

# Bojanna Shantheyanda

## Manufacturing Engineer at Y-Carbon, Inc

Bensalem, PA - Email me on Indeed: [indeed.com/r/Bojanna-Shantheyanda/8d91b25535e5bb75](https://www.indeed.com/r/Bojanna-Shantheyanda/8d91b25535e5bb75)

Highly motivated and achievement oriented individual with strong professional experience in engineering with project management, manufacturing, product development and hands-on analytical testing skills. Team player with ability to learn concepts quickly, good analytical and technical skills with sense for business.

### WORK EXPERIENCE

#### Manufacturing Engineer

Y-Carbon, Inc - Bristol, PA - April 2010 to Present

#### RESEARCH AND DEVELOPMENT:

- Developed nanoporous sorbents for chromatography columns for detection, separation and purification of analytes.
- Developed nanoporous carbon material for solid phase extraction, supercapacitors, water purification detection of volatile organic compounds
- Construction and design of capacitive desalination unit (CDI) and electrical testing for maximum efficiency. This research resulted in product named ' DeionX '.
- Developed carbon sheet electrode for supercapacitor, capacitive desalination, metal air and lithium ion battery applications.

#### PROJECT MANAGEMENT:

- Improved the existing carbon manufacturing technique by designing and construction of new furnaces using Solid Works 2010.
- Designing and construction of automatic manifolds for efficient and large scale carbon manufacture.
- Planning and cost estimation of the material production facility includes drafting of final report for small business grants.
- Assisted in developing product line of nanoporous adsorbents including graphitized carbon black and molecular sieves with properties highly tuned for various customer requirements. Efforts resulted into development of complete product line including VOCx, CleanPeakX, CarboRx, ElectrodeX, DeionX and ActicarbX.
- Assisted in quality control, development and manufacturing of company' products from lab-scale to industrial scale meeting the demands of clients
- Assisted in starting Pore Science Labs (PSL), an analytical laboratory specializing in surface area and pore size analysis.

- Designed the company's website [www.Y-Carbon.US](http://www.Y-Carbon.US) and all the product websites using HTML and CSS.
- Assisted in developing marketing strategy and sales model in promoting all the carbon products.

### **Graduate Research Assistant**

University of Central Florida - Orlando, FL - October 2007 to March 2010

- Performed RF magnetron sputtering deposition of ZnO:Al thin films in Ar and hydrogen ambience for solar cell applications. Studied surface morphology, structural, optical and electrical properties of RF sputtered ZnO:Al thin films.
- Carried out deposition of BCN and BN thin films using RF and DC magnetron sputtering. Later, material and electrical characterization were performed for more understanding of the thin film.
- MEMS fabrication of Pressure Sensor with smaller diaphragm and simpler circuitry for accurate, compact, and inexpensive pressure measurements. Successfully fabricated a device with low linearity, offset voltage and high sensitivity.
- Performed Bio MEMS Fabrication of Microfluidic Mixers by the photolithography using silicon substrate and PDMS hardening resin. Compared the mixing efficiencies of T-shaped simple micro-mixer and sigma mixer using image processing and grey scale indexing of the images taken while mixing.
- Fabricated microelectronic devices such as NMOS and bipolar junction transistors in a clean room using thermal oxidation, thermal evaporation, photolithography, lift-off process, diffusion, ion implantation and etching. These devices were later tested for voltage and current responses.

### **Junior Engineer**

Pace Electricals Pvt. Limited - Bangalore, Karnataka - November 2006 to July 2007

- Designed and constructed control panels for residential and industrial purposes.
- Planned general lighting and power circuit setup for large residential and shopping complexes.
- Performed wiring of high-tension lines and general lighting and power circuit in large residential and shopping complexes.

### **Internship**

Visvesvarya Technological University - Bangalore, Karnataka - April 2006 to May 2006

- Participated in "Wireless voltage monitoring on the high tension lines", a Microcontroller based project which deals with reading data from the remote location and displaying the same at the desired location.
- Detection of faults and reporting them to the control station using PIC16f873, 8 bit Microcontroller, a low power high performance CMOS.

## **EDUCATION**

### **Masters of Science in Electrical Engineering**

University of Central Florida - Orlando, FL  
2007 to 2010

### **Bachelor of Engineering in Electrical Engineering**

Visvesvarya Technological University - Bangalore, Karnataka  
2002 to 2006

## SKILLS

• Porosity analyzer - Micromeritics ASAP 2020 • Scanning electron microscopy (SEM) • Atomic force microscopy (AFM) • X-ray Diffraction (XRD) • X-ray Photoelectron Spectroscopy (XPS) • Raman Spectroscopy • Ellipsometry • 4 probe measurement • I-V and C-V curve plotting • UV spectrophotometer • RF and DC magnetron sputtering • Thermal oxidation • Thermal evaporation • Photolithography • Lift-off Process, • Diffusion and Etching • MEMS fabrication (EVG620 Mask Aligner) • Solid Works 2010, PSpice, MATLAB, OriginLab • HTML, CSS (Web design), Adobe Photoshop • Microsoft Office Professional: Word, Excel, PowerPoint.

## LINKS

[http://etd.fcla.edu/CF/CFE0003142/ShantheyandaBojannaP201005\\_MS.pdf](http://etd.fcla.edu/CF/CFE0003142/ShantheyandaBojannaP201005_MS.pdf)

## PUBLICATIONS

### **" Investigation of Reactively Sputtered ZnO:Al Thin Films in Hydrogen ambience"**

July 1, 2011

B. P. Shantheyanda, Arun Vijayakumar, Kalpathy B. Sundaram. Submitted to Thin solid films.

### **"Optical characterization of BCN films deposited at various N<sub>2</sub>/Ar gas flow ratios by RF magnetron sputtering"**

<http://www.sciencedirect.com/science/article/pii/S0921510711002078>

May 1, 2011

Vinit O. Todi, Bojanna P. Shantheyanda, Ravi M. Todi, Kalpathy B. Sundaram, Kevin Coffey, Materials Science and Engineering B

### **"Hydrogen Doped ZnO:Al Thin Films by Reactive Sputtering"**

<http://www.ecsdl.org/getabs/servlet/GetabsServlet?>

[prog=normal&id=MAECES001002000019001371000001&idtype=cvips&gifs=yes](http://www.ecsdl.org/getabs/servlet/GetabsServlet?prog=normal&id=MAECES001002000019001371000001&idtype=cvips&gifs=yes)

October 15, 2010

K. B. Sundaram, Bojanna P. Shantheyanda, V. O. Todi, A. Vijayakumar and I. Oladeji. 218th ElectroChemical Society meeting- Las vegas,

### **"Investigation of Reactively Sputtered ZnO:Al Thin Films for solar cell"**

<http://www.ecsdl.org/getabs/servlet/GetabsServlet?>

[prog=normal&id=MAECES000901000001000002000001&idtype=cvips&gifs=yes](http://www.ecsdl.org/getabs/servlet/GetabsServlet?prog=normal&id=MAECES000901000001000002000001&idtype=cvips&gifs=yes)

May 25, 2009

Bojanna P. Shantheyanda, Kalpathy Sundaram, 215th ElectroChemical Society meeting- San Fransisco.

### **"X-ray Photoelectron Spectroscopy Analysis of Oxygen Annealed Radio Frequency Sputter Deposited BCN thin films"**

<http://www.ecsdl.org/getabs/servlet/GetabsServlet?>

[prog=normal&id=MAECES0009010000010000062000001&idtype=cvips&gifs=yes](http://www.ecsdl.org/getabs/servlet/GetabsServlet?prog=normal&id=MAECES0009010000010000062000001&idtype=cvips&gifs=yes)

May 25, 2009

Vinit Todi, Bojanna P. Shantheyanda and Kalpathy, 215th ElectroChemical Society meeting- San Fransisco.

## **" Compositional study of vacuum annealed Al doped ZnO thin films obtained by RF magnetron sputtering "**

[http://avspublications.org/jvsta/resource/1/jvtad6/v29/i5/p051514\\_s1?isAuthorized=no](http://avspublications.org/jvsta/resource/1/jvtad6/v29/i5/p051514_s1?isAuthorized=no)

September 1, 2011

B. P. Shantheyanda, V. O. Todi, and K. B. Sundaram, A. Vijayakumar and I. Oladeji. Journal of Vacuum Science and Technology

### ADDITIONAL INFORMATION

#### AWARDS

- Received "Performer of the year - 2011" for my work in Y-carbon, Inc, Bristol, PA.
- Served as Treasurer, Student Panel for Engineering and Computer Science(SPECS), University of Central Florida, Orlando, Florida, [...]
- Received "Best Self Study Report" award for preparation of 'EE Self Study Booklet for ABET 09', ), University of Central Florida, Orlando, Florida, [...]
- Held position as a Cultural Seat Representative (Advisor), Multicultural Student center, University of Central Florida, Orlando, Florida, [...]
- Served as a member of AVS and IEEE.