

## Peer-reviewed journal articles

### 1)-Optical trapping and optical force positioning of two-dimensional materials

Donato M.G.; Messina E.; Foti A.; Smart T.J.; Jones P.H.; Iati M.A.; Saija R.; Gucciardi P.G.; Marago O.M.subjectoptical forcessubjectoptical tweezerssubjectlayered materialssubjectboron nitridesubjectmolibdenum sulfidesubjecttellurium sulfide

*Nanoscale (Print)* 10 (2018): 1245–1255.

<https://dx.doi.org/10.1039/c7nr06465a>

### 2)-Catalytic activity of silicon nanowires decorated with gold and copper nanoparticles deposited by pulsed laser ablation

Casiello M.; Picca R.A.; Fusco C.; D'Accolti L.; Leonardi A.A.; Lo Faro M.J.; Irrera A.; Trusso S.; Cotugno P.; Sportelli M.C.; Cioffi N.; Nacci A.subjectAu nanoparticles; Caryl-N coupling; Cu nanoparticles; Si nanowires; reduction of nitroarenes

*Nanomaterials (Basel)* 8 (2018): 78–96.

<https://dx.doi.org/10.3390/nano8020078>

### 3)-Assessment of trans-scleral iontophoresis delivery of lutein to the human retina.

Lombardo, Marco; Villari, Valentina; Micali, Norberto; Roy, Pierre; Sousa, Sara H; Lombardo, Giuseppe.subjectscleral iontophoresissubjectramansubjectluteina

*Journal of biophotonics (Internet)* 11 (2018).

<https://dx.doi.org/10.1002/jbio.201700095>

### 4)-Water-driven segmental cooperativity in polyvinyl butyral

Carini G.; Bartolotta A.; Carini G.; D'Angelo G.; Federico M.; Di Marco G.subjectPolyvinyl butyral Water sorption Mechanical and dielectric relaxations Activation entropy

*European Polymer Journal* 98 (2018): 172–176.

<https://dx.doi.org/10.1016/j.eurpolymj.2017.11.016>

### 5)-Hydrogen mean force and anharmonicity in polycrystalline and amorphous ice

Parmentier; A.; Andreani; C.; Romanelli; G.; Shephard; J. J.; Salzmann; C. G.; Senesi; R.subjectpotential of mean forcesubjectneutron Compton profilesubjectnuclear quantum effectssubjectpath integral representationsubjectanharmonicitysubjectINELASTIC NEUTRON-SCATTERINGsubjectINTEGRAL MOLECULAR-DYNAMICSsubjectKINETIC-ENERGYsubjectTRIPLE POINTsubjectCONDENSED MATTERsubjectLOW-TEMPERATUREsubjectWATERsubjectDENSITYsubjectSYSTEMSsubjectPHASE

*FRONTIERS OF PHYSICS* 13 (2018).

<https://dx.doi.org/10.1007/s11467-017-0724-4>

### 6)-Electrospun Conjugated Polymer/Fullerene Hybrid Fibers: Photoactive Blends, Conductivity through Tunneling-AFM, Light Scattering, and Perspective for Their Use in Bulk-Heterojunction Organic Solar Cells

Yang Z.; Moffa M.; Liu Y.; Li H.; Persano L.; Camposeo A.; Saija R.; Iati M.A.; Marago O.M.; Pisignano D.; Nam C.-Y.; Zussman E.; Rafailovich M.subjectFIELD-EFFECT TRANSISTORS; PHOTOVOLTAIC PROPERTIES; POLYMER NANOFIBERS; OPTICAL-PROPERTIES; EMITTING-DIODES; QUANTUM DOTS; THIN-FILMS; MORPHOLOGY; NANOWIRES; EFFICIENCY

*Journal of physical chemistry. C. (Online)* 122 (2018): 3058–3067.

<https://dx.doi.org/10.1021/acs.jpcc.7b11188>

**7)-Iron and lithium-iron alkyl phosphates as nanostructured material for rechargeable batteries**

Parola, Valeria La; Liveri, Vincenzo Turco; Todaro, Lorena; Lombardo, Domenico; Bauer, Elvira Maria; Dell'Era, Alessandro; Dell'Era, Alessandro; Longo, Alessandro; Longo, Alessandro; Caschera, Daniela; de Caro, Tilde; Toro, Roberta Grazia; Calandra, PietrosubjectHybrid materialssubjectLithium ion batteriessubjectTri n-butyl phosphates

*Materials letters (Gen. ed.)* 220 (2018): 58–61.

<https://dx.doi.org/10.1016/j.matlet.2018.02.112>

**8)-Transient viscous response of the human cornea probed with the Surface Force Apparatus**

Zappone, Bruno; Patill, Navinkumar J.; Lombardo, Marco; Lombardo, GiuseppesubjectViscoelastic behavioursubjectcornea tissuesubjectSFA

*PloS one* 13 (2018).

<https://dx.doi.org/10.1371/journal.pone.0197779>

**9)-Non-invasive optical method for real-time assessment of intracorneal riboflavin concentration and efficacy of corneal cross-linking**

Lombardo, Giuseppe; Villari, Valentina; Micali, Norberto L.; Leone, Nancy; Labate, Cristina; De Santo, Maria P.; Lombardo, MarcosubjectCorneal cross-linkingsubjectFluorescencesubjectRiboflavinsubjectTheranosticssubjectUV-A device

*Journal of biophotonics (Print)* 11 (2018).

<https://dx.doi.org/10.1002/jbio.201800028>

**10)-PEGylate porphyrin-gold nanoparticles conjugates as removable pH-sensor nano-probes for acidic environments**

Mineo, Placido G.; Abbadessa, Antonio; Rescifina, Antonio; Mazzaglia, Antonino; Nicosia, Angelo; Scamporrino, Andrea A.subjectGold nanoparticlessubjectNano-sensorsubjectpH-sensorsubjectPorphyrinsubjectTD-DFT calculations

*Colloids and surfaces. A, Physicochemical and engineering aspects (Print)* 546 (2018): 40–47.

<https://dx.doi.org/10.1016/j.colsurfa.2018.02.061>

**11)-Optical Aggregation of Gold Nanoparticles for SERS Detection of Proteins and Toxins in Liquid Environment: Towards Ultrasensitive and Selective Detection**

Foti, Antonino; D'Andrea, Cristiano; Villari, Valentina; Micali, Norberto; Donato, Maria Grazia; Fazio, Barbara; Marago, Onofrio M.; Gillibert, Raymond; de la Chapelle, Marc Lamy;

Gucciardi, Pietro G.subjectSERSsubjectbiosensorssubjectgold nanoparticlessubjectaptamerssubjecttoxinsubjecthemeproteinsubjectoptical forcessubjectoptical tweezerssubjectoptical patterningsubjectcolloids *Materials (Basel) 11* (2018).  
<https://dx.doi.org/10.3390/ma11030440>

**12)-Nanoscale Discrimination between Toxic and Nontoxic Protein Misfolded Oligomers with Tip-Enhanced Raman Spectroscopy**

D'Andrea, Cristiano; Foti, Antonino; Cottat, Maximilien; Banchelli, Martina; Capitini, Claudia; Barreca, Francesco; Canale, Claudio; de Angelis, Marella; Relini, Annalisa; Marago, Onofrio M.; Pini, Roberto; Chiti, Fabrizio; Gucciardi, Pietro G.; Matteini, PaolosubjectAlzheimer's diseasesubjectamyloidsubjectbiomoleculessubjectnanoscalesubjectTERS *Small (Weinh., Print) 14* (2018).  
<https://dx.doi.org/10.1002/sml.201800890>

**13)-Interpenetrating Polymer Network Microgels in Water: Effect of Composition on the Structural Properties and Electrosteric Interactions**

Micali N.; Bertoldo M.; Buratti E.; Nigro V.; Angelini R.; Villari V.subjectcolloidal propertiessubjectelectrosteric interactionssubjectmicrogelssubjectNMR spectroscopysubjectpolymer network *ChemPhysChem (Print) 19* (2018): 2894–2901.  
<https://dx.doi.org/10.1002/cphc.201800707>

**14)-Low cost tips for tip-enhanced Raman spectroscopy fabricated by two-step electrochemical etching of 125  $\mu$  m diameter gold wires**

Foti, Antonino; Barreca, Francesco; Fazio, Enza; D'Andrea, Cristiano; Matteini, Paolo; Marago, Onofrio Maria; Gucciardi, Pietro Giuseppesubjectamyloidsubjectenhanced spectroscopysubjectgold tipssubjectplasmonicssubjectTERS *Beilstein journal of nanotechnology 9* (2018): 2718–2729.  
<https://dx.doi.org/10.3762/bjnano.9.254>

**15)-Optical force decoration of 3D microstructures with plasmonic particles**

Donato, M. G.; Rajamanickam, V. P.; Foti, A.; Gucciardi, P. G.; Liberale, C.; Marago, O. M.subjectoptical forcessubjectplasmonicssubjectSERSsubjectoptical tweezers *Optics letters 43* (2018): 5170–5173.  
<https://dx.doi.org/10.1364/OL.43.005170>

**16)-Photoelectrochemical and spectrophotometric studies on dye-sensitized solar cells (DSCs) and stable modules (DSCMs) based on natural apocarotenoids pigments**

Calogero, Giuseppe; Barichello, Jessica; Citro, Ilaria; Mariani, Paolo; Vesce, Luigi; Bartolotta, Antonino; Di Carlo, Aldo; Di Marco, GaetanosubjectDye-sensitized solar cellssubjectPhotoelectrochemical modulessubjectSolar energysubjectNatural dyessubjectAchiotesubjectBixin

*Dyes and pigments* 155 (2018): 75–83.

<https://dx.doi.org/10.1016/j.dyepig.2018.03.021>

**17)-Laser-generated bismuth nanoparticles for applications in imaging and radiotherapy**

Torrise, L.; Silipigni, L.; Restuccia, N.; Cuzzocrea, S.; Cutroneo, M.; Barreca, F.; Fazio, B.; Di Marco, G.; Guglielmino, S.subjectBismuthsubjectNanoparticlessubjectContrast mediumsubjectRadiotherapysubjectX-ray images

*Journal of physics and chemistry of solids* 119 (2018): 62–70.

<https://dx.doi.org/10.1016/j.jpics.2018.03.034>

**18)-Multi-analytical study of Roman frescoes from Villa dei Quintili (Rome, Italy)**

Crupi, Vincenza; Fazio, Barbara; Fiocco, Giacomo; Galli, Giuliana; La Russa, Mauro Francesco; Licchelli, Maurizio; Majolino, Domenico; Malagodi, Marco; Ricca, Michela; Ruffolo, Silvestro Antonio; Venuti, ValentinasubjectMicro-Raman spectroscopysubjectFT-IR spectroscopysubjectSEM-EDXsubjectPOMsubjectRoman decorated plasterssubjectPigments

*Journal of Archaeological Science: Reports* 21 (2018): 422–432.

<https://dx.doi.org/10.1016/j.jasrep.2018.08.028>

**19)-Ultrasensitive Label- and PCR-Free Genome Detection Based on Cooperative Hybridization of Silicon Nanowires Optical Biosensors**

Leonardi, Antonio Alessio; Lo Faro, Maria Jose; Petralia, Salvatore; Fazio, Barbara; Musumeci, Paolo; Conoci, Sabrina; Irrera, Alessia; Priolo, FrancescosubjectbiosensorsubjectnanowiressubjectPCR-freesubjectDNA cooperative hybridizationsubjectsiliconsubjectphotoluminescencesubjectHepatitis B virus

*ACS sensors Online* 3 (2018): 1690–1697.

<https://dx.doi.org/10.1021/acssensors.8b00422>

**20)-Low Cost Fabrication of Si NWs/CuI Heterostructures**

Lo Faro, Maria Jose; Leonardi, Antonio Alessio; Morganti, Dario; Fazio, Barbara; Vasi, Ciro; Musumeci, Paolo; Priolo, Francesco; Irrera, Alessiasubjectsilicon nanowiressubjectheterostructuressubjectCuIsubjectsilicon

*Nanomaterials (Basel)* 8 (2018).

<https://dx.doi.org/10.3390/nano8080569>

**21)-TiO<sub>2</sub>-SiO<sub>2</sub>-PDMS nanocomposite coating with self-cleaning effect for stone material: Finding the optimal amount of TiO<sub>2</sub>**

Crupi, Vincenza; Fazio, Barbara; Gessini, Alessandro; Kis, Zoltan; La Russa, Mauro F.; Majolino, Domenico; Masciovecchio, Claudio; Ricca, Michela; Rossi, Barbara; Ruffolo, Silvestro A.; Venuti, ValentinasubjectTitanium dioxidesubjectNanostructured coatingsubjectPhotocatalyticssubjectNeutron radiographysubjectSR-RamansubjectCultural heritage

*Construction & building materials* 166 (2018): 464–471.

<https://dx.doi.org/10.1016/j.conbuildmat.2018.01.172>

**22)-Tailoring the oxygen content of graphene oxide by IR laser irradiation**

Silipigni, L.; Fazio, M.; Fazio, B.; Cutroneo, M.; Torrisci, L.subjectGRAPHITE OXIDE; REDUCTION

*Applied physics. A, Materials science & processing (Print)* 124 (2018).

<https://dx.doi.org/10.1007/s00339-018-1956-z>

**23)-Gold nanoparticles produced by laser ablation in water and in graphene oxide suspension**

Torrisci, L.; Cutroneo, M.; Silipigni, L.; Barreca, F.; Fazio, B.; Restuccia, N.; Kovacik, L.subjectLaser ablation in watersubjectgraphenesubjectgraphene oxidesubjectgold nanoparticles

*Philosophical magazine (2003, Print)* 98 (2018): 2205–2220.

<https://dx.doi.org/10.1080/14786435.2018.1478147>

**24)-Production and biotechnological potentialities of extracellular polymeric substances from sponge-associated Antarctic bacteria**

Caruso C.; Rizzo C.; Mangano S.; Poli A.; Di Donato P.; Finore I.; Nicolaus B.; Di Marco G.; Michaud L.; Lo Giudicea A.subjectextracellular polymeric substancesubjectbiofilmsubjectbiotechnological potentialsubjectWinogradskyella

*Applied and environmental microbiology (Online)* (2018).

<https://dx.doi.org/10.1128/AEM.01624-17>

**25)-SERS amplification by ultra-dense plasmonic arrays on self-organized PDMS templates**

Repetto, Diego; Giordano, Maria Caterina; Foti, Antonino; Gucciardi, Pietro Giuseppe; Mennucci, Carlo; de Mongeot, Francesco BuatiersubjectPolydimethylsiloxane (PDMS)subjectSoft lithographysubjectPlasmonic nanostructuresubjectSurface-enhanced Raman spectroscopy (SERS)subjectOptical dichroism

*Applied surface science* 446 (2018): 83–91.

<https://dx.doi.org/10.1016/j.apsusc.2018.02.163>

**26)-A New Class of MnCeOx Materials for the Catalytic Gas Exhausts Emission Control: A Study of the CO Model Compound Oxidation**

Arena F.; Di Chio R.; Espro C.; Fazio B.; Palella A.; Spadaro L.subjectAutomotive exhaust emissions controlssubjectCO oxidationsubjectNanocomposite MnCeOx catalystssubjectActive sitesubjectReaction mechanism

*Topics in catalysis* (2018).

<https://dx.doi.org/10.1007/s11244-018-1113-0>

**27)-Biomaterial Amorphous Laser through Light-Scattering Surfaces Assembled by Electrospun Fiber Templates**

Maria Moffa; Andrea Camposeo; Vito Fasano; Barbara Fazio; Maria Antonia Iatì; Onofrio M Maragò; Rosalba Saija; Heinz-Christoph Schröder; Werner EG Müller; Dario PisignanosubjectOptical materialssubjectLight scatteringsubjectnanofabrication

*Laser & photonics reviews (Internet) 12 (2018): 1700224-1–1700224-9.*  
<https://dx.doi.org/10.1002/lpor.201700224>

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## Other publications (journals without peer review, book reviews, etc.)

### 1)-Contrasting microscopic interactions determine the properties of water/methanol solutions

Carmelo Corsaro; Francesco Mallamace; Sebastiano Vasi; Sow-Hsin Chen; H. Eugene Stanley; Domenico Mallamace

subjectaqueous solutions subjecthydrophobicity subjectNMR subjecthydrophilicity

*Water and Water Systems, Erice (TP)*, 22/07/2016, 31/07/2016

<http://www.cnr.it/prodotto/i/377866>

info:cnr-pdr/source/autori:Carmelo Corsaro, Francesco Mallamace, Sebastiano Vasi, Sow-Hsin Chen, H. Eugene Stanley, Domenico Mallamace/congresso\_nome:Water and Water Systems/congresso\_luogo:Erice (TP)/congresso\_data:22/07/2016, 31/07/2016/anno:2018/pagina\_da:/pagina\_a:/intervallo\_pagine:

### 2)-NMR investigation of degradation processes of ancient and modern paper at different hydration levels

Domenico Mallamace; Sebastiano Vasi; Mauro Missori; Francesco Mallamace; Carmelo Corsaro

subjectancient papers subjectdegradations subjectNMR subjecthydrations subjectsolvent dynamics

*Water and Water Systems, Erice (TP)*, 22/07/2016, 31/07/2016

<http://www.cnr.it/prodotto/i/377867>

info:cnr-pdr/source/autori:Domenico Mallamace, Sebastiano Vasi, Mauro Missori, Francesco Mallamace, Carmelo Corsaro/congresso\_nome:Water and Water Systems/congresso\_luogo:Erice (TP)/congresso\_data:22/07/2016, 31/07/2016/anno:2018/pagina\_da:/pagina\_a:/intervallo\_pagine:

### 3)-Sorafenib loaded SLN magnetically targeting hepatoma

Nicoletta Depalo (a); Fabio Vischio(a); Rosa Maria Iacobazzi(e); Silvia Villa(c); Fabio Canepa(c); Elisabetta Fanizza(a,d); Valentino Laquintana(b); Maria Principia Scavo(e); Angela Lopedota(b); Annalisa Cutrignelli(b); Marinella Striccoli(a); Angela Agostiano(a,d); Massimo Franco(b); Maria Lucia Curri(a); Nunzio Denora(b)

subjecthepatomas subjectdrug delivery subjectnanoparticles subjectsorafenib

*Proceeding 11th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology, Granada - Spagna, 19-21/03/2018*

<http://www.cnr.it/prodotto/i/393058>

info:cnr-pdr/source/autori:Nicoletta Depalo (a); Fabio Vischio(a) ; Rosa Maria Iacobazzi(e); Silvia Villa(c); Fabio Canepa(c); Elisabetta Fanizza(a,d); Valentino Laquintana(b); Maria Principia Scavo(e); Angela Lopedota(b); Annalisa Cutrignelli(b); Marinella Striccoli(a); Angela Agostiano(a,d); Massimo Franco(b); Maria Lucia Curri(a); Nunzio Denora(b)/congresso\_nome:Proceeding 11th World Meeting on Pharmaceutics, Biopharmaceutics and Pharmaceutical Technology/congresso\_luogo:Granada - Spagna/congresso\_data:19-21/03/2018/anno:2018/pagina\_da:/pagina\_a:/intervallo\_pagine:

#### 4)-Innovative Silicon Nanowires based Platforms for Bio-sensing

C. D'Andrea<sup>1</sup>; JM. Lo Faro<sup>2</sup>; AA. Leonardi<sup>2, 3, 4</sup>; S. Trusso<sup>2</sup>; M. De Angelis<sup>1</sup>; M. Banchelli<sup>1</sup>; L. Torsi<sup>5</sup>; F. Priolo<sup>3, 4, 6</sup>; R. Pini<sup>1</sup>; A. Irrera<sup>2</sup>; P. Matteini<sup>1</sup> | subjectsilicon nanowires | subjectBiosensings | subjectSERS | subjectc-reactive proteins | subjectamyloid oligomers  
*Europt(r)ode XIV conference on optical chemical sensors and biosensors, Napoli, 25-28/03/2018*

<http://www.cnr.it/prodotto/i/396053>

info:cnr-pdr/source/autori:C. D'Andrea<sup>1</sup>, JM. Lo Faro<sup>2</sup>, AA. Leonardi<sup>2,3,4</sup>, S. Trusso<sup>2</sup>, M. De Angelis<sup>1</sup>, M. Banchelli<sup>1</sup>, L. Torsi<sup>5</sup>, F. Priolo<sup>3,4,6</sup>, R. Pini<sup>1</sup>, A. Irrera<sup>2</sup> and P. Matteini<sup>1</sup>/congresso\_nome:Europt(r)ode XIV conference on optical chemical sensors and biosensors/congresso\_luogo:Napoli/congresso\_data:25-28/03/2018/anno:2018/pagina\_da:/pagina\_a:/intervallo\_pagine:

#### 5)-Tip-Enhanced Raman Spectroscopy Analysis of Amyloid Oligomers

Cristiano D'Andrea<sup>1</sup>; Antonino Foti<sup>2</sup>; Maximilien Cottat<sup>1</sup>; Martina Banchelli<sup>1</sup>; Claudia Capitini<sup>3</sup>; Francesco Barreca<sup>4</sup>; Claudio Canale<sup>5</sup>; Marella De Angelis<sup>1</sup>; Annalisa Relini<sup>6</sup>; Onofrio. M. Maragò<sup>2</sup>; Roberto Pini<sup>1</sup>; Fabrizio Chiti<sup>3</sup>; Pietro G. Gucciardi<sup>2</sup>; Paolo Matteini<sup>1</sup> | subjectTip enhanced raman spectroscopy | subjectTERS | subjectamyloid oligomers | subjectneurodegenerative disease

*Plasmonica 2018 - International workshop on plasmonics, Firenze, 04-06/07/2018*

<http://www.cnr.it/prodotto/i/396068>

info:cnr-pdr/source/autori:Cristiano D'Andrea<sup>1</sup>, Antonino Foti<sup>2</sup>, Maximilien Cottat<sup>1</sup>, Martina Banchelli<sup>1</sup>, Claudia Capitini<sup>3</sup>, Francesco Barreca<sup>4</sup>, Claudio Canale<sup>5</sup>, Marella De Angelis<sup>1</sup>, Annalisa Relini<sup>6</sup>, Onofrio. M. Maragò<sup>2</sup>, Roberto Pini<sup>1</sup>, Fabrizio Chiti<sup>3</sup>, Pietro G. Gucciardi<sup>2</sup>, and Paolo Matteini<sup>1</sup>/congresso\_nome:Plasmonica 2018 - International workshop on plasmonics/congresso\_luogo:Firenze/congresso\_data:04-06/07/2018/anno:2018/pagina\_da:/pagina\_a:/intervallo\_pagine:

#### 6)-Thermo-mechanical and physical characterization of polyolefin based films for photovoltaic cells

A. Visco; G. Di Marco; C. Scolaro; D. Iannazzo; L. Torrisi | subjectadhesivess | subjectpolyolefinss | subjectsolar cellss | subjectlap shear testss | subjectthermal characterization

*9th International Conference on "Times of Polymers and Composites"; : From Aerospace to Nanotechnology, pp. 20145-1–20145-4, Ischia, 17-21/7/ 2018*

<https://dx.doi.org/10.1063/1.5046007>

info:cnr-pdr/source/autori:A. Visco, G. Di Marco, C. Scolaro, D. Iannazzo and L. Torrisi/congresso\_nome:9th International Conference on "Times of Polymers and Composites"; : From Aerospace to Nanotechnology/congresso\_luogo:Ischia/congresso\_data:17-21/7/2018/anno:2018/pagina\_da:20145-1/pagina\_a:20145-4/intervallo\_pagine:20145-1–20145-4



**7)-Rapporto Tecnico: Studio di fattibilità impianto geotermico per Acquapark di Tramutola (PT)**

G. DI BELLA; A. SAPIENZA; S. VASTA; G. LUPÒ; R. CARUSO; G. LOMBARDO  
subjectgeotermiasubjectpompa di caloresubjectpiscinasubjectacquapark  
2018

<http://www.cnr.it/prodotto/i/398050>