

## Publications in International Journals and Reviews

- 1. Evidence for quantum confinement in the photoluminescence of porous Si and SiGe, S. Gardelis, J. S. Rimmer, P. Dawson, B. Hamilton, R. A. Kubiak, T. E. Whall, and E. H. C. Parker, Applied Physics Letters 59, 2118 (1991)**
- 2. The effect of surface modification on the luminescence of porous silicon, S. Gardelis, and B. Hamilton, Journal of Applied Physics 76, 5327 (1994)**
- 3. Double crystal x-ray diffraction, electron diffraction and high resolution electron microscopy of luminescent porous silicon, S. Gardelis, U. Bangert, A.J. Harvey and B. Hamilton, Journal of Electrochemical Society 142, 2094 (1995)**
- 4. The correlation between structural and optical properties of luminescent porous silicon, S. Gardelis, U. Bangert, and B. Hamilton, Thin Solid Films 255, 167 (1995)**
- 5. X-ray Excited Optical Luminescence (XEOL) study of porous silicon, R.F. Pettifer, A. Glanfield, S. Gardelis, B. Hamilton, and A.D. Smith, Physica B 208&209, 484 (1995)**
- 6. Core shell spectroscopy of rapidly oxidized porous silicon: linking the chemical and electronic structures, U. Bangert, S. Gardelis, B. Hamilton, and R.F. Pettifer, Physica Status Solidi B 190, 69 (1995)**
- 7. Sharp 1.54  $\mu\text{m}$  luminescence of porous, erbium doped silicon, T. Taskin, S. Gardelis, J.H. Evans, B. Hamilton, and A.R. Peaker, Electronics Letters 31, 2132 (1995)**
- 8. Chemical nature of the luminescent center in fresh and aged porous silicon layers, S. Gardelis, U. Bangert, B. Hamilton, R.F. Pettifer, D.A. Hill, R. Keyse, and D. Teehan, Applied Surface Science 102, 408 (1996).**
- 9. XEOL studies of porous silicon, D.A. Hill, R.F. Pettifer, S. Gardelis, B. Hamilton, A.D. Smith, and D. Teehan, Journal de Physique IV 7, 553 (1997)**
- 10. Spin-dependent electron momentum densities in Cu<sub>2</sub>MnAl studied by Compton scattering, E. Zukowski, A. Andrejczuk, L Dobrzynski, M. J. Cooper, M. A. G. Dixon, S. Gardelis, P. K. Lawson, T Buslaps, S. Kaprzyk, K-U Neumann, and K. R. A. Ziebeck, Journal of Condensed Matter 9, 10993 (1997)**
- 11. The cross-section for magnetic Compton scattering up to 1 MeV, J.E. McCarthy, M.J. Cooper, V. Honkimaki, T. Tschentscher, P. Suortti, S. Gardelis, K. Htiminen, S.O. Manninen, D.N. Timms, Nuclear Instruments and Methods in Physics Research A 401, 463 (1997)**
- 12. Spin density in ferromagnetic nickel: a magnetic Compton scattering study M. A. G. Dixon, J. A. Duffy, S. Gardelis, J. E. McCarthy, M. J. Cooper, S. B. Dugdale, T. Jarlborg and D. N. Timms, Journal of Condensed Matter 10, 2759 (1998)**
- 13. Spin-valve effects in a semiconductor field-effect transistor: A spintronic device, S. Gardelis, C. G. Smith, C. H. W. Barnes, E. H. Linfield, and D. A. Ritchie, Physical Review B 60, 7764 (1999)**

- 14. Magnetization reversal and magnetoresistance in a lateral spin-injection device**, W. Y. Lee, **S. Gardelis**, B.-C. Choi, Y. B. Xu, C. G. Smith, C. H. W. Barnes, D. A. Ritchie, E. H. Linfield, and J. A. C. Bland, *Journal of Applied Physics* 85, 6682 (1999)
- 15. Spin-valve effects in a two-dimensional electron gas system**, **S. Gardelis**, C.G. Smith, W.Y. Lee, C.H.W. Barnes, E.H. Linfield, D.A. Ritchie, J.A.C. Bland, *Physica E* 6, 718 (2000)
- 16. Detection of electron scattering in an isolated double quantum dot system**, C.G. Smith, **S. Gardelis**, J. Cooper, D.A. Ritchie, E.H. Linfield, Y. Jin, H. Launois, *Physica E* 12, 830 (2002)
- 17. Evidence for transfer of polarization in a quantum dot cellular automata cell consisting of semiconductor quantum dots**, **S. Gardelis**, C. G. Smith, J. Cooper, D. A. Ritchie, E. H. Linfield, and Y. Jin, *Physical Review B* 67, 033302 (2003) (selected for the *Virtual Journal of Nanoscale Science & Technology* vol. 7, issue 8 (2003))
- 18. Dephasing in an isolated double-quantum-dot system deduced from single-electron polarization measurements**, S. Gardelis, C. G. Smith, J. Cooper, D. A. Ritchie, E. H. Linfield, Y. Jin, and M. Pepper, *Physical Review B* 67, 073302 (2003) (selected for the *Virtual Journal of Nanoscale Science & Technology* vol. 7, issue 4 (2003))
- 19. Realization of quantum-dot cellular automata using semiconductor quantum dots**, C.G. Smith, **S. Gardelis**, A.W. Rushforth, R. Crook, J. Cooper, D.A.Ritchie, E.H. Linfield, Y. Jin, M. Pepper, *Superlattices and Microstructures* 34, 195 (2003)
- 20. Large positive magnetoresistance in nonstoichiometric NiMnSb thin films on silicon**, W. R. Branford, S. K. Clowes, M. H. Syed, Y. V. Bugoslavsky, **S. Gardelis**, J. Androulakis, J. Giapintzakis, A. V. Berenov, S. B. Roy, L. F. Cohen, *Applied Physics Letters* 84, 2358 (2004)
- 21. Thickness dependence of Hall transport in Ni<sub>1.15</sub>Mn<sub>0.85</sub>Sb thin films on silicon**, W. R. Branford, S. K. Clowes, Y. V. Bugoslavsky, **S. Gardelis**, J. Androulakis, J. Giapintzakis, C. E. A Grigorescu, S. A. Manea, R. S. Freitas, S. B. Roy, L. F. Cohen, *Physical Review B* 69, Rapid Communication, 201305(R) (2004)
- 22. Spin polarisation and anomalous Hall effect in NiMnSb films**, W.R.Branford, S.B. Roy, S.K. Clowes, Y. Miyoshi, Y.V. Bugoslavsky, **S. Gardelis**, J. Giapintzakis, L.F. Cohen, *Journal of Magnetism and Magnetic Materials* 272, 1399 (2004)
- 23. Synthesis and physical properties of arc melted NiMnSb**, **S. Gardelis**, J. Androulakis, P. Migiakis, J. Giapintzakis, S. K. Clowes, Y. Bugoslavsky, W. R. Branford, Y. Miyoshi, L. F. Cohen, *Journal of Applied Physics* 95, 8063 (2004)
- 24. Recent advances in spintronics. Half-metal ferromagnets: Their role in spintronics**, **S. Gardelis**, J. Androulakis, P. Migiakis, and J. Giapintzakis, *Materials Science Forum* 455, 137 (2004)

- 25. Magnetic properties of the half-metallic ferromagnet NiMnSb grown on InSb by pulsed laser deposition**, J. Androulakis, **S. Gardelis**, J. Giapintzakis, P.D. Buckle, Applied Physics A 79, 1211 (2004)
- 26. Structural, magnetic, and electrical properties of NiMnSb thin films grown on InSb by pulsed-laser deposition**, **S. Gardelis**, J. Androulakis, J. Giapintzakis, O. Monnereau, P. D. Buckle, Applied Physics Letters 85, 3178 (2004)
- 27. Possible use of the half-Hausler alloy NiMnSb in spintronics: Synthesis and physical properties of arc melted NiMnSb and of NiMnSb thin films grown on InSb by pulsed laser deposition**, **S Gardelis**, J Androulakis, O Monnereau, P D Buckle and J Giapintzakis, Journal of Physics: Conf. Ser. 10, 167 (2005)
- 28. Indium oxide as a possible tunnel barrier in spintronic devices**, J. Androulakis, **S. Gardelis**, J. Giapintzakis, E. Gagaoudakis, G. Kiriakidis, Thin Solid Films 471, 293 (2005)
- 29. Surface and interface study of pulsed-laser-deposited off-stoichiometric NiMnSb thin films on a Si(100) substrate**, S. Rai, M. K. Tiwari, G. S. Lodha, M. H. Modi, M. K. Chattopadhyay, S. Majumdar, **S. Gardelis**, Z. Viskadourakis, J. Giapintzakis, R. V. Nandedkar, S. B. Roy,<sup>2</sup> and P. Chaddah, Physical Review B 73, 035417 (2006) (selected for the Virtual Journal of Nanoscale Science & Technology vol. 13, issue 3 (2006))
- 30. Comparison of free surface polarization of NiMnSb and Co<sub>2</sub>MnSi**, Y. Miyoshi, Y. Bugoslavsky, M. H. Syed, T. Robinson, and L. F. Cohen, L. J. Singh and Z. H. Barber, C. E. A. Grigorescu, **S. Gardelis**, J. Giapintzakis, W. Van Roy, Applied Physics Letters 88, 142512 (2006) (selected for the Virtual Journal of Nanoscale Science & Technology vol. 13, issue 15 (2006))
- 31. Negative giant longitudinal magnetoresistance in NiMnSb/InSb: Interface effect**, **S. Gardelis**, J. Androulakis, Z. Viskadourakis, E. L. Papadopoulou, J. Giapintzakis, S. Rai, G. S. Lodha, and S. B. Roy, Physical Review B 74, 214427 (2006)
- 32. Magneto-transport properties of NiMnSb thin films on InSb single crystals: Negative giant magnetoresistance**, **S. Gardelis**, J. Androulakis, Z. Viskadourakis, E. L. Papadopoulou, J. Giapintzakis, S. Rai, G. S. Lodha, and S. B. Roy, Physica Status Solidi (a) 204, 92 (2007)
- 33. Ultra-thin films with embedded Si nanocrystals fabricated by electrochemical dissolution of bulk crystalline Si in the transition regime between porosification and electropolishing**, **S. Gardelis**, I. Tsiaoussis, N. Frangis and A. G. Nassiopoulou, Nanotechnology 18, 115705 (2007)
- 34. Optical characterization of Si-rich silicon nitride films prepared by low pressure chemical vapor deposition**, V.Em. Vamvakas, N. Vourdas, **S. Gardelis**, Microelectronics Reliability 47, 794 (2007)
- 35. Fundamental transport processes in ensembles of silicon quantum dots** I. Balberg, E. Savir, and J. Jedrzejewski, A. G. Nassiopoulou and **S. Gardelis**, Physical Review B 75, 235329 (2007) (selected for the Virtual Journal of Nanoscale Science & Technology vol. 16, issue 2 (2006))

- 36. FTIR characterization of light emitting Si-rich nitride films prepared by low pressure chemical vapor deposition**, V. Em. Vamvakas, and **S. Gardelis**, Surface and Coatings Technology 201, 9359 (2007)
- 37. 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, and N. Frangis, Journal of Applied Physics 103, 103536 (2008)
- 38. Auger recombination in silicon nanocrystals embedded in SiO<sub>2</sub> wide band-gap lattice**, M. Mahdouani, R. Bourguiga, S. Jaziri, **S. Gardelis**, and A. G. Nassiopoulou, Physica Status Solidi (a) 205, 2630 (2008)
- 39. Columnar growth of ultra-thin nanocrystalline Si films on quartz by Low Pressure Chemical Vapor Deposition: accurate control of vertical size**, Ch. B. Lioutas, N. Vouroutzis, I. Tsiaoussis, N. Frangis, **S. Gardelis**, and A. G. Nassiopoulou, Physica Status Solidi (a) 205, 2615 (2008)
- 40. 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 41, 986 (2009)
- 41. Effect of exciton migration on the light emission properties in silicon nanocrystal ensembles**, **S. Gardelis**, A. G. Nassiopoulou, N. Vouroutzis, N. Frangis, Journal of Applied Physics 105, 113509 (2009) (**selected for the Virtual Journal of Ultrafast Science vol. 8, issue 7 (2009)**)
- 42. Investigation of Auger recombination in Ge and Si nanocrystals embedded in SiO<sub>2</sub> matrix**, M. Mahdouani, R. Bourguiga, S. Jaziri, **S. Gardelis**, A.G. Nassiopoulou, Physica E 42, 57 (2009)
- 43. Photoluminescence-induced oscillations in porous anodic aluminum oxide films grown on Si: Effect of the interface and porosity**, **S. Gardelis**, A. G. Nassiopoulou, V. Gianneta, M. Theodoropoulou, Journal of Applied Physics 107, 113104 (2010)
- 44. Lateral electrical transport, optical properties and photocurrent measurements in two-dimensional arrays of silicon nanocrystals embedded in SiO<sub>2</sub>**, **S. Gardelis**, P. Manousiadis, A. G. Nassiopoulou, Nanoscale Research Letters 6, 227 (2011)
- 45. Optical characterization of nanocrystals in silicon rich oxide superlattices and porous silicon**, E. Agocs, P. Petrik, S. Milita, L. Vanzetti, **S. Gardelis**, A.G. Nassiopoulou, G. Pucker, R. Balboni, M. Fried, Thin Solid Films 519, 3002 (2011)
- 46. Lateral electronic transport in 2D arrays of oxidized Si nanocrystals on quartz: Coulomb blockade effect and role of hydrogen passivation**, P. Manousiadis, **S. Gardelis**, and A. G. Nassiopoulou, Journal of Applied Physics 109, 083718 (2011)

**47. Role of surface vibration modes in Si nanocrystals within light emitting porous Si at the strong confinement regime**, M. Mahdouani, **S. Gardelis**, and A. G. Nassiopoulou, Journal of Applied Physics 110, 023527 (2011)

**48. 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, A. Gkanatsiou, N. Frangis, Ch. B. Lioutas, Journal of Applied Physics 111, 083536 (2012)

**49. Lateral electrical transport and photocurrent in single and multilayers of two-dimensional arrays of Si nanocrystals**, P. Manousiadis, **S. Gardelis**, and A.G. Nassiopoulou, J. Appl. Phys. 112, 043704 (2012)

**50. Electrical transport and photocurrent mechanisms in silicon nanocrystal multilayers**, P. Manousiadis, **S. Gardelis**, and A.G. Nassiopoulou, J. Appl. Phys. 113, 043703 (2013)

**51. A silicon-wafer based p-n junction solar cell by aluminum-induced recrystallization and doping**, **S. Gardelis**, A.G. Nassiopoulou, P. Manousiadis, N. Vouroutzis, and N. Frangis, Appl. Phys. Lett. 103, 241114 (2013)

#### **Publications in International Conference Proceedings**

1. Radiative recombination mechanisms in porous silicon, **S. Gardelis**, B. Hamilton, R.A. Kubiak, T.E. Whall, and E.C.H. Parker, in Material Research Society Symposium Proceedings 256, 149 (1991)
2. Light emission from porous silicon and other self-organised low dimensional systems, B. Hamilton and **S. Gardelis**, in NATO ASI Ser. E: Appl. Sci. 244, 147 (1993)
3. Energy localization and surface interactions in the luminescence of porous silicon, **S. Gardelis**, P. Dawson and B. Hamilton, in in Material Research Society Symposium Proceedings 298, 337 (1993)
4. Chemical composition of luminescent porous silicon layers, **S. Gardelis**, U. Bangert, B. Hamilton, R.F. Pettifer, D.A. Hill and R. Keyse, Institute of Physics Conference Series 146, 519 (1995)
5. Ultra high resolution quantitative analysis of nano-structures, U. Bangert, A.J. Harvey, **S. Gardelis**, R.J. Keyse, C. Dieker and A. Hartmann, Institute of Physics Conference Series 146, 61 (1995)
6. X-ray excited optical luminescence (XEOL) studies of as-prepared and rapid oxidized porous silicon, **S. Gardelis**, B. Hamilton, A. Glanfield, R.F. Pettifer and A.D. Smith, proceedings of the 22<sup>nd</sup> International Conference on the Physics of Semiconductors, edited by D.J. Lockwood, World Scientific, 2141 (1995)
7. Chemical identity of the centre responsible for the visible luminescence in fresh and aged porous silicon layers, **S. Gardelis**, U. Bangert, B. Hamilton, R.F. Pettifer, D.A. Hill, R. Keyse and D. Teehan, in Advanced Luminescent Materials, edited by D.J. Lockwood, P.M. Fauchet, N. Koshida and S.R.J. Brueck, PV95-25, 259, The Electrochemical Society Proceedings Series, Pennington, NJ (1996)
8. Magnetoresistance of Ferromagnet/Semiconductor/Ferromagnet Junctions, **S. Gardelis**, C.G. Smith, W.Y. Lee, C.H.W. Barnes, D.A. Ritchie, E.H. Linfield, J.A.C Bland, proceedings of the 24<sup>th</sup> International Conference on the Physics of Semiconductors, edited by David Gershoni, World Scientific (1999)

9. Realization of Quantum-dot Cellular Automata (QCA) using semiconductor quantum dots, **S. Gardelis**, C.G. Smith, J. Cooper, D.A. Ritchie, E.H. Linfield, Y. Jin, proceedings of the 26<sup>th</sup> International Conference on the Physics of Semiconductors, Institute of Physics, Conference Series 171, edited by A.R. Long and J.H. Davies (2003)
10. Light-emission characteristics of silicon nanocrystals formed by anodization of bulk crystalline silicon in the transistor regime, **S. Gardelis** and A.G. Nassiopoulou, Phys. Stat. Sol. (c) 4, 2165 (2007)
11. Spectroscopic characterization of ultra-thin anodic silicon layers grown at the early stages of anodization, **S. Gardelis**, S. Jaziri and A.G. Nassiopoulou, AIP Conference Proceedings 935, 87 (2007)
12. Structural and light-emitting properties of ultra-thin anodic silicon films formed at the early stages of bulk silicon anodization, **S. Gardelis**, A.G. Nassiopoulou, I. Tsiaoussis and N. Frangis, in Physics and applications of nanostructures. Reviews and Short Notes. Proceedings of the International Conference on Nanomeeting – 2007, edited by V.E. Borisenko, V.S. Gaponenko, p. 184 (2007)
13. "Preparation and characterization of nanocrystals using ellipsometry and X-ray diffraction", P. Petrik, S. Milita, G. Pucker, A. G. Nassiopoulou, J. A. van den Berg, M. A. Reading, M. Fried, T. Lohner, M. Theodoropoulou, **S. Gardelis**, M. Barozzi, M. Ghulinyan, A. Lui, L. Vanzetti, A. Picciotto, ECS Trans. 25 (3) 373-378 (2009)

#### **Publications in National Conference Proceedings**

1. Measurement of dephasing in an isolated double quantum dot system using a non-invasive voltage probe-implications in quantum computing, **S. Gardelis**, C.G. Smith, J. Cooper, D.A. Ritchie, E.H. Linfield, Y. Jin, M. Pepper, XVIII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 15-18 Σεπτεμβρίου 2002, ΙΤΕ, Ηράκλειο, Κρήτη
2. Realization of quantum dot cellular automata (QCA) using semiconductor quantum dots, **S. Gardelis**, C.G. Smith, J. Cooper, D.A. Ritchie, E.H. Linfield, Y. Jin, XVIII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 15-18 Σεπτεμβρίου 2002, ΙΤΕ, Ηράκλειο, Κρήτη
3. Half-metal ferromagnets: their role in spintronics, **S. Gardelis**, J. Androulakis, P. Migiakis, and J. Giapintzakis, XIX Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 21-24 Σεπτεμβρίου 2003, Τμήμα Φυσικής-ΑΠΘ, Θεσσαλονίκη
4. Negative giant magnetoresistance in NiMnSb thin films on InSb, **S. Gardelis**, J. Androulakis, Z. Viskadourakis, E.L. Papadopoulou, and J. Giapintzakis, XXI Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 28-31 Αυγούστου 2005, Τμήμα Φυσικής, Πανεπιστήμιο Κύπρου, Λευκωσία, Κύπρος
5. Οπτικός χαρακτηρισμός μη-στοιχειομετρικών υμενίων νιτριδίου του πυριτίου, Β. Εμ. Βαμβακάς, Ν. Βούρδας, **Σ. Γαρδέλης**, XXII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 24-27 Σεπτεμβρίου 2006, Πανεπιστήμιο Πατρών, Πάτρα, 2006
6. Νανοκρυσταλλίτες Si σε υπέρλεπτα υμένα ανεπτυγμένα κατά τα πρώτα στάδια ανοδίωσης κρυσταλλικού πυριτίου: Μελέτη της δομής και των οπτικών τους ιδιοτήτων, **Σ. Γαρδέλης**, Α.Γ. Νασιοπούλου, Ι. Τσιαούσης και Ν. Φράγκης, XXIII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 23-26 Σεπτεμβρίου 2007, ΕΚΕΦΕ Δημόκριτος, Αθήνα
7. Structural, chemical and light emission properties of very thin anodic silicon films fabricated by short single pulses", **S. Gardelis**, A.G. Nassiopoulou, F. Petraki, S. Kennou, I. Tsiaoussis, N. Frangis, XXIV Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 28-31 Σεπτέμβριος 2008, Κρήτη

8. Exciton migration in light emitting silicon nanocrystal ensembles and its effect on light emission, **S. Gardelis** and A.G. Nassiopoulou, XXVI Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 26-29 Σεπτέμβριος 2010, Πανεπιστήμιο Ιωαννίνων, Ιωάννινα
9. Electronic transport in nanocrystalline silicon films: Observation of Coulomb blockade effects, P. Manousiadis, **S. Gardelis**, and A.G. Nassiopoulou, XXVI Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 26-29 Σεπτέμβριος 2010, Πανεπιστήμιο Ιωαννίνων, Ιωάννινα
10. Electrical and Optical Properties of 2D arrays of Silicon Nanocrystals”, P. Manousiadis, **S. Gardelis** and A.G. Nassiopoulou, XXVII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 18-21 Σεπτεμβρίου 2011, Λεμεσός, Κύπρος
11. Single and multilayers of two-dimensional arrays of Si nanocrystals for photovoltaics: Structural and optical characterization, **S. Gardelis**, A.G. Nassiopoulou, P. Manousiadis, A. Gkanatziou, N. Frangis, and Ch. B. Lioutas, XXVIII Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 23-26 Σεπτεμβρίου 2012, Πάτρα
12. Silicon nanocrystals for solar cells, **S. Gardelis**, P. Manousiadis, and A.G. Nassiopoulou, XXIX Πανελλήνιο Συνέδριο Φυσικής Στερεάς Κατάστασης και Επιστήμης Υλικών, 22-25 Σεπτεμβρίου 2013, Αθήνα

### Chapter in Book

Non-Invasive Charge devices, G. Iannaccone, C. Ungarelli, M. Governale, M. Macucci, **S. Gardelis**, C.G. Smith, J. Cooper, D.A. Ritchie, E.H. Linfield, in Quantum Cellular Automata-Theory, Experimentation and Prospects, edited by M. Macucci, Imperial College Press (2006), 213-227

### Invited talks

1. Recent advances in spintronics. Half-metal ferromagnets: Their role in spintronics, **S. Gardelis**, J. Androulakis, P. Mygiakis and J. Giapintzakis, Materials 2003, Lisbon, Portugal 2003
2. Structural and light-emitting properties of ultra-thin anodic silicon films formed at the early stages of bulk silicon anodization, **S. Gardelis**, A.G. Nassiopoulou, I. Tsiaoussis and N. Frangis, Nanomeeting 2007, Minsk, Belarus 2007
3. Transport, optical and photo-electric properties of 2D arrays of Si nanocrystals embedded in SiO<sub>2</sub> for solar cell applications, **S. Gardelis**, P. Manousiadis, and A.G. Nassiopoulou, Villa Conference on Interaction Among Nanostructures (VCIAN-2011), Las Vegas, Nevada, USA, April 21-25, 2011
4. Electro-Optical properties of two-dimensional arrays of Si Nanocrystals for Solar Cell applications, **S. Gardelis**, P. Manousiadis, and A.G. Nassiopoulou, 8th International Conference on Nanosciences & Nanotechnologies (NN11), Thessaloniki, 12-15 July, 2011
5. Silicon nanostructures for optoelectronic and photovoltaic applications, **S. Gardelis**, P. Manousiadis, and A.G. Nassiopoulou, Materials Science and Engineering Multinational Workshop, 27-28 June 2011, University of North Texas, Denton, Texas, USA
6. Silicon Nanostructures: Optical and Optoelectronic Properties-Potential Applications In 3rd Generation Photovoltaics, **S. Gardelis**, P. Manousiadis, and A.G. Nassiopoulou, The 2nd International Conference of the Serbian Ceramic Society, 5-7 June, 2013, Belgrade, Serbia