**Kaustubh Kulkarni, MS**

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**Qualification Profile**

An engineering professional experienced in clean room environment and nanomaterials synthesis. Well versed in semiconductor device physics, material characterization, embedded systems, as well as various programming and scripting languages. Skilled in use of various optical and electrical test equipment. Proficiency in research, data analysis and technical writing proven by various publications.

**Core competencies include** Research and Development, Materials Characterization, Nanomaterials Synthesis, Wet Chemistry, Semiconductor Physics, Analog/digital Circuits design, Statistical analysis, Surface Metrology, Failure analysis (physical/electrical), Software programming (C, C++, Python, MATLAB), statistical analysis tools (JMP, Microsoft Excel), and Circuit design & modelling tools (AutoCAD 2019).

**Educational Background**

California State University (CSU) Chico – Chico, CA May 2018

**MS** in **Electrical and Computer Engineering (Electronics Options)** GPA: **3.425 / 4.0**

Research: “Synthesis and Characterization of Silver-Ceria Nano-composites”

**Experience Highlights**

**Laboratory Staff Member**(7/2018 – Present)

*EECE Department – CSU Chico, CA.*

Skills: ***Spectroscopy, X-Ray Diffraction (XRD), Scanning Electron Microscopy (SEM), Energy Dispersed X-ray (EDX/EDS).***

* Developed synthesis procedures for various compositions of nanoparticles using ***wet chemistry***method.
* Exploring how the ratio of silver (Ag) to Cerium (Ce) in Ag/CeO2 alters the properties like SPR frequency, bandgap energy, and fluorescence using ***UV-Visible and Fluorescence spectroscopy***.
* Studying the element composition and the effects of grinding procedures and aging, by observing the surface microstructures of Zirconium (Zr) and Titanium (Ti) dental implants using ***XRD, SEM and EDX/EDS***.

**Teaching Associate**(9/2017 – 5/2018)

*EECE Department – CSU Chico, CA.*

Skills: ***VHDL, Verilog, PSpice, Power Supply, Oscilloscopes, Multimeters, Microsoft Presentations.***

* Presented lab instructions and evaluated assignments for ***15-25 students*** on two undergrad courses, ***Logic Design Fundamentals***, and ***Linear Circuits 1***.
* Educated students on various ***electrical test equipment*** as well as ***Engineering Lab methodologies***.
* Improved outcomes through teaching assistance and aligned students with learning objectives.

**Student Assistant**(2/2017 – 5/2018)

*Distributed Learning Technologies – CSU Chico, CA.*

Skills: ***C, C++, Python, Learning Management System (LMS), Microsoft Applications, SPLUNK, Cascade.***

* Coordinated in ***research and development*** of Blackboard Learn 9.1 LMS.
* Offered key solutions to ***improve the service management system*** to senior management.
* Assisted in the systems migration from self-hosted to a manage-hosted environment of the LMS.

**Design & Development Intern**(9/2015 – 12/2015)

*Savita Machine Tools Pvt. Ltd., Pune, India.*

Skills: ***C, C++, Xilinx, Multisim, VHDL, Verilog, Analog/Digital Circuits.***

* ***Designed and implemented*** Numerical Control (NC), Z-Axis Numerical Control (ZNC), and Computerized Numerical Control (CNC) Electric Discharge Machines for milling and grinding operations.
* Reengineered ***ADC circuit*** of NC machines yielding ***30% increase*** in ***operational time efficiency***.

**PUBLICATIONS**

***K. S. Kulkarni*, “Synthesis and Characterization of Silver-Ceria Nano-Composites”,** *CSU Chico Digital Repository,* Aug. 2018. <http://csuchico-dspace.calstate.edu/handle/10211.3/205885>

K. Mokashi, S. V. Mogre, ***K. S. Kulkarni***, **“Literature Review on Variable Frequency Drive for Induction Motors.”,** *IPASJ International Journal of Electronics and Communication,* Vol. 3, Issue 11, pp. 001-002, Nov. 2015. <http://www.ipasj.org/pabstract.php?vol=Volume3Issue11&Jname=2&pid=IIJEC-2015-10-28-1>

***K. S. Kulkarni*, “Maximum Power Point Based Photovoltaic Charge Controller for Street Lights”,** *International Journal for Scientific Research and Development,* Vol. 3, Issue 8, pp. 666-668, Nov. 2015. <http://ijsrd.com/Article.php?manuscript=IJSRDV3I80445>

***K. S. Kulkarni***, S. U. Bhagare, D. P. Shete, D. D. Kulkarni, **“A Review on Maximum Power Point Tracker (MPPT) for Photovoltaic (PV) Systems.”,** *European Journal of Advances in Engineering and Technology,* Vol. 2, Issue 2, pp.44-45, 2015. [http://www.ejaet.com/PDF/2-2/EJAET-2-2-44-45.pdf](http://www.ejaet.com/PDF/2-2/EJAET-2-2-44-45.pdf%20)

**Proffessional Affiliations**

**Materials Research Society – CSU Chico Chapter.**

*Member of Events Committee* Jan. 2018 - May 2018

**Institute of Electrical and Electronics Engineers - IEEE**

*Student Member* Jan. 2017 - Present

**Indian Student Association – CSU Chico.**

*Treasurer* Aug. 2017 – May 2018

**References**

**Dr. Kathleen Meehan** (California State Uni., Chico)- [*kmeehan@csuchico.edu*](mailto:kmeehan@csuchico.edu) – (530)898-5746

**Dr. Ozgul Yasar-Inceoglu** (California State Uni., Chico)- [*oyasar@csuchico.edu*](mailto:oyasar@csuchico.edu) – (530)898-6142