program.

University of Hawaii Regents Scholarship 2016
The highest level merit scholarship awarded to approximately 20 students per matriculating class.

University of Hawaii Band Achievement Scholarship 2016
Awarded by music audition (trumpet).

Work Experience

Teaching Assistant 08/2018 – Present
University of Hawaii at Manoa · Honolulu, Hawaii
Teaching assistant for UH Manoa courses EE 160 (C Programming for Engineers) and EE 213 (Circuit Analysis II, starting Spring 2020) including weekly lab section.

Research Assistant 05/2019 – 07/2019
City College of New York · New York City, New York
Summer research assistant in the *Laboratory for Nano and Micro Photonics* under principle invesigator Dr. Vinod M. Menon.

Tutor 03/2017 – 12/2018
University of Hawaii at Manoa · Honolulu, Hawaii
Tutoring in math, science, and engineering courses at the UH Manoa Learning Assistance Center and Housing Success Center.

REU Student: Columbia University MRSEC 05/2018 – 08-2018
Columbia University/City College of New York · New York City, New York
Visiting Research Experience for Undergraduates (REU) student with Columbia University MRSEC program in joint with the City College of New York.

Grader 01/2018 – 05/2018
University of Hawaii at Manoa · Honolulu, Hawaii
Grader for UH Manoa course EE 260 (Intro to Digital Design). Taught by Prof. Yao Zheng.

Miscellaneous

Programming/Toolsets
Experienced: C, Python, MatLab, LaTeX
Familiar: SystemVerilog, VHDL, HTML/CSS

Professional Memberships
IEEE (student member, 2019)