

## CURRICULUM VITAE

STEFANIA MARIA SERENA PRIVITERA

### Studi compiuti e Titoli di studio conseguiti

Novembre 1998-Febbraio 2002	<i>Dottorato in Fisica</i> , Università di Catania.
Luglio-Settembre 2001	<i>Ph.D. Summer student</i> Interconnect Technology Department at IBM <i>T.J. Watson Research Center</i> , Yorktown Heights, NY (USA)
Ottobre 1993-Luglio 1998	<i>Laurea in Fisica</i> 110/110 e lode, Università di Catania.

### Attività lavorative

1 Dicembre 2011 - Oggi	<i>Ricercatore a tempo indeterminato</i> Istituto per la Microelettronica e Microsistemi (IMM), Consiglio Nazionale delle Ricerche (CNR)
Luglio 2004 - Novembre 2011	<i>Ricercatore a tempo indeterminato</i> R&D Department, STMicroelectronics, Catania
Gennaio 2004 - Giugno 2004	<i>Ricercatore in regime di Collaborazione coordinata e continuativa</i> IMM-CNR. Programma di Ricerca FIRB RBNE012N3X. Oggetto: Studio di nuovi materiali per memorie non volatili a stato solido.
Dicembre 2001 – Gennaio 2004	<i>Assegno di ricerca</i> (art. 51 comma 6 legge 449/97) Università degli studi di Catania. Programma di ricerca: Crescita e caratterizzazione strutturale ed elettrica di film metallici e semiconduttori.
Agosto -Settembre 2000	<i>Visiting scientist</i> Interconnect Technology Department at IBM <i>T.J. Watson Research Center</i> , Yorktown Heights, NY (USA)

### Premi

Ottobre 2021	<i>Premio Progetto 2021</i> (TELEGRAM), assegnato da IMM-CNR
Dicembre 2016	<i>Outstanding Reviewer</i> , assegnato da Journal of Physics D: Applied Physics
Settembre 2001	<i>Premio per giovani ricercatori</i> , assegnato da Società Italiana di Fisica (SIF), Milano
Settembre 2001	<i>Miglior Poster</i> alla Scuola Nazionale di Fisica della Materia, Torino, <i>Settembre 2001</i> , organizzata dall'Istituto Nazionale di Fisica della Materia (INFM)

### Partecipazione a Progetti Finanziati

Novembre 2020 - Aprile 2024	<i>Coordinatore del Progetto di Ricerca Europeo H2020</i> denominato "TOWARD EFFICIENT ELECTROCHEMICAL GREEN AMMONIA CYCLE (TELEGRAM)" (GRANT AGREEMENT N. 101006941)
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Gennaio 2017 – Dicembre 2020	<b>Workpackage Leader</b> nel <b>progetto di Ricerca Europeo H2020</b> denominato “Technology demonstration of large-scale photo-electrochemical system for solar hydrogen production ( <b>PECSYS</b> )” (GRANT AGREEMENT N. 735218)
Dicembre 2011 - Maggio 2014	<b>OR Leader</b> dell’attività scientifica avente come oggetto la realizzazione di “Celle Solari a base di Silicio per sistemi a concentrazione” ( <b>Ricerca Industriale 3.5</b> ) nell’ambito del progetto Italiano <b>PON01_01725</b> “Nuove tecnologie fotovoltaiche per sistemi intelligenti integrati in edifici”
Aprile 2020- Settembre 2022	<b>Partecipante</b> all’attività del progetto di Ricerca ARS01_00519 - Programma PON «R&I» 2014-2020 - Azione II – OS 1.b) denominato Tecnologia per Celle Solari Bifacciali ad Alta Efficienza a 4 terminali per “Utility Scale” ( <b>Best4U</b> )
Gennaio 2019- Giugno 2022	<b>Partecipante</b> all’attività del progetto di Ricerca Europeo H2020 denominato Boosting Performance of Phase Change Devices by hetero- and nano-structure material design ( <b>BEFOREHAND</b> ) (G.A. N. 824957).
Maggio 2017 – Aprile 2020	<b>Partecipante</b> all’attività del progetto di Ricerca Europeo H2020 denominato Automated photovoltaic cell and Module industrial Production to regain and secure European Renewable Energy Market ( <b>AMPERE</b> ) (G.A. N. 745601)
Gennaio 2017 - Giugno 2021	<b>Partecipante</b> all’attività del progetto di Ricerca Europeo H2020 denominato 3C-SiCHetero-epitaxiALLY grown on silicon compliancE substrates and new 3C-SiC substrates for sustaiNable wide-band-Gap powEr devices ( <b>Challenge</b> ) (G.A. N. 824957).

### Organizzazione di Conferenze

2018	<b>Leading Organizer, Materials Research Symposium (MRS) Spring Meeting, Phoenix (AZ), USA 2-6 April 2018.</b> Symposium EP07: Phase-Change Materials and Their Applications—Memories, Photonics, Displays and Non-von Neumann Computing.
2017	<b>Organizer, Materials Research Symposium (MRS) Spring Meeting, 17-21 April 2017, Phoenix (AZ), USA</b> Symposium ED11: Phase-Change Materials and Their Applications—Memories, Photonics, Displays and Non-von Neumann Computing.
2016	<b>Member of the Local Organizing Committee, 19th Workshop on Dielectrics in Microelectronics WODIM 2016, 27-30 Giugno 2016, Catania</b>

### Partecipazione a commissioni di Dottorato

Settembre 2021	<b>Membro esperto,</b> Commissione per la selezione degli studenti di dottorato ( XXXVII ciclo) Università di Catania
Febbraio 2019	<b>Membro,</b> Commissione per la valutazione della tesi di Dottorato. Ph.D. Student: ██████████ University of Oxford, UK. Thesis: Nanoelectronics devices using two dimensional and phase change materials

Ottobre 2018	<b>Presidente</b> , commissione per la valutazione della tesi di Dottorato. Ph.D. Student: ██████████ University Rovira i Virgili in Tarragona, Spain. Thesis: Materials and molecules for pollution free clean energy
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### Presentazioni su invito

2004	European phase change ovonic science ( <b>EPCOS</b> ), Liechtenstein. <i>Amorphous to fcc transition in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> thin films: kinetics and effects of doping</i> , authors: <u>S. Privitera</u> , E. Rimini, C. Bongiorno, R. Zonca
2016	<b>Materials Research Society (MRS) Spring Meeting 2016, Phoenix, Arizona.</b> <i>Phase Transitions in Ge-Sb-Te Alloys Induced by Ion Irradiations</i> , authors: <u>S. Privitera</u> , A. M. Mio, J. Benke, C. Persch, E. Smecca, A. Alberti and E. Rimini
2017	<b>European Phase Change and Ovonic Symposium (EPCOS) 2017, RWTH Aachen University</b> <i>Role of Interfaces on the stability and electrical properties of GeSbTe crystalline structures</i> authors: <u>S. M. S. Privitera</u> , A. Mio, V. Bragaglia, F. Aciprete, S. Cecchi, C. Persch, R. Calarco, and E. Rimini
2019	<b>Materials Research Society (MRS) Spring Meeting 2019, Phoenix, Arizona.</b> <i>Structural and Electrical Properties of Phase Change Materials Towards Amorphization</i> , Authors: <u>S. M. S. Privitera</u> , A. M. Mio, C. Persch, M. Zimbone, M. Wuttig, and E. Rimini
2019	<b>XXIV Conference of the AIV, Giardini Naxos (ME), 8-10 Maggio 2019</b> <i>Electrochemical water splitting with functionalised Ni foam electrodes</i> , Authors: <u>S. M. S. Privitera</u> , R.G. Milazzo, D. D'Angelo, S. Scalese, S. A. Lombardo
2020	<b>Materials Research Society (MRS) Spring Meeting 2020, Phoenix, Arizona</b> <i>Amorphization and crystallization of Ge rich GeSbTe thin films for embedded memory applications</i> , authors: <u>S. M. S. Privitera</u> , I. Lopez Garcia, C. Bongiorno, V. Sousa, M. C. Cyrille, G. Navarro, C. Sabbione, E. Carria, E. Rimini

### Editing

2021	<b>Guest Editor</b> dello Special Issue “Synthesis, Properties and Applications of Germanium Chalcogenides”, Nanomaterials, MDPI
2019	<b>Guest Editor</b> dello Special Issue “Materials and Devices for Solar to Hydrogen Energy Conversion”, Energies, MDPI (2019)

### Capitoli di Libro

- *Amorphous-to-fcc transition in GeSbTe alloys*, authors: S. Privitera, C. Bongiorno, E. Rimini, R. Zonca, per il libro “Materials for Information Technology”, pag. 189, editori E. Zschech, C. Whelan, T. Mikolajick, Springer Verlag (2005). (ISBN- 978-1-85233-941-8).

- *Ion Implantation in phase change Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> thin films for nonvolatile memory applications*, author: S. Privitera per il libro “Ion Implantation”, pag. 129, Intech (2012). (ISBN- 978-953-308-3-1)

## Publicazioni

- 1) ***Ion beam irradiation of phase change materials: A route to material properties investigation and engineering***, S. M. S. Privitera, E. Rimini, *Materials Science in Semiconductor Processing* 135, 106087 (2021). Review paper.
- 2) ***Development of Various Photovoltaic-Driven Water Electrolysis Technologies for Green Solar Hydrogen Generation***, S. Calnan, R. Bagacki, F. Bao, I. Dorbandt, E. Kemppainen, C. Schary, R. Schlatmann, M. Leonardi, S. A. Lombardo, R. G. Milazzo, S. MS Privitera, F. Bizzarri, C. Connelli, D. Consoli, C. Gerardi, P. Zani, M. Carmo, S. Haas, M. Lee, M. Mueller, W. Zwaygardt, J. Oscarsson, L. Stolt, M. Edoff, T. Edvinsson, I. Bayrak Pehlivan, *Solar RRL* 2100479 (2021).
- 3) ***New insight into Pt nucleation mechanism on Si surface during galvanic displacement deposition***, R. G. Milazzo, S. MS Privitera, S. Scalese, S. Mirabella, C. Bongiorno, S. A. Lombardo, E. Rimini, *Journal of Physics and Chemistry of Solids*, 148, 109722 (2021).
- 4) ***Crystallization properties of melt-quenched Ge-rich GeSbTe thin films for phase change memory applications***, SMS Privitera, I López García, C Bongiorno, V Sousa, MC Cyrille, G Navarro, C Sabbione, E Carria, E Rimini, *J. Appl. Phys.* 128, 155105 (2020).
- 5) ***Highly efficient solar hydrogen production through the use of bifacial photovoltaics and membrane electrolysis***, SMS Privitera, M Muller, W Zwaygardt, M Carmo, RG Milazzo, P Zani, M Leonardi, F Maita, A Canino, M Foti, F Bizzarri, C Gerardi, SA Lombardo, *Journal of Power Sources* 473, 228619 (2020).
- 6) ***Ultralow loading electroless deposition of IrOx on nickel foam for efficient and stable water oxidation catalysis***, Rachela G Milazzo, Stefania MS Privitera, Silvia Scalese, Francesca Monforte, Corrado Bongiorno, Guglielmo G Condorelli, Salvatore A Lombardo, *International Journal of Hydrogen Energy*, vol 45, Pag. 26583 (2020).
- 7) ***Ni foam electrode solution impregnated with Ni-Fe X (OH) Y catalysts for efficient oxygen evolution reaction in alkaline electrolyzers***, Dipanjan Sengupta, Stefania MS Privitera, Rachela Gabriella Milazzo, Corrado Bongiorno, Silvia Scalese, Salvatore Lombardo, *RSC Advances* 10 (43), 25426 (2020).
- 8) ***Disordering process of GeSb<sub>2</sub>Te<sub>4</sub> induced by ion irradiation***, A. M. Mio, S. M. S. Privitera, M Zimbone, V Bragaglia, S Jacobs, C Persch, F Arciprete, R Calarco, M Wuttig, E Rimini, *Journal of Physics D*, 53, 134001 (2020).
- 9) ***Ion beam induced transient amorphous nucleation in silicon***, C Spinella, S. MS Privitera, A. M. Mio, E. Rimini, *Nuclear Instruments and Methods in Physics Research Section B*, 462, 130 (2020).
- 10) ***Effect of Morphology and Mechanical Stability of nanometric platinum layer on Nickel Foam for Hydrogen evolution Reaction***, R.G. Milazzo, S. Privitera, S. Scalese, S. A. Lombardo, *Energies*, 12, 3116 (2019).
- 11) ***Applicability of a New Sulfonated Pentablock Copolymer Membrane and Modified Gas Diffusion Layers for low cost Water splitting processes***, S Filice, G Urzi, RG Milazzo, SMS Privitera, SA Lombardo, G Compagnini, S Scalese, 12, 2064 (2019)
- 12) ***Atomic disordering processes in crystalline GeTe induced by ion irradiation***, Stefania Privitera, Antonio Massimiliano Mio, Matthias Maximilian Duck, Christoph Persch, Massimo Zimbone, Matthias Wuttig, Emanuele Rimini, *J. Phys. D*, **51**, (2018) 495103.
- 13) ***SiCILIA-Silicon Carbide Detectors for Intense Luminosity Investigations and Applications***, S Tudisco, F Via La, C Agodi, C Altana, G Borghi, M Boscardin, G Bussolino, L Calcagno, M Camarda, F Cappuzzello, D Carbone, S Cascino, G Casini, M Cavallaro, C Ciampi, G Cirrone, G Cuttone, A Fazzi, D Giove, G Gorini, L Labate, G Lanzalone, G Litrico, G Longo, D Presti Lo, M Mauceri, R Modica, M Moschetti, A Muoio, F Musumeci, G Pasquali, G Petringa, N Piluso, G Poggi, S Privitera, S Puglia, V Puglisi, M Rebai, S Ronchin, A Santangelo, A Stefanini, A Trifirò, M Zimbone, *Sensors* (2018), **18**, 2289
- 14) ***Spontaneous galvanic displacement of Pt nanostructures on nickel foam: Synthesis, characterization and use for hydrogen evolution Reaction***, R. G. Milazzo, S. M. S. Privitera, D. D'angelo, S. Scalese, S. Di Franco, F. Maita, and S. Lombardo, *Int. J. Hydrogen En.* 43 (2018) 7903. Contact author.
- 15) ***Atomic diffusion in laser irradiated Ge rich GeSbTe thin films for phase change memory applications***, S. M. S. Privitera, V Sousa, C Bongiorno, G Navarro, C Sabbione, E Carria and E Rimini, *J. Phys. D: Appl. Phys.* **51** (2018) 145103.
- 16) ***Crystallization properties of Sb-rich GeSbTe alloys by in-situ morphological and electrical analysis*** By: D'Arrigo, G.; Mio, A. M.; Boniardi, M.; et al. *MATERIALS SCIENCE IN SEMICONDUCTOR PROCESSING* Volume: 65 Special Issue: SI Pages: 100-107 (2017)

- 17) ***Strain Development and Damage Accumulation Under Ion Irradiation of Polycrystalline Ge-Sb-Te Alloy***  
By: Privitera, S.; Mio, A. M.; Zhang, W.; et al. NANOSCIENCE AND NANOTECHNOLOGY LETTERS  
Volume: 9 Issue: 7 Pages: 1095-1101 (2017).
- 18) ***Photo-electrochemical water splitting in silicon based photocathodes enhanced by plasmonic/catalytic nanostructures***  
By: Han, T.; Privitera, S.; Milazzo, R. G.; et al., MATERIALS SCIENCE AND ENGINEERING B-ADVANCED FUNCTIONAL SOLID-STATE MATERIALS Volume: 225 Pages: 128-133 (2017).
- 19) ***Role of interfaces on the stability and electrical properties of Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> crystalline structures***, Dr. Antonio Mio, S. Privitera, Miss Valeria Bragaglia, Prof. Fabrizio Arciprete, Dr. Stefano Cecchi, Dr. Grazia Litrico, Mr. Christoph Persch, Dr. Raffaella Calarco, Prof. Emanuele Rimini. Scientific Reports vol. 7 pag. 2616 (2017).
- 20) ***Modulation of van der Waals and classical epitaxy induced by strain at the step edges***, E. Zallo, Dr. Stefano Cecchi, Dr. Jos Boschker, Dr. Antonio Mio, Prof. Fabrizio Arciprete, Dr. Stefania Privitera, Dr. Raffaella Calarco. Scientific Reports vol. 7 pag. 1466 (2017).
- 21) ***Formation, Morphology and Optical Properties of Electroless Deposited Gold Nanoparticles on 3C-SiC***, Rachela Gabriella Milazzo, Stefania Privitera, Grazia Litrico, Silvia Scalse, Salvo Mirabella, Francesco La Via, Salvatore Lombardo, and Emanuele Rimini, J. Phys. Chem. C, DOI: 10.1021/acs.jpcc.6b11638, (2017)
- 22) ***Electrical properties of extended defects in 4H-SiC investigated by photoinduced current measurements***  
S. Privitera, G. Litrico, M. Camarda, N. Piluso, and F. La Via, Applied Physics Express 10(3), 036601 (March 2017) DOI: 10.7567/APEX.10.036601.
- 23) ***Chemical and structural arrangement of the trigonal phase in GeSbTe thin films***. A. M. Mio, S. Privitera, V. Bragaglia, F. Arciprete, C. Bongiorno, R. Calarco, E. Rimini, Nanotechnology 28, 065706 1-7 (2017).
- 24) ***Structural and electronic transitions in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> induced by ion irradiation damage*** S. M. S. Privitera, A. M. Mio, E. Smecca, A. Alberti, W. Zhang, R. Mazzarello, J. Benke, C. Persch, F. La Via, and E. Rimini, Phys. Rev. B 94, 094103 (2016).
- 25) ***Electrical Properties of Defects in 4H-SiC Investigated by Photo-Induced-Currents Measurements***, S. Privitera, G. Litrico, M. Camarda, N. Piluso, F. La Via, Materials, Science Forum 858, 380-383 (2016)
- 26) ***Crystallization properties of Sb-rich GeSbTe alloys by in-situ morphological and electrical analysis***, G D'Arrigo, AM Mio, M Boniardi, A Redaelli, E Varesi, S Privitera, G Pellegrino, C Spinella, E Rimini, Materials Science and Semiconductor processing (2016).
- 27) ***Phase Transitions in Ge-Sb-Te Alloys Induced by Ion Irradiations***. Stefania Privitera, Antonio M. Mio, Julia Benke, Christoph Persch, Emanuele Smecca, Alessandra Alberti and Emanuele Rimini. MRS Advances, available on CJO2016. doi:10.1557/adv.2016.280.
- 28) ***Optimization of Ion Implantation processes for 4H-SiC DIMOSFET***. N. Piluso, E. Fontana, M.A. Di Stefano, G. Litrico, S. Privitera, A. Russo, S. Lorenti, S. Coffa and F. La Via. MRS Advances, available on CJO2016. doi:10.1557/adv.2016.366.
- 29) ***Ageing mechanisms of highly active and stable nickel-coated silicon photoanodes for water splitting***, T. Han, Y Shi, X Song, A Mio, L Valenti, F Hui, S Privitera, S Lombardo, M. Lanza, Journal of Materials Chemistry A, vol 4, 8053 (2016) DOI: 10.1039/c5ta09990k
- 30) ***Metal - Insulator Transition Driven by Vacancy Ordering in GeSbTe Phase Change Materials***, V. Bragaglia, F. Arciprete, W. Zhang, A. M. Mio, E. Zallo, K. Perumal, A. Giussani, S. Cecchi, J. E. Boschker, H. Riechert, S. Privitera, E. Rimini, R. Mazzarello and R. Calarco, Scientific Reports, vol 6, 23843 (2016).
- 31) ***Conductive filament structure in HfO<sub>2</sub> resistive switching memory devices***, S. Privitera, G. Bersuker, S. Lombardo, C. Bongiorno, D. C. Gilmer, Solid State Electronics, vol. 111, pag. 161 (2015)
- 32) ***Interface state density evaluation of high quality hetero-epitaxial 3C-SiC (001) for high-power MOSFET application***, R Anzalone, S Privitera, M Camarda, A Alberti, G Mannino, P Fiorenza, S Di Franco, F La Via, Mater. Sci. Eng. B vol. 198, pag. 14 (2015)
- 33) ***Electrical Properties Evaluation on High Quality Hetero-Epitaxial 3C-SiC (001) for MOSFET Applications***, R Anzalone, S Privitera, A Alberti, N Piluso, P Fiorenza, F La Via, Materials Science Forum 821, 773-776 (2015)
- 34) ***3C-SiC Polycrystalline Films on Si for Photovoltaic Applications***, S Privitera, V Brancato, D Spadaro, R Anzalone, A Alberti, F La Via, Materials Science Forum 821, 189-192 (2015).
- 35) ***Correlations between Crystal Quality and Electrical Properties by Means of Simultaneous Photoluminescence and Photocurrent Analysis***, S Privitera, M Camarda, N Piluso, R Anzalone, F La Via, Materials Science Forum 821, 257-260 (2015).

- 36) **Electrically Trimmable Phase Change GeSbTe Resistors With Tunable Temperature Coefficient of Resistance**, S. Privitera, G. D'Arrigo, A. M. Mio, N. Piluso, F. La Via, and E. Rimini, IEEE Trans. Elec. Dev. Vol. 61, pag. 2879 (2014).
- 37) **Effects of the growth rate on the quality of 4H silicon carbide films for MOSFET applications**, M. Camarda, S. Privitera, R. Anzalone, N. Piluso, P. Fiorenza, A. Alberti, G. Pellegrino, A. La Magna, F. La Via, C. Vecchio, M. Mauceri, G. Litrico, A. Pecora, D. Crippa, Materials Science Forum, vol. 778-780, p. 95 (2014).
- 38) **Impact of annealing induced structural relaxation on the electrical properties and the crystallization kinetics of amorphous GeTe films**, S. Privitera, A. Mio, G. D'Arrigo, E. Carria, and E. Rimini, Appl. Phys. Lett. vol 103, pag. 071901 (2013).
- 39) **Microscopy study of the conductive filament in HfO<sub>2</sub> resistive switching memory devices**, S. Privitera, G. Bersuker, B. Butcher, A. Kalantarian, S. Lombardo, C. Bongiorno, R. Geer, D. C. Gilmer, P. D. Kirsch, Microelectronic Engineering, vol. 109, p. 75 (2013).
- 40) **Microscopic Model for the Kinetics of the Reset Process in HfO<sub>2</sub> RRAM**, A. Kalantarian, G. Bersuker, B. Butcher, D. C. Gilmer, S. Privitera, S. Lombardo, R. Geer, Y. Nishi, P. Kirsch, R. Jammy, VLSI Technology, Systems and Applications (VLSI-TSA) 2013 International Symposium on, p. 1 (2013).
- 41) **Study of the effects of growth rate, miscut direction and prostrgrowth argon annealing on the surface morphology of homoepitaxially grown 4H silicon carbide films**, M. Camarda, A. Canino, P. Fiorenza, A. Severino, R. Anzalone, S. Privitera, A. La Magna, F. La Via, C. Vecchio, M. Mauceri, G. Litrico, A. Pecora, D. Crippa, Materials Science Forum, Silicon Carbide and related Materials 2012, vol. 740-742 pag. 229 (2013).
- 42) **Mixed phase Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> thin films with temperature independent resistivity**, S. Privitera, C. Garozzo, A. Alberti, L. Perniola, and B. De Salvo, AIP Advances, vol. 3, 012105 (2013). First and contact author.
- 43) **Morphological and electrical characterization of electrically trimmable thin film resistors**, S. Privitera, O. Le Neel, C. Leung, P. Dumont-Girard, B. Cialdella, C. Bongiorno and R. Modica, IEEE Transaction on Electron Devices vol. 59 issue 12 pag. 3549 (2012).
- 44) **3C-SiC growth on (001) Si substrates by using a multilayer buffer**, Andrea Canino, Andrea Severino, Nicolò Piluso, Francesco La Via, Stefania Privitera, Alessandra Alberti, Materials Science Forum, Silicon Carbide and related Materials 2012, vol. 740-742 pag. 263 (2013).
- 45) **Amorphous-fcc transition in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>**, S. Lombardo, E. Rimini, M. G. Grimaldi and S. Privitera, Microelectronic Engineering vol. 87, pag 294 (2010).
- 46) **Morphological and electrical characterization of Si<sub>x</sub>Cr<sub>y</sub>C<sub>z</sub>B<sub>v</sub> thin films**, S. Privitera, F. Wang, C. Niu, P. Dumont-Girard, H. Ding, K. Liu, R. Modica, C. Bongiorno, Microelectronics Engineering vol. 87, pag. 430 (2010).
- 47) **Phase change mechanisms in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>**, S. Privitera, S. Lombardo, C. Bongiorno, E. Rimini and A. Pirovano, Journal of Applied Physics vol. 102, p. 013516 (2007).
- 48) **Effects of dopants on the amorphous-to fcc transition in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> thin films**, autori: S. Privitera, E. Rimini, C. Bongiorno, A. Pirovano, R. Bez. Nuclear Instruments and Methods in Physics Research B vol. 257, p. 352 (2007).
- 49) **LOCOS induced stress effects on SOI bipolar Devices**, autori: S. Privitera, R. Modica, V. Cerantonio, G. Fallica and G. Pappalardo. Microelectronics Reliability vol. 47, p. 802 (2007).
- 50) **Amorphous-to-crystal transition of Nitrogen- and Oxygen-doped Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub> films studied by in situ resistance measurements**, S. Privitera, E. Rimini, and R. Zonca, Applied Physics Letters **85**, 3044 (2004).
- 51) **Crystal nucleation and growth processes in Ge<sub>2</sub>Sb<sub>2</sub>Te<sub>5</sub>**, S. Privitera, C. Bongiorno, E. Rimini, and R. Zonca, Applied Physics Letters vol. 84, p. 4448 (2004).
- 52) **C49-C54 phase transition in nanometric titanium disilicide grains**, M. S. Alessandrino, S. Privitera, M. G. Grimaldi, C. Bongiorno, S. Pannitteri, and F. La Via, Journal of Applied Physics vol. 95, p. 1977 (2004).
- 53) **Amorphous to polycrystal transition in GeSbTe thin films**, S. Privitera, C. Bongiorno, E. Rimini, R. Zonca, A. Pirovano and R. Bez, Mater. Res. Symp. Proc. vol. 803, HH1.4.1, S. Francisco, USA (2003).
- 54) **Crystallization and phase separation in Ge<sub>2+x</sub>Sb<sub>2</sub>Te<sub>5</sub> thin films**, S. Privitera, E. Rimini, C. Bongiorno, R. Zonca, A. Pirovano, R. Bez, Journal of Applied Physics vol. 94, p. 4409 (2003). First and contact author.
- 55) **Direct Measurements of the Growth Rate During the C49 to C54 Transformation in TiSi<sub>2</sub>: Activation Energy**. S. Privitera, F. La Via, S. Quilici, F. Meinardi, M. G. Grimaldi, and E. Rimini, Journal of Applied Physics, vol. 92, p. 627 (2002).
- 56) **Simulation of the transformation from the C49 to the C54 phase of TiSi<sub>2</sub> in blanket films and narrow conductors**, S. Privitera, C. Spinella, F. La Via, M. G. Grimaldi, and E. Rimini, Applied Physics Letters vol. 78, p. 1514 (2001).

- 57) *Nucleation and growth of C54 grains into C49 TiSi<sub>2</sub> thin films monitored by micro-Raman imaging*, S. Privitera, F. La Via, C. Spinella, S. Quilici, A. Borghesi, F. Meinardi, M. G. Grimaldi, and E. Rimini, Journal of Applied Physics, vol. 88, p. 7013 (2000).
- 58) *Investigation on C54 nucleation and growth by micro-Raman imaging*, S. Privitera, F. Meinardi, S. Quilici, F. La Via, C. Spinella, M.G. Grimaldi, and E. Rimini, Mater. Res. Symp. Proc. vol. 611, S. Francisco, USA (2000).
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## Brevetti

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