

GEORGE KONSTANTINIDIS

CURRICULUM VITAE



Foundation for Research & Technology – Hellas (FORTH)
Institute of Electronic Structure & Laser (IESL)
Microelectronics Research Group (MRG)
Heraklion Crete, Greece

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GEORGE KONSTANTINIDIS

Employment	<p style="text-align: center;"><i>Foundation for Research & Technology Hellas (FORTH)</i> <i>Institute of Electronic Structure & Laser (IESL)</i> <i>Microelectronics Research Group (MRG)</i> <i>711 10 Heraklion Crete, Greece</i> <i>Tel.: +302810394103, secretary: +302810394105</i> <i>Fax: +302810394106</i></p>	Residence	<p style="text-align: center;"><i>41. M. Mercouri str.</i> <i>71305 Heraklion</i> <i>Crete</i> <i>Greece</i> <i>Tel: +302810313248</i> <i>Mob: +306972402166</i></p>
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[1]. UNIVERSITY EDUCATION

Ph.D in	Solid State Electronics (1988)
Awarded by	University of Salford, Department of Electronic & Electrical Engineering
Thesis	<i>Growth and characterisation of single CuInSe₂ crystals</i>
Supervisor	Prof. Robert (Bob) Tomlinson
M.Sc in	Solid State Electronics (1985)
Awarded by	University of Salford, Department of Electronic & Electrical Engineering
Thesis	<i>Electrical characterisation of doped CuInSe₂ single crystals</i>
Supervisor	Prof. Robert (Bob) Tomlinson
B.Sc in	Applied Physics (<i>Second Class Honours, Division 1</i>) (1982)
Awarded by	University of Salford, Department of Pure & Applied Physics
Thesis	<i>Design, construction and testing of a differential thermal analysis system to investigate the intermetallic alloy Dy_{0.73}Tb_{0.27}Fe_{1.97}</i>
Supervisor	Prof. Don Lord

[2]. MAJOR RESEARCH INTERESTS

Conventional Nanoelectronics	<i>High frequency & high-power devices: FETs, HEMTs, PHEMTs, MO(I)SFETs (III-arsenides & III-nitrides)</i> <i>High power devices: MESFETS, JFETs, IMPATT & ZENER diodes (SiC)</i> <i>High frequency & high power MMICs (III-arsenides & III-nitrides)</i> <i>THz diodes (III-arsenides)</i>
Non conventional Nanoelectronics	<i>III-nitrides Nanowire and FINFET transistors</i> <i>Magnonics</i> <i>2D materials-based transistors, CNT based devices</i> <i>GaN based Qubits</i>
Optoelectronics	<i>III-nitrides based UV detectors</i> <i>III-arsenides & III-nitrides photovoltaics</i>
Sensors	<i>III-nitrides SAW & FBAR based sensors</i> <i>III-nitrides CHEMFET based chemical sensors</i> <i>III-nitrides LAMB based biosensors</i> <i>Arrays of polymeric microneedles-based EEG sensors</i> <i>Piezoelectric sensors for gait monitoring</i>
Actuators	<i>RF MEMS</i> <i>Piezoelectric (III-nitrides) cantilevers</i>
Heat management	<i>Thermoelectric materials and devices</i>
Metamaterials	<i>Left handed & photonic structures</i>
Nano(μ)systems	<i>Reconfigurable front-end transmission/reception modules</i> <i>3D system in chip (SiP) solutions for high power miniaturized modules</i>

[3]. WORK EXPERIENCE

PERIOD	EMPLOYER	POSITION
DEC 2016 - today	MRG/IESL/FORTH	Research Director
APR 2004 – DEC 2016	MRG/IESL/FORTH	Senior Scientist
JUL 1998 – APR 2004	MRG/IESL/FORTH	Principal Applications Scientist
JUL 1995 – JUL 1998	MRG/IESL/FORTH	Associated Applications Scientist
MAY 1990 – JUL 1995	MRG/IESL/FORTH	Postdoctoral Researcher
DEC 1989 – MAY 1990	ELTRANS INTERNATIONAL TRANSPORT SA.	Software Developer
MAR 1989 – NOV 1989	NATIONAL DEFENSE RESEARCH CENTER	Software Developer
FEB 1988 – MAY 1988	MRG/IESL/FORTH	Postdoctoral Researcher

[4]. ADMINISTRATIVE EXPERIENCE

PERIOD	EMPLOYER	ROLE
JAN 2019 - TODAY	MRG/IESL/FORTH	Alternate Director of IESL
NOV 2013 – JUL 2018	MRG/IESL/FORTH	Elected member of the IESL Scientific council
JAN 2009 – NOV 2013	MRG/IESL/FORTH	Appointed to the IESL Scientific council
NOV 2008 - TODAY	MRG/IESL/FORTH	MRG Facility Manager
JAN 2001 – DEC 2018	MRG/IESL/FORTH	MRG Safety Manager
JUN 2000 - TODAY	MRG/IESL/FORTH	ISO 9001 Quality System Manager
JAN 1996 - TODAY	MRG/IESL/FORTH	MRG External Services Head
OCT 1991 - TODAY	MRG/IESL/FORTH	MRG Processing Unit Head

[5]. PROFESSIONAL AFFILIATIONS

ORGANIZATION	CURRENT POSITION
EUROPEAN MICROWAVE ASSOCIATION	Member
GREEK MICRO & NANO SCIENTIFIC ASSOCIATION	Vice President

[6]. TEACHING EXPERIENCE

PERIOD	INSTITUTION	SUBJECT
SEP 1998 – JUN 2007	UNIVERSITY OF CRETE (Physics)	Post Graduate courses on compound semiconductor processing (Theory and clean room hands on training)
JUL 1991 – JUN 2007	UNIVERSITY OF CRETE SUMMER SCHOOL (Physics)	Semiconductor Processing RF MEMS
OCT 1984 – JUN 1987	UNIVERSITY OF SALFORD (Electronic & Electrical Engineering)	1 st & 2 nd year lab assistant

[7]. STUDENT SUPERVISION

AWARD YEAR	STUDENT	DEGREE / TITLE
2019	Mr. G. Doundoulakis	Ph. D/“Verical GaN nanowire transistors”
2018	Mr. C. Zervos	Ph. D/“ InN based HEMTs”
2012	Mr. T. Margiolakis	M.Sc/“ FEM analysis of surface acoustic wave resonators of piezoelectric GaN on Silicon substrates for frequencies above 5 GHz.”

2011	Mr. A. Pantazis	Ph. D/" Lamb wave biosensors"
2007	Mr. J. Alifragis	Ph. D/" Development of GaN based chemical sensors"
2006	Mr. A. Stavrinidis	M.Sc/" Design and fabrication of microwave receivers for the U-band"
2004	Mr. Y. Psychias	M.Sc/" Design, fabrication and characterization of RFMEMS switches on GaAs"
2004	Mr. A. Pantazis	M.Sc/" Micromachined Yagi-Uda antennae"
2004	Mr. T. Kereces	Traineeship "Schottky diodes on GaN"
2003	Mr. F. Kalaitzakis	M.Sc./"QN laser diodes:
2001	Mr. N. Boulamatsis	B. Sc/"Electroplating for ICs"
2001	Mr. G. Drakakis	M.Sc/"Contact technology to GaN"
2001	Mr. A. Kostopoulos	M.Sc./"Fabrication of GaN HEMTs"
2001	Mr. V. Manouselis	M.Sc./"Ion gun in situ cleaning of semiconductor surfaces"

[8]. POST DOCTORAL FELLOWS

YEAR	NAME	ACTIVITY
2020- today	Dr. M. Trichas	Marketing of III-N transceivers
2020- today	Dr. L. Michalas	RF MEMS
2015- 2018	Dr. A. Pantazis	III-nitride biosensors
2013 - 2015	Dr. R. Buiculescu	Graphene sensors
2008 - 2009	Dr. G. Deligeorgis	Carbon Electronics
2005-2007	Dr. T McMullen	III-nitrides based transistor fabrication
2000 - 2002	Dr. M. Zervos	Modelling of III-nitride devices

[9]. FUNDED PROJECTS (G.K AS MRG PRIME INVESTIGATOR)

AWARD YEAR	PROJECT (FUNDING ORGANISATION)	BUDGET (€)	ACTIVITY
2021	EPEYNΩ –ΔHMIOYΠΓΩ- KAINOTOMΩ (GSRT)2	250000	3D heterogeneous integration of GaN MMICs
2021	MCSA "PRIME"	150000	Predictive Reliability for High Power RF MEMS
2020	ECSEL JTI "IREL4.0"	800000	Reliability of III-N transceivers
2019	EPEYNΩ –ΔHMIOYΠΓΩ- KAINOTOMΩ (GSRT)2 "Healthsonar"	150000	Microradars
2019	FTI "SMARTEC"	1.000.000	GaN MMICs pilot line
2018	FET "IQUBITS" (EU)	700000	GaN based qubits
2018	FET "CHIRON" (EU)	280000	Spin & acoustic waves
2018	EPEYNΩ –ΔHMIOYΠΓΩ- KAINOTOMΩ (GSRT) "RADAR"	290000	Ka band GaN MMICs
2017	GREECE –RUSSIA BILATERAL "EINSTEIN" (GSRT)	200000	Low dimensional nanoelectronic quantum system
2013	SYNERGASIA 2 «PREDICTES" (GSRT)	110000	Polymeric microneedles for EEG electrodes
2013	GREECE-CHINA BILATERAL "DECHAD", (GSRT)	180000	Graphene growth & composites for heat control

2013	<i>ΣΥΝΕΡΓΑΣΙΑ 2 «NANOHYDROGEN” (GSRT)</i>	114000	Water splitting with III-nitrides
2012	<i>FP7 STREP “NANORF” (EU)</i>	650000	Graphene & CNT nanoelectronic circuits
2011	<i>FP 7 IP “NANOTEC” (EU)</i>	555000	III-nitrides on SiC smart high power μsystems
2011	<i>FP7 IP “SMARTPOWER” (EU)</i>	360000	Heat management of GaN based HPAs
2010	<i>“ARTEMOS” (JTI ENIAC)</i>	150000	Electrical & RF assessment of silicon-based T/R blocks
2010	<i>“NANOCOM” (JTI ENIAC)</i>	400000	III-nitrides on Si smart μsystems
2009	<i>“MERCURE” (JTI ENIAC)</i>	350000	III-nitrides μsystems integration technology
2009	<i>DESMI 2008 “3G NANOWIRE SOLAR CELLS”), (CYPRUS RESEARCH COUNCIL)</i>	30000	III-nitrides nanowires growth
2008	<i>“SE2A” (JTI ENIAC)</i>	350000	III-arsenides μsystems for speed sensors
2007	<i>ESA-GREECE CALL for IDEAS “AEROPTIC”, (ESA)</i>	30000	Superlight mirrors for space optical systems
2004	<i>GREECE-HUNGARY BILATERAL (GSRT)</i>	12000	GaN based μsystems technology
2003	<i>FP6 NoE “AMICOM” (EU)</i>	500000	III-nitrides & arsenides components & μsystems
2003	<i>FP6 NoE “TARGET” (EU)</i>	330000	Power amplifiers
2002	<i>GREECE-ROMANIA BILATERAL (GSRT)</i>	12000	III-nitrides acoustic devices
2001	<i>NATO Sfp “SICPIN” (NATO)</i>	75000	SiC power μwave diodes
2000	<i>GREECE-ROMANIA BILATERAL (GSRT)</i>	12000	III-arsenides micromachining
2000	<i>GREEK MICROELECTRONICS HUMAN NETWORK (GSRT)</i>	5000	Human networking in National nanoelectronics
1998	<i>INCO COPERNICUS FP4, “MEMSWAVE” (EU)</i>	85000	III-arsenides membrane supported GHz diodes & filters
1996	<i>GREECE-ROMANIA BILATERAL (GSRT)</i>	11000	Polyimide membrane based sensors
1996	<i>GREECE-HUNGARY BILATERAL (GSRT)</i>	6000	TEM analysis of contacts to WBG semiconductors
1996	<i>MICROELECTRONICS SERVICES LABORATORY “EPYM” (GSRT)</i>	600000	Equipment upgarade and ISO 9001 certification
1994	<i>EPET II, “ENDOS” (GSRT)</i>	103000	μsurgical tool based on Si micromachining

[10]. FUNDED SERVICES

AWARD YEAR	CONTRACT WITH	BUDGET (€)	ACTIVITY
2017	Thales Research & Technology (France)	15000	Graphene based capacitors
2016	Thales Research & Technology (France)	15000	Graphene based Faraday rotator
2011	CNRS-LAAS (France)	20000	Membrane supported thermoelectrics
2008	Imperial College (UK)	8000	Antenna fabrication
2005	SERVICE to NCSR-D (Greece) for FP6 IST project "PICMOS", (EU)	30000	Wafer bonding technology

[11]. PARTICIPATION TO OTHER MRG PROJECTS AS RESPONSIBLE FOR FABRICATIONAL ASPECTS

AWARD YEAR	PROJECT, (FUNDING ORGANISATION)	ACTIVITY
2017	NATIONAL INFRASTRUCTURE "INNOVATION EL" (GSRT)	Deputy coordinator
2017	KRIPIS "QoL" (GSRT)	Polymeric microneedles for EEG electrodes
2017	KRIPIS "AENAO" (GSRT)	Thermoelectric coolers
2013	KRIPIS "PROENYL" (GSRT)	Thermoelectric materials
2013	KRIPIS "BIOSIS", (GSRT)	GaN based LAMB biosensors
2012	ARISTEIA "APOLLO", (GSRT)	GaAs polaritonics
2012	ARISTEIA "NITROHEMT", (GSRT)	InN based transistors
2012	ARISTEIA "NANOPHOS", (GSRT)	III-arsenide nanowires for 4G solar cells
2010	"LASTPOWER", (JTI ENIAC)	SiC JFETs
2010	SYNERGASIA "ANTISIC" (GSRT)	SiC JFETs
2008	ESA-GREECE CALL for IDEAS "Contract 2140823/08/NL/LV", (ESA)	SiC JFETs design & technology
2008	FP6 IP "MORGAN", (EU)	GaN/diamond transistors
2008	ESA-GREECE CALL for IDEAS "Contract 21323/08/NL/NR", (ESA)	SiC photodetectors for space
2005	IST STREP "ULTRAGAN", (EU)	Processing of InAlN based HEMTs & sensors
2004	IST STREP "GANANO", (EU)	Processing of AlGaN based HEMTs & sensors
2003	PENED "UV-EMITTERS", (GSRT)	Processing of GaN based UV devices
2003	PENED "PRONITRO", (GSRT)	Processing of GaN based transistors
2003	IST FET ASSESS "QNII", (EU)	Processing of quaternary nitrides
2002	IST FET "DALHM", (EU)	Left handed photonic materials
2001	IST FET ASSESS "QN", (EU)	Processing of quaternary nitrides

2000	<i>PENED "GANFET", (GSRT)</i>	GaN processing technologies
1999	<i>NATO SfP "HP/HF Devices", (NATO)</i>	α -SiC processing technologies
1998	<i>WEAG "THALIS" (EU)</i>	Passive and active MMIC element fabrication
1995	<i>EPET II 476 "MICROELECTRONICS", (GSRT)</i>	MMIC fabrication
1993	<i>BRITE/EURAM 5416 "TECSICA", (EU)</i>	Contact technology to 3C-SiC RIE of 3C-SiC
1993	<i>ESPRIT 9500 "SISGAL", (EU)</i>	MESFET (GaAs/Si) fabrication
1991	<i>ESPRIT 5692 "HVLSI-DPE", (EU)</i>	III- arsenides MMIC fabrication
1990	<i>ESPRIT 5031 "MORSE", (EU)</i>	HEMT(GaAs/AlGaAs) fabrication
1990	<i>ESPRIT 5018 "COSMIC", (EU)</i>	Novel contacts to GaAs FET, HEMT fabrication
1989	<i>ESPRIT 3086 (Basic Research), (EU)</i>	HEMT (InGaAs/InAlAs/InP) fabrication
1989	<i>ESPRIT 2035 "GIANTS", (EU)</i>	III- arsenides PHEMT fabrication
1989	<i>ESPRIT 2289 "OLIVES", (EU)</i>	FET (GaAs/Si) fabrication

[12]. REVIEWER FOR SCIENTIFIC JOURNALS

Applied Physics Letters
Journal of Applied Physics
Microelectronic Engineering
Applied Physics Letters Photonics
IEEE Electronic Device Letters
Journal of Micromechanics & Microengineering
Polymer Composites
Micro & Nano letters
Sensors
Physica Status Solidi
Journal of Electrochemical Society
Nano Letters
Material Science in Semiconductor Processing

[13]. REVIEWER FOR FUNDING BODIES

Greek General Secretariat for Research
European Union (ERC,FET, ICT, Space, Clean Sky)
Research Council of Romania
Research Council of South Africa
Research Council of Italy
Research Council of Slovakia

[14]. OTHER ACTIVITIES

2020 - today	Member of the national sub-committee on "Advanced materials & Industrial production" formulating national policy and next national calls 2021-2027
2012 - 2015	Nanoelectronics expert for the Hellenic Federation of Enterprises (SEV) formulating future industrial activities in Greece
2015 – today	Member of the national sub-committee on "Advanced materials" formulating next national calls

[15]. ORGANIZATION OF SCIENTIFIC EVENTS

YEAR	EVENT	ROLE
2016	ESCSRM16, Chalkidiki, Greece	Local Committee
2014	EXMATEC-WOCKSDICE, Delfi, Greece	Local Committee
2012	5th Micro & Nano Conference, Arina Beach, Crete, Greece	Co-organiser
2008	MEMSWAVE conference, Fodele, Crete, Greece	Organiser
2005	NoE "AMICOM" Summer School, Sinaia, Romania	Co-organizer
2004	NoE "AMICOM" Summer School, Analipsi, Crete, Greece	Organizer
2004	NoE "TARGET" Summer School, Analipsi, Crete, Greece	Organizer
2004	HETECH 2004, Hersonissos, Crete, Greece	Local Committee
2002	MEMSWAVE conference, FORTH, Crete, Greece	Organiser
2001	Special seminar on compound semiconductors, Heraklion, Crete, Greece	Organiser
2000	EXMATEC conference, Ammoudara, Heraklion, Crete, Greece	Co-organizer
2000	1st Micro & Nano Conference, Athens, Greece	Co-organizer
1996	ESCSRM96 conference, Fodele, Crete, Greece	Co-organizer

[16]. MAJOR DISTINCTIONS

YEAR	DISTINCTION
2019	Appointed Alternate Director of IESL
2108	Elected as Vice President of the Greek Micro and Nano Society
2016	Re-elected to the Scientific Council of IESL (1st in preference)
2013	Elected to the Scientific Council of IESL
2007	Re-elected Vice President of the Greek Micro and Nano Society
2005	Key member of the research team of FORTH (project FP6 "DALHM") that won one of the EU Descartes prizes
2004	Elected as Vice President of the Greek Micro and Nano Society
2003	Elected to the Board of Directors of the European Microwave Association (EuMA) for 3 years
2003	Prize "Tudor Tanasescu" of the Romanian Academy of Sciences for my work in the membrane supported active & passive devices
2002	MRG Leader in the project FP4 INCO-COPERNICUS project "MEMSWAVE" (co-ordinated by IMT Bucharest), that was among the 10 finalists for the EU Descartes prize . It has been officially acknowledged that the key to the success of this project was the technology developed at MRG

[17]. PERSONAL

Born	August 28, 1960, Athens, Greece
Marital Status	Married to Katerina Tsagaraki (B. Sc in Physics)
Children	Kriton (M), born October 18, 1996 & Stella (F), born September 4, 2000