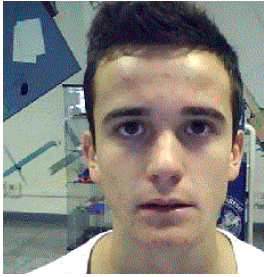


Alberto GULLINO



05/07/1995 TORINO (TO) ITALY

Nationality: Italian

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EDUCATION

10/29/2019 - up to present * **Ph.D. in Electrical, Electronics And Communications Engineering**

Politecnico di Torino

Credits 0 %

09/27/2017 - 10/25/2019 * **Master's Degree in Nanotechnologies For Icts**

Politecnico di Torino

Thesis: Carrier injection modelling in buried tunnel junction VCSELs

The purpose is to include the BTBT quantum corrections within the drift-diffusion carrier transport picture implemented in the multiphysics VENUS. Two BTJ-VCSELs are investigated as case studies: an InGaAsP long-wavelength device, and an AlGaAs device manufactured and characterized at Chalmers University of Technology. In the first part Hurkx's work is implemented, based on local GR rates. Even though this model is quite consolidated for Si electronics and implemented in commercial simulators such as Sentaurus Device by Synopsys, it doesn't appear to be applicable to these material systems. The second part explores a non-local GR model derived from NEGF formalism, enabling to couple a semiclassical picture of the bulky sections of the device with a genuine quantum description of BTBT.

Supervisors Bertazzi F., Goano M., Tibaldi A., Debernardi P.

Final grade 110/110 cum laude

09/01/2014 - 09/26/2017 * **Bachelor's Degree in Physical Engineering**

Politecnico di Torino

QHE: Analysis of the Quantum Hall Effect

Final grade 97/110

2014 **high school diploma MATURITA' SCIENTIFICA**

Final grade 95/100

TRAINING

10/01/2018 - 01/18/2019 **Workshop - "A nanotechnological device from modeling to characterization" (with Prof.) Tj ET G**

Politecnico di Torino - Torino - ITALY

Certificates obtained: attendance

LANGUAGE SKILLS

Mother tongue Italian

Other languages

UNDERSTANDING

SPEAKING

WRITING

	Listening	Reading	Spoken interaction	Spoken production
English *	B1	B1	B1	B1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user

[Common European Framework of Reference for Languages](#)

Language certificates

2013 PET (with merit) : 85

COMPUTER SKILLS

OPERATING SYSTEM	Windows advanced level
PROGRAMMING LANGUAGE/CODE	C basic level
PROGRAMS/SOFTWAR E	Matlab, Latex advanced level
CAD	Sentaurus Synopsis intermediate level

OTHER INFORMATION

Driving license, own car

Available to travel on business in Italy, abroad

Available to relocate in Italy, abroad

EXAMS *

Master's Degree in Nanotechnologies For Icts

conference date	Exam	Credits	Final grade
02/05/2018	Finite element modelling	6	29
02/13/2018	Materials and characterizations for Micro and Nanotechnologies	6	27
02/22/2018	Solid state physics/Electronic devices	12	27
02/27/2018	Photonic devices	6	30
06/25/2018	Electronic properties of materials	6	30
07/06/2018	Nanomaterials and nanotechnologies for energy applications	6	29
07/24/2018	Microelectronic devices	6	28
09/20/2018	Physics of technological processes for Micro & Nano systems and Micro & Nano systems	12	29
02/01/2019	CAD of semiconductor devices and processes	6	30
02/04/2019	Physical properties at nanoscale, nanomanipulations and nanoprocessing	6	30
02/25/2019	Workshop "A nanotechnological device from modeling to characterization"	4	30 cum laude
03/01/2019	Modern Optics	6	29
09/10/2019	Integrated systems technology	6	30 cum laude
09/13/2019	Micro and nanoscale phenomena for biomedicine	6	30 cum laude
10/25/2019	Thesis	30	passed

Bachelor's Degree in Physical Engineering

conference date	Exam	Credits	Final grade
10/22/2014	English Language 1st level	3	passed

01/29/2015	Mathematical analysis I	10	20
06/26/2015	Geometry	10	25
07/06/2015	Computer sciences	8	28
07/13/2015	Physics I	10	27
01/25/2016	Physics II	6	27
02/12/2016	Circuit Theory	10	23
02/16/2016	Mathematical analysis II	8	22
02/22/2016	Electronic devices	8	21
07/07/2016	Electronic Circuits	10	24
07/12/2016	Quantum physics and physics of complex systems	12	29
07/22/2016	Mathematical methods	10	24
09/15/2016	Chemistry	8	24
02/06/2017	Physics for Biomedical and Nuclear applications	6	28
06/20/2017	Solid state physics with labs	10	29
06/22/2017	Applied electronics	10	26
06/26/2017	Applied electromagnetics	8	23
06/28/2017	Coherent waves: laser, holography, teletransportation	6	24
06/30/2017	Electronic measurements	8	25
07/11/2017	Physics and Materials for Advanced Technologies	6	27
07/17/2017	Technologies and disability	6	18
07/27/2017	Final essay	1	27
07/27/2017	Technologies for Nanoscience	6	27

* Fields marked with an * are certified by Politecnico di Torino, while the potential thesis description is added by the candidate.