Scott Trocchia

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EDUCATION

COLUMBIA UNIVERSITY
PhD in Electrical Engineering
July 2012 - present | New York, NY

THE GEORGE WASHINGTON UNIVERSITY
MS in Computer Engineering
2011 - 2012 | Washington, DC
Cum. GPA: 3.95 / 4.0

BS in Computer Engineering
2007 - 2011 | Washington, DC
Summa Cum Laude
Cum. GPA: 3.92 / 4.0

TEACHING & GRADING

COLUMBIA UNIVERSITY
ELEN E3201 - Circuit Analysis
ELEN E3331 - Electronic Circuits
ELEN E6907 - Emerging Nanoelectronics
CSEE W4824 - Computer Architecture
ELEN E4321 - VLSI Circuits

THE GEORGE WASHINGTON UNIVERSITY
ECE 2140 - Design of Logic Systems I
ECE 3520 - Microprocessors: Software/Hardware
ECE 11 - Circuit Theory

SKILLS

FABRICATION

SUSS MA6 mask aligner, Angstrom and AJA e-beam evaporation, oxygen plasma etch, DRIE Bosch Process etch, Raman spectroscopy, Nanobeam NB5 and Elionix ELS-G100 e-beam lithography systems

PROGRAMMING & MARKUP LANGUAGES

C • C# • C++ • CSS • HTML • Java • Javascript • LaTeX • MATLAB • Python Shell • Verilog • VB

SOFTWARE

ICFB, Virtuoso 6, Allegro PCB Editor, Eagle PCB Software,
MS Excel/PowerPoint/Visio/Word

OTHER

Enjoys being challenged, diligent, persistent

SOCIETIES

IEEE, Tau Beta Pi (served as President and Chapter Advisor)

RESEARCH AND WORK EXPERIENCE

BIOELECTRONICS SYSTEMS LAB |
Graduate Research Assistant
June 2015 - present | Columbia University

- Fabricating single-molecule carbon nanotube field-effect transistors (smFETs) to study DNA-DNA binding in situ
- Assisting in optimizing nano-lithography and chemistry to create localized single-point functional defects on the sidewalls of carbon nanotube
- Designing electronic platform which enables real-time multiplexing of up to 58 nanotube devices

THE U.S. ARMY RESEARCH LABORATORY |
Electronics Intern in RF MEMS group
June 2010 - June 2012 | Adelphi, MD

- Created compact models of graphene FETs (GFETs) in ADS for circuit designers to utilize
- Measured in-house fabricated GFETs to investigate RF performance as a function of device scaling
- Established a process flow for a heterogeneous electronics integration
- Wrote C++ code to analyze S-parameters, f_T, and f_{MAX} of Gallium Nitride (GaN) transistors

STUDENT TECHNOLOGY SERVICES |
Student Computer Technician
Sept. 2008 - May 2011 | The George Washington University

- Resolved software/hardware issues for student-owned Windows and Macintosh laptops and PCs
- Tested and debugged campus internet equipment

AWARDS

2012 The Flex Fellowship
2011 The Benjamin C. Cruikshanks Award
2007 The George Washington University
School of Engineering and Applied Science Medal

PUBLICATIONS

[1] D. Bouilly, J. Hon, N. S. Daly, S. Trocchia, S. Vernick, J. Yu, S. Warren, Y. Wu, J. Ruben L. Gonzalez, K. L. Shepard, and C. Nuckolls, "Single-molecule reaction chemistry in patterned nanowells," Nano Letters, 2016.

[2] N. Daly, J. Hon, S. Warren, S. Trocchia, K. L. Shepard, C. Nuckolls, and R. L. Gonzalez Jr., "Label-free, high-time-resolution, single-molecule studies of riboswtich folding," Biophysical Society Meeting, 2016.

[3] C. D. Meyer, S. S. Bedair, S. M. Trocchia, M. A. Mirabelli, W. L. Benard, T. G. Ivanov, and L. M. Boteler, "Heterogeneous chip integration into silicon templates by through-wafer copper electroplating," ECS Transactions, vol. 45, no. 6, pp. 163–169, 2012.

[4] S. Trocchia, C. D. Meyer, S. Bedair, T. Ivanov, W. Benard, and A. Wickenden, "Foundation of a heterogeneous electronics integration platform," ARL-TR-6008, 2012.

[5] S. Trocchia, T. Ivanov, and R. Proie, "User-based software tool for s-parameter conversion and manipulation," ARL-TR-5650, 2011.

[6] S. Trocchia, The 2006 Yankees: The Frustration of a Nation, a Fan's Perspective. iUniverse, 2009.