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**Prof. Dr. Androula Nassiopoulou**

***UNESCO, Institute of Nanoscience & Nanotechnology Athens. Greece***

### General information

Family name, First name: Nassiopoulou G. Androula

ORCID: 0000-0002-1212-5690, Research Gate:

Date of birth: 17-3-1953, Place of birth: Cyprus

Nationality: Greek

### Fields of Research

- Si nanostructures (nanowires, quantum dots, porous Si): Physics, properties and applications
- Electronic devices (non-volatile memories, MIS capacitors, RF passive devices (MIM capacitors, coplanar waveguides, filters, antennas)), Sensors (thermal, chemical), thermoelectrics, solar cells
- Materials by Electrochemistry and chemistry (porous Si, pore filling with metals, anodic alumina): Fabrication, Properties and Applications

### Honours and Memberships

- **2018** Dr Androula Nassiopoulou received the “UNESCO medal for outstanding contribution to nanoscience and nanotechnologies” in a ceremony held in Paris on 22 November 2018
- **2017** Dr Androula Nassiopoulou was unanimously re-elected by the Sinano (European Institute of Nanoelectronics) as the Chairperson of the General Assembly for a second mandate of 3 years
- **2014** Dr Androula Nassiopoulou was unanimously elected by the Sinano (European Institute of Nanoelectronics) as the Chairperson of the General Assembly for 3 years
- **2010** Dr Androula Nassiopoulou was unanimously elected by the Sinano members as member of the Governing Board of Sinano for 3 years
- **2010/2011** Received a certificate of recognition from Wiley-VCH as one of the most active referees of Physica Status Solidi in 2010 and 2011
- **2005** An Honorary Plaque was awarded to Androula Nassiopoulou by the National Technological Institution of Lamia for her contribution to the development of Nanotechnology and Microelectronics in Greece
- **2004** Award and 3<sup>rd</sup> Price from the national intellectual property organization (OBI) to Androula Nassiopoulou and Grigoris Kaltsas for their patent on “Gas Flow Meter and Specially Designed Housing For Use in Medical Equipment for Respiratory Control” National patent number OBI 100127
- **2005** First Business Plan Prize awarded to Androula Nassiopoulou and Harry Contopanagos within the 6th International Venture Capital Forum held in Athens on Tuesday 14 and Wednesday 15 June 2005 for their business plan for the spin-off company IMELCO.
- **2005** An Institute Excellence Award and grant was awarded to Androula Nassiopoulou as the Director of the Institute of Microelectronics (IMEL) of NCSR Demokritos
- **2002** European Materials Research Society award in recognition of the contribution of Androula Nassiopoulou in serving the Society

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- **2001** An Institute Excellence Award and grant was awarded to Androula Nassiopoulou as the Director of the Institute of Microelectronics (IMEL) of NCSR Demokritos
  - **1999** European Materials Research Society award in recognition of the contribution of Androula Nassiopoulou in serving the Society
  - **1992-2017** A large number of EU and national grants for competitive research were awarded to Androula Nassiopoulou. Examples:  
**EU NoE NANOFUNCTION** Contract No 257375, 2010, EU CSA **NANO-TEC** Contract No 257964, 2010, EU FP7 **NANOSIL** Contract No 216171, 2010, EU FP7 **ENIAC JU SE2A** Contract No 120009, 2009, EU FP6 **ANNA (IST-13)** - Contract No 026134, 2006, EU FP6 **MARIE-CURIE re-integration grant (FP6)** - Contract No 016142, 2005, EU **IP-IST-FP6, GOOD-FOOD**, Contract No 508774, 2004, EU **NoE-IST-FP6 MINA-EAST**, Contract No 510470, 2004, EU **NoE-IST-FP6 SINANO** Contract No 506844, 2004, **EU FP5 IST FET ESCHER**, Contract No 33287, 2002, **EU FP5 IST FORUM-FIB** Contract No 29573, 2001, **EU FP5 GROWTH SAFEGAS**, Contract No G1RD-1999-00167, 2001, **EU FP4 ESPRIT-MELARI, SMILE, 1998, EU FP3 ESPRIT-INCO, PST-SENSORS** No 950507, 1996, **EU FP3 ESPRIT-BRA EOLIS** No 7228, 1992, national **GSRT- PENED-03ED579, 2005, national GSRT AKMON** , 2006, national GSRT EPET II (2 projects in 1999, 3 projects in 1995), several bilateral projects (with Romania 2006, Tunisia 2006, Italy 2002 and 1999, Ukraine 2002, Hungary 1999, Yugoslavia 1998, Cyprus 2004), contracts with industry (ST Microelectronics SA 2005, Unilever UK 2005, Thalix Sensors SA 2001, **ZEUS, Carterbench S.A.**, UK 2000)
  - **2000-2017** Several awards to post-docs and PhD students of the group under the supervision of Androula Nassiopoulou (PSST International Conference (X. Zianni, 2004, oral presentation award), K. Valalaki, 2012, poster award), Panhellenic Conference (oral presentation awards, 2002: V. Tsakiri, 2005: A. Zoi), Micro&Nano 2015 International Conference (K. Valalaki, 1 oral and 1 poster award) etc
  - **1977** Award and grant from the Leventis Foundation to Androula Nassiopoulou for her MSc studies
  - **1977-1979 Research** grant awarded to Androula Nassiopoulou for her PhD studies
  - **1972-76** Award and annual scholarship to Androula Nassiopoulou from the Bank of Cyprus for her Physics studies (Second in Physics Entrance exam among Cypriote students)
  - **1966-72** Lyceum and High School in Limassol, Cyprus, Awarded a total of 13 excellence awards, including annual excellence award (first in her class) and awards in different matters, including Physics, Mathematics, Composition, Languages, Literature etc)

### COMMISSIONS OF TRUST

- Reviewer/project Evaluator of research programs (Science Foundation Ireland (SFI): Tyndall National Access Plan: large program with more than 20 projects, Germany: German Research Foundation: Twice evaluator of Large Research programs with more than 30 projects), Project evaluator for the French National Research (ANR) Agency (several times), Project evaluator for the Austrian Science Fund (several times), Project evaluator for the Slovenian Research Agency
- Reviewer/project evaluator of several EU projects (ICT/Nanoelectronics initiative, NMP program, Marie Curie program, Several FET projects etc)
- Evaluator of several national research programs and projects
- Participation in several committees for hiring scientific and technical personnel (including Professors and Research Directors in Greece, as well as a Professor in Sweden)
- Member of the program committee of several conferences
- Member of the editorial board of 5 journals (Examples: "Advances in Nanomaterials(AN), <http://www.sciencepublishinggroup.com/j/an>", ....
- Guest editor of 17 special issues in high impact factor journals and Conference Proceedings
- Regular Reviewer in more than 30 international peer-review journals

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- Chairperson of more than 20 international Conferences
  - Member of international Committee of more than 15 international Conferences

### Education and Qualifications

- “Habilitation to Direct Research” (Doctorat d’Etat), University of Reims, France (1985)
- PhD, University of Paris XI, France (1980)
- MSc, University of Paris XI, France (1977)
- Physics diploma, University of Athens (1976)

### Professional experience

- Director of Research, INN, NCSR Demokritos
- President of the Committee of Attica Technology Park Lefkippos, NCSR Demokritos
- President of Sinano (European Institute of Nanoelectronics) General Assembly

### **PREVIOUS POSITIONS/ MAJOR INSTITUTIONAL AND NATIONAL/EUROPEAN RESPONSIBILITIES**

- 1980-1985 Associate Professor, University of Reims, France
- 1986-1996 Senior Researcher, Institute of Microelectronics (IMEL), NCSR Demokritos
- 1988-96 Elected Member of Advisory Board to the Institute Director (IMEL, NCSR Demokritos)
- 1986-88 Member of the Committee of Linking Research with Industry
- 1988-97 Representative member of the Institute to Demokritos Education & Training Committee
- **1996-2009 Director of the Institute of Microelectronics (IMEL), NCSR Demokritos. As Director of IMEL contributed to establish it as a National Centre of Excellence, founding member of the European Institute of Nanoelectronics (Sinano)**
- 1996-2009 Member of the Board of Management of NCSR Demokritos
- 2001-2003 Vice President of NCSR Demokritos
- 2001-2003 President of the Research Committee of NCSR Demokritos
- 2001-2003 Member of the National Research Council of Greece
- 2001-2003 Member of the Committee of the Attica Technology Park Lefkippos of NCSR Demokritos, Contribution to the elaboration of the statute of legislations of NCSR Demokritos for IP and commercialization of research products
- 2001-2003 Member of the National Council for Research and Technology (ESET)
- 2003-2005 Member of the EU Expert Advisory Group (EAG) for Thematic Priority-3 of NMP-FP6 (Research Priority 3: “Nanotechnology, Materials and Production Processes”, 6th Framework Program for Research and Technology in Europe), co-author of the EAG Position Paper on “Nanotechnology and Nanosciences, Knowledge-based Multifunctional Materials, New Production Processes and Devices”, January 2005
- 2007-2012 Member of the Scientific Community Council of AENEAS-ENIAC (European Technology Platform for Nanoelectronics)
- 2004-2013 Founder and President of the Scientific Society “Micro&Nano”
- 2013-2015 Vice President of the Scientific Society “Micro&Nano”
- 2009-2012 Member of the Governing Board of the European Institute of Nanoelectronics (Sinano)
- 2008-2012 Member of the Scientific Community Council of the European Nanoelectronics platform (ENIAC)
- 2012- present President of the European Institute of Nanoelectronic “Sinano” General Assembly

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- 2016- present President of the Committee of Attica Technology Park Lefkippos, NCSR Demokritos

**SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

- Supervised 17 PhD students, co-supervised 3 PhD students
- Supervised 13 post-doctoral fellows
- Supervised 11 MSc theses
- Supervised 12 diploma theses

**TEACHING ACTIVITIES**

- 1980-85 Full teaching program at the University of Reims-France, Electronics and Physics courses, 180 hours per year, including MSc courses
- 1986- today Courses at NCSR Demokritos for the MSc programs of the University of Athens, one course/one semester/year, two courses per semester in 1986-88
- 2004-2009 Nine hour teaching per year, one course, University of Thessaloniki, MSc program on Nanoscience & Nanotechnology

**ORGANISATION OF SCIENTIFIC CONFERENCES**

- Chairperson of five editions of Micro&Nano international Conferences (2000, 2004, 2007, 2010, 2015)
- Chairperson of EUROSOL-ULIS 2017 International Conference, 2017
- Co-Chairperson of five editions of PSST (International Conference on Porous Semiconductors Science & Technology) Conferences (2002, 2004, 2006, 2008, 2010)
- Co-Chairperson of 3 Symposia within E-MRS Conference (2000, 2002, 2006)
- Organization of Several Workshops and Symposia in Europe and Greece

**EDITION OF SPECIAL ISSUES**

- Edited 17 Special Issues as Guest Editor in International Journals (Physica Status Solidi, Wiley-VCH (8), Nanoscale Research Letters (Springer) (2), Solid State Electronics (1), Materials Science & Engineering B: Solid State Materials for Advanced Technology, Elsevier (3), Physica E (Elsevier (1), Microelectronic Engineering, Elsevier (1), International Journal of Nanotechnology (IJNT), Inderscience Publishers (1)
- Edited 3 Conference Proceedings volumes (published by World Scientific publishing, Institute of Physics and IEEE Xplore)

**MAJOR INSTITUTIONAL CONTRIBUTION**

As Director of the Institute of Microelectronics (IMEL) of NCSR Demokritos in the years 1996-2009 Androula Nassiopoulou contributed substantially to the following:

- To develop a business plan and establish the Institute as a Centre of Excellence at National and European level in the field of Microelectronics, Microsystems, Sensors and Nanotechnology. IMEL received a National Excellence fund twice, in 2001 and 2005 (after international evaluation) and an EU Excellence fund from the EU REGPOT program in 2009
- To develop and establish a fully equipped Si processing lab, recognized as the Nanotechnology and Microsystems Lab, certified under ISO 9001 as a whole and under ISO 17025 for certain processes
- To establish IMEL as a founding member of the European Institute of Microelectronics (Sinano) in 2008, together with other 15 European Labs, the best in Europe
- To develop electrical, structural and sensor characterization labs at IMEL

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- Under her leadership, IMEL founded the national thematic network MMN on Microelectronics, Microsystems and Nanotechnology in 1998 and later (2000) the Micro&Nano Scientific Society, with important contribution to the field at national level

As Vice President of NCSR Demokritos in the years 2001-2003 she contributed substantially to the following:

- To establish rules at NCSR Demokritos level for the management of intellectual property rights
- To establish rules at NCSR Demokritos level for spin-off companies
- To establish the framework of operation of the Attica Technology Park of NCSR Demokritos

### Research work

#### **ACADEMIC RECORD**

Published more than 300 papers in high impact factor journals, reviews and chapters in books, more than 100 invited talks, edited more than 20 special issues in international journals (Nanoscale Research Letters, Physica Status Solidi, Journal of Nanoscience and Nanotechnology, Microelectronic Engineering, IEEE Xplore etc), has more than 4.000 citations in the citation index.

#### **PIONEERING RESEARCH RESULTS AND MAJOR CONTRIBUTION TO RESEARCH**

**Observed for the first time worldwide electron energy loss spectra in the reflection mode.** Based on this first result a new surface spectroscopy technique emerged, called SEELS (Slow-Electron-Energy-Loss Spectroscopy) (Surface Science, 149, 313, 1985, Surface Science, 162, 965 (1985), Surface Science (165, 203 (1986)).

Investigated the kink effect on the current-voltage characteristics of a MOSFET at low temperatures down to liquid He (J. Appl. Phys., 68(4), 1896, (1990), Sol. Stat. Electr, 32(8), 603 (1989))

Investigated electron interaction with matter and the effect of electron-induced signals on the intensity and lateral resolution of Auger electron spectroscopy and energy dispersive X-ray analysis (Surf. Interf. Anal., 15, 405, (1990), Surf. Interf. Anal., 16, 203, (1990), Surf. Science, 254, 309-319, (1991), Surf. Interf. Analysis, 19, 419, (1992), Microchimica Acta, 13, 605-610, (1996) etc)

**Developed for the first time worldwide (1995) vertical Si nanowires with sub-ten nm diameter using lithography and etching, with the aim to study quantum confinement effects in 1D materials.**

**Observed visible light emission from them and discussed the origin of this emission** (Appl. Phys. Letters, 66(9), 1114, (1995), Physica Status Solidi, (b) 190, 91, (1995), J. Vacuum Science and Technol. B 15(3) 640, (1997))

**Developed for the first time worldwide an electroluminescent device based on rough silicon nanowires (nanopillars)** (Appl. Phys. Letters, 69(15), 2267, (1996), Thin Solid Films, 297, 176, (1997)). Phys. St. Sol. (a) 165, 79, (1998)

Investigated different effects in Si nanocrystals embedded in SiO<sub>2</sub> or CaF<sub>2</sub> and in Si nanowires, as follows:

Polarized Raman and Photoluminescence in silicon nanowires, J. Appl. Phys. 84(2), 1059-1063, (1998), Stable-photo and electroluminescence from Si nanocrystals embedded in SiO<sub>2</sub> (Appl. Phys. Lett, 77 (12), 1816, (2000), Phys. St. Sol. (a) 165,79, (1998)), Dependence of the radiative recombination lifetime on electric field in silicon nanocrystals embedded in SiO<sub>2</sub>, Europhys. Lett, 51 (2), 168, (2000), Self-trapped

excitons in silicon nanocrystals of sizes below 1.5 nm in Si/ SiO<sub>2</sub> multilayers, Jour. of Appl. Phys., 90(11), 5735, (2001), Electroluminescence from silicon nanocrystals in Si/CaF<sub>2</sub> superlattices (Appl. Phys. Lett., 79(13) 2076, (2001)), Light emission and non-linear transport in Si nanocrystals/CaF<sub>2</sub>

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superlattices, J. of Luminescence, 22, 2313, (1998) Mat. Sci. & Engin. B69-70, 546-548, (2000), Photoluminescence lifetimes in silicon nanowires, (Phys. Rev. B, vol. 66, 205 323, (2002)), Si nanocrystals under high hydrostatic pressure: Increased phase transition Physical Rev. B, 58(21), 14089, (1998), Polarized Raman and Photoluminescence studies in silicon nanowires, J. Appl. Phys. 84(2), 1059-1063, (1998), Charging/discharging properties of Si and Ge nanocrystals with application in nanocrystal memories (Appl. Phys. Lett. 82(3) 397, (2003), Nanotechnology 15, 1-7, 1233-1239, (2004), Nanotechnology 15, 1-5, 352-356, (2004), J. Nanosci. Nanotechnol., vol. 7, 316-321 (2007), J. Nanosci. Nanotechnol., vol. 7, 368-373 (2007)

Based on the low thermal conductivity of porous Si, **proposed a novel thermal isolation platform on the Si wafer**. Developed different thermoelectric and sensor devices using thick porous Si layers for thermal isolation (Sens. & Actuators A, 76(1-3) p.133, (1999), Phys. Stat. Sol. (a) 182,307, (2000), IEEE Sensors Journal, Vol. 2 (2) 1530, (2002), Sensors & Actuators A, 100, 413-422, (2004), IEEE Sensors Journal, 2(5), 463-475, (2002), Sensors and Actuators B: Chemical, 95(1-3), 78, (2003)). Currently investigates porous Si for use in cooling devices on the Si wafer.

Developed bulk Si micromachining techniques for suspended membranes and cantilevers on Si using porous Si as sacrificial layer. Developed porous Si membranes for sensors and microfluidics (Microelectronic Engineering, 35, 397, (1997), Sensors and Actuators A68, 429-434 (1998), IEEE J. Microelectromech. Syst, 12 (6), 863, (2003), J. of Micromech. & Microengin. 13, 323, (2003), Phys. Stat. Sol. (a), 197 (2), 539, (2003)

Developed highly ordered porous anodic alumina thin films on Si for use as template for nanostructure growth on Si, as masking layer in Si nanopatterning and as dielectric layer in nanodevices (non-volatile memories, MIM and MIS capacitors) (Nanotechnology 16, 103, (2005), Ionics, 11 (3-4), 236 (2005), Nanotechnology 19, 495306 (2008), Physica Status Solidi (A) Applications and Materials, 206 (6), pp. 1286-1289, 2009, Physica Status Solidi (A) Applications and Materials, 206 (6), pp. 1309-1312, 2009 Journal of Applied Physics 107 (11), art. no. 113104 (2010) IEEE Transactions on Electron Devices 57 (10), art. no. 5535075, pp. 2679-2683 2010

Based on the tunable dielectric properties of porous Si, developed and investigated its use in thick layer form as a local low-loss RF and mm-wave substrate for the on-chip integration of high performance passive devices (waveguides, resonators, filters and antennas) (see Review paper: "Porous Si as a substrate for the monolithic integration of RF and millimeter-wave passive devices (transmission lines, inductors, filters, and antennas): Current state-of art and perspectives » Panagiotis Sarafis and Androula G. Nassiopoulou, Applied Physics Reviews 4, 031102 (2017)

Investigated the thermoelectric properties of nanocrystalline Si thin films and demonstrated a significant increase in the thermoelectric figure of merit by reducing grain size, attributed to an increase in Seebeck coefficient, but, most importantly, a significant decrease in thermal conductivity (J. Phys. D: Appl. Phys. **49** 315104 (2016)

## RESEARCH CAREER SUMMARY

Understanding physical phenomena was a passion for me from my very early age. Physics and Mathematics, but also literature and languages, were my preferred topics in High School. I entered the

University of Athens, Physics Department, being ranked second among Cypriote students in entrance exams and first in the selection for scholarships from the Bank of Cyprus. After obtaining my Physics diploma, I was admitted at the University of Paris XI, Orsay, France for an MSc in Electronic Materials and Structures. My PhD was performed in the same University, supported by a research contract from the French Research Foundation for two years, followed by a grant from Leventis Foundation for one year. With the recommendation of my supervisor, I was then appointed to the position of

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Associate Professor (Maitre Assistante Associee) at the University of Reims, France, where I stayed for 5 years, with both research and education responsibilities. In research, I joined the group of Professor Cazaux on Surface Science, Electron Spectroscopies and Microscopies. It was an exciting period of research, based on team work with a group of high level scientists and friends. My first pioneering discovery at that period was the observation, during an Auger electron spectroscopy experiment, of electron energy loss transitions in the reflection mode, considered at that time as forbidden transitions according to dipole approximation. Based on that discovery, we further developed the technique, which is today an established surface spectroscopy technique, easier to implement than EELS in the transmission mode. After five years at the University of Reims, a research position was offered to me at NCSR Demokritos and I definitely moved to Greece as a senior scientist (1986-1996), as Research Director and Director of the Institute of Microelectronics (IMEL) (1996-2009), and later as Research Director at the Institute of Nanoscience & Nanotechnology. My research group (Nano4NPS) is devoted to Si nanostructures for Nanoelectronics, Photonics and Sensors. In early 1990, we joined the first EU research project on porous Si, together with Leigh Canham who first observed intense light emission from this material at room temperature. Our role was to fabricate model Si nanostructures and study quantum confinement effects. We were very successful in fabricating the first worldwide sub-ten nm Si nanowires on Si and study such phenomena. We continued our studies on Si nanocrystals and their applications, including our proposal to use local porous Si layers on the Si wafer as an on-chip thermal isolation platform. Several applications emerged based on this platform. We studied different phenomena of Si nanostructures, both as thermal isolation and as thermoelectric material. Similarly, based on the fact that the dielectric permittivity of porous Si can be tuned down to 2-3 by changing porosity, we studied thick porous Si layers as a local on-chip platform for the integration of high performance RF and mm-wave passive devices.

My career in research was something fully exciting for me. Discovering new properties, materials and devices, but also working in team work with young people, introduce them in research and transmit them your passion, but also discussing with them their new ideas, achievements and vision, is always very fascinating and regenerative. It was a great chance for me to have such a job.

#### PATENTS

- "Integrated gas flow sensor based on porous silicon micromachining" National Patent OBI 1003010, International patent PCT/GR 97/00040, European patent EP979133469, 7/11/99
- "Thermoelectric power generator based on an integrated thermopile" National Patent OBI 100260, International patent PCT/GB00/02936 –WO 01/09964 A1, 8/2/2001
- "Method for the fabrication of suspended Porous Silicon microstructures and application in gas sensors" National Patent OBI 1004040, International patent PCT/GR02/00008 – WO 03/011747A1
- "Low Power Silicon Thermal Flow Sensors and Microfluidic Devices Using Porous Silicon Sealed Air Cavity or Microchannels" National patent number OBI 1004106, International Patent number PCT GR03 0003/16.1.2003
- "Gas Flow Meter and Specially Designed Housing For Use in Medical Equipment for Respiratory Control" National patent number OBI 100127

#### CHAPTERS IN EDITED BOOKS

- 1- **Chapter 17**, p.p. 375-385, "*Porous Silicon as a Material for Thermoelectric Devices*", by **Androula G. Nassiopoulou** book Chapter in: "*Porous silicon: From formation to Applications*", Vol. 3, Edited by Ghenadii Korotcenkov, CRC Press, Florida, U.S.A., (2015)
- 2- Book "*Beyond CMOS Nanodevices 1*", Part 4 "Introduction" by **Androula G. Nassiopoulou** p.p. 367-372, Book edited by F. Balestra, , Wiley Editions, Published Online: 3 JUN 2014, DOI: 10.1002/9781118984772, 2014

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- 3- Chapter 13, p.p. 373-417: “Substrate Technologies for Silicon-Integrated RF and mm-Wave Passive Devices”, by **Androula G. Nassiopoulou**, Panagiotis Sarafis, Jean-Pierre Raskin, Henza Issa and Philippe Ferrari, Book Chapter in: “Beyond CMOS Nanodevices 1”, edited by F. Balestra, Wiley Editions, Published Online: 3 JUN 2014, DOI: 10.1002/9781118984772, (2014)
- 4- **Chapter 7**, p.p. 135-219 “Thermal Energy Harvesting” Book Chapter by: Mireille Mouis, Emigdio Chávez-Ángel, Clivia Sotomayor-Torres, Francesc Alzina, Marius V. Costache, **Androula G. Nassiopoulou**, Katerina Valalaki, Emmanouel Hourdakis, Sergio O. Valenzuela, Bernard Viala, Dmitry Zakharov, Andrey Shchepetov and Jouni Ahopelto, Book Chapter in: “Beyond CMOS Nanodevices 1”, edited by F. Balestra, Wiley Editions, Published Online: 3 JUN 2014, DOI: 10.1002/9781118984772, (2014)
- 5- **Chapter 12**, p.p. 331-364, “Thermal Isolation Through Nanostructuring”, by: David Leadley, Vishal Shah, Jouni Ahopelto, Francesco Alzina, Emigdio Chávez-Ángel, Juha Muhonen, Maksym Myronov, **Androula G. Nassiopoulou**, Hung Nguyen, Evan Parker, Jukka Pekola, Martin Prest, Mika Prunnila, Juan Sebastian Reparaz, Andrey Shchepetov, Clivia Sotomayor-Torres, Katerina Valalaki and Terry Whall, Book Chapter in: “Beyond CMOS Nanodevices 1”, Wiley Editions, edited by F. Balestra, Published Online: 3 JUN 2014, DOI: 10.1002/9781118984772, (2014)
- 6- **Chapter 14**, p.p. 419-456: “Metal Nanolines and Antennas for RF and mm-Wave Applications”, Philippe Benech, Chuan-Lun Hsu, Gustavo Ardila, Panagiotis Sarafis and **Androula G. Nassiopoulou**, Book Chapter in: “Beyond CMOS Nanodevices 1”, edited by F. Balestra, Wiley Editions, Published Online: 3 JUN 2014, DOI: 10.1002/9781118984772, (2014)
- 7- **Part V**, p.p. 753-766, “Thermal Isolation with Porous Si”, by Androula G. Nassiopoulou, Chapter in: “Handbook of Porous Si”, Edited by L. Canham, Springer Reference, DOI 10.1007/978-3-319-05744-6, (2014)
- 8- Chapter 94, p.p. "Optical properties of Si quantum wires and dots", X. Zianni and A. G. Nassiopoulou, in “Handbook of Theoretical and Computational Nanotechnology”, edited by Michael Rieth and Wolfram Schommers, American Scientific Publishers, vol. 1 chapter 94, pages 1-37, (2005)
- 9- “DNA, NNA/metal nanoparticles, DNA/Nanocarbon and macrocyclic metal complex/fullerene molecular building blocks for nanosystems: Electronics and Sensing”, by E. Buzaneva, A. Gorchinsky, P. Scharft, K. Risch, A. Nassiopoulou et al., Chapter in Book: Frontiers of Multifunctional Integrated Nanosystems, Edited by E. Buzaneva and P. Scharff (eds), Kluwer Academic Publishers pp 251-276 (2004)
- 10- “Silicon nanocrystals in SiO<sub>2</sub> thin layers”, A. G. Nassiopoulou, paper in Encyclopedia of Nanoscience and Nanotechnology, edited by H. S. Nalwa (American Scientific Publishers, California, 2004), vol. 9 p. 793-813, (2004)
- 11- “Local formation and patterning of porous silicon”, A. G. Nassiopoulou, paper in: “Properties of Porous Silicon” by L. T. Canham, EMIS Datareviews Series, UK, p.p. 77-80, (1997)

## PUBLICATIONS IN INTERNATIONAL JOURNALS

1. Voltage-controlled negative differential resistance in metal-sputtered alumina-Si structures, E. Hourdakis, A. Kaidatzis, D. Niarchos and A.G. Nassiopoulou, J. Phys. D: Appl. Phys. 2018 <https://doi.org/10.1088/1361-6463/aaf499>, 52 085101 (2019)
2. “MultiscaleSolar – Multiscale in modeling and validation of solar cells” Tareq Abu Hamed et al, EPJ Photovoltaics 9, 10 (2018)



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3. "Three-dimensional vertical Si nanowire MOS capacitor model structure for the study of electrical versus geometrical Si nanowire characteristics" E. Hourdakis, A. Casanova, G. Larrieu and A.G. Nassiopoulou, *Solid State Electronics* 143, 77-82 (2018)
  4. Effective Removal of Surface Recombination Centers in Silicon Nanowires Fabricated by Metal-Assisted Chemical Etching, V. Donchev, S. Georgiev, I. Leontis, and A. G. Nassiopoulou, *ACS Appl. Energy Materials* 1, 3693-3701 (2018)
  5. Study of Si Nanowires Produced by Metal-Assisted Chemical Etching as a Light-Trapping Material in n-type c-Si Solar Cells, Ioannis Leontis, Martha A. Botzakaki, Stavroula N. Georga, and A. Galiouna Nassiopoulou, *ACS Omega*, 3, 10898-10906 (2018)
  6. "Porous Si as a substrate for the monolithic integration of RF and millimeter-wave passive devices (transmission lines, inductors, filters, and antennas): Current state-of art and perspectives » Panagiotis Sarafis, and Androula G. Nassiopoulou, *Applied Physics Reviews* 4, 031102 (2017)
  7. "Reaching state-of-the art requirements for MIM capacitors with a single-layer anodic Al<sub>2</sub>O<sub>3</sub> dielectric and imprinted electrodes", E. Hourdakis and A. G. Nassiopoulou, *Appl. Phys. Lett.* 111, 033503 (2017); doi: 10.1063/1.4993898
  8. "Three-dimensional vertical Si nanowire MOS capacitor model structure for the study of electrical versus geometrical Si nanowire characteristics" E. Hourdakis, A. Casanova, G. Larrieu and A.G. Nassiopoulou, *Solid State Electronics* 143, 77-82 (2018).
  9. "Energy transfer in aggregated CuInS<sub>2</sub>/ZnS core-shell quantum dots deposited as solid films", S Gardelis, M Fakis, N Droseros, D Georgiadou, A Travlos and A G Nassiopoulou, *J. Phys. D: Appl. Phys.* 50, 035107 (2017)
  10. "Method for Al thin film surface nanostructuring using Al imprinting and anodic oxidation: Application to a high capacitance density metal-insulator-metal capacitor", Emmanouel Hourdakis, Androula G. Nassiopoulou, *Thin Solid Films* 621, 36–41, (2017)
  11. "High Seebeck Coefficient of Porous Silicon: Study of the porosity Dependence", Valalaki K, Benech P., Nassiopoulou A.G., *Nanoscale Research Letters*, 11, 201, (2016)
  12. "High-Performance On-Chip Low-Pass Filters Using CPW and Slow-Wave-CPW Transmission Lines on Porous Silicon", Sarafis P., Nassiopoulou A.G., Issa H. Ferrari P., *IEEE Transactions on Electron Devices*, 63(1), pp. 439-445, (2016)
  13. "Direct Al-imprinting method for increased effective area in MIM capacitors", E. Hourdakis and Androula G. Nassiopoulou, *IEEE Transactions on Electron Devices*, vol 63 (No2), 746, (2016)
  14. "High-Performance Crystalline Si Solar Cell on n-Type Si With a Thin Emitter by Al-Induced Crystallization and Doping" Violetta Gianneta, Anastasios Travlos, and Androula G. Nassiopoulou, *IEEE Journal of Photovoltaics*, Vol. 6, No. 5, 1109, (2016)
  15. "High capacitance density MIS capacitor using Si nanowires by MACE and ALD alumina dielectric", I. Leontis, M. A. Botzakaki, S. N. Georga, and A. G. Nassiopoulou, *Journal of Applied Physics* 119, 244508 (2016)
  16. «Significant enhancement of the thermoelectric figure of merit of polycrystalline Si films by reducing grain size», K Valalaki, N Vouroutzis and A G Nassiopoulou, *J. Phys. D: Appl. Phys.*, 49, 315104, (2016)
  17. "Twenty-fold plasmon-induced enhancement of radiative emission rate in silicon nanocrystals embedded in silicon dioxide", S Gardelis, V. Gianneta, A.G Nassiopoulou, *Journal of Luminescence*, 170, 282, (2016)
  18. "High-Performance MIM Capacitors with Nanomodulated Electrode Surface", E. Hourdakis, A. Travlos, A.G. Nassiopoulou, *IEEE Transactions on Electron Devices* vol. 62, 1568-1573 (2015)
  19. "Direct Al-Imprinting Method for Increased Effective Electrode Area in MIM capacitors", E. Hourdakis, A.G. Nassiopoulou, *IEEE Transactions on Electron Devices* vol. 63 No 2, 746-750 (2016)

- 
20. "Steady state and time resolved photoluminescence properties of CuInS<sub>2</sub>/ZnS quantum dots in solutions and in solid films", N. Droseros, K. Seintisa, M. Fakis, S. Gardelis A. G. Nassiopoulou, Journal of Luminescence vol. 16, 163 (2015)
  21. "Cu nanolines for RF Interconnects: Electrical Characterization", Sarafis, P., Hsu, C.-L., Benech, P. & Nassiopoulou, A. G., IEEE Transactions on Electron Devices, 62(5), 1537-1543 (2015).
  22. "Pb doping of In<sub>2</sub>O<sub>3</sub> and their conversion to highly conductive PbS/In<sub>2</sub>S<sub>3</sub>-3xO<sub>3</sub>x nanowires with infrared emission", M. Zervos, A. Othonos, V. Gianneta, A. Travlos and A. G. Nassiopoulou, Materials Letters, 166, 129-132, (2016).
  23. "Sn-doped  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> and  $\beta$ -Ga<sub>2</sub>S<sub>3</sub> nanowires with red emission for solar energy spectral shifting", M. Zervos, A. Othonos, V. Gianneta, A. Travlos and A. G. Nassiopoulou, Jour. Appl. Phys., 118, 194302, (2015)
  24. Dielectric properties of porous silicon for use as a substrate for the on-chip integration of millimeter-wave devices in the frequency range 140 to 210 GHz, Sarafis P., Nassiopoulou A.G. Nanoscale Research Letters, (2014) 9, 418 (2014)
  25. Thermal conductivity of highly porous Si in the temperature range 4.2 to 20 K, Valalaki K., Nassiopoulou A.G. Nanoscale Research Letters, 9, 318 (2014)
  26. Evidence of significant down-conversion in a Si-based solar cell using CuInS<sub>2</sub>/ZnS core shell quantum dots, Gardelis S, Nassiopoulou A.G, Applied Physics Letters, 104, 183902, (2014)
  27. Effect of temperature on advanced Si-based substrates performance for RF passive integration, Roda Neve C., Ben Ali K., Sarafis P., Hourdakis M., Nassiopoulou A.G., Raskin J.-P, Microelectronic Engineering, 120, pp. 205-209. (2014)
  28. Single photoresist masking for local porous Si formation, E. Hourdakis, A. G. Nassiopoulou, Journal of Micromechanics and Microengineering 24, 117002, (2014)
  29. S. Gardelis, A.G. Nassiopoulou, P. Manousiadis, N. Vouroutzis, N. Frangis, "A silicon-wafer based p-n junction solar cell by aluminum-induced recrystallization and doping", Applied Physics Letters, 103 (24), art. no. 241114 (2013)
  30. I. Leontis, A. Othonos, A. G. Nassiopoulou, "Structure, morphology, and photoluminescence of porous Si nanowires: Effect of different chemical treatments", Nanoscale Research Letters, 8 (1), 1-7 (2013)
  31. E. Hourdakis, A.G. Nassiopoulou, "A Thermoelectric generator using porous Si thermal isolation", Sensors (Switzerland), 13 (10), 13596-13608 (2013)
  32. E. Agocs, A. G. Nassiopoulou, S. Milita, P. Petrik, "Model dielectric function analysis of the critical point features of silicon nanocrystal films in a broad parameter range", Thin Solid Films, 541, 83-86 (2013)
  33. K. Valalaki, A. G. Nassiopoulou, "Low thermal conductivity porous Si at cryogenic temperatures for cooling applications", Journal of Physics D: Applied Physics, 46 (29), art. no. 295101 (2013)
  34. P. Sarafis, E. Hourdakis, A. G. Nassiopoulou, C. Roda Neve, K. Ben Ali, J.-P. Raskin, "Advanced Si-based substrates for RF passive integration: Comparison between local porous Si layer technology and trap-rich high resistivity Si", Solid-State Electronics, 87, 27-33 (2013)
  
  35. V. Ievtukh, A. Nazarov, V. Turchanikov, V. Lysenko, A. G. Nassiopoulou, "Charge trapping processes at memory window formation in single- and double nanocrystal layered NVMs", Microelectronic Engineering, 109, 5-9 (2013)
  36. P. Sarafis, E. Hourdakis, A. G. Nassiopoulou, "Dielectric permittivity of porous Si for use as substrate material in Si-integrated RF devices", IEEE Transactions on Electron Devices, 60 (4), 1436-1443 (2013)

- 
37. P. Manousiadis, S. Gardelis, A. G. Nassiopoulou, “*Electrical transport and photocurrent mechanisms in silicon nanocrystal multilayers*”, *Journal of Applied Physics*, 113 (4), art. no. 043703 (2013)
38. V. Gianneta, A. Olziersky and A. G. Nassiopoulou, “*Si nanopatterning by reactive ion etching through an on-chip self-assembled porous anodic alumina mask*”, *Nanoscale Research Letters*, 8:71 (2013)
39. “*High performance MIM capacitor using anodic alumina dielectric*”, Hourdakis, E. and Nassiopoulou, A.G., *Microelectronic Engineering* vol. 90, pp. 12-14 (2012)
40. “*Novel Air Flow Meter for an Automobile Engine Using a Si Sensor with Porous Si Thermal Isolation*”, E. Hourdakis, P. Sarafis and A. G. Nassiopoulou, *Sensors* vol. 12, pp. 14838-14850 (2012)
41. “*Two-Terminal Charge-Trapping WORM Memory Device Using Anodic Aluminum Oxide*”, Hourdakis, E. and Nassiopoulou, A.G., *J. Nanosci. Nanotechnol.* vol. 12, pp. 7968-7974 (2012)
42. “*Structural and optical characterization of two-dimensional arrays of Si nanocrystals embedded in SiO<sub>2</sub> for photovoltaic applications*”, S. Gardelis, A.G. Nassiopoulou, P. Manousiadis, S. Milita, A. Gkanatsiou, N. Frangis, Ch. B. Lioutas, *Journal of Applied Physics* 111, 083536 (2012)
43. “*Lateral electrical transport and photocurrent in single and multilayers of two-dimensional arrays of Si nanocrystals*”, P. Manousiadis, S. Gardelis, and A.G. Nassiopoulou, *Journal of Applied Physics* 112, 043704 (2012)
44. “*Nanomechanical properties of thick porous silicon layers grown on p- and p+-type bulk crystalline Si*”, Charitidis C.A., Skarmoutsou A., Nassiopoulou A. G., Dragoneas A., *Materials Science and Engineering A* 528 (29-30), pp. 8715-8722 (2011)
45. “*On-Chip High-Performance Millimeter-Wave Transmission Lines on Locally Grown Porous Silicon Areas*,” Issa H, Ferrari P, Hourdakis E, Nassiopoulou A G, *.IEEE Transactions on Electron Devices* 58 (11), pp. 3720-3724 (2011)
46. “*Role of surface vibration modes in Si nanocrystals within light emitting porous Si at the strong confinement regime*”, Mahdouani M., Gardelis S., and Nassiopoulou A.G., *Journal of Applied Physics* 110 (2), 023527 (2011)
47. “*Charge-trapping MOS memory structure using anodic alumina charging medium*”, Hourdakis E. and Nassiopoulou A. G., *Microelectronics Engineering* 88 (7), pp. 1573-1575 (2011)
48. “*Lateral electronic transport in 2D arrays of oxidized Si nanocrystals on quartz: Coulomb blockade effect and role of hydrogen passivation*”, Manousiadis P., Gardelis S., and Nassiopoulou A.G., *Journal of Applied Physics* 109 (8), 083718 (2011)
49. “*Electrical and structural properties of ultrathin SiON films on Si prepared by plasma nitridation*”, Hourdakis E., Nassiopoulou A.G., Parisini A., Reading M. A. , Van Den Berg J. A., Sygellou L., Ladas S., Petrik P., Nutsch A., Wolf M., Roeder G., *Journal of Vacuum Science and Technology B: Microelectronics and Nanometer Structures* 29 (2), art. no. 022201 (2011)
50. “*Optical characterization of nanocrystals in silicon rich oxide superlattices and porous silicon*” Agocs E., Petrik P., Milita S., Vanzetti L., Gardelis S., Nassiopoulou A. G., Balboni R., Fried M., *Thin Solid Films* 519 (9), pp. 3002-3005 (2011)
51. “*Lateral electrical transport, optical properties and photocurrent measurements in two-dimensional arrays of silicon nanocrystals embedded in SiO<sub>2</sub>*”, Gardelis S., Manousiadis P., and Nassiopoulou A.G., *Nanoscale Research Letters* 6 (1), pp. X1-6 (2011)
52. “*High performance MIM capacitor using anodic alumina dielectric*”, Hourdakis E. and Nassiopoulou A. G., *Microelectronics Engineering*, DOI: 10.1016/j.mee.2011.03.020 2011

- 
53. "Lateral electronic transport in 2D arrays of oxidized Si nanocrystals on 2 quartz: Coulomb blockade effect and role of hydrogen passivation", P. Manousiadis, S. Gardelis and A. G. Nassiopoulou, *J. of Appl. Phys.* 109, 000000 (2011)
54. A. G. Nassiopoulou, V. Gianneta, and C. Katsogridakis, Si nanowires by a single step metal-assisted chemical etching process on lithographically-defined areas: Formation kinetics. *Nanoscale Research Letters* 2011, 6, 597-605.
55. "High-density MIM capacitors with porous anodic alumina dielectric", Hourdakis, E., Nassiopoulou, A.G, *IEEE Transactions on Electron Devices* 57 (10), art. no. 5535075, pp. 2679-2683 2010
56. "Photoluminescence-induced oscillations in porous anodic aluminum oxide films grown on Si: Effect of the interface and porosity", Gardelis, S., Nassiopoulou, A.G., Gianneta, V., Theodoropoulou, M., *Journal of Applied Physics* 107 (11), art. no. 113104 (2010)
57. "Optimized porous Si microplate technology for on-chip local RF isolation", Zacharatos, F., Contopanagos, H.F., Nassiopoulou, A.G., *IEEE Transactions on Electron Devices*, 56 (11), pp. 2733-2738 (2009)
58. "Investigation of Auger recombination in Ge and Si nanocrystals embedded in SiO<sub>2</sub> matrix", Mahdouani, M., Bourguiga, R., Jaziri, S., Gardelis, S., Nassiopoulou, A.G., *Physica E: Low-Dimensional Systems and Nanostructures*, 42 (1), pp. 57-62 (2009)
59. "Dynamic charge transfer effects in two-dimensional silicon nanocrystal layers embedded within SiO<sub>2</sub>", Ioannou-Sougleridis, V., Nassiopoulou, A.G., *Journal of Applied Physics*, 106 (5), art. no. 054508 (2009)
60. "Ultrafast time-resolved spectroscopy of Si nanocrystals embedded in SiO<sub>2</sub> matrix", Lioudakis, E., Emporas, A., Othonos, A., Nassiopoulou, A.G., *Journal of Alloys and Compounds*, 483 (1-2), pp. 597-599 (2009)
61. "Photoluminescence properties of porous silicon/fluorene dye composites", Fakis, M., Zacharatos, F., Gianneta, V., Persephonis, P., Giannetas, V., Nassiopoulou, A.G., *Materials Science and Engineering B*, 165 (3) 2009
62. "Photoluminescence in the blue spectral region from fluorene molecules embedded in porous anodic alumina thin films on silicon", M. Fakis, V. Gianneta, P. Persephonis, V. Giannetas, A. G. Nassiopoulou, *Optical Materials*, 31 (8), pp. 1184-1188, 2009
63. "Effect of exciton migration on the light emission properties in silicon nanocrystal ensembles", Gardelis, S., Nassiopoulou, A.G., Vouroutzis, N., Frangis, N., *Journal of Applied Physics*, 105 (11), art. no. 113509, 2009 (Selected for the July 2009, Issue (vol. 8, issue 7) of *Virtual Journal of Ultrafast Science*, 2009)
64. "Formation of porous anodic alumina templates in selected micrometer-sized areas on a Si substrate. Application for growing ordered Ti nanopillars", Gianneta, V., Huffman, M., Nassiopoulou, A.G., *Physica Status Solidi (A) Applications and Materials*, 206 (6), pp. 1309-1312, 2009
65. "Highly ordered hexagonally arranged sub-200 nm diameter vertical cylindrical pores on p-type Si using non-lithographic pre-patterning of the Si substrate", Zacharatos, F., Gianneta, V., Nassiopoulou, A.G., *Physica Status Solidi (A) Applications and Materials*, 206 (6), pp. 1286-1289, 2009
66. "Enhancement and red shift of photoluminescence (PL) of fresh porous Si under prolonged laser irradiation or ageing: Role of surface vibration modes", Gardelis, S., Nassiopoulou, A.G., Mahdouani, M., Bourguiga, R., Jaziri, S., *Physica E: Low-Dimensional Systems and Nanostructures*, 41 (6), pp. 986-989, 2009

- 
67. "Laterally ordered 2-D arrays of Si and Ge nanocrystals within SiO<sub>2</sub> thin layers for application in non-volatile memories", Nassiopoulou, A.G., Olzierski, A., Tsoi, E., Salonidou, A., Kokonou, M., Stoica, T., Vescan, L., International Journal of Nanotechnology, 6 (1-2), pp. 18-34 (2009)
68. "Calculated optical transitions in a silicon quantum wire modulated by a quantum dot", X. Zianni and A. G. Nassiopoulou, Journal of Materials Science: Materials in Electronics 20, S68-S70 (2009)
69. "RF characterization and isolation properties of mesoporous Si by on-chip coplanar waveguide measurements", H. Contopanagos, F. Zacharatos, A. G. Nassiopoulou, Solid-State Electronics, 52 (11), pp. 1730-1734 (2008)
70. "Morphology, structure, chemical composition, and light emitting properties of very thin anodic silicon films fabricated using short single pulses of current", S. Gardelis, A. G. Nassiopoulou, F. Petraki, S. Kennou, I. Tsiaoussis, N. Frangis, Journal of Applied Physics, 103 (10), art. no. 103536 (2008)
71. "Highly ordered hexagonally arranged nanostructures on silicon through a self-assembled silicon-integrated porous anodic alumina masking layer", F. Zacharatos, V. Gianneta and A. G. Nassiopoulou, Nanotechnology 19, 495306 (2008)
72. "Self-assembled hexagonal ordering of Si nanocrystals embedded in SiO<sub>2</sub> nanodots", A. G. Nassiopoulou, V. Gianneta, M. Huffman, M. A. Reading, J. A. Van Den Berg, I. Tsiaoussis, N. Frangis, Nanotechnology 19, 495605 (2008)
73. "Columnar growth of ultra-thin nanocrystalline Si films on quartz by Low Pressure Chemical Vapor Deposition: Accurate control of vertical size", Lioutas, Ch.B., Vouroutzis, N., Tsiaoussis, I., Frangis, N., Gardelis, S., Nassiopoulou, A.G., Physica Status Solidi (A) Applications and Materials, 205 (11), pp. 2615-2620 (2008)
74. "Growth and electrical characterization of thin conductive Au nanoparticle chains on oxidized Si substrates between electrodes for sensor applications", A. Zoy, A. G. Nassiopoulou, Phys. Status Solidi (A) Applications and Materials, 205 (11), pp. 2621-2624 (2008)
75. "Broadband electrical characterization of macroporous silicon at microwave frequencies", H. Contopanagos, D. N. Pagonis, A. G. Nassiopoulou, Physica Status Solidi (A) Applications and Materials, 205 (11), pp. 2548-2551 (2008)
76. "A thermal vacuum sensor fabricated on plastic substrate - Study in various operation modes", A. Petropoulos, G. Kaltsas, A. G. Nassiopoulou, Physica Status Solidi (A) Applications and Materials, 205 (11), pp. 2639-2642 (2008)
77. "Auger recombination in silicon nanocrystals embedded in SiO<sub>2</sub> wide band-gap lattice", M. Mahdouani, R. Bourguiga, S. Jaziri, S. Gardelis, A. G. Nassiopoulou, Physica Status Solidi (A) Applications and Materials, 205 (11), pp. 2630-2634 (2008)
78. "Copper-filled macroporous Si and cavity underneath for microchannel heat sink technology", F. Zacharatos, A. G. Nassiopoulou, Physica Status Solidi (A) Applications and Materials, 205 (11), pp. 2513-2517 (2008)
79. "Enhancement and red shift of photoluminescence (PL) of fresh porous Si under prolonged laser irradiation or ageing: Role of surface vibration modes", S. Gardelis, A. G. Nassiopoulou, M. Mahdouani, R. Bourguiga, S. Jaziri, Physica E: Low-Dimensional Systems and Nanostructures, doi:10.1016/j.physe.2008.08.021(2008)
80. "Surface-related states in oxidized silicon nanocrystals enhance carrier relaxation and inhibit auger recombination", A. Othonos, E. Lioudakis, A. G. Nassiopoulou, Nanoscale Research Letters, 3 (9), pp. 315-320 (2008) and selected for open-access presentation to the OATube Nanotechnology 1 (2008) 903
81. "Determination of critical points on silicon nanofilms: surface and quantum confinement effects", E. Lioudakis, A. Othonos and A. G. Nassiopoulou, Phys. Stat. Sol. (c), 5 (2008) 3776

- 
82. "Multilevel charge storage in Si nanocrystals arranged in double-dot-layers within SiO<sub>2</sub>", M. Theodoropoulou, A. G. Nassiopoulou, *Microelectronic Engineering* 85 (12), pp. 2362-2365 (2008)
83. "Fundamental transport processes in assemblies of silicon quantum dots" I. Balberg, E. Savir, J. Jedrzejewski, A. G. Nassiopoulou, S. Gardelis, *Phys. Rev. B* 75 235329 (2007)
84. "Ultrafast transient photoinduced absorption in silicon nanocrystals: Coupling of oxygen-related states to quantized sublevels", E. Lioudakis, A. Othonos, A. G. Nassiopoulou, *Appl. Phys. Lett.* 90, 171103, 2007 (Selected by the Virtual Journal of Nanoscale Science & Technology, 15 (2007) Issue 18)
85. "Influence of grain size on ultrafast carrier dynamics in thin nanocrystalline silicon films", E. Lioudakis, A. Othonos, A. G. Nassiopoulou, Ch. B. Lioutas and N. Frangis, *Appl. Phys. Lett.* 90, 191114, 2007
86. "Ultra-thin films with embedded Si nanocrystals fabricated by electrochemical dissolution of bulk crystalline Si in the transition regime between porosification and electropolishing", Gardelis, S., Tsiaoussis, I., Frangis, N., Nassiopoulou, A.G., *Nanotechnology* 18 (11), art. no. 115705 (2007)
87. "The role of surface vibrations and quantum confinement effect to the optical properties of very thin nanocrystalline silicon films", Lioudakis, E., Antoniou, A., Othonos, A., Christofides, C., Nassiopoulou, A.G., Lioutas, Ch.B., Frangis, N., *Journal of Applied Physics* 102 (8), art. no. 083534 (2007)
88. "Self-assembly of single thin Au nanoparticle chains on Si along V-groove-etched lines between micrometer-distant electrodes by dielectrophoresis" A. Zoy, A. A. Nassiopoulos and A. G. Nassiopoulou, *Nanotechnology* 18, 345608 (2007)
89. "Ge quantum dot memory structure with laterally ordered highly dense arrays of Ge dots", A. G. Nassiopoulou, A. Olzierski, E. Tsoi, I. Berbezier and A. Karmous, *J. Nanosci. Nanotechnol.*, vol. 7, 316-321 (2007)
90. "Two-silicon-nanocrystal layer memory structure with improved retention characteristics", A. G. Nassiopoulou and A. Salonidou, *J. Nanosci. Nanotechnol.*, vol. 7, 368-373 (2007)
91. "A silicon thermal accelerometer without solid proof mass using porous silicon thermal isolation" D. Goustouridis, G. Kaltsas and A. G. Nassiopoulou *IEEE Sensors Journal*, vol. 7 No 7 983 (2007)
92. "Quantum confinement and interface structure of Si nanocrystals of sizes 3-5 nm embedded in  $\alpha$ -SiO<sub>2</sub>" E. Lioudakis, A. Othonos, G. C. Hadjisavvas, P. C. Kelires and A. G. Nassiopoulou" *Physica E* 38 128-134 (2007)
93. "Integrated inductors on porous silicon", H. Contopanagos, A. G. Nassiopoulou, *Physica Status Solidi (A)* 204 (5), pp. 1454-1458 (2007)
94. "Novel microfluidic flow sensor based on a microchannel capped by porous silicon", D. N. Pagonis, A. Petropoulos, A., G. Kaltsas, A. G. Nassiopoulou, A. Tserepi, *Physica Status Solidi (A)* 204 (5), pp. 1474-1479 (2007)
95. "Nanostructuring Si surface and Si/SiO<sub>2</sub> interface using porous-alumina-on-Si template technology. Electrical characterization of Si/SiO<sub>2</sub> interface" M. Kokonou and A. G. Nassiopoulou *Physica E* 38, 1-5 (2007)
96. "Formation of confined macroporous silicon membranes on pre-defined areas on the Si substrate", D. N. Pagonis, A. G. Nassiopoulou, *Physica Status Solidi (A)* 204 (5), pp. 1335-1339 (2007)
97. "Charging/discharging kinetics in LPCVD silicon nanocrystal MOS memory structures" V. Turchanikov, A. Nazarov, V. Lysenko, E. Tsoi, A. Salonidou and A. G. Nassiopoulou, *Physica E* 38 89-93 (2007)

- 
98. "Few nanometer thick anodic porous alumina films on silicon with high density of vertical pores", M. Kokonou, K. P. Giannakopoulos, A. G. Nassiopoulou, *Thin Solid Films* 515 (7-8), pp. 3602-3606 (2007)
  99. "A smart flow measurement system for flow evaluation with multiple signals in different operation modes", G. Kaltsas, P. Katsikogiannis, P. Asimakopoulos, A. G. Nassiopoulou, *Meas. Sci. Technol.* 18 (2007) 3617–3624
  100. "A novel microfabrication technology on organic substrates - Application to a thermal flow sensor", G. Kaltsas, A. Petropoulos, K. Tsougeni, D. N. Pagonis, T. Speliotis, E. Gogolides and A. G. Nassiopoulou, *Journal of Physics: Conference Series* 92 (2007) 012046
  101. "Ellipsometric analysis of ion-implanted polycrystalline silicon films before and after annealing", E. Lioudakis, A. G. Nassiopoulou and A. Othonos, *Thin Solid Films* 496 (2), pp. 253-258 (2006)
  102. "Femtosecond carrier dynamics in implanted and highly annealed polycrystalline silicon", E. Lioudakis, A. G. Nassiopoulou and A. Othonos, *Semiconductor Science and Technology* 21 (8), pp. 1041-1046 (2006)
  103. "Free-standing macroporous silicon membranes over a large cavity for filtering and lab-on-chip applications", D. N. Pagonis and A. G. Nassiopoulou, *Microelectronic Engin.* 83, 1421–1425 (2006)
  104. "Probing carrier dynamics in implanted and annealed polycrystalline silicon thin films using white light", E. Lioudakis, A. Othonos and A. G. Nassiopoulou, *Appl. Phys. Lett.* 88 (18) 181107 (2006)
  105. "Growth and characterization of high density stoichiometric SiO<sub>2</sub> dot arrays on Si through anodic porous alumina template", M. Kokonou, A. G. Nassiopoulou, K. P. Giannakopoulos, A. Travlos, T. Stoica, S. Kennou, *Nanotechnology* 17, 2146(2006)
  106. "Design and simulation of integrated inductors on porous silicon in CMOS-compatible processes", H. Contopanagos and A. G. Nassiopoulou, *Sol. St. Electronics*, vol. 50 (7-8) 1283 (2006)
  107. "Photoluminescence lifetimes of Si quantum dots", X. Zianni and A. G. Nassiopoulou, *J. Appl. Phys.* 100, 074312 (2006)
  108. "Thin porous anodic alumina films: Interface trap density determination", M. Theodoropoulou, P. K. Karahaliou, S. N. Georga, C. A. Krontiras, M. N. Pizanias, M. Kokonou and A. G. Nassiopoulou, *Ionics*, 11 (3-4), 236 (2005)
  109. "Ultra thin porous anodic alumina films with self-ordered cylindrical vertical pores on a p-type silicon substrate", M. Kokonou, A. G. Nassiopoulou and K. P. Giannakopoulos, *Nanotechnology* 16, 103, (2005)
  110. "Structural study of very thin anodic alumina films on silicon by anodization in citric acid aqueous solution", M. Kokonou, A. G. Nassiopoulou, K. G. Giannakopoulos, N. Boukos, A. Travlos, *J. Nanosc. and Nanotechnol.* v.5, 1-5, 454-458 (2005)
  111. "Electronic structure of C<sub>60</sub>, CuPc and C<sub>60</sub>/CuPc nanoparticles and their layers", I. Lysko, A. Gorchinskiy, E. Buzaneva, C. Tsamis, A. G. Nassiopoulou, P. Scharff, L. Carta, Abelman c;K. RischFullerenes, Nanotubes and Carbon Nanostructures 13(3), 259 (2005)
  112. "Fabrication and testing of an integrated thermal flow sensor employing thermal isolation by porous silicon membrane over air cavity", D. N. Pagonis, G. Kaltsas, and A. G. Nassiopoulou, *J. Micromech. Microeng.* 14, 1-5, 793-797, (2004)
  113. "The influence of thermal treatment on the stress characteristics of suspended porous silicon membranes on silicon", D. Papadimitriou, C. Tsamis, A. G. Nassiopoulou, *Sensors & Actuators (b)*, 103, 356-361, (2004)

- 
114. "Selective self-alignment of Au nanoparticle-coated K<sub>2</sub>SO<sub>4</sub> microcrystals in micrometer gratings of V-grooves on a silicon substrate", A. G. Nassiopoulou, A. Zoy, V. Ioannou-Sougleridis, A. Olzierski, A. Travlos, J. L. Martinez-Albertos, B. Moore, *Nanotechnology* 15, 1-5, 352-356, (2004)
115. "Growth of two-dimensional arrays of silicon nanocrystals in thin SiO<sub>2</sub> layers by low pressure chemical vapour deposition and high temperature annealing/oxidation. Investigation of their charging properties", A. Salonidou, A. G. Nassiopoulou, A. Travlos, V. Ioannou-Sougleridis, E. Tsoi, *Nanotechnology* 15, 1-7, 1233-1239, (2004)
116. "Transient and ac electrical transport under forward and reverse bias conditions in aluminium/porous silicon/p-Si structures", M. Theodoropoulou, P.K. Karahaliou, C. A. Krontiras, S. N. Georga, N. Xanthopoulos, C. Tsamis, A. G. Nassiopoulou, *J. Appl. Phys.* 96, 12, (2004)
117. "Influence of magnetic field on electromagnetic instabilities in semiconductor superlattices", R. H. Tarkhanyan and A. G. Nassiopoulou, *J. Nanosci. Nanotechnology* 4, 1085, (2004)
118. "Two-dimensional arrays of nanometer scale holes and nano-V-grooves in oxidized Si wafers for the selective growth of Ge dots or Ge/Si hetero-nanocrystals", A. Olzierski, A. G. Nassiopoulou, I. Raptis, T. Stoica, *Nanotechnology* 15, 1695-1700 (2004)
119. "Transient and alternating current conductivity of nanocrystalline porous alumina thin films on silicon, with embedded silicon nanocrystals", P. K. Karahaliou, M. Theodoropoulou, C. A. Krontiras, N. Xanthopoulos, S. N. Georga, and M. N. Pisanias M. Kokonou, A. G. Nassiopoulou, and A. Travlos *J. of Appl. Phys.*, 95,5, 2776-2780 (2004)
120. "Gas flow meter for applications in medical equipment for respiratory control-Study of the package and housing", G. Kaltsas and A. G. Nassiopoulou, *Sensors & Actuators A*, 100, 413-422, (2004)
121. "Porous silicon membranes over cavity for efficient local thermal isolation on silicon for application in Si thermal sensors", D. N. Pagonis, A. G. Nassiopoulou and G. Kaltsas, *J. Electrochem. Soc.* 151 (8) H 174-H179, (2004)
122. R. H. Tarkhnyan and A. G. Nassiopoulou, *ibid*, 4 1085 (2004)
123. "Temperature dependence of the transient and ac electrical conductivity of porous silicon thin films", M. Theodoropoulou, C. A. Krontiras, N. Xanthopoulos, S. N. Georga, M. N. Pisanias, C. Tsamis and A. G. Nassiopoulou, *Materials science and Engineering B*. v.101, (1-3), 334-337 (2003)
124. "Thermal properties of suspended porous silicon micro-hotplates for sensor applications", C. Tsamis, A. G. Nassiopoulou and A. Tserepi, *Sensors and Actuators B: Chemical*, 95(1-3), 78, (2003)
125. "Calculated PL lifetimes of Si nanowires: The effect of a dispersion in the crystallographic orientations", X. Zianni and A. G. Nassiopoulou, *Materials Science and Engineering B*, 101, 242, (2003)
126. "Structural and photoluminescence properties of thin alumina films on silicon, fabricated by electrochemistry", M. Kokonou, A. G. Nassiopoulou and A. Travlos, *Materials Science and Engineering B*101 65, (2003)
127. "Charging effects in silicon nanocrystals within SiO<sub>2</sub> layers, fabricated by chemical Vapor Deposition, oxidation, and annealing" D. N. Kouvatsos, V. Ioannou-Sougleridis and A. G. Nassiopoulou, *Appl. Phys. Lett.* 82(3) 397, (2003)
128. "Influence of a high electric field on the photoluminescence from silicon nanocrystals in SiO<sub>2</sub>", Ioannou-Sougleridis V., Kamenev B., Kouvatsos D.N., Nassiopoulou A.G. , *Materials Science and Engineering B-Solid State Materials for Advanced Technology*, 101 (1-3): 324-328 Aug. 15 2003
129. "Charging effects in silicon nanocrystals embedded in SiO<sub>2</sub> films" D. N. Kouvatsos, V. Ioannou-Sougleridis and A. G. Nassiopoulou, *Mater. Scien. & Engineering B*101, 270, (2003)
130. "Fabrication of suspended thermally insulating membranes using front-side micromachining of the Si substrate: characterization of the etching process", A. Tserepi, C. Tsamis, G. Kokkoris, E. Goggolides and A. G. Nassiopoulou, *J. of Micromech. & Microengin.* 13, 323, (2003)



- 
131. "Effect of high temperature annealing on the charge trapping characteristics of silicon nanocrystals embedded within SiO<sub>2</sub>", V. Ioannou-Sougleridis, A. G. Nassiopoulou and A. Travlos, *Nanotechnology* 14, 1174, (2003)
132. "Photoluminescence from SiO<sub>2</sub>/Si/SiO<sub>2</sub> structures", P. Photopoulos, A. G. Nassiopoulou, *J. Phys.: Condens. Matter* 15, 3641 (2003)
133. "Investigation of charging phenomena in silicon nanocrystal metal-oxide-semiconductor capacitors using ramp current-voltage measurements", V. Ioannou-Sougleridis and A. G. Nassiopoulou, *J. Appl. Phys.* 94(6) 4084, (2003)
134. "Self-assembling of Ge on finite Si (001) areas comparable with the island size", L. Vescan, T. Stoica, B. Hollander, A. G. Nassiopoulou, A. Olzierski, I. Raptis, E. Sutter, *Appl. Phys. Lett.* 82(20) 3517, (2003)
135. "Multi-component behavior of the photoluminescence lifetime in porous Si", X. Zianni, A. G. Nassiopoulou, *Physica Status Solidi A-Applied research* 197 (2) 311-315, (2003)
136. "Electromagnetic instability of surface waves in semiconductor superlattices", R. H. Tarkhanyan, A. G. Nassiopoulou, *Journal of Nanoscience and Nanotechnology*, Vol. 3, (No 6), p. 549, (2003)
137. "Fabrication of suspended porous silicon micro-hotplates for thermal sensor applications", C. Tsamis, A. Tserepi, A. G. Nassiopoulou, *Phys. Stat. Sol. (a)*, 197 (2), 539, (2003)
138. "Dry etching of Porous Silicon in High Density Plasmas", A. Tserepi, C. Tsamis, E. Gogolides and A. G. Nassiopoulou, *Phys. Stat. Sol. (a)*, 197 (2), 163, (2003)
139. "Transient and AC electrical conductivity of porous silicon thin films", M. Theodoropoulou, C. A. Krontiras, N. Xanthopoulos, S. N. Georga, M. N. Pisanias, C. Tsamis and A. G. Nassiopoulou, *Phys. Stat. Sol. (a)*, 197 (2), 279, (2003)
140. "Multi-component behavior of the photoluminescence lifetime in porous Si", X. Zianni and A. G. Nassiopoulou, *Phys. Stat. Sol. (a)*, 197 (2), 311, (2003)
141. "Implantation Masking Technology for Selective Porous Silicon Formation", D. Pagonis, G. Kaltsas and A. G. Nassiopoulou, *Phys. Stat. Sol. (a)*, 197 (2), 241, (2003)
142. "Planar CMOS Compatible Process For The Fabrication of Buried Microchannels In Silicon, Using Porous Silicon Technology", G. Kaltsas, D. N. Pagonis, A. G. Nassiopoulou, *IEEE J. Microelectromech. Syst.* , 12 (6), (2003) pp. 863-872
143. "Directional dependence of the spontaneous emission of Si quantum wires", X. Zianni and A. G. Nassiopoulou, *Phys. Rev. B*, vol. 65 (35) 326 (2002)
144. "Hydrogen catalytic reaction on Pd doped Porous Silicon", C. Tsamis, L. Tsoura, A. Travlos, A. G. Nassiopoulou, C. E. Salmas, K. S. Hatzilyberis and G. P. Androutsopoulos, *IEEE Sensors Journal*, Vol. 2 (2) 1530, (2002)
145. "Structural and electrical quality of the high-k dielectric Y<sub>2</sub>O<sub>3</sub> on Si (001): Dependence on growth parameters", A. Dimoulas, G. Velianitis, A. Travlos, V. Ioannou-Sougleridis and A. G. Nassiopoulou, *Jour. of Appl. Phys.*, 92(2), 426 (2002)
146. "Characterization of a Silicon Thermal Gas-Flow Sensor With Porous Silicon Thermal Isolation", G. Kaltsas, A. A. Nassiopoulos and A. G. Nassiopoulou, *IEEE Sensors Journal*, 2(5), 463-475, (2002)
147. "Photoluminescence lifetimes in silicon quantum wires", X. Zianni A. G. Nassiopoulou, *Phys. Rev. B*, vol. 66, 205 323, (2002)
148. "GMR study leading to sensor fabrication on the Ag-Co system" M. Angelakeris, P. Pouloupoulos, O. Vallasiades, N. K. Flevaris, D. Niarchos and A. G. Nassiopoulou, *Sensors and Actuators*, A 91, 180-183, (2001)
149. "Nonlinear electrical transport in NC-Si/CaF<sub>2</sub> multilayer structures with ultrathin CaF<sub>2</sub> layers", V. Ioannou-Sougleridis, T. Ouisse, A. G. Nassiopoulou, F. Bassani and F. Arnaud d' Avitaya, *J. Appl. Phys.* 89 (1), 610-614, (2001)

- 
150. "Electroluminescence from silicon nanocrystals in Si/CaF<sub>2</sub> superlattices", V. Ioannou-Sougleridis, A. G. Nassiopoulou, T. Ouisse, F. Bassani and F. Arnaud d' Avitaya, Appl. Phys. Lett., 79(13) 2076, (2001)
151. "Self-trapped excitons in silicon nanocrystals of sizes below 1.5 nm in Si/ SiO<sub>2</sub> multilayers", B. V. Kamenev and A. G. Nassiopoulou, Jour. of Appl. Phys., 90(11), 5735, (2001)
152. "Dielectric Properties of nc-Si/CaF<sub>2</sub> multiquantum wells", V. Ioannou-Sougleridis, V. Tsakiri, A. G. Nassiopoulou, F. Bassani, S. Menard, F. Arnaud d' Avitaya, Mater. Sci. and Engin. B69-70, 309-313, (2000)
153. "Photo-and electroluminescence from nanocrystalline silicon single and multilayerstructures", P. Photopoulos, A. G. Nassiopoulou, D. N. Kouvatso and A. Travlos, Mater. Sci. & Eng. B69-70, 345-349, (2000)
154. "Low temperature RAMAN and photoluminescence study of Si/CaF<sub>2</sub> multiquantum wells", D. Papadimitriou, A. G. Nassiopoulou, F. Bassani and F. Arnaud d' Avitaya, Mat. Sci. & Engin. B69-70, 546-548, (2000)
155. "Photoluminescence from nanocrystalline silicon in Si/SiO<sub>2</sub> superlattices", P. Photopoulos, A. G. Nassiopoulou, D. N. Kouvatso and A. Travlos, Appl. Phys. Lett, 76 (24), 3588-3590 (2000)
156. "Trapping levels in nanocrystalline porous silicon", M. L. Ciurea, M. Drăghici, S. Lazarnu, V. Iancu, A. Nassiopoulou, V. Ioannou and V. Tsakiri, Appl. Phys. Lett., 76 (21), p. 3067-3069, (2000)
157. "Micro-Raman analysis of polysilicon membranes deposited on porous silicon channels" H. Talaat, S. Negm, H.E. Schaffer, G. Kaltsas, A. G. Nassiopoulou, J. of Non-Crystalline Solids, 266-269, 1345-1349 (2000)
158. "Dependence of the radiative recombination lifetime upon electric field in silicon quantum dots embedded into SiO<sub>2</sub>", T.Ouisse and A. G. Nassiopoulou, Europhys. Lett, 51 (2), pp. 168-173, (2000)
159. "Room and low temperature voltage tunable electroluminescence from a single layer of silicon quantum dots sandwiched between two thin SiO<sub>2</sub> layers", P. Photopoulos and A. G. Nassiopoulou, Appl. Phys. Lett, 77 (12), p. 1816-1818, (2000)
160. "Porous silicon as an effective material for thermal isolation on bulk crystalline silicon", A. G. Nassiopoulou and G. Kaltsas, Phys. Stat. Sol. (a) 182,307, (2000)
161. "Oxidation-induced modifications of traps parameters in nanocrystalline porous silicon", M. Draghici, M. Miu, A. Nassiopoulou, I. Kleps, A. Angelescu, M. L. Ciurea, Phys. Stat. Sol. (a) 182,239 (2000)
162. "Electrical modeling of Si/SiO<sub>2</sub> superlattices", T.Ouisse, V. Ioannou-Sougleridis, D. Kouvatso and A. G. Nassiopoulou, J. Phys. D: Appl. Phys. 33, 2691-2698, (2000)
163. "Micro-Raman analysis of polysilicon membranes deposited on porous silicon channels", H. Talaat, S. Negm, H. E. Schaffer, G. Kaltsas and A. G. Nassiopoulou, J. of Non-Cryst. Solids, 266-269, 1345-1349, (2000)
164. "Novel C-MOS compatible monolithic silicon gas flow sensor with porous silicon thermal isolation", G. Kaltsas and A. G. Nassiopoulou, Sens. & Actuators A, 76(1-3) p.133, (1999)
165. "Giant magnetoresistance Co/Cu multilayer sensors for use in magnetic field mapping", Christides C., Stavroyiannis S., Kallias G., Nassiopoulou A.G., Niarchos D., Sensors and Actuators A-Physical 76 (1-3): 167-171 Aug. 30 1999
166. "Electroluminescence from Si/CaF<sub>2</sub> multilayers grown by molecular beam epitaxy" V. Ioannou-Sougleridis, V. Tsakiri, A. G. Nassiopoulou, P. Photopoulos, F. Bassani and F. Arnaud d' Avitaya Phys. St. Sol (a) 165, 97, (1998)
167. "Stable visible photo- and electroluminescence from nanocrystalline silicon thin films fabricated on thin SiO<sub>2</sub> layers by low pressure chemical vapour deposition", A. G. Nassiopoulou, V. Ioannou-Sougleridis, P. Photopoulos, A. Travlos, V. Tsakiri and D. Papadimitriou, Phys. St. Sol. (a) 165,79, (1998)

- 
168. "Polarized Raman and Photoluminescence study on silicon quantum wires", D.Papadimitriou and A.G. Nassiopoulou, J.Appl.Phys. 84(2), 1059-1063, (1998)
169. "Porous silicon of variable porosity under high hydrostatic pressure: Raman and Photoluminescence studies", D. Papadimitriou, Y. S. Raptis, A. G. Nassiopoulou and G. Kaltsas, Phys. St. Sol. (a) 165 (1), 43, (1998)
170. "Light emitting structures based on nanocrystalline (Si/CaF<sub>2</sub>) multiquantum wells", A. G. Nassiopoulou, V. Tsakiri, V. Ioannou-Sougleridis, P. Photopoulos, S. Menard, F. Bassani and F. Arnaud d' Avitaya, J. of Luminescence, 22, 2313, (1998)
171. "Stress effect on suspended polycrystalline silicon membranes fabricated by micromachining of porous silicon", G. Kaltsas, A. G. Nassiopoulou, M. Siakavellas and E. Anastassakis, Sensors and Actuators A68, 429-434 (1998)
172. "Micro-Raman characterization of stress distribution within free standing mono- and polycrystalline silicon membranes", S. Siakavellas, E. Anastassakis, G. Kaltsas and A. G. Nassiopoulou, Microel. Engineer. 41/42, 469-472, (1998)
173. "Raman microprobe analysis of strained polysilicon deposited layers", H. Talaat, S. Negm, H. E. Schaffer, F. Adar, A. G. Nassiopoulou, Appl. Surf. Sci 123/124, 742-745, (1998)
174. "High crystalline quality titanium disilicides formed by sputter deposition of Ti/Si multilayers and annealing", P. Revva, A. Kastanas, A. Travlos and A. G. Nassiopoulou, Vacuum, 51(3), 335-337, (1998)
175. "Thickness determination of thin films based on X-ray signal decay law", G. Kaltsas, N. Glezos, E. Valamontes and A. G. Nassiopoulou Surf. and Inter. Analysis 26 , 876, (1998)
176. "High Resolution Electron Microscopy Study of New Erbium Silicide Superstructures, based on the ThSi<sub>2</sub> Structure", N. Frangis, G. Van Tendeloo, J. Van Landuyt, G. Kaltsas, A. Travlos, A. G. Nassiopoulos, J. of Crystal Growth, 172, 175-182, (1997)
177. "Low Specific Contact Resistivity Titanium Silicides on n+ and p+ silicon by Sputtering Deposition of Ti/Si multilayers and annealing", P. Revva, A. Castanas and A. G. Nassiopoulos, J. Electroch. Society, vol. 144(11), 4072, (1997)
178. "Bulk silicon micromachining using porous silicon sacrificial layers", G. Kaltsas and A. G. Nassiopoulos, Microelectronic Engineering, 35, 397, (1997)
179. "Highly Anisotropic Silicon Reactive Ion Etching for Nanofabrication Using Mixtures of SF<sub>6</sub> and CHF<sub>3</sub> gases", S. Grigoropoulos, E. Gogolides and A. G. Nassiopoulos, J. Vacuum Science and Technol. B 15(3) 640, (1997)
180. "Electroluminescent Solid State Devices based on Silicon Nanowires, fabricated by using lithography and etching techniques", A. G. Nassiopoulou, S. Grigoropoulos and D. Papadimitriou, Thin Solid Films, 297, 176, (1997)
181. "Front-side bulk silicon micromachining using porous silicon technology", G. Kaltsas and A. G. Nassiopoulos, Sensors and Actuators A, A65, 175-179, (1998)
182. "High-pressure studies of photoluminescence in porous silicon", D. Papadimitriou, Y. S. Raptis and A. G. Nassiopoulou, Physical Rev. B, 58(21), 14089, (1998)
183. "Growth of erbium-silicide films on (100) silicon as characterized by electron microscopy and diffraction", N. Frangis, J. Vandanduyt, G. Kaltsas, A. G. Nassiopoulos, J. of Crystal Growth 172(1-2): 175-182, (1997)
184. "Characterization of light emitting silicon nanopillars produced by lithography and etching", S. Grigoropoulos, A. G. Nassiopoulos, A. Travlos, D. Papadimitriou, S. Kennou and S. Ladas, Appl. Surf. Sci., 102, 377, (1996)
185. "Electroluminescent device based on silicon nanopillars", A. G. Nassiopoulos, S. Grigoropoulos and D. Papadimitriou, Appl. Phys. Letters, 69(15), 2267, (1996)

- 
186. "New Erbium Silicide Superstructures: A study by High Resolution Electron Microscopy", N. Frangis, G. Van Landuyt, G. Kaltsas, A. Travlos, A. G. Nassiopoulou, Phys. Stat. Solidi, (a) 158 p. 107-116, (1996)
187. "Comparison of Scanning X-ray Microfluorescence and Energy Dispersive X-ray Analysis for the Elemental Characterization of Thin Coatings", E. Valamontes and A. G. Nassiopoulou, Microchimica Acta, 13, 597-603, (1996)
188. "Electron Probe X-ray Analysis of Coatings. Sensitivity and Resolution", E. Valamontes and A. G. Nassiopoulou, Microchimica Acta, 13, 605-610, (1996)
189. "Application of the Boltzmann transport equation to the thickness determination of thin films", G. Kaltsas, N. Glezos, E. Valamontes, A. G. Nassiopoulou, Microchimica Acta [Suppl.] 13, 349, (1996)
190. "Erbium silicide films on (100) silicon, grown in high vacuum: fabrication and properties", G. Kaltsas, A. Travlos, P. Revva, A. G. Nassiopoulou, A. Traverse, Thin Solid Films, 275, 87, (1996)
191. "High Crystalline Quality Erbium Silicide Films on (100) Silicon, Grown in High Vacuum", G. Kaltsas, A. G. Nassiopoulou, A. Travlos, N. Frangis, J. Van Landuyt, Appl. Surf. Science, Vol. 102, 151, (1996)
192. "Electron Microscopy Characterization of High Crystalline Quality Erbium Silicide Films on (100) Silicon, Grown in High Vacuum", N. Frangis, G. Van Landuyt, G. Kaltsas, A. Travlos, A. G. Nassiopoulou, Phys. Stat. Solidi, (a) 158, (1996)
193. "Sub-micrometer luminescent porous silicon structures using lithographically patterned substrates", A. G. Nassiopoulou, S. Grigoropoulos, L. T. Canham, A. Halimaoui, I. Berbezier, E. Gogolides and D. Papadimitriou, Thin Solid Films, 255(2), 329, (1995)
194. "Visible luminescence from one and two-dimensional silicon structures produced by conventional lithographic and reactive ion etching techniques", A. G. Nassiopoulou, S. Grigoropoulos, D. Papadimitriou and E. Gogolides, Appl. Phys. Letters, 66(9), 1114, (1995)
195. "Highly anisotropic room temperature sub-half-micron silicon Reactive Ion Etching using fluorine-only containing gases", E. Gogolides, S. Grigoropoulos and A. G. Nassiopoulou, Microelectronic Engineering, 27, 449, (1995)
196. "Light emission from silicon nanostructures, produced by optical lithography and etching", A. G. Nassiopoulou, S. Grigoropoulos, D. Papadimitriou and E. Gogolides, Physica Status Solidi, (b) 190, 91, (1995)
197. "Room and low temperature electrical measurements for the interface characterization of Titanium disilicides on Silicon from multilayer Titanium/Silicon structures", P. Revva, A. G. Nassiopoulou and A. Travlos, J. de Phys. IV, C6, vol. 4, C6-93, (1994)
198. "Characterization of TiSi<sub>2</sub>/Si interface in Titanium disilicide films, formed by deposition of alternate Ti/Si layers and annealing", P. Revva, A. G. Nassiopoulou and A. Travlos, J. Appl. Phys., 75(9), 4533, (1994)
199. "Titanium disilicide on Si by interdiffusion of Ti and  $\alpha$ -Si multilayers: Transmission Electron Microscopy, Spectroscopic Ellipsometry and resistivity measurements", A. G. Nassiopoulou, D. Tambouris, N. Frangis, S. Logothetides, S. Georga, Ch. Krontiras and N. Xanthopoulos, Thin Sol. Films, 247, 44, (1994)
200. "Further characterization of the positive tone wet silylation process with the AZ 5214 TM photoresist", E. Gogolides, K. Yannakopoulou, A. Traverse, A. G. Nassiopoulou, E. Tsoi and M. Hatzakis, Microelectronic Engineering, 25, 75, (1994)
201. "Characterization of a positive tone wet silylation process with the AZ5214 TM photoresist", E. Gogolides, K. Yannakopoulou, A. G. Nassiopoulou, E. Tsoi and M. Hatzakis, Microelectronic Engineering, 21, 263-66, (1993)

- 
202. "Monte-Carlo simulations of the point-to-point resolution in Scanning Auger Microscopy and X-ray Microanalysis of thin overlayers", E. Valamontes, A. G. Nassiopoulou and N. Glezos, Surf. Interf. Analysis, 19, 419, (1992)
203. "Wet silylation and dry development with the AZ 5214TM photoresist", E. Gogolides, E. Tsoi, A. G. Nassiopoulou and M. Hatzakis, J. Vac. Sci. Technol. B 10(6), 2610, (1992)
204. "Titanium disilicide formation by interdiffusion of Ti/ $\alpha$ -Si multilayers for VLSI applications. Influence of the bilayer Si/Ti thickness ratio on the film properties", A. G. Nassiopoulou, D. Tambouris, A. Traverse, A. Travlos, A. Traverse, P. Aloupogiannis, J. Appl. Phys., 72(10), 4660, (1992)
205. "Lateral Resolution of Auger Electron Spectroscopy in the energy range 5-100keV. Thin overlayers on a high-Z material substrate", N. Glezos and A. G. Nassiopoulou, Surf. Science, 254, 309-319, (1991)
206. "Backscattering and X-ray induced correction factors for AES of thin overlayers", E. Valamontes, A. G. Nassiopoulou, N. Glezos, Surf. Interf. Anal., 16, 203, (1990)
207. "Monte-Carlo calculations of the X-ray induced enhancement signal in EPMA and AES of thin films on a bulk material", A. G. Nassiopoulou, E. Valamontes, Surf. Interf. Anal., 15, 405, (1990)
208. "Anomalous effects on the current - voltage characteristics of p-channel Metal -oxide semiconductor transistors in the temperature range 4.2 K - 50 K.", A. G. Nassiopoulou, D. Tsamakis, E. Rocofyllou, J. Appl. Phys. 68(4), 1896, (1990)
209. "Electronic Core Level Microanalyses and Microscopies in a Polyvalent Apparatus", J. Cazaux, D. Gramari, O. Jbara, D. Mouze, A. G. Nassiopoulou, and X. Thomas, Jour. Electr. Micr. Techn, Vol. 11, No 3, 222, (1989)
210. "Anomalous behavior of the static current-voltage characteristics of n-channel MOSFETs in the temperature range 4.2K-14K", E. Rocofyllou, A. G. Nassiopoulou, D. Tsamakis, F. Balestra, Sol. Stat. Electr, 32(8), 603 (1989)
211. "SEELS in the Reflection mode, compared to EELS of fast electrons", A. G. Nassiopoulou, J. Cazaux Surface Science 165, 203-220, (1986)
212. "Slow-Electron-Energy-Loss Spectroscopy for Surface Microanalysis", A. G. Nassiopoulou, J. Cazaux, Surface Science 149, 313-325(1985)
213. "Slow-Electron-Energy-Loss Spectra and non-dipole transitions in Nickel", J. Cazaux, A. G. Nassiopoulou, Surface Science 162, 965-970, (1985)
214. "The effects of X-ray induced Auger electrons in Auger Microanalysis", J. Cazaux, D. Gramari, S. Moutou, A. G. Nassiopoulou, Journ. Phys., 45, C2-337-41, (1984)
215. "X-ray Photoelectron Microprobe analysis and related techniques", J. Cazaux, D. Gramari, D. Mouze, A. G. Nassiopoulou, J. Perrin, Journ. Phys., 45, C2 - 271-75, (1984)
216. "Continuous X-ray induced Auger Microprobe Analysis and Microscopy: first results", A. G. Nassiopoulou, D. Gramari, J. Cazaux, Surface Science, 129, 247-264, (1983)
217. "Confinement d'ions dans une cage cylindrique a champ quadrupolaire HF. Application a la spectrometrie de masse. I. Partie Theorique", A. G. Nassiopoulou, P.A. Moller, A. Septier, Rev. Phys. Appliquee, 15, 1529-41, (1980)
218. "Confinement d'ions dans une cage cylindrique a champ quadrupolaire HF, Application a la spectrometrie de masse. II. Partie Experimentale", A. G. Nassiopoulou, P. A. Moller, A. Septier, Rev. Phys. Appliquee, 15, 1543-51, (1980)

#### **PUBLICATIONS IN CONFERENCE PROCEEDINGS**

1. "Recent advances in high density MIM capacitors using anodic aluminum oxide nanolayers", E. Hourdakakis, A.G. Nassiopoulou, Physics, Chemistry and Applications of Nanostructures, Proceedings of International Conference Nanomeeting, pp 505-511, (2015)

2. "Porous Silicon as a Substrate for the Integration of High Performance On-chip Antennas", P. Sarafis, A. G. Nassiopoulou, C. L. Hsu, P. Benech, IEEE proceedings, 10th European Microwave Integrated Circuits Conference (EuMIC), European Microwave Week 2015, pp 188-191, (2015)
3. "Cu Nanolines in Coplanar Waveguide Transmission Lines", P. Sarafis, A. G. Nassiopoulou, IEEE proceedings (2015), Joint International EUROSIOI Workshop and International Conference on Ultimate Integration on Silicon (ULIS), (2015) pp 257-260
4. Valalaki K., Nassiopoulou A.G., "Porous silicon as an efficient local thermal isolation platform on the Si wafer in the temperature range 5–350K", 11th International Workshop on Low Temperature Electronics (WOLTE 2014), 7-9 July 2014, Paper referenced in IEEE Xplore, pp. 61-64, doi: 10.1109/WOLTE.2014.6881026
5. Sarafis P., Benech P., Nassiopoulou A.G., "Cu nanolines for application in RF interconnects", 15th International Conference on " Ultimate Integration on Silicon" (ULIS 2014), 7-9 April 2014, Paper referenced in IEEE Xplore, pp.149-152, doi: 10.1109/ULIS.2014.6813920
6. A. G. Nassiopoulou, E. Hourdakis, P. Sarafis, P. Ferrari, H. Issa, J.-P. Raskin, C. Roda Neve, K. Ben Ali, "Porous Si as a substrate material for RF passive integration", 14th International Conference on Ultimate Integration on Silicon (ULIS 2013), 19-21 March 2013, Paper referenced in Xplore, pp 89-93, doi: 1109/ULIS2013.6523498 (2013)
7. P. Sarafis, M. Hourdakis and A. G. Nassiopoulou, Proceedings of ESSDERC/ESSCIRC 2013, 43rd European Solid-State Device Research Conference, Bucharest, Romania, 16-20 September 2013, Paper referenced in Xplore, pp.
8. "Arsenic Redistribution After Solid Phase Epitaxial Regrowth of Shallow Pre-Amorphized Silicon Layers", E. Demenev, D. Giubertoni, S. Gennaro, M. Bersani, E. Hourdakis, A. G. Nassiopoulou, M. A. Reading and J. A. van den Berg, AIP Conf. Proc. 1496, 272 (2012)
9. Proceeding of the PSST2010 Conference, held in Valencia in March 2011, Editors: Cantarero A., Sailor M., Nassiopoulou A. G., Schmuki P., Canham L., Published in: Physica Status Solidi (C) Current Topics in Solid State Physics 8 (6), p.1723 (2011)
10. "Micro&Nano2010-Special Symposium on Nanomaterials for sensing and energy harvesting devices", Edited by A. G. Nassiopoulou, Nanoscale Research Letters 6 (1), p. X1 (2011)
11. "Micro&Nano2010- Proceedings of the International Conference on Microelectronics, Microsystems and Nanotechnology", Edited by A. G. Nassiopoulou, Microelectronic Engineering, published online in 2011
12. "Comparative studies of single- and double-nanocrystal layer NVM structures: Charge accumulation and retention", Turchanikov, V., Ievtukh, V., Nazarov, A., Lysenko, V., Theodoropoulou, M., Nassiopoulou, A.G., 2010 27th International Conference on Microelectronics, MIEL 2010 - Proceedings, art. no. 5490524, pp. 103-104 (2010)
13. "Comparison of electrical measurements with structural analysis of thin high-k Hf-based dielectric films on Si", E. Hourdakis, M. Theodoropoulou, A. G. Nassiopoulou, A. Parisini, M. A. Reading, J. A. van den Berg, T. Conard, and S. Degendt, ECS Trans. 25 (3) 363-372 (2009)
14. "Determination of critical points on silicon nanofilms: surface and quantum confinement effects", Emmanouil Lioudakis, Andreas Othonos, A. G. Nassiopoulou, Physica status solidi (c), Volume 5, Issue 12, December 2008, pp. 3776-3779
15. "Determination of critical points on silicon nanofilms: surface and quantum confinement effects", Emmanouil Lioudakis, Andreas Othonos, A. G. Nassiopoulou, Physica status solidi (c), Volume 5, Issue 12, December 2008, pp. 3776-3779
16. "Dielectric characterization of macroporous thick silicon films in the frequency range 1 Hz-1 MHz", M. Theodoropoulou, D. N. Pagonis, A. G. Nassiopoulou, C. A. Krontiras, S. N. Georga, Physica status solidi (c), Volume 5, Issue 12, December 2008, pp. 3597-3600

- 
17. "Porous anodic alumina thin films on Si: interface characterization", V. Gianneta, A. G. Nassiopoulou, C. A. Krontiras, S. N. Georga, *Physica status solidi (c)*, Volume 5, Issue 12, December 2008, pp. 3686-3689
  18. "Evaluation of a gas flow sensor implemented on organic substrate", A. Petropoulos, G. Kaltsas, T. Speliotis, A.G. Nassiopoulou, *Physica status solidi (c)*, Volume 5, Issue 12, December 2008, pp.3839-3842
  19. "On-chip RF-shielding by mesoporous Si microplate measured through an integrated coplanar waveguide", H. Contopanagos, F. Zacharatos and A. G. Nassiopoulou, *Materials of the 6th International Conf. on Porous Semiconductors – Science and Technology*, Mallorca, Spain, pp. 80-81 (10-14 March 2008).
  20. "Spectroscopic characterization of thin anodic silicon layers grown by short monopulses of current", S. Gardelis, S. Jaziri, A. G. Nassiopoulou, A.G., *AIP Conference Proceedings* 935, pp. 87-91 (2007)
  21. "Nanostructuring SiO<sub>2</sub>/Si(100) surface for lateral ordering of self-assembled semiconductor quantum dots" (invited) A. G. Nassiopoulou and M. Kokonou, *Physics, Chemistry and Applications of Nanostructures*, World Scientific Publishing, Edited by V E Borisenko, S V Gaponenko and V S Gurin p. 407 (2007)
  22. "Structural and light-emitting properties of ultra thin anodic silicon films formed at the early stages of bulk silicon anodization" (invited) S. Gardelis, A. G. Nassiopoulou, I. Tsiaoussis and N. Frangis, *Physics, Chemistry and Applications of Nanostructures*, World Scientific Publishing, Edited by V E Borisenko, S V Gaponenko and V S Gurin p. 407 (2007)
  23. "Porous silicon for sensors and on-chip integration of RF components", A. G. Nassiopoulou (invited paper), *Proceedings of the 4th International Conference on Microelectronics, Devices and Materials (MIDEM 2006 Conference)*, Slovenia 13-15 September 2006, p. 33
  24. "Integrated inductors on porous silicon", H. Contopanagos, A. G. Nassiopoulou, *Proceedings of the 5th International Conference on Porous Semiconductors-Science and Technology (PSST)*, Sitges-Barcelona, 12-17 March 2006, p. 124
  25. "A silicon integrated thermal liquid flow sensor on porous silicon micro-hotplate", D. N. Pagonis, G. Kaltsas and A. G. Nassiopoulou, *Proceedings of the 20th Eurosensors Conference*, Göteborg, Sweden, 17-20 September 2006
  26. "Local formation of suspended macroporous Si layers on a Si substrate", D.N. Pagonis, A. G. Nassiopoulou, *Proceedings of the 5th International Conference on Porous Semiconductors-Science and Technology (PSST)*, Sitges-Barcelona, 12-17 March 2006, p. 276
  27. "Novel microfluidic flow sensor fabricated using porous silicon technology", D.N. Pagonis, A. Petropoulos, G. Kaltsas, A.G. Nassiopoulou, A. Tserepi, *Proceedings of the 5th International Conference on Porous Semiconductors-Science and Technology (PSST)*, Sitges-Barcelona, 12-17 March 2006, p. 296
  28. "Generation of guided terahertz electromagnetic waves in semiconductor superlattices", R H Tarkhanyan and A. G. Nassiopoulou, *J. Phys.: Conf. Ser.* 10 19-22 (2005)
  29. "Silicon nanocrystal memories by LPCVD of amorphous silicon, followed by solid phase crystallization and thermal oxidation", E Tsoi, P Normand, A G Nassiopoulou, V Ioannou-Sougleridis, A Salonidou and K Giannakopoulos, *J. Phys.: Conf. Ser.* 10 31-34 (2005)
  30. "Charging characteristics of Si nanocrystals embedded within SiO<sub>2</sub> in the presence of near-interface oxide traps", V Ioannou-Sougleridis and A. G. Nassiopoulou, *J. Phys.: Conf. Ser.* 10 39-42 (2005)

- 
31. "Two-dimensional arrays of ordered, highly dense and ultra-small Ge nanocrystals on thin SiO<sub>2</sub> layers", I Berbezier, A Karmous, A Ronda, T Stoica, L Vescan, R Geurt, A Olzierski, E Tsoi and A. G. Nassiopoulou, J. Phys.: Conf. Ser. 10 73-76 (2005)
  32. "Electrical conductivity of Au-nanoparticle-coated K<sub>2</sub>SO<sub>4</sub> microcrystals deposited by DC trapping", A Zoy, A G Nassiopoulou, V Ioannou-Sougleridis, M Murugesan and B D Moore, J. Phys.: Conf. Ser. 10 105-108 (2005)
  33. "Nanotemplate alumina films on a silicon substrate fabricated by electrochemistry", M Kokonou, A G Nassiopoulou, K P Giannakopoulos and N Boukos, J. Phys.: Conf. Ser. 10 159-162 (2005)
  34. "Interface traps density of anodic porous alumina films of different thicknesses on Si", M Theodoropoulou, P K Karahaliou, S N Georga, C A Krontiras, M N Pisanias, M Kokonou and A G Nassiopoulou, J. Phys.: Conf. Ser. 10 222-225 (2005)
  35. "Ultrafast carrier dynamics in highly implanted and annealed polycrystalline silicon films", E Lioudakis, A G Nassiopoulou and A Othonos, J. Phys.: Conf. Ser. 10 263-266 (2005)
  36. "Combination of integrated thermal flow and capacitive pressure sensors for high sensitivity flow measurements in both laminar and turbulent regions", G Kaltsas, D Goustouridis, A G Nassiopoulou and D Tsoukalas, J. Phys.: Conf. Ser. 10 277-280 (2005)
  37. "A microcontroller-based interface circuit for data acquisition and control of a micromechanical thermal flow sensor", P Asimakopoulos, G Kaltsas and A G Nassiopoulou, J. Phys.: Conf. Ser. 10 301-304 (2005)
  38. "Stress characteristics of suspended porous silicon microstructures on silicon", K Anestou, D Papadimitriou, C Tsamis and A G Nassiopoulou, J. Phys.: Conf. Ser. 10 309-312 (2005)
  39. "Porous Si for sensor applications", A. G. Nassiopoulou (invited paper) in "Nanostructured and Advanced Materials", edited by: A. Vaseashta, D. Dimova-Malinovska and J. M. Marshal, NATO Science Series II, Mathematics, Physics and Chemistry, vol. 204, pages 189-204, (2005)
  40. "Optical emission behavior of Si quantum dots" X. Zianni and A. G. Nassiopoulou (invited paper), in "Quantum dots: Fundamentals, Applications and Frontiers" edited by: B. A. Joyce et al., NATO Science Series II., Mathematics, Physics and Chemistry, vol. 190, pages 369-376 (2005)
  41. "Semiconductor nanocrystals in thin SiO<sub>2</sub> layers for non-volatile memories", A. G. Nassiopoulou, A. Salonidou, A. Olzierski, M. Kokonou, E. Tsoi, P. Normand, K. Giannakopoulos, Proceedings of the International workshop on semiconductor nanocrystals (SEMINANO) held in Budapest, September 10-12, 2005, p.p. 405-410 (2005)
  42. "The influence of thermal treatment on the stress characteristics of suspended Porous Silicon membranes on silicon", D. Papadimitriou, C. Tsamis and A. G. Nassiopoulou, Eurosensors XVII, Guimaraes, Portugal, (September 21 - 24, 2003), Published in the Proceedings
  43. "Porous Silicon for chemical sensors", NATO ARW Summer School, Frontiers in Molecular-scale Science and Technology of nanocarbon, nanosilicon and biopolymer integrated nanosystems", C. Tsamis and A. G. Nassiopoulou, Ilmenau, Germany, Published in the Proceedings
  44. "Flow study in both turbulent and laminar flow with a system of thermal flow and capacitive pressure sensors", G. Kaltsas, D. Goustouridis, A. G. Nassiopoulou, D. Tsoukalas, S.Chantzandroulis, "EUROSENSORS XVII, Guimaraes Portugal, (September 21-24, 2003), Published in the Proceedings, p.22
  45. "Interband transitions in Si Nanostructures within effective mass approximation", X. Zianni, A. G. Nassiopoulou, (Invited talk), Nanomeeting 2003, Minsk, Belarus (May, 2003), published in the proceedings
  46. "Silicon nanocrystals in SiO<sub>2</sub> for memory devices", A.G. Nassiopoulou, V. Ioannou-Sougleridis, A. Travlos (invited paper) NATO ARW, "Frontiers in molecular-scale science and technology of nanocarbon, nanosilicon and biopolymer integrated nanosystems" Illmenau, Germany (July 12-16 2003). Published in the proceeding p.45 (2003)



- 
47. "A novel method for the fabrication of suspended porous silicon membranes for chemical sensors", C. Tsamis, A. Tserepi and A.G. Nassiopoulou, Proceedings of the International Meeting on Chemical Sensors, Boston, 7-10 July 2002, USA
  48. "Thermal properties of suspended porous silicon micro-hotplates for thermal sensor applications", C. Tsamis, A. Tserepi and A. G. Nassiopoulou, Proceedings of Eurosensors XVI, Prague, Czech Republic, September 15-18, 2002
  49. "Gas Flow Meter for Applications in Medical Equipment for Respiratory Control - Study of the Package and Housing", G. Kaltsas and A. G. Nassiopoulou, Proceedings of Eurosensors XVI - 16th European Conference on Solid-State Transducers, Prague, Czech Republic, Sept. 15-18, 2002
  50. "Fabrication of suspended membranes for thermal sensors using high-density plasma etching" A. Tserepi, C. Tsamis and A. G. Nassiopoulou, Proceedings of the Symposium on "Design, Test, Integration and packaging of MEMS/MOEMS", DTIP 2002, Cannes-Mandelieu, France
  51. "Carrier transport and electroluminescence in Si/CaF<sub>2</sub> superlattices" (invited paper), V. Ioannou-Sougleridis, A. G. Nassiopoulou, T. Ouisse, F. Bassani and F. Arnaud d' Avitaya, in: Physics, Chemistry and Applications of Nanostructures 2001, Proceedings Nanomeeting 2001, ed. by: V. E. Borisenko, S. V. Gaponenko and V. S. Gurin, World Scientific, p. 433, 2001
  52. "Porous silicon as an effective material for thermal isolation on bulk crystalline silicon", A. G. Nassiopoulou and G. Kaltsas, Proceed. 2nd Intern. Conf. on Porous Semiconductors Science and Technology, p.79, 2000
  53. "Oxidation-induced modifications of trap's parameters in nanocrystalline porous silicon", M. Draghici, M. Miu, A. G. Nassiopoulou, I. Kleps, A. Angelescu, M. L. Ciurea, Proceed. of the 2nd Intern. Conf. on Porous Semiconductors Science and Technology, p. 286-287, Madrid, 12-17 March 2000
  54. "Investigation of electron and photon properties of highly porous silicon under externally controlled uniaxial strain" D. Papadimitriou, A. G. Nassiopoulou, E. Liarokapis and V. Tsakiri, Proceed. of the 2nd Intern. Conf. on Porous Semiconductors Science and Technology, p.196, Madrid, 12-17 March 2000
  55. "Silicon nanostructures in Si/SiO<sub>2</sub> superlattices for light emission applications: possibilities and limits", A. G. Nassiopoulou, T. Ouisse and P. Photopoulos, in: Frontiers of Nano-Optoelectronic System, NATO ASI Series, Kuwer academic publishers, edited by: L. Pavesi and E. Buzaneva, pp.137-146 (2000)
  56. "Low dimensional silicon for integrated optoelectronics", A. G. Nassiopoulou, (invited paper), CAS'98, Proceedings, vol.2 p. 417 (1999)
  57. "Nanocrystalline silicon for light emitting device applications" (invited paper), A.G. Nassiopoulou, P. Photopoulos and A. Travlos, in: "Physics Chemistry and Applications of Nanostructures", 1999, Edited by: V. E. Borisenko, A. B. Filonov, S. V. Gaponenko, V. S. Gurin, World Scientific p. 356 (1999)
  58. "Microraman study of mechanical stress in polycrystalline silicon bridges", H. Talaat, S. Negm, H. Schaffer, G. Kaltsas and A. G. Nassiopoulou, Proceed. MRS vol. 505, p. 495 (1998)
  59. "Electroluminescent devices based on zero- and one-dimensional silicon structures", A. G. Nassiopoulou, V. Ioannou Souglerides, S. Grigoropoulos and D. Papadimitriou, Mat. Res. Soc. Symp. Proc. Vol. 459, 663, (1997)
  60. "Application of Porous Silicon to Silicon Micromachining", G. Kaltsas and A. G. Nassiopoulou, Mat. Res. Soc. Symp. Proc. Vol. 459 249, (1997)
  61. "Recent progress in light emitting Si/CaF<sub>2</sub> multi-quantum wells", F. Arnaud D'Avitaya, F. Bassani, I. Mihalescu, A. G. Nassiopoulou (invited paper), "Physics, Chemistry and Applications of Nanostructures", edited by V.E. Borisenko A. B. Filonov, S. V. Gaponenko and V. S. Gurin, p. 3, (1997)

- 
62. "Light Emitting Properties of Silicon Nanopillars produced by lithography and etching" A. G. Nassiopoulos, S. Grigoropoulos and D. Papadimitriou, (Invited paper), Electrochemical Society Proceedings, 95-25, (1996), 296
63. "Silicon nanostructures: a way for Si Optoelectronics?", F. Arnaud d'Avitaya, F. Bassani, L. Vervoort, A. G. Nassiopoulos, S. Grigoropoulos, E. Gogolides, I. Mihalcescu, J. C. Vial, S. Ossicini, A. Fasolino and F. Bernardini (invited paper) Proc. International Conference Nanomeeting-95, Minsk, Belarus, May 15-19, (1995)
64. "Luminescence from silicon nanostructures fabricated by using conventional lithographic and Reactive Ion Etching techniques", A. G. Nassiopoulos, S. Grigoropoulos, A. Travlos, S. Ladas, S. Kennou, I. Raptis and D. Papadimitriou, Proceed. of the 187th Meeting of the Electrochem. Soc., Electrochemical Society Proceed, Vol. 95-8, p. 27, (1995)
65. "Highly anisotropic silicon Reactive Ion Etching for nanofabrication with fluorine only containing gases", S. Grigoropoulos, E. Gogolides and A. G. Nassiopoulos, ULSI Science and Technology 95, 187th Meeting of the Electrochem. Soc., Electrochemical Soc. Proceedings, Vol. 95(5), p.275, (1995)
66. "TiSi<sub>2</sub>/Si interface of silicide formed by annealing of multilayer Ti/Si structures on silicon", A. G. Nassiopoulou, N. Frangis, A. Travlos and P. Revva, Inst. Phys. Conf. Ser. No 134 Section 4, (1993)
67. "Point-to-point resolution in Scanning Auger Electron Spectroscopy at high primary beam energies for Surface and Interface Analysis", A. G. Nassiopoulos and N. M. Glezos in: Equilibrium Structure and Properties of surfaces and Interfaces, edit: A. Gonis and G. M. Stocks, NATO ASI ser. B, 300 (1992) 329
68. "La Microanalyse X par Microsonde Electronique", A. G. Nassiopoulos, Review article, Volume edited for a COMETT project/volet C, (1992)
69. "Surface and interface roughness of thin titanium silicides grown on silicon by interdiffusion of Ti and  $\alpha$ -Si thin films", A. G. Nassiopoulos, D. Tambouris and A. Travlos, Electron Microscopy, vol. 2, EUREM 92, p. 729
70. "Characterization of a positive-tone wet silylation process with the AZ5214 TM photoresist", E. Gogolides, K. Yannakopoulou, A. G. Nassiopoulos, E. Tsoi and M. Hatzakis, Proceed. 36th Intern. Cong. on Electr. Ion and Photon Beams (EIPB) (1992)
71. "Application of electron transport equations in X-ray Microanalysis of thin overlayers and in film thickness measurements", N. Glezos, A. G. Nassiopoulou, E. Valamontes, Proc. VII Nat. Congress on Sol. State Physics, (1991) 16
72. "Lateral resolution in X-ray Microanalysis of thin over-layers and thin unsupported films", A. G. Nassiopoulou and E. Valamontes. Proc. VII Nat. Congress on Sol. State Phys., (1991) 497
73. "Interaction of  $\alpha$ -Si/Ti multilayers for TiSi<sub>2</sub> formation, Application to shallow junctions for submicron circuits", A. G. Nassiopoulou, D. Tambouris, T. Travlos, P. Aloupogiannis, A. Traverse, E. Tsoi, Proc. VII Nat. Congress on Sol. St. Phys., (1991) 150
74. "High Spatial Resolution in Scanning Auger Microscopy and x-ray Microanalysis", A. G. Nassiopoulos, N. Glezos and E. Valamontes, Proc. ECASIA 1991, Budapest, Hungary, (1991)
75. "Point-to-point resolution in X-ray Microanalysis of thin coatings in the energy range 20-100keV", A. G. Nassiopoulos and E. Valamontes, Microscopy of Semiconducting Materials, Inst. Phys. Conf. Series, 117(2) (1991) 75
76. "Monte-Carlo Calculations of the Spatial Resolution in X-ray Microanalysis of thin overlayers, in the Energy Range 20-100 keV", A. G. Nassiopoulos and E. Valamontes, Microbeam Analysis, vol.1 (1990) 161
77. "Experimental Determination of the Total Enhancement Factor in X-ray Microanalysis of Thin Overlayers", A. G. Nassiopoulos, E. Valamontes, A. Travlos, C. Tsamis, Proc. 12th Int. Congr. Elec. Micr, 218, (1990)

- 
78. "Surface Microanalysis with a variable information depth. Study of Silicon Oxides on Silicon", A. G. Nassiopoulou and J. Cazaux, *Microscopy of Semiconducting Materials*, Inst. Phys. Conf. Ser. 100(2) (1989) 93
79. "Backscattering factor for EPMA analysis of stratified materials: Experiments and Monte-Carlo calculations", J. Cazaux, O. Jbara, A. G. Nassiopoulou, E. Valamontes, *Proc. 12th Inter. Congr. on X-ray Opt. and Micr.*, 201,(1989)
80. "Scanning X-ray Microfluorescence in a SEM for the Analysis of very thin overlayers", E. Valamontes, A. G. Nassiopoulou, *Proceed. of the III Balkan Congress on Electron Microscopy*, Athens, Greece (1989), p.277
81. "Use of the SEM for thickness measurements, with a submicron resolution, of thin silicides grown on Silicon", A. G. Nassiopoulou, T. Travlos, D. Tambouris, E. Valamontes, *Proceed. of III Balkan Congress on Electron Microscopy*, Athens-Greece, (1989), p.285
82. "Backscattering and X-ray induced correction factors for EPMA (EDX) Analysis of stratified materials", A. G. Nassiopoulou, E. Valamontes, *Proceed. of III Balkan Congress on Electron Microscopy*, Athens, Greece, (1989),p.188
83. "Film thickness distribution and thickness measurements of buried layers using the Electron Probe Microanalysis Technique", A. G. Nassiopoulou, E. Valamontes, *Int. Conf. Ser. No 93: Vol. 2, Chap.4* (1988) 157
84. "Spectroscopie d'excitation des niveaux electroniques profonds par reflexion d' electrons lents sur des surfaces", A. G. Nassiopoulou, X. Thomas, J. Cazaux, *Journal de Microscopie et Spectr. Electroniques*, Vol.9 (1984) 23
85. "Un appareil d'analyse des surfaces par spectroscopies de seuil", A. G. Nassiopoulou, J. Cazaux, *Journ. Micr. Spectr. Electr.*, Vol.7 (1982) 14a
86. "Microanalyse par Spectroscopie Auger Induite par les rayons X (raies caracteristiques et radiation Continue)", D. Gramari, A. G. Nassiopoulou, J. Cazaux, *Journ. Micr. Spectr. Electroniques*, Vol.7 (1982) 14a
87. "Utilization of a simple cylindrical ion trap as a low- cost spectrometer or analyzer-element in an He-leak-detector", A. G. Nassiopoulou, P.A. Moller, *Proceeding of the 8th Inter. Vacuum Congress*, Vol.III (1980) 211-214

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- 
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  15. Special issue of Physica Status Solidi: PSST 2002, Guest Editors: L. Canham, A. Nassiopoulou and V. Parkhutik, Wiley-VCH, (2003), Proceedings of the 3rd International, Conference on Porous Semiconductors Science and Technology, held in Tenerife-Spain 10-15 March 2002
  16. Book, World Scientific publishing, containing the Proceedings of the First Conference on Microelectronics, Microsystems and Nanotechnology MMN 2000, held in Athens, Greece in November 2000, edited by A. G. Nassiopoulou and X. Zianni, (2000)
  17. Special Issue of Materials Science & Engineering B: Solid State Materials for Advanced Technology, Elsevier, Guest Editors: M. Thönissen and A. G. Nassiopoulou, (2000), containing the Proceedings of EMRS Symposium I: "Microcrystalline and Nanocrystalline Semiconductors" held on June 1-4 1999 Strasbourg, France
  18. Special Issue of Physica Status Solidi, Wiley-VCH, vol. 165, Number 1, Quest Editors: A. G. Nassiopoulou and Ph. Fauchet, (1998) with the Proceedings of the "II International Workshop on Light Emitting Low Dimensional Silicon Structures", held in Athens in 1998
  19. Special Issue of Physica Status Solidi (b), Wiley-VCH, vol 190, Number 1, Editors: A. G. Nassiopoulou and F. Arnaud d' Avitaya (1994), containing the Proceedings of the "I International Workshop on Light Emitting Low Dimensional Silicon Structures", held in Athens in 1994