# Curriculum Vitae

# Salamat Burzhuev

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**P**ERSONAL **I**NFORMATION

* Birth Date 14.07.1989
* Languages Kyrgyz (native), Russian (native), Turkish(fluent), English (advanced)

**E**DUCATION and **A**CADEMIC **D**EGREES

* University of Waterloo, Waterloo, Canada *2013/Jan. – current.*
  + Mechanical and Mechatronics engineering department, PhD (Nanotechnology)

* Bilkent University, Ankara, Turkey *2011/Sep – 2013/Dec.*
  + UNAM – Institute of Materials Science and Nanotechnology, M. S. degree. (GPA-3.84)
  + Thesis supervisor: Assist. Prof. Bülend Ortaç
    - Laser synthesized gold nanoparticles for high sensitive strain gauges
* Middle East Technical University, Ankara, TURKEY *2007/Sep. – 2011/Jun.*
  + Department of Physics, B. S. degree. (Honor student)
    - Concentrations: Solid State Physics, Optoelectronics
    - Senior project: Simulation of broadband sources for fiber optic gyroscope systems to sense earth rotation

**P**ublications

* Published:

[1]**Laser synthesized gold nanoparticles for high sensitive strain gauges**

**S. Burzhuev**, A. Dana and B. Ortaç

Sensors & Actuators: A. Physical, vol. 203, pp. 131-136 (2013)

[2] **Generation of InN Nanocrystals in Organic Solution Through Laser Ablation of High Pressure Chemical Vapor Deposition Grown InN Thin Film**

S. Alkis, M. Alevli, **S. Burzhuev**, H. A. Vural, Ali K. Okyay and B. Ortaç

Journal of Nanoparticle Research, vol. 14, pp. 1048 (2012)

* Conference articles and presentations:

[1] **Laser synthesized gold nanoparticles for high sensitive strain gauges**

**S. Burzhuev**, A. Dana and B. Ortaç

NANOTR9, Atatürk University, Erzurum, Turkey, 24-28 June 2013

[2] **Photosensitivity of Au-Ga2O3(Fe)-n-GaP nanostructures in ultraviolet spectral region**

D.Melebayev, A.M.Tashlieva, I.N.Tujanova, Aykutlu Dana**, S.Burzhuev**

15th International scientific conference "Modern information and electronic technologies ", Odessa, Ukraine, 26-30 May 2014

**R**ESEARCH **I**NTERESTS

Semiconductor devices: transistors, photodetector, light emitting devices

Nanomaterials: 2D, 1D and 0D materials and their applications

Graphene transistor and photodetector

MEMS/NEMS

**C**OMPETENCIES AND **L**AB. **E**XPERIENCES

* Materials and nanoparticle characterization
  + Fluorescence and absorption spectroscopy
  + Time resolved fluorescence spectroscopy
  + Optical Microscope
  + Scanning Electron Microscope
  + Transmission Electron Microscope
  + X-ray photoelectron Spectroscopy
  + X-ray diffraction Spectroscopy
  + Dynamic Light Scattering (Zeta Sizer)
  + Raman spectroscopy
* Micro/nanofabrication
  + E-beam lithography
  + Photolithography
  + E-beam evaporation
  + RIE
  + Wet etching
* Electrical devices
  + Semiconductor parameter analyzer
  + Oscilloscope
  + Current-noise preamplifier
  + Piezoelectric transducer, function generator, piezoelectric controller
* Laser lab.
  + Basic optical design
  + Laser ablation
  + Fiber preparation: Cleaving, Stripping, and characterization
* Optical system design in ZEMAX
  + Ray tracing, optimization, reduction of aberrations, tolerance of optical system
  + Design of beam expander, telescope, mirror telescope, fiber coupling, laser beam modeling
* Nano devices design and fabrication
  + Nanoparticle strain gauge and humidity sensors
  + Design of photo detectors, lasers and optical modulators
  + Devices based on light scattering

**C**OMPUTER **S**KILLS

|  |  |  |
| --- | --- | --- |
| * Matlab | * Microsoft office | * Visual basic |
| * Sentaurus | * LTspice IV | * Zemax |
| * Origin | * C programming | * Comsol |

**T**EACHING **E**XPERIENCE

* Materials Science and Engineering 2014/Sep. -2014/Dec.
* Structure and Properties of Materials 2015/Jan.- 2015/Apr.

**P**rojects

* Hybrid graphene / quantum dot photodetectors
* Development of highly sensitive strain gauges and humidity sensors based on laser-generated nanoparticles
* Simulation of broadband sources for fiber optic gyroscope systems to sense earth rotation (Senior Project)

**A**wards

* Absolute winner of 2005 and 2006 Chui regional Mathematics Olympiad
* Participated in Republic 2005 and 2006 Mathematics Olympiad
* Full scholarship (tuition) awarded by Bilkent University
* Full scholarship (stipend) awarded by Ministry of Science, Industry and Technology
* University of Waterloo Graduate Research Scholarship

**R**EFERENCES

* Available upon request