

Curriculum Vitae

Antonio d'Alessandro

Rome, 1st October 2019



Academic position

Antonio d'Alessandro is Associate professor at Sapienza University of Rome, Dipartimento di INGEGNERIA DELL'INFORMAZIONE, ELETTRONICA E TELECOMUNICAZIONI – Department of Information Engineering, Electronics and Telecommunications, since 2002. Qualified as Full Professor since 4th February 2014 (ABILITAZIONE SCIENTIFICA NAZIONALE 2012) University researcher at Sapienza University of Rome from 6th June 1994 to 1st March 2002.

- Director of CNIS, Center of Nanotechnologies applied to Engineering of Sapienza, since 2018
- Director of the Sapienza Nanotechnology and Nanoscience Laboratory, since 2018
- President of the Italian Liquid Crystals Society, since 2010
- Vice-President of IEEE Photonics Society - Italy Chapter, since 2017

Other relevant information about the scientific and professional career

- Education and Post-Doctoral Activity

- 1989 - Laurea cum laude in Electronic Engineering at University of Bari.
- 1993 - PhD in Electronic Engineering, received on 28th September 1993, thesis title “Integrated acousto-optic tuneable filters for WDM communication systems”, tutor Prof. Marco De Sario of Polytechnic of Bari and co-tutor Dr. David Smith of Bellcore, Red Bank, New Jersey USA.
- From 02/11/92 to 31/05/1994 Post-doctoral Member of Technical Staff with Bell Communication Research, New Jersey USA.
- From 1st November 1991 to 31st October 1992, Visiting researcher with Bell Communication Research, New Jersey USA.

- Participation to Scientific Societies with societal roles/services and other affiliations

- President of the Società Italiana Cristalli Liquidi (Italian Liquid Crystal Society) since 2010
- Vice President of IEEE Photonics Society – Italy Chapter since 2017
- Senior Member of IEEE since 2006
- Senior Member of the Optical Society of America since May 2018

- OSA Treveling Lecturer
- Member of the International Liquid Crystal Society and member of the International Board of Directors
- Associate Member of CNR - IMM (Institute for Microelectronics and Microsystems)
- Member of CNIS – Centro di ricerca per le Nanotecnologie applicate all’Ingegneria di Sapienza

- PHD Thesis supervision activity and Post-Doc Supervisor

He has been scientific supervisor of more than 10 PhD students and of several Post-Doc researchers in the field of Photonic devices based on organic materials for optical communications and sensing.

- Teaching courses at Sapienza University

- Photonics (6CFU)

for the Laurea degree (before 2000), for the Laurea Specialistica and for the Laurea Magistrale in Electronic Engineering from the academic year (ay) 1997/98 to present;

- Optoelectronics (6CFU)

for the Laurea degree (before 2000), for the Laurea Specialistica and for the Laurea Magistrale in Electronic Engineering and for the Laurea Magistrale in Nanotechnology Engineering from ay 2003/04 to present;

- Elettronica e sensori ottici (6+3 CFU)

for Laurea Magistrale in Ingegneria Spaziale e Astronautica (Facoltà di Ingegneria Civile ed Industriale) since the a.y. 2015/16 to present;

- Optoelectronic devices

Master interfacoltà II Livello "Optics and Quantum Information" (Facoltà di Ing. Civile e Industriale e Facoltà di Ing. dell'Informazione, Informatica e Statistica) since a.y. 2015/16 to present;

- Electronics

for the Laurea degree (before 2000) and for the Laurea Specialistica and for the Laurea Magistrale in Space Engineering from ay 2002/;

- Optoelectronic Systems

for the Laurea Specialistica and for the Laurea Magistrale in Electronic Engineering from ay 2002/03 to ay 2008/09.

- Other academic roles at Sapienza University

- Academic responsible for the academic mobility (RAM) – in the frame of Erasmus+, Dual Degree Programs, Bilateral Agreements, etc., for Electronic Engineering bachelor and master degree programs and for Nanotechnology Engineering master degree program.
- Program Coordinator of Double Degree Program between Sapienza Electronic Engineering master degree e Master of Science in Electrical and Computer Engineering of the Georgia Institute of Technology.

- Assignment of teaching duties or research (fellowship) at universities and research institutes, foreign and international, of high quality

- Bell Communication Research (Bellcore), Red Bank, New Jersey USA 11/1992- 05/1994
- Case Western Research University, Ohio, USA. Seminars on "Integrated optics on lithium niobate ",12/1994-12/1994.
- University of Stuttgart, Institute für Netzwerk und Systemtheorie, Germany. Seminars on "Matrix addressing electronic techniques of liquid crystal flat panel displays", 01/1995-03/1995.
- Chalmers University of Technology, Department of Microelectronics and Nanoscience, Goteborg, Sweden. Seminars on "Technology of liquid crystal flat panel displays" 08/1996-08/1996.
- Cambridge University, Department of Engineering, UK. Seminars on "Liquid crystal photonic devices" 09/1999-12/1999.

Research Projects both as PI (Principal Investigator) and I (Investigator) funded by National and International Public Institutions

Year	Title	Program	Received contribution	Role
2017	Tunable optical ring resonators using liquid crystal overlayers for true-time delay in optical beam forming networks for phased array antennas	Sapienza Research Project 2017	€ 13000	PI
2013-2017	“Integrating devices and materials: a challenge for new instrumentation in ICT” (IDEM)	COST ACTION: IC COST 1208	€ 600K (circa budget totale)	PI e Substitute Member of the Management Committee
2015	Flexible and reconfigurable photonic circuits for datacom and optofluidic applications	Sapienza Research Project 2015	€ 10000	PI
2014	Dispositivi optofluidici in polidimetilsilossano e cristallo liquido per applicazioni Lab-on-chip	Sapienza Research Project 2014 -	€ 14000	I
2013	Guide ottiche riconfigurabili mediante nanostrutture 3D a cristallo liquido in fase blu	Sapienza Research Project 2013 -	€ 8500	PI
2011	Microstrutture optofluidiche accordabili otticamente per applicazioni biosensoristiche	Sapienza Research Project 2011	€ 32.168	I
2011-2016	2 Task nell'ambito del progetto "Life-NanoScience": A1- Wp2, Task 4-"Novel lab-on-chip methodologies for easy and cheap detection of miRNAs as biomarkers of neurodegenerative disorders"; A2- Wp1, Task 5-"Development of a very compact and high sensitivity system for PCR-based detection of nucleic acids in CSCs"	Joint Project Istituto Italiano Tecnologie IIT-Sapienza Università di Roma	€ 25 M (budget totale) di cui € 900K previsti per i due Wp	I

2012	Biosensori fotonici per la rivelazione di proteine in circuiti microfluidici basati su nanoparticelle di carbonio	Sapienza Research Project 2012	€ 13.000	PI
2010-2011	All-optical Integrated Switches Based on Azobenzene Liquid Crystals on Silicon	EOARD (European Office of Aerospace Research and Development) Grant number FA8655-10-1-3070	\$ 24.800	PI
2009	Commutatori tutto-ottici per sistemi di telecomunicazioni spaziali e comandi del sistema di separazione di LARES	Sapienza Research Project 2009	€ 16.200	PI
2007-2009	Micro and sub-micro electro-optical devices based on liquid crystals	Ministero Affari Esteri Executive Program of Scientific and Technological Cooperation Joint Project Italy-Poland	€ 15.000	PI
2007-2009	Microphotonic resonators on silicon for optical communications and sensing	Ministero Affari Esteri Great Relevance Bilateral Research Project Italy-Turkey	€ 10.000	PI
2006-2007	Filtri ottici integrati accordabili realizzati con materiali POLICRYPS per sistemi di interrogazione di sensori in fibra ottica dedicati al monitoraggio termico e strutturale	PRIN 2006	€ 82.890	PI
2002-2006	Synclinic and Antisynclinic Mesophases for Photonic Applications	FP5 - ENG - Research Training Network "SAMPA" Contract Number: HPRN-CT-2002-00202	€ 150.000	PI

2003-2004	Realizzazione e caratterizzazione di circuiti di luce integrati con guide ottiche in vetro e materiali compositi liquido-cristallini per la commutazione ed il filtraggio di segnali ottici	PRIN 2003	€ 61.400	PI
2003-2004	Optical switches based on ion-exchanged glass channel waveguides and liquid crystals	INFM PAIS Project 2003: "GLICROS" (Glass and LIquid CRystal Optical Switches)	€ 45.000	PI
2000-2001	Dispositivi basati su nuovi materiali e composti a cristalli liquidi per l'instradamento di segnali ottici in reti di comunicazione	PRIN 2000	120M Lire	PI
1997-2000	Liquid Crystal based Photonic Devices LC PHOTONET	FP4 - Brite EuRam Thematic Network "LC Photonet" Contract Nr: BRRT-CT97-5019	750 KECU	PI
1997-1999	Laser Interferometer for High Quality Manufacturing Industry - LIM1	INCO-COPERNICUS PROGRAM Contract Nr: IC 15-CT96-0728	45KECU	I
1994-1995	Product-based Ferroelectric Liquid-Crystal Applications (PROFELICITA)	ESPRIT PROJECT: 8498	800M Lire	I
<p><u>Submitted project :</u></p> <ul style="list-style-type: none"> - "Advanced Communication through Optical Ring Resonator Networks (ACORN)" in H2020 ICT-30-2017. Proposal preparation is ongoing under co-ordination of the Netherlands Aerospace Centre NLR. 				

- Invited Talks and Lectures at International Conferences and Schools

He gave more than 30 invited talks at International Conferences and Schools.

1. "Optical waveguides and tunable devices made of a liquid crystal core in PDMS channels", SPIE Optics and Photonics, Liquid Crystals XXIII, San Diego Convention Center, San Diego, California, United States, 11 - 12 August 2019.
2. "Optical waveguides and switching photonic devices made of electro-optically driven liquid

- crystals in PDMS channels", 14th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" , Cetraro - Italy, June 2-8, 2019.
3. "Photonic integration based on liquid crystals for low power applications", D-Photon 2018, 1st International Conference on Dielectric Photonic Devices and Systems Beyond Visible, Bari Italy, October 1-2, 2018.
 4. "Photonic integration based on liquid crystals for low power applications", Invited Lecture in the frame of OSA Traveling Lecture Program at International Conference on "Optical and Wireless Technologies", at Malayvia National Institute Technology February 10-11, 2018 and at Manipal University, February 13 2018, Jaipur, India.
 5. "Photonic devices, OFET, photovoltaics," Invited Lecture at 23rd Course of the International School of Liquid Crystals titled "Liquid Crystal Modelling and Simulation: A Comprehensive Introduction," in collaboration with CECAM (Centre Européen de Calcul Atomique et Moléculaire) at "Ettore Majorana Centre" in Erice, Italy, 14–18, July 2017.
 6. "Liquid crystals and hybrid photonic integration: materials, properties, technologies, devices", 22nd Course of the International School of Liquid Crystals in collaboration with SICL and IEEE Photonic Society Italy Chapter on "Photonics integration: materials, properties, technologies and devices", Erice, September 25th- October 1st, 2016.
 7. "LC:PDMS optical waveguides: a new proposal for flexible photonics", International Workshop on Liquid Crystal Photonics, Ljubljana, Slovenia, September 14-16, 2016.
 8. "Integrated optics based on liquid crystals embedded in PDMS microfluidic channels", Progress in Electromagnetics Research Symposium, Shanghai, China, August 8-11, 2016.
 9. "Microfluidics using PDMS and liquid crystals: fabrication technology and devices", 8th Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Kyoto, Japan, July 5-7, 2016.
 10. "Recent advances of liquid crystal applications: from novel electro-optic devices to systems", 11th Congresso Nazionale Società Italiana Cristalli Liquidi, Portonovo (An), 22-23 June 2016.
 11. "Liquid crystals optical waveguides in poly(dimethylsiloxane) microchannels: fabrication and optical transmission properties", 12th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" , Cetraro - Italy, June 7 - 13, 2015.
 12. "Liquid crystal waveguide technologies for a new generation of low power photonic integrated circuits", SPIE Photonics West, Emerging Liquid Crystal Technologies X, San Francisco CA USA, February 9-11, 2015.
 13. "Liquid crystal channel waveguides for optofluidic applications", 7th Joint meeting Japanese

- Liquid Crystal Society and Italian Liquid Crystal Society, Ravenna July 7-10, 2014.
14. "Tuneable optical filtering techniques in waveguides using liquid crystals and composites ", 2nd Italian Brazilian Workshop on Liquid Crystals, 14th - 18th October 2013, Maceió – Brazil.
 15. "Resonant micro- and nano-structured photonic devices based on composite materials", 11th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" , Cetraro - Italy, June 10 - 15, 2013.
 16. "Waveguided optical reflectors using liquid crystals and composites", 3rd International Workshop on Liquid Crystals for Photonics, Hong Kong, December 9-11, 2012.
 17. "Tuneable optical filtering techniques in waveguides using liquid crystals and composites " 2012 1st Italian Brazilian workshop on Liquid Crystals, Erice August 26-30, 2012.
 18. "All-optical switching and filtering based on liquid crystals and photosensitive composite organic materials", 6th Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Tokio, Japan 25-27 July 2012.
 19. "Liquid Crystal Waveguide Devices", IEEE Workshop of Fiber Optics and Passive Components, Montreal, Canada 13-15 July 2011.
 20. "All-optical guided wave structures based on liquid crystals and photosensitive composite organic materials", 10th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications", Cetraro - Italy, June 6 - 10, 2011.
 21. "Linear and nonlinear LC optical waveguides for low power photonics", International Workshop on Liquid Crystal Photonics, Hong Kong, 8-10 December 2010.
 22. "Nonlinear switching of near infrared light in liquid crystal on silicon channel waveguides", The International Symposium on Optical Science and Technology SPIE 55th Annual Meeting, Conf. 7775, Liquid Crystals XIV, San Diego 2-6 August 2010. (Proc. of SPIE. San Diego, California (USA), 1 August 2010, vol. 7775, p. 777510(1)-777510(10), Bellingham:SPIE - The international society for optics and photonics., ISBN: 9780819482716, doi: 10.1117/12.861763)
 23. "Linear and nonlinear light propagation in liquid crystal on silicon waveguides", 9th Mediterranean Workshop and Topical Meeting on "Novel Optical Materials and Applications", Cetraro - Italy, June 5 - 9, 2009.
 24. "Integrated optic devices using liquid crystals and composites on glass and silicon platforms", II International Workshop on Liquid Crystal for Photonics, Cambridge, 21-23 July 2008.
 25. "Functional hybrid integrated optic devices using liquid crystals and composites", 4th Joint

- meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Nara, Japan 6-9 July 2008.
26. "Photonic devices using liquid crystals and composites", Lecture on "Advances in the Experimental and Theoretical Techniques for Anisotropic Fluids" 14th Course of the International School of Liquid Crystals, Erice, 26 July 1 August 2007, Directors of the Course: P. Pasini and C. Zannoni.
 27. "Integrated optic tuneable filters using composite material holographic gratings", 8th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications", Cetraro - Italy, June 4 - 8, 2007.
 28. "Nematic liquid crystal channel waveguides embedded in SiO₂/Si grooves", WFOPC2005, 4th IEEE/LEOS Workshop on Fibres and Optical passive Components, Mondello (Pa), Italy June 22-24, 2005, pp. 275-280.
 29. "Optical integrated devices using smectic and nematic liquid crystals: processing photons by using soft matter", 10th International Conference on Ferroelectric Liquid Crystals, FLC 2005, 12-17, September 2005, Stare Jablonki, Poland.
 30. "Guided Wave Optoelectronic Devices Using Liquid Crystals and Composite Materials", 2nd Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Tsu, Japan 5-8 September 2004.
 31. "Integrated optic devices using liquid crystals: design and fabrication issues" The International Symposium on Optical Science and Technology SPIE 49th Annual Meeting, Denver 2-6 August 2004. (Proc. of SPIE Liquid Crystals VIII, International Symposium Optical Science and Technology, SPIE's 49th Annual Meeting. Denver, Co (USA), 2-6 August 2004, vol. 5518, p. 123-135, BELLINGHAM:SPIE, doi: 10.1117/12.560034)
 32. "Guided wave optical switches using liquid crystals for high capacity communication systems", 6th Mediterranean Workshop and Topical Meeting "Novel Optical Materials and Applications" , Cetraro - Italy, June 8 - 13, 2003.
 33. "Liquid crystal devices for photonic switching applications: state of the art and future developments", lecture at International School of Liquid Crystals I Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Erice, Italy, 7-10 July 2002.
 34. "Liquid crystal based devices for optical communication systems" Basic Applications of Liquid Crystals in Optical Communication Technologies, Tutorial in the frame of Optics with Liquid Crystal International Topical Meeting, Sorrento, Italy 30th September 2001 - 1st October 2001.
 35. "Dispositivi elettroottici a cristallo liquido ferroelettrico", 5° Convegno Nazionale

"Strumentazione e Metodi di Misura Elettroottici" Elettroottica '98, Matera, 12-14 Maggio 1998.

36. "Devices for wavelength switching in all-optical networks", at Advanced Photonics Materials for Information Technology, Los Angeles, California, 27-28 January 1994 (SPIE Proceedings, vol. 2144, 1994, pp. 20-31).

- Participation to Scientific Committees

- *SICL 2004 VI Congresso Nazionale della Società Italiana dei Cristalli Liquidi, Ischia 3-5 June 2004.*
- *II Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Tsu, Japan, 5-8 September 2004.*
- *8th European Conference on Liquid Crystals, Sesto (BZ), Italy, 27 February - 4 March, 2005.*
- *1st International Workshop on Liquid Crystal for Photonics, Ghent, Belgium, 26-28 April 2006.*
- *3rd Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Castiglioncello (LI), 5-7 June 2006.*
- *7th National Meeting Società Italiana di Cristalli Liquidi, Castiglioncello (LI), 7-9 June 2006.*
- *14th Course: Advances in the Experimental and Theoretical Techniques for Anisotropic Fluids 1st School of the Italian Liquid Crystal Society Erice, 26 July 1 August 2007, Directors of the Course: P. Pasini and C. Zannoni.*
- *4th Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Nara, Japan 6-9 July 2008.*
- *2nd International Workshop on Liquid Crystal for Photonics, Cambridge, UK, 21-23 July 2008.*
- *5th Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Cetraro, Italy 6-9 July 2010.*
- *Co-chairman, 6th Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Tokio, Japan 25-27 July 2012.*
- *Director of the 2nd School of the Italian Liquid Crystal Society (SICL) 18th Course of International School of Liquid Crystals held in Erice (Italy) from the 3rd to the 10th of July, 2011.*
- *Chairman of the scientific committee of the 10th Italian Liquid Crystal Society Meeting,*

Rome 21-23 June 2012.

- *Chairman of the scientific committee of the 1st Italian Brazilian workshop on Liquid Crystals Erice 26-30 August 2012.*
- *Chairman of the scientific committee of the 11th Italian Liquid Crystal Society Meeting, Ravenna 9-10 July 2014.*
- *Chairman of the 7th Joint meeting Japanese Liquid Crystal Society and Italian liquid Crystal Society, Cetraro, Italy 7-8 July 2014.*
- *Chairman of the 5th International Workshop on Liquid Crystal for Photonics, Erice, Italy 2-7 September 2014.*
- *Director”, 22nd Course of the International School of Liquid Crystals in collaboration with SICL and IEEE Photonic Society Italy Chapter on “Photonics integration: materials, properties, technologies and devices”, Erice, September 25th- October 1st, 2016.*
- *Co-chairman 11° Congresso Nazionale Società Italiana Cristalli Liquidi, Portonovo (An), 22-23 June 2016.*
- *Chairman of the scientific committee of the 2nd Italian Brazilian workshop on Liquid Crystals (An), 20-21 June 2016.*
- *Co-chairman, 8th Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Kyoto, Japan, July 5-7, 2016.*
- *6th International Workshop on Liquid Crystal Photonics, Ljubljana, Slovenia, September 14-16, 2016.*
- *9th Joint meeting Japanese Liquid Crystal Society and Italian Liquid Crystal Society, Pavia, , September 17-18 2018.*
- *11° Congresso Nazionale Società Italiana Cristalli Liquidi, Pavia, , September 19-20 2018.*
- *7th International Workshop on Liquid Crystal Photonics, Poland, September 18-20, 2018.*
- *PIERS 2019, Rome June 17 – 20 June, 2019.*

- Referee activity

Associate Editor of IEEE Photonics Journal

Referee for the following scientific journals: IEEE Photonics Technology Letters, Molecular Crystals and Liquid Crystals, Optics Express, OSA Journal of Applied Optics, Journal of Applied Physics, IOP Journal of Physics D: Applied Physics, Journal of Optics A: Pure and Applied Optics.

He has been project referee for:

- *Evaluation of research projects on behalf of the Italian Ministry of Education,*
- *University and Research and the Evaluation of research products (VQR 2004-2010 and*

VQR 2011-2014) on behalf of ANVUR.

- *Research Projects for Foundation for Polish Science,*
- *FIT-IT for Research Innovation Technology and Information Technology of Austrian Government,*
- *Institute for the Promotion of Innovation by Science and Technology in Flanders (IWT),*
- *Horizon 2020 projects as remote evaluator for Research Innovation Action (RIA) for Future and Emerging Technologies (FET) Programme.*

Selected journal publications

- [J1] R. Asquini, C. Chiccoli, A. d'Alessandro, P. Pasini and C. Zannoni (2019) Monte Carlo Study of Slot-waveguide Liquid Crystal Phase Shifters, *Molecular Crystals and Liquid Crystals*, 683:1, 46-55, DOI: 10.1080/15421406.2019.1581704.
- [J2] L. Civita, S. Quaranta, R. Asquini and A. d'Alessandro (2019) Design of a Multi Mode Interferometer using LC:PDMS technology, *Molecular Crystals and Liquid Crystals*, 684:1, 58-65, DOI: 10.1080/15421406.2019.1581710.
- [J3] R. Asquini, C. Chiccoli, P. Pasini, L. Civita, A. d'Alessandro, "Low power photonic devices based on electrically controlled nematic liquid crystals embedded in poly(dimethylsiloxane)", *Liquid Crystals*, 2018, DOI: [10.1080/02678292.2018.1494342](https://doi.org/10.1080/02678292.2018.1494342).
- [J4] R. Zafar, S. Nawaz, G. Singh, A. d'Alessandro, M. Salim, "Plasmonics-Based Refractive Index Sensor for Detection of Hemoglobin Concentration", *IEEE Sensors Journal*, Vol. 18, Issue 11, 1 June 2018, Pages 4372-4377. ISSN: 1530437X, DOI: 10.1109/JSEN.2018.2826040.
- [J5] A. d'Alessandro, R. Asquini, C. Chiccoli, P. Pasini, C. Zannoni, "Liquid crystal channel waveguides: A computer simulation of the application of transversal external fields", *Molecular Crystals and Liquid Crystals*, vol. 649 no. 1, pp. 79-85, 2017. ISSN: 15421406, doi: [/10.1080/15421406.2017.1303597](https://doi.org/10.1080/15421406.2017.1303597).
- [J6] K. A. Rutkowska, T. R. Wolinski, R. Asquini, L. Civita, L. Martini, A. d'Alessandro, "Electrical tuning of the LC:PDMS channels", *Photonics Letters of Poland*, vol. 9, no. 2, 2017, pp 48-50, ISSN: 20802242, DOI: 10.4302/plp.v9i2.720.
- [J7] A. d'Alessandro, L. Martini, G. Gilardi, R. Beccherelli, R. Asquini, "Polarization-Independent Nematic Liquid Crystal Waveguides for Optofluidic Applications," *IEEE Photonics Technology Letters*, vol. 27, no. 15, pp. 1709-1712, 2015, ISSN: 10411135, doi: [10.1109/LPT.2015.2438151](https://doi.org/10.1109/LPT.2015.2438151)
- [J8] R. Asquini, L. Civita, L. Martini, A. d'Alessandro, "Design of Optical Directional Couplers Made of Polydimethylsiloxane Liquid Crystal Channel Waveguides," *Molecular Crystals and Liquid Crystals*, vol. 619 no. 1, pp. 12-18, 2015. ISSN: 15421406, doi: 10.1080/15421406.2015.1091153.
- [J9] A. d'Alessandro, R. Asquini, C. Chiccoli, L. Martini, P. Pasini, C. Zannoni, "Liquid Crystal Channel Waveguides: A Monte Carlo Investigation of the Ordering", *Molecular Crystals and Liquid Crystals*, vol. 619 no. 1, pp. 42-48, 2015. ISSN: 15421406, doi: 10.1080/15421406.2015.1091156.
- [J10] R. Asquini, L. Martini, A. d'Alessandro, "Fabrication and Characterization of Liquid Crystal Waveguides in PDMS Channels for Optofluidic Applications," *Molecular Crystals and Liquid Crystals*, vol. 614, no. 1, pp. 11-19, 2015. ISSN: 15421406, doi: 10.1080/15421406.2015.1049891.
- [J11] G. Gilardi, S. Xiao, N. A. Mortensen, A. d'Alessandro, and R. Beccherelli, "Plasmon resonance optical tuning based on photosensitive composite structures," *Journal of Optical*

Society Am. B, vol. 31, no. 2, pp. 360-365, 2014. ISSN: 07403224, doi: 10.1364/JOSAB.31.000360.

- [J12] A. d' Alessandro and R. Asquini, "Tunable Optical Filtering Techniques in Waveguides Using Liquid Crystals and Composites," *Molecular Crystals and Liquid Crystals*, vol. 576, no. 1, pp. 141-150, 2013. ISSN: 1542-1406, doi: 10.1080/15421406.2013.789718.
- [J13] R. Asquini and A. d' Alessandro, "All-Optical Switching and Filtering Based on Liquid Crystals and Photosensitive Composite Organic Materials," *Molecular Crystals and Liquid Crystals*, vol. 572, no. 1, pp. 13-23, 2013. ISSN: 1542-1406, doi:10.1080/15421406.2012.763205.
- [J14] D. C. Zografopoulos, R. Asquini, E. E. Kriezis, a d' Alessandro, and R. Beccherelli, "Guided-wave liquid-crystal photonics," *Lab on a chip*, vol. 12, no. 19, pp. 3598-3610, 2012. ISSN: 1473-0197, doi:10.1039/c2lc40514h.
- [J15] M. Trotta, R. Asquini, a. d' Alessandro, and R. Beccherelli, "All Optical Tunable Nematic Liquid Crystal Waveguide," *Molecular Crystals and Liquid Crystals*, vol. 558, no. 1, pp. 204-208, 2012. ISSN: 1542-1406, doi: 10.1080/15421406.2011.654189.
- [J16] G. Gilardi, S. Xiao, A. d' Alessandro, N. A. Mortensen and R. Beccherelli, "Geometrical and fluidic tuning of periodically modulated thin metal films," *Photonics and Nanostructures - Fundamentals and Applications*, vol. 10, no. 1, pp. 177-182, 2012. ISSN: 1569-4410, doi: 10.1016/j.photonics.2011.12.003.
- [J17] G. Gilardi, R. Asquini, A. d' Alessandro, R. Beccherelli, L. De Sio, C. Umeton, "All-Optical and Thermal Tuning of a Bragg Grating Based on Photosensitive Composite Structures Containing Liquid Crystals," *Molecular Crystals and Liquid Crystals*, vol. 558, pp. 37-41, 2012. ISSN: 1542-1406, doi:10.1080/15421406.2011.653680.
- [J18] M. Trotta, R. Asquini, A. d' Alessandro, and R. Beccherelli, "All-Optical Liquid Crystal Waveguide on Silicon," *Molecular Crystals and Liquid Crystals*, vol. 549, no. 1, pp. 100-105, 2011. ISSN: 1542-1406, doi:10.1080/15421406.2011.581153.
- [J19] G. Gilardi, L. De Sio, R. Beccherelli, R. Asquini, A. d' Alessandro, and C. Umeton, "Observation of tunable optical filtering in photosensitive composite structures containing liquid crystals," *Optics Letters*, vol. 36, no. 24, pp. 4755-7, 2011. ISSN: 0146-9592, doi: 10.1364/OL.36.004755.
- [J20] A. Piccardi, M. Trotta, M. Kwasny, A. Alberucci, R. Asquini, M. Karpierz, A. D' Alessandro, and G. Assanto, "Trends and trade-offs in nematicon propagation," *Applied Physics B: Lasers and Optics*, vol. 104, no. 4, pp. 805-811, 2011. ISSN: 0946-2171, doi: 10.1007/s00340-011-4675-0.
- [J21] G. Gilardi, R. Asquini, A. d' Alessandro, and G. Assanto, "An Electro-Optically Tunable Bragg Reflector Based on Liquid Crystals," *Molecular Crystals and Liquid Crystals*, vol. 549, no. 1, pp. 62-68, 2011. ISSN:1542-1406, doi: 10.1080/15421406.2011.581137.
- [J22] D. Donisi, L. De Sio, R. Beccherelli, M. a. Caponero, A. d' Alessandro, and C. Umeton, "Optical interrogation system based on holographic soft matter filter," *Applied Physics Letters*, vol. 98, no. 15, p. 151103, 2011. ISSN: 0003-6951, doi: 10.1063/1.3579244.
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- *H-index (SCOPUS and Google Scholar)= 21*
- *Citations*
 - *SCOPUS = 1237*
 - *Google Scholar = 1421*
- *i-10-Index*
 - *SCOPUS = 37*
 - *Google Scholar = 37*

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Rome, 1st October 2019