Elenco delle Pubblicazioni allegate alla domanda del Dott. Stefano Faralli

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4) MUANENDA, Yonas Seifu, OTON NIETO, CLAUDIO JOSE, FARALLI, STEFANO, NANNIPIERI, Tiziano, SIGNORINI,Alessandro, DI PASQUALE, Fabrizio Cesare Filippo (2016). Hybrid distributed acoustic and temperature sensor using a commercial off-the-shelf DFB laser and direct detection. OPTICS LETTERS, vol. 41, p. 587-590, ISSN: 0146-9592, doi: 10.1364/OL.41.000587
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8) GAMBINI, Fabrizio, VELHA, PHILIPPE, OTON NIETO, CLAUDIO JOSE, FARALLI, STEFANO (2016). Orbital Angular Momentum Generation with Ultra-Compact Bragg-Assisted Silicon Microrings. IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 28, p. 2355-2358, ISSN: 1041-1135, doi: 10.1109/LPT.2016.2594030
9) M. A. Soto, A. Signorini, T. Nannipieri, FARALLI, STEFANO, BOLOGNINI, Gabriele, DI PASQUALE, Fabrizio Cesare Filippo (2012). Impact of Loss variations on Double-Ended Distributed Temperature Sensors Based on Raman Anti-Stokes Signal Only. JOURNAL OF LIGHTWAVE TECHNOLOGY, vol. Vol. 30, No. 8, p. 1215-1222, ISSN: 0733-8724
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11) Stefano Faralli, Gabriele Bolognini, Maria Adelaide Andrade, and Fabrizio Di Pasquale, "Unrepeated WDM Transmission Systems Based on Advanced First-Order and Higher Order Raman-Copumping Technologies," J. Lightwave Technol. 25, 3519-3527 (2007)
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15) I. Toccafondo, M. Taki, A. Signorini, F. Zaidi, T. Nannipieri, FARALLI, STEFANO, DI PASQUALE, Fabrizio Cesare Filippo (2012). Hybrid Raman/FBG Sensor for Distributed Temperature and Discrete Dynamic Strain Measurements. OPTICS LETTERS, vol. 37, p. 4434-4436, ISSN: 0146-9592, doi: 10.1364/OL.37.004434
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17) Tesi di Perfezionamento conseguito presso la Scuola Superiore Sant'Anna dal titolo "Raman amplifiers for WDM transmission systems"

Elenco delle pubblicazioni presentate

1. D. Logoteta, J. Cao, M. G. Pala, P. Dollfus, Y. Lee, G. Iannaccone *Cold-source paradigm for steep-slope transistors based on van der Waals heterojunctions* Phys. Rev. Research **2**, 043286 (2020), doi: 10.1103/PhysRevResearch.2.043286.

2. D. Logoteta, M. G. Pala, J. Choukroun, P. Dollfus, G. Iannaccone *A Steep-Slope MoS_2-Nanoribbon MOSFET Based on an Intrinsic Cold-Contact Effect* IEEE Electron Devices Lett. **40**, 1550 (2019), doi: 10.1109/LED.2019.2928131.

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4. M. Moussavou, M. Lannoo, N. Cavassilas, D. Logoteta, M. Bescond *Physically based Diagonal Treatment of the Self-Energy of Polar Optical Phonons: Performance Assessment of III-V Double-Gate Transistors* Phys. Rev. Applied **10**, 064023 (2018), doi: 10.1103/PhysRevApplied.10.064023.

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8. C. Grillet, D. Logoteta, A. Cresti, M. Pala *Assessment of the Electrical Performance of Short Channel InAs and Strained Si Nanowire FETs* IEEE Trans. Electron Devices **64**, 2425 (2017), doi: 10.1109/TED.2017.2679226.

9. M. Pala, C. Grillet, J. Cao, D. Logoteta, A. Cresti, D. Esseni *Impact of inelastic phonon scattering in the OFF state of Tunnel-field-effect transistors* J. Comput. Electron. **15**, 1240 (2016), doi: 10.1007/s10825-016-0900-8.

10. J. Cao, D. Logoteta, S. Özkaya, B. Biel, A. Cresti, M.G. Pala, D. Esseni *Operation and Design of van der Waals Tunnel Transistors: A 3-D Quantum Transport Study* IEEE Trans. Electron Devices **63**, 4388 (2016), doi: 0.1109/TED.2016.2605144.

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14. M. R. Connolly, R. K. Puddy, D. Logoteta, P. Marconcini, M. Roy, J. P. Griffiths, G. A. C. Jones, P. A. Maksym, M. Macucci, C. G. Smith, *Unraveling Quantum Hall Breakdown in Bilayer Graphene with Scanning Gate Microscopy*, Nano Lett. **12** (11), 5448 (2012), doi: 10.1021/nl3015395.

15. P. Marconcini, M. Macucci, D. Logoteta, M. Totaro, *Is the regime with shot noise suppression by a factor 1/3 achievable in semiconductor devices with mesoscopic dimensions?*, Fluct. Noise Lett. **11**, 1240012 (2012), doi: 10.1142/S0219477512400123.

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ELENCO PUBBLICAZIONI E TESI DI DOTTORATO PRESENTATE

- **Tesi di dottorato**:
  Optical Spatial Solitons For All-Optical Signal Processing

- **Pubblicazioni**:

1. Salvatori S., Pettinato S., **PICCARDI A.**, Sedov V., Voronin A., Ralchenko V. (2020). Thin Diamond Film on Silicon Substrates for Pressure Sensor Fabrication. MATERIALS, vol. 13, p. 3697-3711, doi: 10.3390/ma13173697. MDPI - Multidisciplinar Digital Publishing Institute, 21/08/2020.

2. **PICCARDI A.**, Colace L. (2019). Optical Detection of Dangerous Road Conditions. SENSORS, vol. 19, p. 1360-1367, doi: 10.3390/s19061360. MDPI - Multidisciplinar Digital Publishing Institute, 19/03/2019.

3. Perumbilavil S., **PICCARDI A.**, Barboza R., Buchnev O., Kauranen M., Strangi G., Assanto G. (2018). Beaming random lasers with soliton control. NATURE COMMUNICATIONS, 2018, vol. 9, p. 3863-3869, doi: 10.1038/s41467-018-06170-9. Nature Publishing Group, 21/09/2018.

4. Laudyn U., **PICCARDI A.**, Kwasny M., Klus B., Karpierz MA, Assanto G. (2018) Interplay of thermo-optic and reorientational responses in nematicon generation. MATERIALS vol. 11 (10), 1837, doi: 10.3390/ma11101837, MDPI - Multidisciplinar Digital Publishing Institute, 27/09/2018.

5. **PICCARDI A.**, Alberucci A., Kravets N., Buchnev O., Assanto G. (2017). Bistable Beam Propagation in Liquid Crystals. IEEE JOURNAL OF QUANTUM ELECTRONICS, vol. 53, p. 1-11, doi: 10.1109/JQE.2016.2643287. IEEE - Institute of Electrical and Electroncs Engineers, 21/12/2016.

6. **PICCARDI A.**, Kravets N., Alberucci A., Buchnev O., Assanto G. (2016). Voltage-driven beam bistability in a reorientational uniaxial dielectric, APL PHOTONICS n. 1 (1), 011302 doi:10.1063/1.4945349. AIP - American Institute of Physics, 18/04/2016

7. Perumbilavil S., **PICCARDI A.**, Buchnev O., Kauranen M., Strangi G., Assanto G. (2016). Soliton-assisted random lasing in optically-pumped liquid crystals, APPLIED PHYSICS LETTERS, n. 109 (16), 161105. doi: 10.1063/1.4965852. AIP - American Institute of Physics, 21/10/2016

8. Alberucci A., **PICCARDI A.**, Kravets N., Buchnev O., Assanto G. (2015). Soliton enhancement of spontaneous symmetry breaking. OPTICA, vol. 2, p. 783-789, doi: 10.1364/OPTICA.2.000783. OSA - Optical Society of America, 31/08/2015.

9. **PICCARDI A.**, Alberucci A., Kravets N., Buchnev O., Assanto G. (2014). Power-controlled transition from standard to negative refraction in reorientational soft matter. NATURE COMMUNICATIONS, vol. 5, p.5533-5539, doi: 10.1038/ncomms6533. Nature Publishing Group, 25/11/2014.

10. Kravets N., **PICCARDI A.**, Alberucci A., Buchnev O., Kaczmarek M., Assanto G. (2014). Bistability with optical beams propagating in a reorientational medium. PHYSICAL REVIEW LETTERS, n.113 (2), 023901, doi: 10.1103/PhysRevLett.113.023901. APS – American Physical Society, 07/07/2014.

11. **PICCARDI A.**, Alberucci A., Buchnev O., Kaczmarek M., Khoo I.C., Assanto G. (2012). Frequency-controlled deflection of spatial solitons in nematic liquid crystals. APPLIED PHYSICS LETTERS, vol. 101, 081112, doi: 10.1063/1.4747716. AIP - American Institute of Physics, 23/08/2012.

12. **PICCARDI A.**, Trotta M., Kwasny M., Alberucci A., Asquini R., Karpierz M., D'Alessandro A., Assanto G. (2011). Trends and trade-offs in nematicon propagation. APPLIED PHYSICS. B, LASERS AND OPTICS, vol. 104, p. 805-811, doi: 10.1007/s00340-011-4675-0. Springer, 30/07/2011.

13. **PICCARDI A.**, Alberucci A., Assanto G. (2010). Self-Turning Self-Confined Light Beams in Guest-Host Media. PHYSICAL REVIEW LETTERS, vol. 104, 213904, doi: 10.1103/PhysRevLett.104.213904. 26/05/2010. APS - American Physical Society, 26/05/2010.

14. **PICCARDI A.**, Alberucci A., Bortolozzo U., Residori S., Assanto G. (2010). Readdressable Interconnects With Spatial Soliton Waveguides in Liquid Crystal Light Valves. IEEE PHOTONICS TECHNOLOGY LETTERS, vol. 22, p. 694-696, doi: 10.1109/LPT.2010.2043730. IEEE - Institute of Electrical and Electroncs Engineers, 15/05/2010.

15. **PICCARDI A.**, Bortolozzo U., Residori S., Assanto G. (2009). Spatial solitons in liquid-crystal light valves. OPTICS LETTERS, vol. 34, p. 737-739, doi: 10.1364/OL.34.000737. OSA - Optical Society of America, 05/03/2009.

16. **PICCARDI A.**, Assanto G., Lucchetti L., Simoni F. (2008). All-optical steering of soliton waveguides in dye-doped liquid crystals. APPLIED PHYSICS LETTERS, vol. 93, 171104, doi: 10.1063/1.3009658. AIP - American Institute of Physics, 28/10/2008.

ROMA, 10/01/2022

Il dichiarante
ARMANDO PICCARDI

Procedura pubblica di selezione a n° 1 posto di ricercatore universitario a tempo determinato, ai sensi dell'Art. 24, c. 3 lettera b) della L. 240/2010, da assumere con contratto di lavoro subordinato, per la durata di tre anni per il settore concorsuale 09/E3 Elettronica, S.S.D. ING-INF/01 Elettronica presso il Dipartimento di Ingegneria Industriale, Elettronica e Meccanica, bandita con decreto rettorale disponibile sul sito pubblico http://www.albopretorionline.it/uniroma/alboente.aspx ed il cui avviso è pubblicato sulla Gazzetta Ufficiale n. 98 del 10/12/2021.

Alessandro Stuart Savoia
Elenco delle pubblicazioni e della tesi di Dottorato

Elenco delle pubblicazioni

[P1] M. Sautto, A. S. Savoia, F. Quaglia, G. Caliano, and A. Mazzanti, "A comparative analysis of CMUT receiving architectures for the design optimization of integrated transceiver front ends," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 64, no. 5, pp. 826–838, 2017, doi: 10.1109/TUFFC.2017.2668769.

[P2] G. Matrone, A. Ramalli, A. S. Savoia, P. Tortoli, and G. Magenes, "High frame-rate, high resolution ultrasound imaging with multi-line transmission and filtered-delay multiply and sum beamforming," *IEEE Transactions on Medical Imaging*, vol. 36, no. 2, pp. 478–486, 2017, doi: 10.1109/TMI.2016.2615069.

[P3] G. Caliano, G. Matrone, and A. S. Savoia, "Biasing of capacitive micromachined ultrasonic transducers," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 64, no. 2, pp. 402–413, 2017, doi: 10.1109/TUFFC.2016.2623221.

[P4] A. S. Savoia, B. Mauti, and G. Caliano, "A low frequency broadband flextensional ultrasonic transducer array," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 63, no. 1, pp. 128–138, 2016, doi: 10.1109/TUFFC.2015.2496300.

[P5] A. Ramalli, E. Boni, A. S. Savoia, and P. Tortoli, "Density-tapered spiral arrays for ultrasound 3-D imaging," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 62, no. 8, pp. 1580–1588, 2015, doi: 10.1109/TUFFC.2015.007035.

[P6] G. Matrone, A. S. Savoia, G. Caliano, and G. Magenes, "The delay multiply and sum beamforming algorithm in ultrasound B-mode medical imaging," *IEEE Transactions on Medical Imaging*, vol. 34, no. 4, pp. 940–949, 2015, doi: 10.1109/TMI.2014.2371235.

[P7] N. Lamberti, G. Caliano, and A. S. Savoia, "ACUPAD: A track-pad device based on a piezoelectric bimorph," *Sensors and Actuators, A: Physical*, vol. 222, pp. 130–139, 2015, doi: 10.1016/j.sna.2014.10.031.

[P8] G. Matrone, A. S. Savoia, M. Terenzi, G. Caliano, F. Quaglia, and G. Magenes, "A volumetric CMUT-based ultrasound imaging system simulator with integrated reception and μ-beamforming electronics models," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 61, no. 5, pp. 792–804, 2014, doi: 10.1109/TUFFC.2014.6805693.

[P9] A. Iula, A. S. Savoia, and G. Caliano, "An ultrasound technique for 3D palmprint extraction," *Sensors and Actuators, A: Physical*, vol. 212, pp. 18–24, 2014, doi: 10.1016/j.sna.2014.02.036.

[P10] A. S. Savoia, G. Caliano, and M. Pappalardo, "A CMUT probe for medical ultrasonography: From microfabrication to system integration," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 59, no. 6, pp. 1127–1138, 2012, doi: 10.1109/TUFFC.2012.2303.

[P11] G. Caliano, A. S. Savoia, and A. Iula, "An automatic compact Schlieren imaging system for ultrasound transducer testing," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 59, no. 9, pp. 2102–2110, 2012, doi: 10.1109/TUFFC.2012.2431.

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[P13] A. Caronti, G. Caliano, R. Carotenuto, A. S. Savoia, M. Pappalardo, E. Cianci, and V. Foglietti, "Capacitive micromachined ultrasonic transducer (CMUT) arrays for medical imaging," *Microelectronics Journal*, vol. 37, no. 8, pp. 770–777, 2006, doi: 10.1016/j.mejo.2005.10.012.

[P14] R. Carotenuto, G. Caliano, A. Caronti, A. S. Savoia, and M. Pappalardo, "Fast scanning probe for ophthalmic echography using an ultrasound motor," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 52, no. 11, pp. 2039–2046, 2005, doi: 10.1109/TUFFC.2005.1561673.

[P15] A. Caronti, A. S. Savoia, G. Caliano, and M. Pappalardo, "Acoustic Coupling in Capacitive Microfabricated Ultrasonic Transducers: Modeling and Experiments," *IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control*, vol. 52, no. 12, pp. 2220–2234, 2005, doi: 10.1109/TUFFC.2005.1563265.

[P16] G. Caliano, A. S. Savoia, A. Caronti, V. Foglietti, E. Cianci, and M. Pappalardo, "Capacitive micromachined ultrasonic transducer with an open-cells structure," *Sensors and Actuators, A: Physical*, vol. 121, no. 2, pp. 382–387, 2005, doi: 10.1016/j.sna.2005.03.045.

Tesi di Dottorato

[TD] Alessandro Stuart Savoia, "Trasduttori capacitive microfabbricati su silicio: nuove strutture," *Tesi di Dottorato di Ricerca in Elettronica, XIX Ciclo "Dalle nano strutture ai sistemi"*, triennio accademico 2002/2003 - 2005/2006.

Elenco delle pubblicazioni e della tesi di dottorato

Tesi di dottorato: “Germanium on Silicon Near-Infrared Photodetectors” presso Università degli Studi Roma Tre

Pubblicazioni:

1) Schuler, S., Muench, J.E., Ruocco, A., Balci, O., Thourhout, D., **Sorianello, V**., Romagnoli, M., Watanabe, K., Taniguchi, T., Goykhman, I., Ferrari, A.C., Mueller, T., High-responsivity graphene photodetectors integrated on silicon microring resonators (2021) Nature Communications, 12 (1), art. no. 3733. Cited 6 times. DOI: 10.1038/s41467-021-23436-x

2) Agarwal, H., Terrés, B., Orsini, L., Montanaro, A., **Sorianello, V**., Pantouvaki, M., Watanabe, K., Taniguchi, T., Thourhout, D.V., Romagnoli, M., Koppens, F.H.L., 2D-3D integration of hexagonal boron nitride and a high-κ dielectric for ultrafast graphene-based electro-absorption modulators (2021) Nature Communications, 12 (1), art. no. 1070. Cited 5 times. DOI: 10.1038/s41467-021-20926-w

3) Marconi, S., Giambra, M.A., Montanaro, A., Mišeikis, V., Soresi, S., Tirelli, S., Galli, P., Buchali, F., Templ, W., Coletti, C., **Sorianello, V**., Romagnoli, M., Photo thermal effect graphene detector featuring 105 Gbit s−1 NRZ and 120 Gbit s−1 PAM4 direct detection (2021) Nature Communications, 12 (1), art. no. 806. Cited 7 times. DOI: 10.1038/s41467-021-21137-z

4) **Sorianello, V.,** Contestabile, G., Romagnoli, M., Graphene on Silicon Modulators (2020) Journal of Lightwave Technology, 38 (10), art. no. 9000523, pp. 2781-2788. Cited 6 times. DOI: 10.1109/JLT.2020.2974189

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6) Giambra, M.A., **Sorianello, V**., Miseikis, V., Marconi, S., Montanaro, A., Galli, P., Pezzini, S., Coletti, C., Romagnoli, M., High-speed double layer graphene electro-absorption modulator on SOI waveguide (2019) Optics Express, 27 (15), pp. 20145-20155. Cited 26 times. DOI: 10.1364/OE.27.020145

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8) **Sorianello, V.,** Midrio, M., Contestabile, G., Asselberghs, I., Van Campenhout, J., Huyghebaert, C., Goykhman, I., Ott, A.K., Ferrari, A.C., Romagnoli, M., Graphene-silicon phase modulators with gigahertz bandwidth (2018) Nature Photonics, 12 (1), pp. 40-44. Cited 174 times. DOI: 10.1038/s41566-017-0071-6

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