

**ANATOLIY BORODIN**  
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## Objective

Obtain a competitive summer internship in Electrical Engineering

## Employment

*2008-Present Research Assistant, State University of New York at Stony Brook*

*2006-2008 Teaching Assistant, State University of New York at Stony Brook*

ESE 380 Embedded Microprocessor Systems Design 1 (*Fall 2007*)

ESE 382 Digital Design Using VHDL and PLD's (*Spring 2007*)

ESE 211 Electronics Laboratory A (*Fall 2006*)

Assisted in conducting classes and supervised lab sessions

Completed experiments before supervising them in lab sessions

Advised students on their work during office hours

Proctored and graded quizzes and exams

*2005-2006 Research Assistant, State University of New York at Stony Brook*

Assembled, tested, and tuned:

1-Channel Single Photon Counting Module based on APD

32-Channel Single Photon Counting Unit based on APDs

32-Channel Single Photon Counting Unit based on PMT

Set up lab experiments with APD and PMT-based devices

Conducted experiments and analyzed their results

Made electrical and optical measurements and modeled the phenomena observed

Designed, fabricated, and assembled PCBs

*1991-2001 Head of private business dealing with wholesale and retail of household goods*

Directed the work of 25-30 employees

Organized the merchandise delivery and customer service

Collaborated with business partners

Handled the liaison with the city authorities

*1988-1991 Founder of the first Provisional Creative Teams for developing software, Horlivka*

Organized and selected team members to do individual projects

Designed educational and accounting software

Built a network of customers

Drafted and executed contracts

*1986-1991 Freelance Translator, Donetsk Chamber of Commerce and Industry*

Translated documents on Information Technology from English to Russian

1979-1992 *Researcher-Engineer, Southern Branch of All-Union Thermal Engineering Institute of Horlivka*

Directed the following projects:

- Testing and adjustment of ventilation systems for nuclear power plants
- Leak-proof testing of protective shells for nuclear power plants
- Computer-aided assembly design of ventilation systems for power plants
- Developing and testing a cyclone heat exchanger

## Education

2005-Present *Ph.D. Candidate in Electrical Engineering, Stony Brook University, NY, USA*

2005-2008 *Master of Science Electrical Engineering, Stony Brook University, NY, USA*

*Courses taken:* Solid State Electronics, Semiconductor Lasers and Photodetectors, Bipolar Junction and Heterojunction Electronic Devices, Computational Models for Computer Engineers, Fiber Optic Systems, MOST Transistor Modeling, Applied Electromagnetics, Microwave Acoustics

1990 *Certified Computer Programmer (DOS, Application programming, Pascal)*

1972-1977 *MS/BS (5-years) from Physics Department of Donetsk State University, Ukraine*

1972 *Certified Technician for repair of TV and radio equipment*

## Special Skills

*Software:* Matlab, OrCAD (Cadence), Active-HDL, Synplify Pro, AVR Studio, Multisim, Visual FoxPro, Adobe Photoshop, Microsoft Office, MS FrontPage

*Programming:* Matlab, VHDL, AVR assembler, FoxPro

*Languages:* native Russian and Ukrainian, good knowledge of English

*Individual abilities:* creativity, problem solving, time management, persistence, and diligence

## Publications and Patents

1. Vinit Dhulla, Georgiy Gudkov, Dmitri Gavrilov, Andrey Stepoukhovitch, Andrey Tsupryk, Olga Kosobokova, Anatoly Borodin, Boris Gorbovitski, Vera Gorfinkel., *"Single Photon Counting Module Based on large area APD and novel logic circuit for quench and reset pulse generation"*, IEEE Journal of Selected Topics in Quantum Electronics, vol. 13, no. 4, pp. 926-933, 2007.
2. Georgiy Gudkov, Vinit Dhulla, Anatoly Borodin et al., *"32-channel single-photon counting module for ultrasensitive detection of DNA sequences"*, conference on Advanced Photon Counting Techniques, proc.of SPIE vol.6372, 63720C, Boston, Massachusetts, USA Oct. 25, 2006.
3. Borodin A., Tykulov V.G., Vlasik V.F. *A Tank for Thick Liquids*. Copyright Certificate #1575505. Bulletin #30, 03/01/90.
4. Borodin A. Tykulov V.G., Vlasik V.F., Borodina L. *A Method for Warming up Resinous Liquids in a Cylindrical Tank*. Copyright Certificate #1585261. Bulletin #30, 08/15/90.

5. Mikhailovich A.M., Borodin A. et al. *Inspection of Novocherkassk Hydro Power Plant for Discharges of Sulfur Dioxide into the Atmosphere. Practical Recommendations on Lowering Sulfur Dioxide Discharges.* AUHEI Report, Gorlovka, 1989, 67 pages.
6. Tykulov V.G., Borodin A., Vlasik V.F. Kozub S.S. *A Venturi Pipe.* Copyright Certificate #1512646. Bulletin #37, 10/07/89.
7. Vlasik V.F., Tykulov V.G., Borodin A. *The Cyclone Heat-Exchanger.* Power Production and Electrification, 1989, #2.
8. Konevsky B.I., Borodin A., Mikhajlevsky L.I. *The Development of the Systems Engineering for Automatic Computer Mounting Design of Power Plant Ventilation Systems.* AUHEI Report, Gorlovka, 1988, 90 pages.
9. Borodin A., Ivanchenko N., Mikhajlevsky L.I., Kochergina E.A. *A Complex of Program Calculations of APP Ventilating Systems.* Operation and Repair of APP Inventory, 1988, #7, pp.13-14.
10. Borodin A., Tykulov V.G., Vlasik V.F. Kozub S.S. *A Cyclone Device for Gas-Liquid Systems.* Copyright Certificate #1416192, Bulletin #30, 08/15/88.
11. Vlasik V.F., Tykulov V.G., Borodin A. *The APP Cyclone Inlet Centers.* Operation and Repair of APP Inventory, 1987, #1, pp.19-21.
12. Borodin A., Vlasik V.F. et al. *The APP Cyclone Inlet Centers.* Operation and Repair of APP Inventory, 1987, #1, pp.19-21.
13. Borodin A., Tykulov V.G. *Injector.* Copyright certificate #1281820. Bulletin #1, 01/07/87.
14. Vlasik V.F., Tykulov V.G., Borodin A., Ermolov M.A. *Design and Examination of a Contact Gas-Liquid Cyclone Heat-Exchanger.* Operation and Repair of APP Inventory, 1986, #12, pp.1-5.
15. Tykulov V.G., Borodin A., Vlasik V.F., Ermolov M.A. *Vortex Chamber for the Thermal Treatment of Disperse Materials.* Copyright Certificate #1270525. Bulletin #42, 11/15/86.
16. Tykulov V.G., Borodin A., Vlasik V.F., Ermolenko A.P. *A Method for Producing the Heat-Mass Transfer in a Vortex-Stream.* Copyright Certificate #1248405, 04/01/86.
17. Vlasik V.F., Borodin A. et al. *Technical Design of the Ventilating System for VVER-1500 energy block.* AUHEI Report, Gorlovka, 1986, 33 pages.
18. Tykulov V.G., Vlasik V.F., Borodin A. *Examination of the Efficiency of a Gas-Liquid heat-Exchanger.* Reports of All-Union Conference "Ecological Technologies in Power Producing Industry", Moscow, 1985, pp.155-167.
19. Vlasik V.F., Borodin A. et al. *Design and Construction of Systems for Detecting and Purifying the Polluting Substances in the Medium of APP Buildings with VVER.* Report of AUHEI, Gorlovka, 1985, 233 pages.
20. Vlasik V.F., Tykulov V.G., Borodin A. *The Flow-Rate Meter for Ventilating Systems.* Operation and Repair of APP Equipment, 1985, #10, pp.10-13.
21. Vlasik V.F., Tykulov V.G., Borodin A. *The Flow-Rate Meter of the Streamline.* Report of AUHEI, Gorlovka, 1984.
22. Vlasik V.F., Tykulov V.G., Borodin A. *Examination of the Efficiency of a Gas-Liquid Heat Exchanger.* In the collection: Report Extractions of the All-Union Conference "Ecological Technologies in Power Producing Industry". Moscow, 1984, p.198.
23. Borodin A. *A Method of Containment Control.* Copyright Certificate #1076794. Bulletin #39, 10/23/84.
24. Borodin A., Mikhailovich A.M. *A Method of Containment Control.* Copyright Certificate #1076794. Bulletin #8, 02/28/84.
25. Borodin A. *On Testing the Density of the Hermetic Sections in APP Blocks.* Operation and Repair of Atomic Power Plant Equipment, 1983, Issue 2, pp. 3-6.
26. Vlasik V.F., Borodin A. et al. *Ventilation Mastering and Set up of the Smolensk APP's First Block During its Initialization. The Examination of Containment of the Block.* Report of AUHEI, Gorlovka, 1982, 91 pages.
27. Vlasik V.F., Borodin A. et al. *Examination of the Thermal Mode of the Main Block of the Chernobyl APP.* Report of AUHEI. Gorlovka, 1981, 146 pages.
28. Borodin A., Efimov N.A. *The Analysis of the Existing Leakage Tests for Protective Shells of Atomic Power Plants (APP).* Report of the All-Union Heat Engineering Institute (AUHEI), Gorlovka, 1979, 53 pages.

## **References**

Available upon request