Prof. F. Javier García de Abajo

ICFO-Institut de Ciències Fotòniques, Av. Carl Friedrich Gauss 3, 08860 Castelldefels (Barcelona), Spain
Email: javier.garciadeabajo@nanophotonics.es | Phone: +34-653700342 | Web: http://www.nanophotonics.es
ORCID: 0000-0002-4970-4565. ResearcherID: A-6095-2009. Scopus ID: 7003877588.
Date of birth: June 12, 1964 | Place of birth: Burgos, Spain | Nationality: Spanish

SCIENTIFIC EDUCATION

- 1993 PhD Physics, University of the Basque Country, Spain
- 1987 MSc Physics, University of the Basque Country, Spain

CURRENT POSITIONS

- Leader of the Nanophotonics Theory Group at ICFO, Barcelona, Spain
- ICREA Research Professor, Catalan Institute for Research and Advanced Studies, Barcelona, Spain

PREVIOUS POSITIONS

- 2008-2013 Research Professor, Consejo Superior de Investigaciones Científicas (CSIC), Spain
- 2006-2008 Senior Scientist, Consejo Superior de Investigaciones Científicas (CSIC), Spain
- 2000-2006 Staff Scientist, Consejo Superior de Investigaciones Científicas (CSIC), Spain
- 1997-2000 Visiting Scientist, Lawrence Berkeley National Laboratory, California, USA
- 1993-1997 Associate Professor, University of the Basque Country, Spain
- 1989-1993 Assistant Professor, University of the Basque Country, Spain

RESEARCH PROFILE

García de Abajo is an expert in the science of light, free electrons, and their interaction with atoms, molecules, and material nanostructures. He has predicted and explained new phenomena that include collective electron excitations –plasmons– in atomic-scale systems (e.g., molecules and nanographenes); ultrafast electron-beam interactions with localized optical fields; strong molecule–plasmon coupling; ultrafast radiative heat transfer; quantum friction; and others. Many of his predictions have been corroborated experimentally. He maintains an intense research agenda covering a wide range of topics in collaboration with a network of groups in the fields of **(1)** electron microscopy (EELS, cathodoluminescence, and ultrafast spectroscopies); **(2)** 2D polaritonics and optoelectronics; **(3)** quantum and nonlinear nanophotonics; **(4)** quantum interactions of electron beams, light, and polaritons; **(5)** optical biosensing; **(6)** quantum friction, radiative heat transfer, and optical forces.

SCIENTIFIC PRODUCTION

- **444 journal papers**; 36 cover images; >**47,000/65,000 citations, h=103/123** (Web of Science/G. Scholar)
- **298 invited presentations** at international conferences, of which **52 keynotes** and **17 plenaries**
- Number 12 in career-long impact among Spanish scientists in all disciplines according to the Stanford-based list, and number 69 in Applied Physics worldwide according to that list in 2024.
- Co-inventor on 7 patents

DISTINCTIONS AND AWARDS

- 2025 SPIE Mozi Award
- 2024 ERC Advanced Grant
- 2024 Fellow of the Electromagnetic Academy (emacademy.org)
- 2022 Beijing Science and Technology Award – Zhongguancun Award for Intl. Cooperation
- 2021 Distinguished Scientist (PIFI), Chinese Academy of Sciences (CAS)
- 2020 Humboldt Research Award, Alexander von Humboldt Foundation
- 2019 Science of Light Prize, European Physical Society (EPS)
- 2018 ERC Advanced Grant
- 2015, 2019, 2021 Highly Cited Researcher (Web of Science)
- 2010 Outstanding Referee, American Physical Society
- 2008 Fellow, Optical Society of America (OSA)
- 2007 Joop Los Fellow, AMOLF, Amsterdam

- 2006 Fellow, American Physical Society (APS)

SUPERVISION

- **Past:** 14 PhD students, 22 postdocs
- **Present research group:** 6 PhD students, 1 postdocs

EDITORIAL ACTIVITIES

- 2023 Associate Editor, Science Advances (AAAS)
- 2020-present Associate Editor, ACS Photonics (ACS)
- 2018-2024 Member, Senior Advisory Panel, JPhys. Photonics (IOP)
- 2018-2019 Member, Editorial Advisory Panel, ACS Photonics (ACS)
- 2012-2016 Member, Editorial Board, Nanophotonics (de Gryuter)
- 2010-2016 Deputy Editor, Optics Express (OSA)
- 2007-2013 Member, Editorial Advisory Board, Metamaterials (Elsevier)
- 2006-2010 Associate Editor, Optics Express (OSA)

ORGANIZATION OF SCIENTIFIC MEETINGS

- Member of the scientific board in >40 conferences under the umbrella of CLEO, MRS, OSA, and SPIE, as well as a committee member in several events with >300 participants, including Metamaterials, Rome, 2007; Metamaterials, Pamplona, 2008; Intl. Conference on Surface-Plasmon Photonics, Ottawa 2013; Intl. Conference on Nanophotonics ICNP/AOM, Hong Kong, 2013; Near-Field Optics, Snowbird 2014; NanoMeta, Seefeld 2015; Metamaterials, Oxford 2015; and Intl. Conference on Surface-Plasmon Photonics, Taipei 2017; Metamaterials, Espoo, 2018; International Microscopy Congress (session IT13), Sydney, 2018; E-MRS Spring Meeting, Nice, May 2019
- 2023 Chair, Nanophotonics and Micro/Nano Optics Conference (NANOP), Barcelona
- 2023 Chair, International School on the Frontiers of Light, Barcelona
- 2022 Co-chair, 12th Conference on Ultrafast Surface Dynamics, Benasque
- 2021-2024 Member, Commission 17, International Union of Pure and Applied Physics (IUPAP)
- 2019 Co-chair, Electron Beam Spectroscopy for Nanophotonics, Orsay
- 2017 Chair, Electron Beam Spectroscopy for Nanophotonics, Sitges, Spain
- 2016 Co-chair, Workshop on Quantum and Topological Nanophotonics, Singapore
- 2016 Co-chair, Plasmonics and Beyond, as part of the APS March meeting, Baltimore
- 2014 Co-chair, Electron Beam Spectroscopy for Nanophotonics, Amsterdam
- 2005 Chair, Metamaterials for Microwave and Optical Technologies Workshop, Donostia
- 2003 Chair, Optical Properties of Complex Materials Workshop, Donostia

REVIEWING ACTIVITIES

- 2022 Member, Review Panel, Wallenberg Initiative Materials Science for Sustainability
- 2021 Member, Research into the Science of Light Jury, EPS-QEOD
- 2020-present Member, International Scientific Committee, ENSEMBLE3 Ctr. of Excellence, Warsaw
- 2019 Member, Fresnel Prize Committee, European Physical Society (EPS)
- 2016-2017 Member, Optics Review Panel, Academy of Finland
- 2015 Member, Materials Theory Award Committee, Materials HYPERLINK "https://doi.org/10.1038/s41467-023-43701-5" evaluation committees, Spanish Ministry of Science and Innovation (MICINN)
- 2015-2016 Member, Academy Fellows Nomination Committee, Chalmers University
- 2012-2014 Advisor, CORE Network, Samsung Advanced Institute of Technology (SAIT)
- 2009-2011 Member, Advisory Panel, EPSRC Photonic Metamaterials Programme, Southampton
- 2007 Member, Recruitment Committee, ICREA, Barcelona
- 2004-2008 Member of nine project review committees, European Commission
- Reviewer in >20 proposals/year for funding agencies in Europe, Asia (mainly Hong Kong, Korea, and Singapore), and the US

CURRENT NETWORK OF COLLABORATIONS

Atwater (Caltech), Basov (Columbia University), Batson (Rutgers), Carbone (EPFL, Lausanne), Kociak (UPS, Orsay), Dai (NCNT, Beijing), Halas and Nordlander (Rice University), Kaminer (Technion), Konečná

(Brno University), Koppens (ICFO), Liz-Marzán (Biomagune), Mortensen (SDU, Odense), Novotny (ETH, Zurich), Ortega (DIPC), Polman (AMOLF), Ropers (Göttingen), Sannomiya (TIT, Tokyo), Sun (Aalto University), Vanacore (Milano-Bicocca), Walther (University of Vienna), and Zheludev (ORC, Southampton).

TEN SELECTED PUBLICATIONS DURING THE LAST TEN YEARS

1. *Gate-tunable negative refraction of mid-infrared polaritons*, H. Hu, N. Chen, H. Teng, R. Yu, M. Xue, K. Chen, Y. Xiao, Y. Qu, D. Hu, J. Chen, Z. Sun, P. Li, F. J. García de Abajo, and Q. Dai, Science **379**, 558-561 (2023)
2. *Entangling free electrons and optical excitations*, A. Konečná, F. Iyikanat, and F. J. García de Abajo, Science Advances **8**, eabo7853 (2022)
3. *Optical modulation of electron beams in free space*, F. J. García de Abajo and A. Konečná, Physical Review Letters **126**, 123901 (2021) **[Editor's Suggestion]**
4. *Optical excitations with electron beams: Challenges and opportunities*, F. J. García de Abajo and V. Di Giulio, ACS Photonics **8**, 945-974 (2021) **[Cover Image]**
5. *Probing quantum optical excitations with fast electrons*, V. Di Giulio, M. Kociak, and F. J. García de Abajo, Optica **6**, 1524-1534 (2019)
6. *Plasmonics in atomically thin crystalline silver films*, Z. M. Abd El-Fattah, V. Mkhitaryan, J. Brede, L. Fernańdez, C. Li, Q. Guo, A. Ghosh, A. Rodríguez Echarri, D. Naveh, F. Xia, J. E. Ortega, and F. J. García de Abajo, ACS Nano **13**, 7771-7779 (2019) **[Cover Image]**
7. *Plasmon-assisted high-harmonic generation in graphene*, J. D. Cox, A. Marini, and F. J. García de Abajo, Nature Communications **8**, 2 (2017)
8. *Polaritons in van der Waals materials*, D. N. Basov, M. M. Fogler, and F. J. García de Abajo, Science **354,** 195 (2016)
9. *Tunable plasmons in atomically thin gold nanodisk*s, A. Manjavacas and F. J. García de Abajo, Nature Communications **5**, 3548 (2014)
10. *Graphene plasmonics: Challenges and opportunities*, F. J. García de Abajo, ACS Photonics **1,** 135-152 (2014)

PUBLICATIONS

REGULAR PAPERS

444.- *Free-electron coupling to surface polaritons mediated by small scatterers*, B. Yang, B. Song, F. J. García de Abajo, and Q. Dai, ACS Nano **19**, 1490-1498 (2025)

443.- *Free-electron coupling to surface polaritons mediated by small scatterers*, L. Prelat, E. J. C. Dias, and F. J. García de Abajo, Nanophotonics **13**, 4667-4681 (2024)

442.- *Thermal radiation forces on planar structures with asymmetric optical response*, J. R. Deop-Ruano, F. J. García de Abajo, and A. Manjavacas, Nanophotonics **13**, 4569-4575 (2024)

441.- *Probing plexciton emission from 2D materials on gold nanotrenches*, J. Zhou, P. A. D. Gonçalves, F. Riminucci, S. Dhuey, E. S. Barnard, A. M. Schwartzberg, F. J. García de Abajo, and A. Weber-Bargioni, Nature Communications **15**, 9583 (2024)

440.- *Dielectric sphere oligomers as optical nanoantenna for circularly polarized light*, S. Ogura, H. Negoro, I. Machfuudzoh, Z. Thollar, T. Hinamoto, F. J. García de Abajo, H. Sugimoto, M. Fujii, and T. Sannomiya, ACS Photonics **11**, 3323-3330 (2024)

439.- *Guiding light with surface exciton–polaritons in atomically thin superlattices*, S. A. Elrafei, T. V. Raziman, S. de Vega, F. J. García de Abajo, and A. G. Curto, Nanophotonics **13**, 3101-3111 (2024)

438.- *Modeling quantum optical phenomena using transition currents*, A. Karnieli, N. Rivera, V. Di Giulio, A. Arie, F. J. García de Abajo, and I. Kaminer, Applied Physics Reviews **11**, 031305 (2024)

437.- *Quantum effects in the interaction of low-energy electrons with light*, A. P. Synanidis, P. A. D. Gonçalves, C. Ropers, and F. J. García de Abajo, Science Advances **10**, eadp4096 (2024)

436.- *Toward complete optical coupling to confined surface polaritons*, S. Abdullah, E. J. C. Dias, J. Krpenský, V. Mkhitaryan, and F. J. García de Abajo, ACS Photonics **18**, 15130-15138 (2024) **[Cover Image]**

435.- *Singular and nonsingular transitions in the infrared plasmons of nearly touching nanocube dimers*, Y. Wu, A. Konecňá, S. H. Cho, D. J. Milliron, J. A. Hachtel, and F. J. García de Abajo, ACS Nano **18**, 15130-15138 (2024)

434.- *Steering and cloaking of hyperbolic polaritons at deep-subwavelength scales*, H. Teng, N. Chen, H. Hu, F. J. García de Abajo, and Q. Dai, Nature Communications **15**, 4463 (2024)

433.- *Toward optimum coupling between free electrons and confined optical modes*, V. Di Giulio, E. Akerboom, and A. Polman, and F. J. García de Abajo, ACS Nano **18**, 14255-14275 (2024) **[Cover Image]**

432.- *Free electron-plasmon coupling strength and near-field retrieval through electron energy-dependent cathodoluminescence spectroscopy*, E. Akerboom, V. Di Giulio, N. J. Schilder, F. J. García de Abajo, and A. Polman, ACS Nano **18**, 13560-13567 (2024)

431.- *Attosecond electron microscopy by free-electron homodyne detection*, J. H. Gaida, H. Lourenço-Martins, M. Sivis, T. Rittmann, A. Feist, F. J. García de Abajo, and C. Ropers, Nature Photonics **18**, 509-515 (2024)

430.- *Generation of entangled waveguided photon pairs by free electrons*, T. P. Rasmussen, A. Rodríguez Echarri, J. D. Cox, and F. J. García de Abajo, Science Advances **10**, eadn6312 (2024)

429.- *Quantum-mechanical effects in photoluminescence from thin crystalline gold films*, A. R. Bowman, A. Rodríguez Echarri, F. Kiani, F. Iyikanat, T. V. Tsoulos, J. D. Cox, R. Sundararaman, F. J. García de Abajo, and G. Tagliabue, Light: Science & Applications **13**, 91 (2024)

428.- *Engineering 2D material exciton line shape with graphene/h-BN encapsulation*, S. Y. Woo, F. Shao, A. Arora, R. Schneider, N. Wu, A. J. Mayne, C.-H. Ho, M. Och, C. Mattevi, A. Reserbat-Plantey, A. Moreno, H. H. Sheinfux, K. Watanabe, T. Taniguchi, S. Michaelis de Vasconcellos, F. H. L. Koppens, Z. Niu, O. Stéphan, M. Kociak, F. J. García de Abajo, R. Bratschitsch, A. Konečná, and L. H. G. Tizei, Nano Letters **24**, 3678-3685 (2024)

427.- *Ultraconfined plasmons in atomically thin crystalline silver nanostructures*, V. Mkhitaryan, A. P. Weber, S. Abdullah, L. Fernández, Z. M. Abd El-Fattah, I. Piquero-Zulaica, H. Agarwal, K. García Díez, F. Schiller, J. E., and F. J. García de Abajo, Advanced Materials **36**, 2302520 (2024) **[Cover Image]**

426.- *Synthesis of tailored nanostructured gold surfaces for SERS applications by controlled seed deposition and growth*, M. Giardino, I. Mannelli, R. Yu, F. J. García de Abajo, V. Pruneri, and D. Jannera, Applied Surface Science **649**, 159076 (2024)

425.- *Radiative loss of coherence in free electrons: a long-range quantum phenomenon*, C. I. Velasco, V. Di Giulio, and F. J. García de Abajo, Light: Science & Applications **13**, 31 (2024)

424.- *Nanophotonics for pair production*, V. Di Giulio and F. J. García de Abajo, Nature Communications **14**, 8189 (2023)

423.- *Lorentz microscopy of optical fields*, J. H. Gaida, H. Lourenço-Martins, S. V. Yalunin, A. Feist, M. Sivis, T. Hohage, F. J. García de Abajo, and C. Ropers, Nature Communications **14**, 6545 (2023)

422.- *Exciton-assisted electron tunneling in van der Waals heterostructures*, L. Wang, S. Papadopoulos, F. Iyikanat, J. Zhang, J. Huang, K. Watanabe, T. Taniguchi, M. Calame, M. L. Perrin, F. J. García de Abajo, and L. Novotny, Nature Materials **22**, 1094-1099 (2023)

421.- *Nonlinear photoluminescence in gold thin films*, Á. Rodríguez Echarri, F. Iyikanat, S. Boroviks, N. A. Mortensen, J. D. Cox, and F. J. García de Abajo, ACS Photonics **10**, 2918-2929 (2023)

420.- *Highly directional single-photon source*, A. Manjavacas and F. J. García de Abajo, Nanophotonics **12**, 3351-3358 (2023)

419.- *μeV electron spectromicroscopy using free-space light*, Y. Auad, E. J. C. Dias, M. Tencé, J.-D. Blazit, X. Li, L. F. Zagonel, O. Stéphan, L. H. G. Tizei, F. J. García de Abajo, and M. Kociak, Nature Communications **14**, 4442 (2023)

418.- *Multi-plasmon effects and plasmon satellites in photoemission from nanostructures*, P. A. D. Gonçalves and F. J. García de Abajo, Nanoscale **15**, 11852-11859 (2023) **[Cover Image]**

417.- *Generation and control of localized terahertz fields in photoemitted electron plasmas*, E. J. C. Dias, I. Madan, S. Gargiulo, F. Barantani, M. Yannai, G. M. Vanacore, I. Kaminer, F. Carbone, and F. J. García de Abajo, Nanoscale Advances **5**, 3634-3645 (2023) **[Cover Image]**

416.- *Free-electron interactions with van der Waals heterostructures: a source of focused X-ray radiation*, X. Shi, Y. Kurman, M. Shentcis, L. J. Wong, F. J. García de Abajo, and I. Kaminer, Light: Science & Applications **12**, 148 (2023)

415.- *Spatiotemporal electron beam focusing through parallel interactions with shaped optical fields*, F. J. García de Abajo and C. Ropers, Physical Review Letters **130**, 246901 (2023)

414.- *Maximal violation of Kirchhoff's law in planar heterostructures*, L. Wang, F. J. García de Abajo, and G. T. Papadakis, Physical Review Research **5**, L022051 (2023)

413.- *Interrogating quantum nonlocal effects in nanoplasmonics through electron-beam spectroscopy*, P. A. D. Gonçalves and F. J. García de Abajo, Nano Letters **23**, 4242-4249 (2023)

412.- *Hyperbolic whispering-gallery phonon polaritons in boron nitride nanotubes*, X. Guo, N. Li, X. Yang, R. Qi, C. Wu, R. Shi, Y. Li, Y. Huang, F. J. García de Abajo, E.-G. Wang, P. Gao, and Q. Dai, Nature Nanotechnology **18**, 529-534 (2023)

411.- *Single-pixel imaging in space and time with optically modulated free electrons*, A. Konečňá, E. Rotunno, V. Grillo, F. J. García de Abajo, and G. M. Vanacore, ACS Photonics **10**, 1463-1472 (2023)

410.- *Visualizing the nanoscopic field distribution of whispering-gallery modes in a dielectric sphere by cathodoluminescence*, I. Machfuudzoh, T. Hinamoto, F. J. García de Abajo, H. Sugimoto, M. Fujii, and T. Sannomiya, ACS Photonics **10**, 1434-1445 (2023)

409.- *Polaritons in van der Waals heterostructures*, X. Guo, W. Lyu, T. Chen, Y. Luo, C. Wu, B. Yang, Z. Sun, F. J. García de Abajo, X. Yang, and Q. Dai, Advanced Materials **35**, 2201856 (2023)

408.- *Charge dynamics electron microscopy: Nanoscale imaging of femtosecond plasma dynamics*, I. Madan, E. J. C. Dias, S. Gargiulo, F. Barantani, M. Yannai, G. Berruto, T. LaGrange, L. Piazza, T. T. A. Lummen, R. Dahan, I. Kaminer, G. M. Vanacore, F. J. García de Abajo, and F. Carbone, ACS Nano **17**, 3657-3665 (2023)

407.- *Ultrafast electron microscopy of nanoscale charge dynamics in semiconductors*, M. Yannai, R. Dahan, A. Gorlach, Y. Adiv, K. Wang, I. Madan, S. Gargiulo, F. Barantani, E. J. C. Dias, G. M. Vanacore, N. Rivera, F. Carbone, F. J. García de Abajo, and I. Kaminer, ACS Nano **17**, 3645-3656 (2023)

406.- *Nonlocal and cascaded effects in nonlinear graphene nanoplasmonics*, T. P. Rasmussen, A. Rodríguez Echarri, F. J. García de Abajo, and J. D. Cox, Nanoscale **15**, 3150-3158 (2023) **[Cover Image]**

405.- *Free-electron-driven X-ray caustics from strained van der Waals materials*, X. Shi, M. Shentcis, Y. Kurman, L. J. Wong, F. J. García de Abajo, and I. Kaminer, Optica 10, 292-300 (2023)

404.- *Gate-tunable negative refraction of mid-infrared polaritons*, H. Hu, N. Chen, H. Teng, R. Yu, M. Xue, K. Chen, Y. Xiao, Y. Qu, D. Hu, J. Chen, Z. Sun, P. Li, F. J. García de Abajo, and Q. Dai, Science **379**, 558-561 (2023)

403.- *Simultaneous nanoscale excitation and emission mapping by cathodoluminescence*, T. Matsukata, S. Ogura, F. J. García de Abajo, and T. Sannomiya, ACS Nano **16**, 21462-21470 (2022)

402.- *Optical-cavity mode squeezing by free electrons*, V. Di Giulio and F. J. García de Abajo, Nanophotonics **11**, 4659-4670 (2022)

401.- *Simultaneous imaging of dopants and free charge carriers by monochromated EELS*, H. Yang, A. Konečná, X. Xu, S.-W. Cheong, P. E. Batson, F. J. García de Abajo, and E. Garfunkel, ACS Nano **16**, 18795-18805 (2022)

400.- *Entangling free electrons and optical excitations*, A. Konečná, F. Iyikanat, and F. J. García de Abajo, Science Advances **8**, eabo7853 (2022)

399.- *Optical control of high-harmonic generation at the atomic thickness*, Y. Wang, F. Iyikanat, X. Bai, X. Hu, S. Das, Y. Dai, Y. Zhang, L. Du, S. Li, H. Lipsanen, F. J. García de Abajo, and Z. Sun, Nano Letters **22**, 8455-8462 (2022)

398.- *Optical manipulation of matter waves*, K. Akbari, V. Di Giulio, and F. J. García de Abajo, Science Advances **8**, eabq2659 (2022)

397.- *Ultrafast transverse modulation of free electrons by interaction with shaped optical fields*, I. Madan, V. Leccese, A. Mazur, F. Barantani, T. LaGrange, A. Sapozhnik, Ph. M. Tengdin, S. Gargiulo, E. Rotunno, J.-C. Olaya, I. Kaminer, V. Grillo, F. J. García de Abajo, F. Carbone, and G. M. Vanacore, ACS Photonics **9**, 3215-3224 (2022)

396.- *Doping-driven topological polaritons in graphene/α-MoO_3 heterostructures*, H. Hu, N. Chen, H. Teng, R. Yu, Y. Qu, J. Sun, M. Xue, D. Hu, B. Wu, C. Li, J. Chen, M. Liu, Z. Sun, Y. Liu, P. Li, S. Fan, F. J. García de Abajo, and Q. Dai, Nature Nanotechnology **17**, 940-946 (2022)

395.- *An image interaction approach to quantum-phase engineering of two-dimensional materials*, V. Di Giulio, P. A. D. Gonçalves, and F. J. García de Abajo, Nature Communications **13**, 5175 (2022)

394.- *High-harmonic generation enhancement with graphene heterostructures*, I. Alonso Calafell, L. A. Rozema, A. Trenti, J. Bohn, E. J. C. Dias, P. K. Jenke, K. S. Menghrajani, D. Alcaraz Iranzo, F. J. García de Abajo, F. H. L. Koppens, E. Hendry, and P. Walther, Advanced Optical Materials **10**, 2200715 (2022)

393.- *Complete excitation of discrete quantum systems by single free electrons*, F. J. García de Abajo, E. J. C. Dias, and V. Di Giulio, Physical Review Letters **129**, 093401 (2022)

392.- *Role of symmetry breaking in observing strong molecule−cavity coupling using dielectric microspheres*, A. B. Vasista, E. J. C. Dias, F. J. García de Abajo, and W. L. Barnes, Nano Letters **22**, 6737-6743 (2022)

391.- *Sub-nanometer mapping of strain-induced band structure variations in planar nanowire core-shell heterostructures*, S. Martí-Sánchez, M. Botifoll, E. Oksenberg, C. Koch, C. Borja, M. C. Spadaro, V. Di Giulio, Q. Ramasse, F. J. García de Abajo, E. Joselevich, and J. Arbiol, Nature Communications **13**, 4089 (2022)

390.- *Tunable planar focusing based on hyperbolic phonon polaritons in α-MoO_3*, Y. Qu, N. Chen, H. Teng, H. Hu, J. Sun, R. Yu, D. Hu, M. Xue, C. Li, B. Wu, J. Chen, Z. Sun, M. Liu, Y. Liu, F. J. García de Abajo, and Q. Dai, Advanced Materials **34**, 2105590 (2022)

389.- *Low-loss tunable infrared plasmons in the high-mobility perovskite (Ba,La)SnO_3*, H. Yang, A. Konečná, X. Xu, S.-W. Cheong, E. Garfunkel, F. J. García de Abajo, and P. E. Batson, Small **18**, 2106897 (2022)

388.- *Inelastic Mach-Zehnder interferometry with free electrons*, C. W. Johnson, A. E. Turner, F. J. García de Abajo, and B. J. McMorran, Physical Review Letters **128**, 147401 (2022)

387.- *Atomic Floquet physics revealed by free electrons*, E. Arqué López, V. Di Giulio, and F. J. García de Abajo, Physical Review Research **4**, 013241 (2022)

386.- *Active control of micrometer plasmon propagation in suspended graphene*, H. Hu, R. Yu, H. Teng, D. Hu, N. Chen, Y. Qu, X. Yang, X. Chen, A. S. McLeod, P. Alonso-González, X. Guo, C. Li, Z. Yao, Z. Li, J. Chen, Z. Sun, M. Liu, F. J. García de Abajo, and Q. Dai, Nature Communications **13**, 1465 (2022)

385.- *Direct generation of entangled photon pairs in nonlinear optical waveguides*, A. Rodríguez Echarri, J. D. Cox, and F. J. García de Abajo, Nanophotonics **11**, 1021-1032 (2022)

384.- *Probing electronic states in monolayer semiconductors through static and transient third-harmonic spectroscopy*, Y. Wang, F. Iyikanat, H. Rostami, X. Bai, X. Hu, S. Das, Y. Dai, L. Du, Y. Zhang, S. Li, H. Lipsanen, F. J. García de Abajo, and Z. Sun, Advanced Materials **34**, 2107104 (2022)

383.- *Unveiling the coupling of single metallic nanoparticles to whispering-gallery microcavities*, Y. Auad, C. Hamon, M. Tencé, H. Lourenço-Martins, V. Mkhitaryan, O. Stéphan, F. J. García de Abajo, L. H. G. Tizei, and M. Kociak, Nano Letters **22**, 319-327 (2022)

382.- *Nonlinear plasmonic response in atomically thin metal films*, A. Rodríguez Echarri, F. Iyikanat, J. D. Cox, and F. J. García de Abajo, Nanophotonics **10**, 4149-4159 (2021)

381.- *Inelastic scattering of electron beams by nonreciprocal nanostructures*, R. Yu, A. Konečná, and F. J. García de Abajo, Physical Review Letters **127**, 157404 (2021)

380.- *Revealing nanoscale confinement effects on hyperbolic phonon polaritons with an electron beam*, A. Konečná, J. Li, J. H. Edgar, F. J. García de Abajo, and J. A. Hachtel, Small **17**, 2103404 (2021) **[Cover Image]**

379.- *Atomically-precise texturing of hexagonal boron nitride nanostripes*, K. Ali, L. Fernández, M. A. Kherelden, A. A. Makarova, I. Píš, F. Bondini, J. Lawrence, D. G. de Oteyza, D. Y. Usachov, D. V. Vyalikh, F. J. García de Abajo, Z. M. Abd El-Fattah, J. E. Ortega, and F. Schiller, Advanced Science **8**, 2101455 (2019) **[Cover Image]**

378.- *Nonlinear tunable vibrational response in hexagonal boron nitride*, F. Iyikanat, A. Konečná, and F. J. García de Abajo, ACS Nano **15**, 13415-13426 (2021)

377.- *Giant all-optical modulation of second-harmonic generation mediated by dark excitons*, L. Wang, S. Das, F. Iyikanat, Y. Dai, S. Li, X. Guo, X. Yang, J. Cheng, X. Hu, M. Ghotbi, F. Ye, H. Lipsanen, S. Wu, T. Hasan, X. Gan, K. Liu, D. Sun, Q. Dai, F. J. García de Abajo, J. Zhao, and Z. Sun, ACS Photonics **8**, 2320-2328 (2021)

376.- *Theory of atomic-scale vibrational mapping and isotope identification with electron beams*, A. Konečná, F. Iyikanat, and F. J. García de Abajo, ACS Nano **15**, 9890-9899 (2021)

375.- *Optical response of noble metal nanostructures: Quantum surface effects in crystallographic facets*, A. Rodríguez Echarri, P. A. D. Gonçalves, C. Tserkezis, F. J. García de Abajo, N. A. Mortensen, and J. D. Cox, Optica **8,** 710-721 (2021) **[Cover Image]**

374.- *Optical coherence transfer mediated by free electrons*, O. Kfir, V. Di Giulio, F. J. García de Abajo, and C. Ropers, Science Advances **7,** eabf6380 (2021)

373.- *Modulation of cathodoluminescence emission by interference with external light*, V. Di Giulio, O. Kfir, C. Ropers, and F. J. García de Abajo, ACS Nano **15**, 7290-7304 (2021)

372.- *Spontaneous and stimulated electron–photon interactions in nanoscale plasmonic near fields*, M. Liebtrau, M. Sivis, A. Feist, H. Lourenço-Martins, N. Pazos-Pérez, R. A. Alvarez-Puebla, F. J. García de Abajo, A. Polman, and C. Ropers, Light: Science & Applications **10**, 82 (2021)

371.- *Optical excitations with electron beams: Challenges and opportunities*, F. J. García de Abajo and V. Di Giulio, ACS Photonics **8**, 945-974 (2021) **[Cover Image]**

370.- *Complete coupling of focused light to surface polaritons*, D. J. C. Dias and F. J. García de Abajo, Optica **8**, 520-531 (2021)

369.- *Can Copper Nanostructures Sustain High-Quality Plasmons?* V. Mkhitaryan, K. March, E. N. Tseng, X. Li, L. Scarabelli, L. M. Liz-Marzán, S.-Y. Chen, L. H. G. Tizei, O. Stéphan, J.-M. Song, M. Kociak, F. J. García de Abajo, and A. Gloter, Nano Letters **21**, 2444-2452 (2021)

368.- *Optical modulation of electron beams in free space*, F. J. García de Abajo and A. Konečná, Physical Review Letters **126**, 123901 (2021) **[Editor's Suggestion]**

367.- *Giant enhancement of third-harmonic generation in graphene-metal heterostructures*, I. Alonso Calafell, L. A. Rozema, D. Alcaraz Iranzo, A. Trenti, P. K. Jenke, J. D. Cox, A. Kumar, H. Bieliaiev, S. Nanot, C. Peng, D. K. Efetov, J. Y. Hong, J. Kong, D. Englund, F. J. García de Abajo, F. H. L. Koppens, and P. Walther, Nature Nanotechnology **16**, 318-324 (2021)

366.- *Generation, characterization, and manipulation of quantum correlations in electron beams*, S. Asban and F. J. García de Abajo, npj Quantum Information **7**, 42 (2021)

365.- *Chiral light emission from a sphere revealed by nanoscale relative-phase mapping*, T. Matsukata, F. J. García de Abajo, and T. Sannomiya, ACS Nano **15**, 2219-2228 (2021)

364.- *Ultrafast momentum-resolved free-electron probing of optically pumped plasmon thermal dynamics*, V. Mkhitaryan, E. J. C. Dias, F. Carbone, and F. J. García de Abajo, ACS Photonics **8**, 614-624 (2021)

363.- *Anisotropic second-harmonic generation from monocrystalline gold flakes*, S. Boroviks, T. Yezekyan, A. Rodríguez Echarri, F. J. García de Abajo, J. D. Cox, S. I. Bozhevolnyi, N. A. Mortensen, and C. Wolff, Optics Letters **46**, 833-836 (2021)

362.- *Rotational Doppler cooling and heating*, D. Pan, H. Xu, and F. J. García de Abajo, Science Advances **7**, eabd6705 (2021)

361.- *Direct observation of highly confined phonon polaritons in suspended monolayer hexagonal boron nitride*, N. Li, X. Guo, X. Yang, R. Qi , T. Qiao, Y. Li, R. Shi , Y. Li , K. Liu, Z. Xu , L. Liu, F. J. García de Abajo, Q. Dai, E.-G. Wang, and P. Gao, Nature Materials **20**, 43-48 (2020)

360.- *Free-electron shaping using quantum light*, V. Di Giulio and F. J. García de Abajo, Optica **7**, 1820-1830 (2020)

359.- *Plasmon-enhanced optical chirality through hotspot formation in surfactant-directed self-assembly of gold nanorods*, E. Severoni, S. Maniappan, L. M. Liz-Marzán, J. Kumar, F. J. García de Abajo, and L. Galantini, ACS Nano **14**, 16712-16722 (2020)

358.- *Efficient generation of extreme terahertz harmonics in three-dimensional Dirac semimetals*, J. Lim, Y. S. Ang, F. J. García de Abajo, I. Kaminer, L. K. Ang, and L. J. Wong, Physical Review Research **2**, 043252 (2020)

357.- *Electron diffraction by vacuum fluctuations*, V. Di Giulio and F. J. García de Abajo, New Journal of Physics **22**, 103057 (2020)

356.- *Tunable free-electron X-ray radiation from van der Waals materials*, M. Shentcis, A. K. Budniak, X. Shi, R. Dahan, Y. Kurman, M. Kalina, H. H. Sheinfux, M. Blei, M. K. Svendsen, Y. Amouyal, S. Tongay, K. S. Thygesen, F. H. L. Koppens, Efrat Lifshitz, F. J. García de Abajo, L. J. Wong, and I. Kaminer, Nature Photonics **14**, 686-692 (2020)

355.- *Anomalous thermodiffusion of electrons in graphene*, D. Pan, H. Xu, and F. J. García de Abajo, Physical Review Letters **125**, 176802 (2020)

354.- *Electrically driven photon emission from individual atomic defects in monolayer WS_2*, B. Schuler, K. A. Cochrane, C. Kastl, E. S. Barnard, E. Wong, J. J. Borys, A. M. Schwartzberg, D. F. Ogletree, F. J. García de Abajo, and A. Weber-Bargioni, Science Advances **6**, eabb5988 (2020)

353.- *Semimetals for high-performance photodetection*, N. Liu, F. Xia, D. Xiao, F. J. García de Abajo, and D. Sun, Nature Materials **19**, 830-837 (2020)

352.- *Ultrafast topological engineering in metamaterials*, R. Yu, R. Alaee, R. W. Boyd, and F. J. García de Abajo, Physical Review Letters **125**, 037403 (2020)

351.- *Electron beam aberration correction using optical near fields*, A. Konečná and F. J. García de Abajo, Physical Review Letters **125**, 030801 (2020)

350.- *Nonlinear interactions between free electrons and nanographenes*, J. D. Cox and F. J. García de Abajo, Nano Letters **20**, 4792-4800 (2020)

349.- *Chemical identification through two-dimensional electron energy-loss spectroscopy*, R. Yu and F. J. García de Abajo, Science Advances **6**, eabb4713 (2020)

348.- *Probing chirality with inelastic electron-light scattering*, T. R. Harvey, J.-W. Henke, O. Kfir, H. Lourenço-Martins, A. Feist, F. J. García de Abajo, and C. Ropers, Nano Letters **20**, 4377-4383 (2020)

347.- *Nanoscale nonlinear spectroscopy with electron beams*, A. Konečná, V. Di Giulio, V. Mkhitaryan, C. Ropers, and F. J. García de Abajo, ACS Photonics **7**, 1290-1296 (2020) **[Cover Image]**

346.- *Room temperature graphene mid-infrared bolometer with a broad operational wavelength range*, S. Yuan, R. Yu, C. Ma, B. Deng, Q. Guo, X. Chen, C. Li, C. Chen, K. Watanabe, T. Taniguchi, F. J. García de Abajo, and F. Xia, ACS Photonics **7**, 1206-1215 (2020)

345.- *Thermal manipulation of plasmons in atomically thin films*, E. J. C. Dias, R. Yu, and F. J. García de Abajo, Light: Science & Applications **9**, 87 (2020)

344.- *Theory of electron energy-loss spectroscopy in atomically thin metallic films*, A. Rodríguez Echarri, E. J. H. Skjølstrup, T. G. Pedersen, and F. J. García de Abajo, Physical Review Research **2**, 023096 (2020)

343.- *Strong-field-driven dynamics and high-harmonic generation in interacting one dimensional systems*, S. de Vega, J. D. Cox, F. Sols, and F. J. García de Abajo, Physical Review Research **2**, 013313 (2020)

342.- *Tailored nanoscale plasmon-enhanced vibrational electron spectroscopy*, L. H. G. Tizei, V. Mkhitaryan, H. Lourencç-Martins, L. Scarabelli, K. Watanabe, T. Taniguchi, M. Tencé, J.-D. Blazit, X. Li, A. Gloter, A. Zobelli, F. Schmidt, L. Liz-Marzán, F. J. García de Abajo, O. Stephan, and M. Kociak, Nano Letters **20**, 2973-2979 (2020) **[Cover Image]**

341.- *Cathodoluminescence phase extraction of the coupling between nanoparticles and surface plasmon polaritons*, T. Sannomiya, A. Konečná, T. Matsukata, Z. Thollar, T. Okamoto, F. J. García de Abajo, and N. Yamamoto, Nano Letters **20**, 592-598 (2020)

340.- *Manipulating chemistry through nanoparticle morphology*, L. Litti, J. Reguera, F. J. García de Abajo, M. Meneghetti, and L. M. Liz-Marzán, Nanoscale Horizons **5**, 102-108 (2020)

339.- *Probing quantum optical excitations with fast electrons*, V. Di Giulio, M. Kociak, and F. J. García de Abajo, Optica **6**, 1524-1534 (2019)

338.- *Electron-beam spectroscopy for nanophotonics*, A. Polman, M. Kociak, and F. J. García de Abajo, Nature Materials **18**, 1158-1171 (2019)

337.- *Nonlinear graphene nanoplasmonics*, J. D. Cox and F. J. García de Abajo, Accounts of Chemical Research **52**, 2536-2547 (2019)

336.- *Circular dichroism in rotating particles*, D. Pan, H. Xu, and F. J. García de Abajo, Physical Review Letters **123**, 066803 (2019)

335.- *Plasmonics in atomically thin crystalline silver films*, Z. M. Abd El-Fattah, V. Mkhitaryan, J. Brede, L. Fernańdez, C. Li, Q. Guo, A. Ghosh, A. Rodríguez Echarri, D. Naveh, F. Xia, J. E. Ortega, and F. J. García de Abajo, ACS Nano **13**, 7771-7779 (2019) **[Cover Image]**

334.- *Magnetically activated rotational vacuum friction*, D. Pan, H. Xu, and F. J. García de Abajo, Physical Review A **99**, 062509 (2019)

333.- *Single-plasmon thermo-optical switching in graphene*, J. D. Cox and F. J. García de Abajo, Nano Letters **19**, 3743-3750 (2019)

332.- *Ultrafast generation and control of an electron vortex beam via chiral plasmonic near-fields*, G. M. Vanacore, G. Berruto, I. Madan, E. Pomarico, P. Biagioni, R. J. Lamb, D. McGrouther, O. Reinhardt, I. Kaminer, B. Barwick, H. Larocque, V. Grillo, E. Karimi, F. J. García de Abajo, and F. Carbone, Nature Materials **18**, 3743-3750 (2019)

331.- *Fundamental limits to the coupling between light and 2D polaritons by small scatterers*, E. J. C. Dias and F. J. García de Abajo, ACS Nano **13**, 5184-5197 (2019) **[Cover Image]**

330.- *Tracking ultrafast hot-electron diffusion in space and time by ultrafast thermo-modulation microscopy*, A. Block, M. Liebel, R. Yu, M. Spector, Y. Sivan, F. J. García de Abajo, and N. F. van Hulst, Science Advances **5**, eaav8965 (2019)

329.- *Quantum effects in the acoustic plasmons of atomically thin heterostructures*, A. Rodríguez Echarri, J. D. Cox, and F. J. García de Abajo, Optica **6**, 630-641 (2019) **[Cover Image]**

328.- *Holographic imaging of electromagnetic fields via electron-light quantum interference*, I. Madan, G. M. Vanacore, E. Pomarico, G. Berruto, R. J. Lamb, D. McGrouther, T. T. A. Lummen, T. Latychevskaia, F. J. García de Abajo, and F. Carbone, Science Advances 5, eaav8358 (2019)

327.- *Quantum computing with graphene plasmons*, I. Alonso Calafell, J. D. Cox, M. Radonjic, J. R. M. Saavedra, F. J. García de Abajo, L. Rozema, and P. Walther, npj Quantum Information **5**, 37 (2019)

326.- *Tunable plasmons in ultrathin metal films*, R. A. Maniyara, D. Rodrigo, R. Yu, J. Canet-Ferrer, D. S. Ghosh, R. Yongsunthon, E. E. Baker, A. Rezikyan, F. J. García de Abajo, and V. Pruneri, Nature Photonics **13**, 328-333 (2019)

325.- *Stimulated electron energy loss and gain in an electron microscope without a pulsed electron gun*, P. Das, J. D. Blazit, M. Tencé, L. F. Zagonel, Y. Auad, Y. H. Lee, X. Y. Ling, A. Losquin, C. Colliex, O. Stéphan, F. J. García de Abajo, and M. Kociak, Ultramicroscopy **203**, 44-51 (2019)

324.- *Imaging the Renner-Teller effect using laser-induced electron diffraction*, K. Amini, M. Sclafani, T. Steinle, A. T. Le, A. Sanchez, C. Müller, J. Steinmetzer, L. Yue, J. R. M. Saavedra, M.l Hemmer, M. Lewenstein, R. Moshammer, R. Pfeifer, M. G. Pullen, J. Ullrich, B. Wolter, R. Moszynski, F. J. García de Abajo, C. D. Lin, S. Gräfe, and J. Biegert, Proceedings of the National Academy of Sciences **116**, 8173-8177 (2019)

323.- *Visible optical resonances in electrically doped DNA*, J. R. M. Saavedra and F. J. García de Abajo, ACS Photonics **6**, 932-938 (2019)

322.- *Gain-assisted plasmon resonance narrowing and its application in sensing*, L. Meng, D. Zhao, Y. Yang, F. J. García de Abajo, Q. Li, Z. Ruan, and M. Qiu, Physical Review Applied **11**, 044030 (2019)

321.- *Graphene: Free electron scattering within an inverted honeycomb lattice*, Z. M. Abd El-Fattah, M. A. Kher-Elden, I. Piquero-Zulaica, F. J. García de Abajo, and J. E. Ortega, Physical Review B **99**, 115443 (2019)

320.- *Plasmon generation through electron tunneling in twisted double-layer graphene and metal-insulator-graphene systems*, S. de Vega and F. J. García de Abajo, Physical Review B **99**, 115438 (2019)

319.- *Gas identification with graphene plasmons*, H. Hu, X. Yang, X. Guo, K. Khaliji, R. Biswas, F. J. García de Abajo, T. Low, Z. Sun, and Q. Dai, Nature Communications **10**, 1131 (2019)

318.- *Nonlinear atom-plasmon interactions enabled by nanostructured graphene*, J. D. Cox and F. J. García de Abajo, Physical Review Letters **121**, 257403 (2018)

317.- *Lasing and amplification from two-dimensional atom arrays*, V. Mkhitaryan, L. Meng, A. Marini, and F. J. García de Abajo, Physical Review Letters **121**, 163602 (2018)

316.- *Optical harmonic generation in monolayer group-VI transition metal dichalcogenides*, A. Autere, H. Jussila, A. Marini, J. R. M. Saavedra, Y. Dai, A. Säynätjoki, L. Karvonen, H. Yang, B. Amirsolaimani, R. A. Norwood, N. Peyghambarian, H. Lipsanen, K. Kieu, F. J. García de Abajo, and Z. Sun, Physical Review B **98**, 115426 (2018)

315.- *Efficient electrical detection of mid-infrared graphene plasmons at room temperature*, Q. Guo, R. Yu, C. Li, S. Yuan, B. Deng, F. J. García de Abajo, and F. Xia, Nature Materials **17**, 986-992 (2018)

314.- *Unveiling and imaging degenerate states in plasmonic nanoparticles with nanometer resolution*, V. Myroshnychenko, N. Nishio, F. J. García de Abajo, J. Förstner, and N. Yamamoto, Nano Letters **12**, 8436-8446 (2018)

313.- *Phothermal engineering of graphene plasmons*, R. Yu, Q. Guo, R. Xia, and F. J. García de Abajo, Physical Review Letters **121**, 057404 (2018)

312.- *Efficient orbital angular momentum transfer between plasmons and free electrons*, W. Cai, O. Reinhardt, I. Kaminer, and F. J. García de Abajo, Physical Review B **98**, 045424 (2018)

311.- *Attosecond coherent control of free-electron wave functions using semi-infinite light fields*, G. M. Vanacore, I. Madan, G. Berruto, K. Wang, E. Pomarico, R. J. Lamb D. McGrouther, I. Kaminer, B. Barwick, F. J. García de Abajo, and F. Carbone, Nature Communications **9**, 2694 (2018)

310.- *Continuous-wave multiphoton photoemission from plasmonic nanostars*, M. Sivis, N. Pazos-Perez, R. Yu, R. Alvarez-Puebla, F. J. García de Abajo, and C. Ropers, Communications Physics **1**, 13 (2018)

309.- *Transient nonlinear plasmonics in nanostructured graphene*, J. D. Cox and F. J. García de Abajo, Optica **5**, 429-433 (2018) **[Cover Image]**

308.- *Nanomaterial-based plasmon-enhanced infrared spectroscopy*, X. Yang, Z. Sun, T. Low, H. Hu, X. Guo, F. J. García de Abajo, P. Avouris, and Qing Dai, Advanced Materials **30**, 1704896 (2018)

307.- *Enhancement of nonlinear optical phenomena by localized resonances*, A. Rodríguez Echarri, J. D.

Cox, R. Yu, and F. J. García de Abajo, ACS Photonics **5**, 1521-1527 (2018)

306.- *meV resolution in laser-assisted energy-filtered transmission electron microscopy*, E. Pomarico, I. Madan, G. Berruto, G. M. Vanacore, K. Wang, I. Kaminer, F. J. García de Abajo, and F. Carbone, ACS Photonics **5**, 1018 (2018)

305.- *Ultrafast nonlinear optical response of Dirac fermions in graphene*, M. Baudisch, A. Marini, J. D. Cox, T. Zhu, F. Silva, S. Teichmann, M. Massicotte, F. Koppens, L. S. Levitov, F. J. García de Abajo, and J. Biegert, Nature Communications **4**, 3106-3114 (2018)

304.- *Enhanced graphene nonlinear response through geometrical plasmon focusing*, J. R. M. Saavedra and F. J. García de Abajo, Applied Physics Letters **112**, 061107 (2018)

303.- *Analytical modeling of graphene plasmons*, R. Yu, J. D. Cox, J. R. M. Saavedra, and F. J. García de Abajo, ACS Photonics **4**, 3106-3114 (2017)

302.- *Nonlocal plasmonic response of doped and optically pumped graphene*, MoS_2, and black phosphorus, R. Petersen, T. G. Pedersen, and F. J. García de Abajo, Physical Review B **96**, 205430 (2017)

301.- *Electron refraction at lateral atomic interfaces*, Z. M. Abd El-Fattah, M. A. Kher-Elden, O. Yassin, M. M. El-Okr, J. E. Ortega, and F. J. García de Abajo, Journal of Applied Physics **122**, 195306 (2017)

300.- *Universal analytical modeling of plasmonic nanoparticles*, R. Yu, L. M. Liz-Marzán, and F. J. García de Abajo, Chemical Society Reviews **46**, 6710-6724 (2017)

299.- *Strong plasmon-phonon splitting and hybridization in 2D materials revealed through a self-energy approach*, M. Settnes, J. R. M. Saavedra, K. S. Thygesen, A. P. Jauho, F. J. García de Abajo, and N. A. Mortensen, ACS Photonics **4**, 2908-2915 (2017)

298.- *Topologically protected Dirac plasmons in a graphene superlattice*, D. Pan, R. Yu, H. Xu, and F. J. García de Abajo, Nature Communications **8**, 1243 (2017)

297.- *Intrinsic plasmon-phonon interactions in highly doped graphene: A near-field imaging study*, F. J. Bezares, A. De Sanctis, J. R. M. Saavedra, A. Woessner, P. Alonso-González, I. Amenabar, J. Chen, T. H. Bointon, S. Dai, M. M. Fogler, D. N. Basov, R. Hillenbrand, M. F. Craciun, F. J. García de Abajo, S. Russo, and F. H. L. Koppens, Nano Letters **17**, 5908-5913 (2017)

296.- *Plasmonics simulations including nonlocal effects using a boundary element method approach*, A. Trügler, U. Hohenester, and F. J. García de Abajo, International Journal of Modern Physics B **31**, 1740007 (2017)

295.- *Plasmon generation through electron tunneling in graphene*, S. de Vega and F. J. García de Abajo, ACS Photonics **4**, 2367-2375 (2017) **[ACS Editor's Choice]**

294.- *Plasmonic mano-oven by concatenation of multishell photothermal enhancement*, L. Meng, R. Yu, M. Qiu, and F. J. García de Abajo, ACS Nano **11**, 7915-7924 (2017)

293.- *Analytical description of the nonlinear plasmonic response in nanographene*, J. D. Cox, R. Yu, and F. J. García de Abajo, Physical Review B **96**, 045442 (2017)

292.- *How to identify plasmons from the optical response of nanostructures*, R. Zhang, L. Bursi, J. D. Cox, Y. Cui, C. M. Krauter, A. Alabastri, A. Manjavacas, A. Calzolari, S. Corni, E. Molinari, E. A. Carter, F. J. García de Abajo, H. Zhang, and P. Nordlander, ACS Nano **11**, 7321-7335 (2017)

291.- *Double-layer graphene for enhanced tunable infrared plasmonics*, D. Rodrigo, A. Tittl, O. Limaj, F. J. García de Abajo, V. Pruneri, and H. Altug, Light: Science & Applications **6**, e16277 (2017)

290.- *Hybrid plasmonic nanoresonators as efficient solar heat shields*, A. Sousa-Castillo, O. Ameneiro-Prieto, M. Comesaña-Hermo, R. Yu, J. M. Vila-Fugueiriño, M. Pérez-Lorenzo, F. Rivadulla, F. J. García de Abajo, and M. A. Correa-Duarte, Nano Energy **37**, 118-125 (2017)

289.- *Lateral Casimir force on a rotating particle near a planar surface*, A. Manjavacas, F. J. Rodríguez-Fortuño, F. J. García de Abajo, and A. V. Zayats, Physical Review Letters **118**, 133605 (2017)

288.- *Theory of graphene saturable absorption*, A. Marini, J. D. Cox, and F. J. García de Abajo, Physical Review B **95**, 125408 (2017)

287.- Plasmon-*assisted high-harmonic generation in graphene*, J. D. Cox, A. Marini, and F. J. García de Abajo, Nature Communications **8**, 2 (2017)

286.- *Ultrafast radiative heat transfer*, R. Yu, A. Manjavacas, and F. J. García de Abajo, Nature Communications **8**, 14380 (2017)

285.- *Optimization of nanoparticle-based SERS substrates through large-scale realistic simulations*, D. M. Solís, J. M. Taboada, F. Obelleiro, L. M. Liz-Marzán, and F. J. García de Abajo, ACS Photonics **4**, 329-337 (2017) **[Cover Image]**

284.- *Molecular plasmon-phonon coupling*, Y. Cui, A. Lauchner, A. Manjavacas, F. J. García de Abajo, N. J. Halas, and P. Nordlander, Nano Letters **16,** 6390-6395 (2016)

283.- *Polaritons in van der Waals materials*, D. N. Basov, M. M. Fogler, and F. J. García de Abajo, Science **354,** 195 (2016)

282.- *Imaging and controlling plasmonic interference fields at buried interfaces*, T. T. A. Lummen, R. J. Lamb, G. Berruto, T. LaGrange, L. Dal Negro, F. J. García de Abajo, D. McGrouther, B. Barwick, and F. Carbone, Nature Communications **7,** 13156 (2016)

281.- *Femtosecond plasmon and photon wave packets excited by a high-energy electron on a metal or dielectric surface*, B. J. M. Brenny, A. Polman, and F. J. García de Abajo, Physical Review B **94,** 155412 (2016)

280.- *Hot-electron dynamics and thermalization in small metallic nanoparticles*, J. R. M. Saavedra, A. Asenjo-Garcia, and F. J. García de Abajo, ACS Photonics **3,** 1637-1646 (2016)

279.- *Nonlinear plasmonic sensing with nanographene*, R. Yu, J. D. Cox, and F. J. García de Abajo, Physical Review Letters **117,** 123904 (2016)

278.- *Plasmons in doped finite carbon nanotubes and their interactions with fast electrons and quantum emitters*, S. de Vega, J. D. Cox, and F. J. García de Abajo, Physical Review B **94,** 075447 (2016)

277.- *Active modulation of visible light with graphene-loaded ultrathin metal plasmonic antennas*, R. Yu, V. Pruneri, and F. J. García de Abajo, Scientific Reports **6,** 32144 (2016)

276.- *Ultrafast and broadband tuning of resonant optical nanostructures using phase-change materials*, M. Rudé, V. Mkhitaryan, A. E. Cetin, T. A. Miller, A. Carrilero, S. Wall, F. J. García de Abajo, H. Altug, and V. Pruneri, Advanced Optical Materials **4,** 1060-1066 (2016)

275.- *Electrical detection of single graphene plasmons*, R. Yu and F. J. García de Abajo, ACS Nano **10,** 8045-8053 (2016)

274.- *Structural coloring of glass using dewetted nanoparticles and ultrathin films of metals*, R. Yu, P. Mazumder, N. F. Borrelli, A. Carrilero, D. S. Ghosh, R. A. Maniyara, D. Baker, F. J. García de Abajo, and V. Pruneri, ACS Photonics **3,** 1194-1201 (2016) **[Cover Image]**

273.- *Smith-Purcell radiation emission in aperiodic arrays*, J. R. M. Saavedra, D. Castells-Graells, and F. J. García de Abajo, Physical Review B **94,** 035418 (2016)

272.- *Electron diffraction by plasmon waves*, F. J. García de Abajo, B. Barwick, and F. Carbone, Physical Review B **94,** 041404(R) (2016) **[Editor's Suggestion]**

271.- *Ultrasensitive multiplex optical quantification of bacteria in large samples of biofluids*, N. Pazos-Perez, E. Pazos, C. Catala, B. Mir-Simon, S. Gómez de Pedro, J. Sagales, C. Villanueva, J. Vila, A. Soriano, F. J. García de Abajo, and R. A. Álvarez-Puebla, Scientific Reports **6,** 29014 (2016)

270.- *Graphene-based active random metamaterials for cavity-free lasing*, A. Marini and F. J. García de Abajo, Physical Review Letters **116,** 217401 (2016) **[Cover Image]**

269.- *Quantum effects in the nonlinear response of graphene plasmons*, J. D. Cox, I. Silveiro, and F. J. García de Abajo, ACS Nano **10,** 1995-2003 (2016)

268.- *Self-organization of frozen light in near-zero-index media with cubic nonlinearity*, A. Marini and F. J. García de Abajo, Scientific Reports **6,** 20088 (2016)

267.- *Ultimate limit of light extinction by nanophotonic structures*, Z.-J. Yang, T. J. Antosiewicz, R. Verre, F. J. García de Abajo, S. Peter Apell, and M. Käll, Nano Letters **15,** 7633-7638 (2015)

266.- *Propagation and localization of quantum dot emission along a gap-plasmonic transmission line*, M. Castro-Lopez, A. Manjavacas, F. J. García de Abajo, and N. F. van Hulst, Optics Express **23,** 29296-29320 (2015)

265.- *Pronounced linewidth narrowing of an aluminum nanoparticle plasmon resonance by interaction with an aluminum metallic film*, A. Sobhani, A. Manjavacas, Y. Cao, M. J. McClain, F. J. García de Abajo, P. Nordlander, and N. J. Halas, Nano Letters **15,** 6946-6951 (2015)

264.- *Ultraefficient coupling of a quantum emitter to the tunable guided plasmons of a carbon nanotube*, L. Martín-Moreno, F. J. García de Abajo, and F. J. García-Vidal, Physical Review Letters **115,** 173601 (2015)

263.- *Phonon excitation by electron beams in nanographenes*, J. R. M. Saavedra and F. J. García de Abajo, Physical Review B **92,** 115449 (2015)

262.- *Plasmon-phonon interactions in topological insulator microrings*, M. Autore, F. D'Apuzzo, A. Di Gaspare, V. Giliberti, O. Limaj, P. Roy, M. Brahlek, N. Koirala, S. Oh, F. J. García de Abajo, and S. Lupi, Advanced Optical Materials **3,** 1257-1263 (2015)

261.- *Amplification of the evanescent field of free electrons*, J. K. So, F. J. García de Abajo, K. F. MacDonald, and N. I. Zheludev, ACS Photonics **2,** 1236-1240 (2015)

260.- *Molecular plasmonics*, A. Lauchner, A. Schlather, A. Manjavacas, Y. Cui, M. J. McClain, G. J. Stec, F. J. García de Abajo, P. Nordlander, and N. J. Halas, Nano Letters **15,** 6208-6214 (2015)

259.- *Second-order quantum nonlinear optical processes in single graphene nanostructures and arrays*, M. T. Manzoni, I. Silveiro, F. J. García de Abajo, and D. E. Chang, New Journal of Physics **17,** 083031 (2015)

258.- *Controlled living nanowire growth: Precise control over the morphology and optical properties of AgAuAg bimetallic nanowires*, M. Mayer, L. Scarabelli, K. March, T. Altantzis, M. Tebbe, M. Kociak, S. Bals, F. J. García de Abajo, A. Fery, and L. M. Liz-Marzán, Nano Letters **15,** 5427-5437 (2015)

257.- *Plasmon wave function of graphene nanoribbons*, I. Silveiro, J. M. Plaza Ortega, and F. J. García de Abajo, New Journal of Physics **17,** 083013 (2015)

256.- *Mid-infrared plasmonic biosensing with graphene*, D. Rodrigo, O. Limaj, D. Janner, D. Etezadi, F. J. García de Abajo, V. Pruneri, and H. Altug, Science **349,** 165-168 (2015)

255.- *Molecular sensing with tunable graphene plasmons*, A. Marini, I. Silveiro, and F. J. García de Abajo, ACS Photonics **2,** 876-882 (2015)

254.- *Plasmonics in atomically thin materials*, F. J. García de Abajo and A. Manjavacas, Faraday Discussions **178,** 87-107 (2015)

253.- *Resonant visible light modulation with graphene*, R. Yu, V. Pruneri, and F. J. García de Abajo, ACS Photonics **2,** 550-558 (2015)

252.- *Interference of surface plasmons and Smith-Purcell emission probed by angle-resolved cathodoluminescence spectroscopy*, N. Yamamoto, F. J. García de Abajo, and V. Myroshnychenko, Physical Review B **91,** 125144 (2015)

251.- *Unveiling nanometer scale extinction and scattering phenomena through combined electron energy loss spectroscopy and cathodoluminescence measurements*, A. Losquin, L. F. Zagonel, V. Myroshnychenko, B. Rodríguez-González, M. Tencé, L. Scarabelli, J. Förstner, L. M. Liz-Marzán, F. J. García de Abajo, O. Stéphan, and M. Kociak, Nano Letters **15,** 1229-1237 (2015)

250.- *Plasmon-enhanced nonlinear wave mixing in nanostructured graphene*, J. D. Cox and F. J. García de Abajo, ACS Photonics **2,** 306-312 (2015) **[Cover Image]**

249.- *Quantum nonlocal effects in individual and interacting graphene nanoribbons*, I. Silveiro, J. M. Plaza Ortega, and F. J. García de Abajo, Light: Science & Applications **4,** e241 (2015)

248.- *Electrical control of optical emitter relaxation pathways enabled by graphene*, K. J. Tielrooij, L. Orona, A. Ferrier, M. Badioli, G. Navickaite, S. Coop, S. Nanot, B. Kalinic, T. Cesca, L. Gaudreau, Q. Ma, A. Centeno, A. Pesquera, A. Zurutuza Elorza, H. de Riedmatten, P. Goldner, F. J. García de Abajo, P. Jarillo-Herrero, and F. H. L. Koppens, Nature Physics **11,** 281-287 (2015)

247.- *Electrically tunable nonlinear plasmonics in graphene nanoislands*, J. D. Cox and F. J. García de Abajo, Nature Communications **5,** 5725 (2014)

246.- *Phonon-mediated mid-infrared photoresponse of graphene*, M. Badioli, A. Woessner, K. J. Tielrooij, S. Nanot, G. Navickaite, T. Stauber, F. J. García de Abajo, and F. H. L. Koppens, Nano Letters **14,** 6374-6381 (2014)

245.- *Graphene optical-to-thermal converter*, A. Manjavacas, S. Thongrattanasiri, J.-J. Greffet, and F. J. García de Abajo, Applied Physics Letters **105,** 211102 (2014)

244.- *Surface plasmon dependence on the electron density profile at metal surfaces*, C. David and F. J. García de Abajo, ACS Nano **8,** 9558-9566 (2014)

243.- *Dichroism in the interaction between vortex electron beams, plasmons, and molecules*, A. Asenjo-Garcia and F. J. García de Abajo, Physical Review Letters **113,** 066102 (2014)

242.- *Toward ultimate nanoplasmonics modeling*, D. M. Solis, J. M. Taboada, F. Obelleiro, L. M. Liz-Marzán, and F. J. García de Abajo, ACS Nano **8,** 7559-7570 (2014)

241.- *SERS platforms of plasmonic hydrophobic surfaces for analyte concentration: Hierarchically assembled gold nanorods on anodized aluminum*, M. Tebbe, P. Cherepanov, E. V. Skorb, S. K. Poznyak, F. J. García de Abajo, A. Fery, D. V. Andreeva, R. A. Álvarez-Puebla, and N. Pazos-Perez, Particle & Particle Systems Characterization **31,** 1134-1140 (2014) **[Cover Image]**

240.- *Chemical speciation of heavy metals by surface-enhanced Raman scattering spectroscopy: identification and quantification of inorganic- and methyl-mercury in water*, L. Guerrini, I. Rodrigez-Loureiro, M. A. Correa-Duarte, Y. H. Lee, X. Y. Ling, F. J. García de Abajo, and R. A. Álvarez-Puebla, Nanoscale **6,** 8368-8375 (2014)

239.- *Extraordinary absorption of sound in porous lamella-crystals*, J. Christensen, V. Romero-García, R. Picó, A. Cebreros, F. J. García de Abajo, N. A. Mortensen, and M. Willatzen, Scientific Reports **4,** 4674 (2014)

238.- *Near-field nanoimprinting using colloidal monolayers*, C. David, P. Kühler, F. J. García de Abajo, and J. Siegel, Optics Express **22,** 8226-8233 (2014)

237.- *Plasmons in inhomogeneously doped neutral and charged graphene nanodisks*, I. Silveiro and F. J. García de Abajo, Applied Physics Letters **104,** 131103 (2014)

236.- *Tunable plasmons in atomically thin gold nanodisks*, A. Manjavacas and F. J. García de Abajo, Nature Communications **5,** 3548 (2014)

235.- *Graphene plasmonics: Challenges and opportunities*, F. J. García de Abajo, ACS Photonics **1,** 135-152 (2014)

234.- *Deterministic optical-near-field-assisted positioning of nitrogen-vacancy centers*, M. Geiselmann, R. Marty, J. Renger, F. J. García de Abajo, and R. Quidant, Nano Letters **14,** 1520-1525 (2014)

233.- *3D plasmonic chiral colloids*, X. Shen, P. Zhan, A. Kuzyk, Q. Liu, A. Asenjo-Garcia, H. Zhang, F. J. García de Abajo, A. Govorov, B. Ding, and N. Liu, Nanoscale **6,** 2077-2081 (2014)

232.- *An optical fiber network oracle for NP-complete problems*, K. Wu, F. J. García de Abajo, C. Soci, P. P. Shum, and N. I. Zheludev, Light: Science & Applications **3,** e147 (2014)

231.- *Extraordinary absorption of decorated undoped graphene*, T. Stauber, G. Gómez-Santos, and F. J. García de Abajo, Physical Review Letters **112,** 077401 (2014)

230.- *Active tunable absorption enhancement with graphene nanodisk arrays*, Z. Fang, Y. Wang, A. Schlather, Z. Liu, P. M. Ajayan, F. J. García de Abajo, P. Nordlander, X. Zhu, and N. J. Halas, Nano Letters **14,** 299-304 (2014)

229.- *Efficient modal-expansion discrete-dipole approximation: Application to the simulation of optical extinction and electron energy-loss spectroscopies*, S. O. Guillaume, F. J. García de Abajo, and L. Henrard, Physical Review B **88,** 245439 (2013)

228.- *Multiple excitation of confined graphene plasmons by single free electrons*, F. J. García de Abajo, ACS Nano **7,** 11409-11419 (2013)

227.- *Magnetic and electric response of single subwavelength holes*, N. Rotenberg, T. L. Krijger, M. Spasenović, F. J. García de Abajo, and L. Kuipers, Physical Review B **88,** 241408(R) (2013)

226.- *Single-photon nonlinear optics with graphene plasmons*, M. Gullans, D. E. Chang, F. H. L. Koppens, F. J. García de Abajo, and M. D. Lukin, Physical Review Letters **111,** 247401 (2013) **[Editor's Suggestion]**

225.- *Strong plasmon reflection at nanometer-size gaps in monolayer graphene on SiC*, J. Chen, M. L. Nesterov, A. Y. Nikitin, S. Thongrattanasiri, P. Alonso-González, T. M. Slipchenko, F. Speck, M. Ostler, T. Seyller, I. Crassee, F. H. L. Koppens, L. Martín-Moreno, F. J. García de Abajo, A. B. Kuzmenko, and R. Hillenbrand, Nano Letters **13,** 6210-6215 (2013)

224.- *Controlled interaction of surface quantum-well electronic states*, K. Seufert, W. Auwärter, F. J. García de Abajo, D. Ecija, S. Vijayaraghavan, S. Joshi, and J. V. Barth, Nano Letters **13,** 6130-6135 (2013)

223.- *Fast optical modulation of the fluorescence from a single nitrogen-vacancy centre*, M. Geiselmann, R. Marty, F. J. García de Abajo, and R. Quidant, Nature Physics **9,** 785-789 (2013)

222.- *Optical generation of intense ultrashort magnetic pulses at the nanoscale*, A. Tsiatmas, E. Atmatzakis, N. Papasimakis, V. A. Fedotov, B. Luk'yanchuk, N. I. Zheludev, and F. J. García de Abajo, New Journal of Physics **15,** 113035 (2013)

221.- *Plasmon electron energy-gain spectroscopy*, A. Asenjo-Garcia and F. J. García de Abajo, New Journal of Physics **15,** 103021 (2013)

220.- *Femtosecond-resolved ablation dynamics of Si in the near field of a small dielectric particle*, P. Kühler, D. Puerto, M. Mosbacher, P. Leiderer, F. J. García de Abajo, J. Siegel, and J. Solis, Bielstein Journal of Nanotechnology **4,** 501-509 (2013)

219.- *The magnetic response of graphene split-ring metamaterials*, N. Papasimakis, S. Thongrattanasiri, N. I. Zheludev, and F. J. García de Abajo, Light: Science & Applications **2,** e78 (2013)

218.- *Three-dimensional plasmonic chiral tetramers assembled by DNA origami*, X. Shen, A. Asenjo-Garcia, Q. Liu, Q. Jiang, F. J. García de Abajo, N. Liu, and B. Ding, Nano Letters **13,** 2128-2133 (2013)

217.- *Universal distance-scaling of nonradiative energy transfer to graphene*, L. Gaudreau, K. J. Tielrooij, G. E. D. K. Prawiroatmodjo, J. Osmond, F. J. García de Abajo, and F. H. L. Koppens, Nano Letters **13,** 2030-2035 (2013)

216.- *Optical field enhancement by strong plasmon interaction in graphene nanostructures*, S. Thongrattanasiri and F. J. García de Abajo, Physical Review Letters **110,** 187401 (2013)

215.- *Tunable molecular plasmons in polycyclic aromatic hydrocarbons*, A. Manjavacas, F. Marchesin, S. Thongrattanasiri, P. Koval, P. Nordlander, D. Sánchez-Portal, and F. J. García de Abajo, ACS Nano **7,** 3635-3643 (2013)

214.- *Plasmons driven by single electrons in graphene nanoislands*, A. Manjavacas, S. Thongrattanasiri, and F. J. García de Abajo, Nanophotonics **2,** 139-151 (2013) **[Cover Image]**

213.- *Evolution of light-induced vapor generation at a liquid-immersed metallic nanoparticle*, Z. Fang, Y. R. Zhen, O. Neumann, A. Polman, F. J. García de Abajo, P. Nordlander, and N. J. Halas, Nano Letters **13,** 1736-1742 (2013)

212.- *Gated tunability and hybridization of localized plasmons in nanostructured graphene*, Z. Fang, S. Thongrattanasiri, A. Schlather, Z. Liu, L. Ma, Y. Wang, P. M. Ajayan, P. Nordlander, N. J. Halas, and F. J. García de Abajo, ACS Nano **7,** 2388-2395 (2013) **[Cover Image]**

211.- *Plasmonic energy transfer in periodically doped graphene*, I. Silveiro, A. Manjavacas, S. Thongrattanasiri, and F. J. García de Abajo, New Journal of Physics **15,** 033042 (2013)

210.- *Quantum junction plasmons in graphene dimers*, S. Thongrattanasiri, A. Manjavacas, P. Nordlander, and F. J. García de Abajo, Laser & Photonics Reviews **7,** 297-302 (2013)

209.- *Excitation of confined modes on particle arrays*, X. M. Bendaña, G. Lozano, G. Pirruccio, J. Gómez Rivas, and F. J. García de Abajo, Optics Express **21,** 5636-5642 (2013)

208.- *Three-dimensional optical manipulation of a single electron spin*, M. Geiselmann, M. L. Juan, J. Renger, J. M. Say, L. J. Brown, F. J. García de Abajo, F. H. L. Koppens, and R. Quidant, Nature Nanotechnology **8,** 175-179 (2013) **[Cover Image]**

207.- *Alternating plasmonic nanoparticle heterochains made by polymerase chain reaction and their optical properties*, Y. Zhao, L. Xu, L. M. Liz-Marzán, H. Kuang, W. Ma, A. Asenjo-Garcia, F. J. García de Abajo, N. A. Kotov, L. Wang, and C. Xu, Journal of Physical Chemistry Letters **4,** 641-647 (2013)

206.- *Theory of random nanoparticle layers in photovoltaic devices applied to self-aggregated metal samples*, C. David, J. P. Connolly, C. Chaverri Ramos, F. J. García de Abajo, and G. Sánchez Plaza, Solar Energy Materials & Solar Cells **109,** 294-299 (2013)

205.- *The planar parabolic optical antenna*, D. T. Schoen, T. Coenen, F. J. García de Abajo, M. L. Brongersma, and A. Polman, Nano Letters **13,** 188-193 (2013)

204.- *Temporal quantum control with graphene*, A. Manjavacas, S. Thongrattanasiri, D. E. Chang, and F. J. García de Abajo, New Journal of Physics **14,** 123020 (2012)

203.- *Organized plasmonic clusters with high coordination number and extraordinary enhancement in surface-enhanced Raman scattering (SERS)*, N. Pazos-Perez, C. S. Wagner, J. M. Romo-Herrera, L. M. Liz-Marzán, F. J. García de Abajo, A. Wittemann, A. Fery, and R. A. Álvarez-Puebla, Angewandte Chemie International Edition **51,** 12688-12693 (2012) **[Cover Image]**

202.- *Magnetic polarization in the optical absorption of metallic nanoparticles*, A. Asenjo-Garcia, A. Manjavacas, V. Myroshnychenko, and F. J. García de Abajo, Optics Express **20,** 28142-28152 (2012)

201.- *Low-loss terahertz superconducting plasmonics*, A. Tsiatmas, V. A. Fedotov, F. J. García de Abajo, and N. I. Zheludev, New Journal of Physics **14,** 115006 (2012)

200.- *Quantitative imaging of the optical near field*, P. Kühler, F. J. García de Abajo, P. Leiprecht, A. Kolloch, J. Solis, P. Leiderer, and J. Siegel, Optics Express **20,** 22063-22078 (2012)

199.- *Rotational quantum friction*, R. Zhao, A. Manjavacas, F. J. García de Abajo, and J. B. Pendry, Physical Review Letters **109,** 123604 (2012) **[Editor's Suggestion]**

198.- *Radiative heat transfer between neighboring particles*, A. Manjavacas and F. J. García de Abajo, Physical Review B **86,** 075466 (2012)

197.- *Plasmon spectroscopy and imaging of individual gold nanodecahedra: A combined optical microscopy, cathodoluminescence, and electron energy-loss spectroscopy study*, V. Myroshnychenko, J. Nelayah, G. Adamo, N. Geuquet, J. Rodríguez-Fernández, I. Pastoriza-Santos, K. F. MacDonald, L. Henrard, L. M. Liz-Marzán, N. I. Zheludev, M. Kociak, and F. J. García de Abajo, Nano Letters **12,** 4172--4180 (2012)

196.- *Optical nano-imaging of gate-tunable graphene plasmons*, J. Chen, M. Badioli, P. Alonso-González, S. Thongrattanasiri, F. Huth, J. Osmond, M. Spasenović, A. Centeno, A. Pesquera, P. Godignon, A. Zurutuza Elorza, N. Camara, F. J. García de Abajo, R. Hillenbrand, and F. H. L. Koppens, Nature **487,** 77-81 (2012)

195.- *Negative refraction and backward waves in layered acoustic metamaterials*, J. Christensen and F. J. García de Abajo, Physical Review B **86,** 024301 (2012) **[Editor's Suggestion]**

194.- *Plasmons in electrostatically doped graphene*, S. Thongrattanasiri, I. Silveiro, and F. J. García de Abajo, Applied Physics Letters **100,** 201105 (2012)

193.- *Surface plasmon mapping of dumbbell-shaped gold nanorods: The effect of silver coating*, B. Rodríguez-González, F. Attouchi, M. F. Cardinal, V. Myroshnychenko, O. Stéphan, F. J. García de Abajo, L. M. Liz-Marzán, and M. Kociak, Langmuir **28,** 9063-9070 (2012)

192.- *From nano to micro: Synthesis and optical properties of homogeneous spheroidal gold particles and their superlattices*, N. Pazos-Perez, F. J. García de Abajo, A. Fery, and R. A. Álvarez-Puebla, Langmuir **28,** 8909-8914 (2012)

191.- *Self-organization approach for THz polaritonic metamaterials*, A. Reyes-Coronado, M. F. Acosta, R. I. Merino, V. M. Orera, G. Kenanakis, N. Katsarakis, M. Kafesaki, C. Mavidis, F. J. García de Abajo, E. N. Economou, and C. M. Soukoulis, Optics Express **20,** 14663-14682 (2012)

190.- *Engineering surface waves in flat phononic plates*, H. Estrada, P. Candelas, F. Belmar, A. Uris, F. J. García de Abajo, and F. Meseguer, Physical Review B **85,** 174301 (2012)

189.- *Looking through the mirror: Optical microcavity-mirror image photonic interaction*, L. Shi, E. Xifré-Pérez, F. J. García de Abajo, and F. Meseguer, Optics Express **20,** 11247-11255 (2012)

188.- *Interacting plasmon and phonon polaritons in aligned nano- and microwires*, V. Myroshnychenko, A. Stefanski, A. Manjavacas, M. Kafesaki, R. I. Merino, V. M. Orera, D. A. Pawlak, and F. J. García de Abajo, Optics Express **20,** 10879-10887 (2012)

187.- *Plasmon scattering from single subwavelength holes*, N. Rotenberg, M. Spasenović, T. L. Krijger, B. le Feber, F. J. García de Abajo, and L. Kuipers, Physical Review Letters **108,** 127402 (2012)

186.- *Anisotropic metamaterials for full control of acoustic waves*, J. Christensen and F. J. García de Abajo, Physical Review Letters **108,** 124301 (2012)

185.- *Power transfer between neighboring planar waveguides*, X. M. Bendaña and F. J. García de Abajo, Optics Express **20,** 3152-3157 (2012)

184.- *Plasmon blockade in nanostructured graphene*, A. Manjavacas, P. Nordlander, and F. J. García de Abajo, ACS Nano **6,** 1724-1731 (2012)

183.- *Quantum finite-size effects in graphene plasmons*, S. Thongrattanasiri, A. Manjavacas, and F. J. García de Abajo, ACS Nano **6,** 1766-1775 (2012)

182.- *Complete optical absorption in periodically patterned graphene*, S. Thongrattanasiri, F. H. L. Koppens, and F. J. García de Abajo, Physical Review Letters **108,** 047401 (2012) **[Editor's Suggestion, Featured in Physics]**

181.- *Graphene plasmon waveguiding and hybridization in individual and paired nanoribbons*, J. Christensen, A. Manjavacas, S. Thongrattanasiri, F. H. L. Koppens, and F. J. García de Abajo, ACS Nano **6,** 431-440 (2012)

180.- *Single-photon generation by electron beams*, X. M. Bendaña, A. Polman, and F. J. García de Abajo, Nano Letters **11,** 5099-5103 (2011) **[Cover Image]**

179.- *Microphotonic parabolic light directors fabricated by two-photon lithography*, J. H. Atwater, P. Spinelly, E. Kosten, J. Parsons, C. Van Lare, J. Van de Groep, F. J. García de Abajo, A. Polman, and H. A. Atwater, Applied Physics Letters **99,** 151113 (2011)

178.- *Spatial nonlocality in the optical response of metal nanoparticles*, C. David and F. J. García de Abajo, Journal of Physical Chemistry C **115,** 19470-19475 (2011)

177.- *Reduced radiation losses in electron beam excited propagating plasmons*, L. Wang, W. Cai, Y. Xiang, X. Zhang, J. Xu, and F. J. García de Abajo, Optics Express **19,** 18713 (2011)

176.- *Graphene plasmonics: A platform for strong light-matter interactions*, F. H. L. Koppens, D. E. Chang, and F. J. García de Abajo, Nano Letters **11,** 3370-3377 (2011)

175.- *Lifshitz transition across the Ag/Cu(111) superlattice band gap tuned by interface doping*, Z. M. Abd El-Fattah, M. Matena, M. Corso, F. J. García de Abajo, F. Schiller, and J. E. Ortega, Physical Review Letters **107,** 066803 (2011)

174.- *Spatially resolved measurements of plasmonic eigenstates in complex-shaped, asymmetric nanoparticles: gold nanostars*, S. Mazzucco, O. Stéphan, C. Colliex, I. Pastoriza-Santos, L. M. Liz-Marzán, F. J. García de Abajo, and M. Kociak, European Physical Journal: Applied Physics **54,** 33512 (2011)

173.- *Quantum plexcitonics: Strongly interacting plasmons and excitons*, A. Manjavacas, F. J. García de Abajo, and P. Nordlander, Nano Letters **11,** 2318-2323 (2011)

172.- *Stimulated light emission and inelastic scattering by a classical linear system of rotating particles*, A. Asenjo-Garcia, A. Manjavacas, and F. J. García de Abajo, Physical Review Letters **106,** 213601 (2011)

171.- *Sound transmission through perforated plates with subwavelength hole arrays: A rigid-solid model*, H. Estrada, P. Candelas, A. Uris, F. Belmar, F. Meseguer, and F. J. García de Abajo, Wave Motion **48,** 235-242 (2011)

170.- *Symmetry breaking and gap opening in two-dimensional hexagonal lattices*, D. Malterre, B. Kierren, Y. Fagot-Revurat, C. Didiot, F. J. García de Abajo, F. Schiller, J. Cordón, and J. E. Ortega, New Journal of Physics **13,** 013026 (2011)

169.- *Enhancing the radiative rate in III-V semiconductor plasmonic core-shell nanowire resonators*, C. E. Hofmann, F. J. García de Abajo, and H. A. Atwater, Nano Letters **11,** 372-376 (2011)

168.- *Tunable quantum dot arrays formed from self-assembled metal-organic networks*, F. Klappenberger, D. Kühne, W. Krenner, I. Silanes, A. Arnau, F. J. García de Abajo, S. Klyatskaya, M. Ruben, and J. V. Barth, Physical Review Letters **106,** 026802 (2011)

167.- *Gap and Mie plasmons in individual silver nanospheres near a silver surface*, N. Yamamoto, S. Ohtani, and F. J. García de Abajo, Nano Letters **11,** 91-95 (2011)

166.- *Thermal and vacuum friction acting on rotating particles*, A. Manjavacas and F. J. García de Abajo, Physical Review A **82,** 063827 (2010) **[Featured in Physics]**

165.- *Spectral imaging of individual split-ring resonators*, G. Boudarham, N. Feth, V. Myroshnychenko, S. Linden, F. J. García de Abajo, M. Wegener, and M. Kociak, Physical Review Letters **105,** 255501 (2010)

164.- *Diffractive arrays of gold nanoparticles near an interface: Critical role of the substrate*, B. Auguié, X. M. Bendaña, W. L. Barnes, and F. J. García de Abajo, Physical Review B **82,** 109039 (2010)

163.- *Acoustic field enhancement and subwavelength imaging by coupling to slab waveguide modes*, J. Christensen and F. J. García de Abajo, Applied Physics Letters **97,** 164103 (2010)

162.- *Slow plasmonic slab waveguide as a superlens for visible light*, J. Christensen and F. J. García de Abajo, Physical Review B **82,** 161103(R) (2010)

161.- *Extraordinary all-dielectric light enhancement over large volumes*, R. Sainidou, J. Renger, T. V. Teperik, M. U. González, R. Quidant, and F. J. García de Abajo, Nano Letters **10,** 4450-4455 (2010)

160.- *Broadband Purcell enhancement in plasmonic ring cavities*, E. J. R. Vesseur, F. J. García de Abajo, and A. Polman, Physical Review B **82,** 165419 (2010)

159.- *Controllable excitation of gap plasmons by electron beams in metallic nanowire pairs*, W. Cai, L. Wang, Z. Zhang, J. Xu, and F. J. García de Abajo, Physical Review B **82,** 125454 (2010)

158.- *Transmitting Hertzian optical nanoantenna with free-electron feed*, A. I. Denisyuk, G. Adamo, K. F. MacDonald, J. Edgar, M. D. Arnold, V. Myroshnychenko, M. J. Ford, F. J. García de Abajo, and N. I. Zheludev, Nano Letters **10,** 3250-3252 (2010)

157.- *Vacuum friction in rotating particles*, A. Manjavacas and F. J. García de Abajo, Physical Review Letters **105,** 113601 (2010)

156.- *Light concentration at the nanometer scale*, R. A. Álvarez-Puebla, L. M. Liz-Marzán, and F. J. García de Abajo, Journal of Physical Chemistry Letters **1,** 2428-2434 (2010) **[Cover Image]**

155.- *Ultraviolet optical near-fields of microspheres imprinted in phase change films*, J. Siegel, D. Puerto, J. Solis, F. J. García de Abajo, C. N. Afonso, M. Longo, C. Wiemer, M. Fanciulli, P. Kühler, M. Mosbacher, and P. Leiderer, Applied Physics Letters **96,** 193108 (2010)

154.- *Tuneable electron-beam-driven nanoscale light source*, G. Adamo, K. F. MacDonald, Y. H. Fu, D. P. Tsai, F. J. García de Abajo, and N. I. Zheludev, Journal of Optics **12,** 024012 (2010)

153.- *Lateral engineering of surface states - towards surface-state nanoelectronics*, F. J. García de Abajo, J. Cordón, M. Corso, F. Schiller, and J. E. Ortega, Nanoscale **2,** 717-721 (2010) **[Cover Image]**

152.- *Ultrasmall mode volume plasmonic nanodisk resonators*, M. Kuttge, F. J. García de Abajo, and A. Polman, Nano Letters **10,** 1537-1541 (2010) **[Cover Image]**

151.- *Multiphoton absorption and emission by interaction of swift electrons with evanescent light fields*, F. J. García de Abajo, A. Asenjo-Garcia, and M. Kociak, Nano Letters **10,** 1859-1863 (2010)

150.- *Surface enhanced Raman scattering using star-shaped gold colloidal nanoparticles*, L. Rodríguez-Lorenzo, R. A. Álvarez-Puebla, F. J. García de Abajo, and L. M. Liz-Marzán, Journal of Physical Chemistry C **114,** 7336-7340 (2010)

149.- *Optical excitations in electron microscopy*, F. J. García de Abajo, Reviews of Modern Physics **82,** 209-275 (2010)

148.- *Two-dimensional quasistatic stationary short range surface plasmons in flat nanoprisms*, J. Nelayah, M. Kociak, O. Stéphan, N. Geuquet, L. Henrard, F. J. García de Abajo, I. Pastoriza-Santos, L. M. Liz-Marzán, and C. Colliex, Nano Letters **10,** 902-907 (2010)

147.- *Nanoscale control of optical heating in complex plasmonic systems*, G. Baffou, R. Quidant, and F. J. García de Abajo, ACS Nano **4,** 709-716 (2010)

146.- *Anisotropy and particle-size effects in nanostructured plasmonic metamaterials*, I. Romero and F. J. García de Abajo, Optics Express **17,** 22012-22022 (2009)

145.- *Spectroscopy, imaging, and modeling of individual gold decahedra*, J. Rodríguez-Fernández, C. Novo, V. Myroshnychenko, A. M. Funston, A. Sánchez-Iglesias, I. Pastoriza-Santos, J. Pérez-Juste, F. J. García de Abajo, L. M. Liz-Marzán, and P. Mulvaney, Journal of Physical Chemistry C **113,** 18623-18631 (2009)

144.- *Coupling of gap plasmons in multi-wire waveguides*, A. Manjavacas and F. J. García de Abajo, Optics Express **17,** 19401-19413 (2009)

143.- *Plasmonics in buried structures*, I. Romero and F. J. García de Abajo, Optics Express **17,** 18866-18877 (2009)

142.- *Confined collective excitations of self-standing and supported planar periodic particle arrays*, X. M. Bendaña and F. J. García de Abajo, Optics Express **17,** 18826-18835 (2009)

141.- *Dichotomous array of chiral quantum corrals by a self-assembled nanoporous kagomé network*, F. Klappenberger, D. Kühne, W. Krenner, I. Silanes, A. Arnau, F. J. García de Abajo, S. Klyatskaya, M. Ruben, and J. V. Barth, Nano Letters **9,** 3509-3514 (2009)

140.- *Nano-optical trapping of Rayleigh particles and Escherichia coli bacteria with resonant optical antennas*, M. Righini, P. Ghenuche, S. Cherukulappurath, V. Myroshnychenko, F. J. García de Abajo, and R. Quidant, Nano Letters **9,** 3387-3391 (2009) **[Cover Image]**

139.- *Near-field focusing with optical phase antennas*, A. G. Curto, A. Manjavacas, and F. J. García de Abajo, Optics Express **17,** 17801-17811 (2009) **[Cover Video]**

138.- *Diacritical study of light, electrons and sound scattering by particles and holes*, F. J. García de Abajo, H. Estrada, and F. Meseguer, New Journal of Physics **11,** 093013 (2009)

137.- *Modal decomposition of surface-plasmon whispering gallery resonators*, E. J. R. Vesseur, F. J. García de Abajo, and A. Polman, Nano Letters **9,** 3147-3150 (2009)

136.- *Light well: A tunable free-electron light source on a chip*, G. Adamo, K. F. MacDonald, Y. H. Fu, C.-M. Wang, D. P. Tsai, F. J. García de Abajo, and N. I. Zheludev, Physical Review Letters **103,** 113901 (2009) **[Editor's Suggestion, Featured in Physics]**

135.- *Photonic binding in silicon-colloid microcavities*, E. Xifré-Pérez, F. J. García de Abajo, R. Fenollosa, and F. Meseguer, Physical Review Letters **103,** 103902 (2009)

134.- *Influence of lattice symmetry on ultrasound transmission through plates with subwavelength aperture arrays*, H. Estrada, P. Candelas, A. Uris, F. Belmar, F. J. García de Abajo, and F. Meseguer, Applied Physics Letters **95,** 051906 (2009)

133.- *Analytic coherent control of plasmon propagation in nanostructures*, P. Tuchscherer, C. Rewitz, D. V. Voronine, F. J. García de Abajo, W. Pfeiffer, and T. Brixner, Optics Express **17,** 14235-14259 (2009)

132.- *Imprinting the optical near field of microstructures with nanometer resolution*, P. Kühler, F. J. García de Abajo, J. Solis, M. Mosbacher, P. Leiderer, C. N. Afonso, and J. Siegel, Small **5,** 1825-1829 (2009) **[Cover Image]**

131.- *Dispersion of metal-insulator-metal plasmon polaritons probed by cathodoluminescence imaging spectroscopy*, M. Kuttge, W. Cai, F. J. García de Abajo, and A. Polman, Physical Review B **80,** 033409 (2009)

130.- *How grooves reflect and confine surface plasmon polaritons*, M. Kuttge, F. J. García de Abajo, and A. Polman, Optics Express **17,** 10385-10392 (2009)

129.- *Probing free xenon clusters from within*, N. Berrah, D. Rolles, Z. D. Pesic, M. Hoener, H. Zhang, A. Aguilar, R. C. Bilodeau, E. Red, J. D. Bozek, E. Kukk, R. Díez Muiño, and F. J. García de Abajo, European Physical Journal Special Topics **169,** 59-65 (2009)

128.- *Influence of the tip in near-field imaging of nanoparticle plasmonic modes: Weak and strong coupling regimes*, A. García-Etxarri, I. Romero, F. J. García de Abajo, R. Hillenbrand, and J. Aizpurua, Physical Review B **79,** 125439 (2009)

127.- *Optical emission from the interaction of fast electrons with metallic films containing a circular aperture: A study of radiative decoherence of fast electrons*, F. J. García de Abajo, Physical Review Letters **102,** 237401 (2009)

126.- *Angle-dependent ultrasonic transmission through plates with subwavelength hole arrays*, H. Estrada, F. J. García de Abajo, P. Candelas, A. Uris, F. Belmar, and F. Meseguer, Physical Review Letters **102,** 144301 (2009)

125.- *Zeptomol detection through controlled ultrasensitive surface-enhanced Raman scattering*, L. Rodríguez-Lorenzo, R. A. Álvarez-Puebla, I. Pastoriza-Santos, S. Mazzucco, O. Stéphan, M. Kociak, L. M. Liz-Marzán, and F. J. García de Abajo, Journal of the American Chemical Society **131,** 4616-4618 (2009)

124.- *Local density of states, spectrum, and far-field interference of surface plasmon polaritons probed by cathodoluminescence*, M. Kuttge, E. J. R. Vesseur, A. F. Koenderink, H. J. Lezec, H. A. Atwater, F. J. García de Abajo, and A. Polman, Physical Review B **79,** 113405 (2009)

123.- *Efficient generation of propagating plasmons by electron beams*, W. Cai, R. Sainidou, J. Xu, A. Polman, and F. J. García de Abajo, Nano Letters **9,** 1176-1181 (2009)

122.- *Robust plasmon waveguides in strongly interacting nanowire arrays*, A. Manjavacas and F. J. García de Abajo, Nano Letters **9,** 1285-1289 (2009) **[Cover Image]**

121.- *Probing bright and dark surface-plasmon modes in individual and coupled noble metal nanoparticles using an electron beam*, M.-W. Chu, V. Myroshnychenko, C.-H. Chen, J.-P. Deng, C.-Y. Mou, and F. J. García de Abajo, Nano Letters **9,** 399-404 (2009)

120.- *Interplay between electronic states and structure during Au faceting*, F. Schiller, M. Corso, J. Cordón, F. J. García de Abajo, and J. E. Ortega, New Journal of Physics **10,** 113017 (2008)

119.- *Nonlocal effects in the plasmons of strongly interacting nanoparticles, dimers, and waveguides*, F. J. García de Abajo, Journal of Physical Chemistry C **112,** 17983-17987 (2008)

118.- *High-energy photoelectron diffraction: model calculations and future possibilities*, A. Winkelmann, C. S. Fadley, and F. J. García de Abajo, New Journal of Physics **10,** 113002 (2008)

117.- *Optically tunable surfaces with trapped particles in microcavities*, R. Sainidou and F. J. García de Abajo, Physical Review Letters **101,** 136802 (2008)

116.- *Mapping plasmons in nanoantennas via cathodoluminescence*, R. Gómez-Medina, N. Yamamoto, M. Nakano, and F. J. García de Abajo, New Journal of Physics **10,** 105009 (2008)

115.- *Imaging optical near fields at metallic nanoscale voids*, P. D. Lacharmoise, N. G. Tognalli, A. R. Goñi, M. I. Alonso, A. Fainstein, R. M. Cole, J. J. Baumberg, F. J. García de Abajo, and P. N. Bartlett, Physical Review B **78,** 125410 (2008)

114.- *Electron energy-gain spectroscopy*, F. J. García de Abajo and M. Kociak, New Journal of Physics **10,** 073035 (2008)

113.- *Near-field optical phase antennas for long-range plasmon coupling*, A. G. Curto and F. J. García de Abajo, Nano Letters **8,** 2479-2484 (2008)

112.- *Modelling the optical response of gold nanoparticles*, V. Myroshnychenko, J. Rodríguez-Fernández, I. Pastoriza-Santos, A. M. Funston, C. Novo, P. Mulvaney, L. M. Liz-Marzán, and F. J. García de Abajo, Chemical Society Reviews **37,** 1792-1805 (2008)

111.- *Extraordinary sound screening in perforated plates*, H. Estrada, P. Candelas, A. Uris, F. Belmar, F. J. García de Abajo, and F. Meseguer, Physical Review Letters **101,** 084302 (2008)

110.- *Plasmon excitations at diffuse interfaces*, A. Howie, F. J. García de Abajo, and A. Rivacoba, Journal of Physics: Condensed Matter **20,** 304205 (2008)

109.- *Influence of the hole filling fraction on the ultrasonic transmission through plates with subwavelength aperture arrays*, H. Estrada, P. Candelas, A. Uris, F. Belmar, F. Meseguer, and F. J. García de Abajo, Applied Physics Letters **93,** 011907 (2008)

108.- *Surface exciton polaritons in individual Au nanoparticles in the far-ultraviolet spectral regime*, M.-W. Chu, C.-H. Chen, F. J. García de Abajo, J.-P. Deng, and C.-Y. Mou, Physical Review B **77,** 245402 (2008)

107.- *Omnidirectional absorption in nanostructured metal surfaces*, T. V. Teperik, F. J. García de Abajo, A. G. Borisov, M. Abdelsalam, P. N. Bartlett, Y. Sugawara, and J. J. Baumberg, Nature Photonics **2,** 299-301 (2008) **[Cover Image]**

106.- *Modeling the optical response of highly faceted metal nanoparticles with a fully 3D boundary element method*, V. Myroshnychenko, E. Carbó-Argibay, I. Pastoriza-Santos, J. Pérez-Juste, L. M. Liz-Marzán, and F. J. García de Abajo, Advanced Materials **20,** 4288-4293 (2008) **[Cover Image]**

105.- *Plasmon guided modes in nanoparticle metamaterials*, R. Sainidou and F. J. García de Abajo, Optics Express **16,** 4499-4506 (2008)

104.- *Luminescence readout of nanoparticle phase state*, A. I. Denisyuk, F. Jonsson, K. F. MacDonald, N. I. Zheludev, and F. J. García de Abajo, Applied Physics Letters **92,** 093112 (2008)

103.- *Plasmon-based nanolenses assembled on a well-defined DNA template*, S. Bidault, F. J. García de Abajo, and A. Polman, Journal of the American Chemical Society **130,** 2750-2751 (2008)

102.- *Probing the photonic local density of states with electron energy loss spectroscopy*, F. J. García de Abajo and M. Kociak, Physical Review Letters **100,** 106804 (2008)

101.- *Surface plasmon polariton modes in a single-crystal Au nanoresonator fabricated using focused-ion-beam milling*, E. J. R. Vesseur, R. de Waele, H. J. Lezec, H. A. Atwater, F. J. García de Abajo, and A. Polman, Applied Physics Letters **92,** 083110 (2008)

100.- *Plasmon molecules in overlapping nanovoids*, I. Romero, T. V. Teperik, and F. J. García de Abajo, Physical Review B **77,** 125403 (2008)

99.- *Substrate-enhanced infrared near-field spectroscopy*, J. Aizpurua, T. Taubner, F. J. García de Abajo, M. Brehm, and R. Hillenbrand, Optics Express **16,** 1529-1545 (2008)

98.- *Mapping the plasmon resonances of metallic nanoantennas*, G. W. Bryant, F. J. García de Abajo, and J. Aizpurua, Nano Letters **8,** 631-636 (2008)

97.- *High-yield synthesis and optical response of gold nanostars*, P. S. Kumar, I. Pastoriza-Santos, B. Rodríguez-González, F. J. García de Abajo, and L. M. Liz-Marzán, Nanotechnology **19,** 015606 (2008)

96.- *Plasmonic modes of annular nanoresonators imaged by spectrally resolved cathodoluminescence*, C. E. Hofmann, E. J. R. Vesseur, L. A. Sweatlock, H. J. Lezec, F. J. García de Abajo, A. Polman, and H. A. Atwater, Nano Letters **7,** 3612-3617 (2007)

95.- *Collective oscillations in optical matter*, F. J. García de Abajo, Optics Express **15,** 11082-11094 (2007)

94.- *Enhanced microwave transmission through quasicrystal hole arrays*, N. Papasimakis, V. A. Fedotov, A. S. Schwanecke, N. I. Zheludev, and F. J. García de Abajo, Applied Physics Letters **91,** 081503 (2007)

93.- *The effect of silica coating on the optical response of sub-micrometer gold spheres*, J. Rodríguez-Fernández, I. Pastoriza-Santos, J. Pérez-Juste, F. J. García de Abajo, and L. M. Liz-Marzán, Journal of Physical Chemistry C **111,** 13361-13366 (2007)

92.- *Photonic absorption bands in the spectra of nanoporous metallic films*, V. V. Popov, T. V. Teperik, and F. J. García de Abajo, Physics of the Solid State **49,** 1264-1267 (2007)

91.- *Tuning localized plasmon cavities for optimized surface-enhanced Raman scattering*, N. M. B. Perney, F. J. García de Abajo, J. J. Baumberg, A. Tang, M. C. Netti, M. D. B. Charlton, and M. E. Zoorob, Physical Review B **76,** 035426 (2007)

90.- *Colloquium: Light scattering by particle and hole arrays*, F. J. García de Abajo, Reviews of Modern Physics **79,** 1267-1290 (2007)

89.- *The plasmon Talbot effect*, M. R. Dennis, N. I. Zheludev, and F. J. García de Abajo, Optics Express **15,** 9692-9700 (2007)

88.- *Understanding plasmons in nanoscale voids*, R. M. Cole, J. J. Baumberg, F. J. García de Abajo, S. Mahajan, M. Abdelsalam, and P. N. Bartlett, Nano Letters **7,** 2094-2100 (2007)

87.- *Strong terahertz absorption bands in a scaled plasmonic crystal*, T. V. Teperik, F. J. García de Abajo, V. V. Popov, and M. S. Shur, Applied Physics Letters **90,** 251910 (2007)

86.- *Nanoscale force manipulation in the vicinity of a metal nanostructure*, F. J. García de Abajo, W. Pfeiffer, and T. Brixner, Journal of Physics B: Atomic, Molecular and Optical Physics **40,** S249-S258 (2007)

85.- *Mapping surface plasmons on a single metallic nanoparticle*, J. Nelayah, M. Kociak, O. Stéphan, F. J. García de Abajo, M. Tencé, L. Henrard, D. Taverna, I. Pastoriza-Santos, L. M. Liz-Marzán, and C. Colliex, Nature Physics, **3,** 348-353 (2007)

84.- *Size effects in angle-resolved photoelectron spectroscopy of free rare-gas clusters*, D. Rolles, H. Zhang, Z. D. Pesic, R. C. Bilodeau, A. Wills, E. Kukk, B. S. Rude, G. D. Ackerman, J. D. Bozek, R. Díez Muiño, F. J. García de Abajo, and N. Berrah, Physical Review A **75,** 031201(R) (2007)

83.- *Optical properties of platinum-coated gold nanorods*, M. Grzelczak, J. Pérez-Juste, F. J. García de Abajo, and L. M. Liz-Marzán, Journal of Physical Chemistry C **111,** 6183-6188 (2007)

82.- *Environmental optical sensitivity of gold nanodecahedra*, I. Pastoriza-Santos, A. Sánchez-Iglesias, F. J. García de Abajo, and L. M. Liz-Marzán, Advanced Functional Materials **17,** 1443-1450 (2007) **[Cover Image]**

81.- *Focusing of light by a nanohole array*, F. M. Huang, N. I. Zheludev, Y. Chen, and F. J. García de Abajo, Applied Physics Letters **90,** 091119 (2007)

80.- *Adaptive subwavelength control of nano-optical fields*, M. Aeschlimann, M. Bauer, D. Bayer, T. Brixner, F. J. García de Abajo, W. Pfeiffer, M. Rohmer, C. Spindler, and F. Steeb, Nature **446,** 301-304 (2007)

79.- *Nanohole plasmons in optically thin gold films*, T. Rindzevicius, Y. Alaverdyan, B. Sepulveda, T. Pakizeh, M. Käll, R. Hillenbrand, J. Aizpurua, and F. J. García de Abajo, Journal of Physical Chemistry C **111,** 1207-1212 (2007)

78.- *Mie plasmon enhanced diffraction of light from nanoporous metal surfaces*, T. V. Teperik, V. V. Popov, F. J. García de Abajo, T. A. Kelf, Y. Sugawara, J. J. Baumberg, M. Abdelsalam, and P. N. Bartlett, Optics Express **14,** 11964-11971 (2006)

77.- *Observation and resonant x-ray optical interpretation of multi-atom resonant photoemission effects in O 1s emission from NiO*, N. Mannella, S.-H. Yang, B. S. Mun, F. J. García de Abajo, A. W. Kay, B. C. Sell, M. Watanabe, H. Ohldag, E. Arenholz, A. T. Young, Z. Hussain, M. A. Van Hove, and C. S. Fadley, Physical Review B **74,** 165106 (2006)

76.- *Synthesis and optical properties of gold nanodecahedra with size control*, A. Sánchez-Iglesias, I. Pastoriza-Santos, J. Pérez-Juste, B. Rodríguez-González, F. J. García de Abajo, and L. M. Liz-Marzán, Advanced Materials **18,** 2529-2534 (2006)

75.- *Plasmons in nearly touching metallic nanoparticles: singular response in the limit of touching dimers*, I. Romero, J. Aizpurua, G. W. Bryant, and F. J. García de Abajo, Optics Express **14,** 9988-9999 (2006)

74.- *Adaptive ultrafast nano-optics in a tight focus*, T. Brixner, F. J. García de Abajo, C. Spindler, and W. Pfeiffer, Applied Physics B **84,** 89-95 (2006)

73.- *Seeded growth of submicron Au colloids with quadrupole plasmon resonance modes*, J. Rodríguez-Fernández, J. Pérez-Juste, F. J. García de Abajo, and L. M. Liz-Marzán, Langmuir **22,** 7007-7010 (2006)

72.- *Ultrafast adaptive optical near-field control*, T. Brixner, F. J. García de Abajo, J. Schneider, C. Spindler, and W. Pfeiffer, Physical Review B **73,** 125437 (2006)

71.- *Direct evidence for ferroelectric polar distortion in ultrathin lead titanate perovskite films*, L. Despont, C. Koitzsch, F. Clerc, M. G. Garnier, P. Aebi, C. Lichtensteiger, J.-M. Triscone, F. J. García de Abajo, E. Bousquet, and Ph. Ghosez, Physical Review B **73,** 094110 (2006)

70.- *Strong coupling of light to flat metals via a buried nanovoid lattice: the interplay of localized and free plasmons*, T. V. Teperik, V. V. Popov, F. J. García de Abajo, M. Abdelsalam, P. N. Bartlett, T. A. Kelf, Y. Sugawara, and J. J. Baumberg, Optics Express **14,** 1965-1972 (2006)

69.- *X-ray photoelectron diffraction study of Cu(111): Multiple scattering investigation*, L. Despont, D. Naumovic, F. Clerc, C. Koitzsch, M. G. Garnier, F. J. García de Abajo, M. A. Van Hove, and P. Aebi, Surface Science **600,** 380-385 (2006)

68.- *X-ray photoelectron diffraction study of ultrathin $PbTiO_3$ films*, L. Despont, C. Lichtensteiger, F. Clerc, M. G. Garnier, F. J. García de Abajo, M. A. Van Hove, J.-M. Triscone, and P. Aebi, European Physical Journal B **49,** 141-146 (2006)

67.- *Site and lattice resonances in metallic hole arrays*, F. J. García de Abajo, J. J. Sáenz, I. Campillo, and J. S. Dolado, Optics Express **14,** 7-18 (2006)

66.- *Electromagnetic surface modes in structured perfect-conductor surfaces*, F. J. García de Abajo and J. J. Sáenz, Physical Review Letters **95,** 233901 (2005)

65.- *Nanoscopic ultrafast space-time-resolved spectroscopy*, T. Brixner, F. J. García de Abajo, J. Schneider, and W. Pfeiffer, Physical Review Letters **95,** 093901 (2005)

64.- *Full transmission through perfect-conductor subwavelength hole arrays*, F. J. García de Abajo, R. Gómez-Medina, and J. J. Sáenz, Physical Review E **72,** 016608 (2005)

63.- *Optical properties of coupled metallic nanorods for field-enhanced spectroscopy*, J. Aizpurua, G. W. Bryant, L. J. Richter, F. J. García de Abajo, B. K. Kelley, and T. Mallouk, Physical Review B **71,** 235420 (2005)

62.- *Tunneling mechanism of light transmission through metallic films*, F. J. García de Abajo, G. Gómez-Santos, L. A. Blanco, A. G. Borisov, and S. V. Shabanov, Physical Review Letters **95,** 067403 (2005)

61.- *Plasmon tunability in metallodielectric metamaterials*, S. Riikonen, I. Romero, and F. J. García de Abajo, Physical Review B **71,** 235104 (2005); **73**, 039901(E) (2006)

60.- *Void plasmons and total absorption of light in nanoporous metallic films*, T. V. Teperik, V. V. Popov, and F. J. García de Abajo, Physical Review B **71,** 085408 (2005)

59.- *Role of electromagnetic trapped modes in extraordinary transmission in nanostructured materials*, A. G. Borisov, F. J. García de Abajo, and S. V. Shabanov, Physical Review B **71,** 075408 (2005)

58.- *Giant light absorption by plasmons in a nanoporous metal film*, T. V. Teperik, V. V. Popov, and F. J. García de Abajo, Physica Status Solidi (a) **202,** 362-366 (2005)

57.- *Momentum transfer to small particles by passing electron beams*, F. J. García de Abajo, Physical Review B **70,** 115422 (2004); **74**, 119902(E) (2006)

56.- *Femtosecond shaping of transverse and longitudinal light polarization*, T. Brixner, W. Pfeiffer, and F. J. García de Abajo, Optics Letters **29,** 2187-2189 (2004)

55.- *Photoelectron diffraction study of the Si-rich 3C-SiC(001)-(3x2) structure*, A. Tejeda, D. Dunham, F. J. García de Abajo, J. D. Denlinger, E. Rotenberg, E. G. Michel, and P. Soukiassian, Physical Review B **70,** 045317 (2004)

54.- *Control of spontaneous emission by complex nanostructures*, L. A. Blanco and F. J. García de Abajo, Optics Letters **29,** 1494-1496 (2004)

53.- *Spontaneous light emission in complex nanostructures*, L. A. Blanco and F. J. García de Abajo, Physical Review B **69,** 205414 (2004)

52.- *Boundary effects in Cherenkov radiation*, F. J. García de Abajo, A. Rivacoba, N. Zabala, and N. Yamamoto, Physical Review B **69,** 155420 (2004)

51.- *Radiative decay of plasmons in a metallic nanoshell*, T. V. Teperik, V. V. Popov, and F. J. García de Abajo, Physical Review B **69,** 155402 (2004)

50.- *Accurate band mapping via photoemission from thin films*, A. Mugarza, A. Marini, T. Strasser, W. Schattke, A. Rubio, F. J. García de Abajo, J. Lobo, E. G. Michel, J. Kuntze, and J. E. Ortega, Physical Review B **69,** 115422 (2004)

49.- *Relativistic effects in EELS of nanoporous alumina membranes*, N. Zabala, A. G. Pattantyus-Abraham, A. Rivacoba, F. J. García de Abajo, and M. O. Wolf, Physical Review B **68,** 245407 (2003)

48.- *Cherenkov effect as a probe of photonic nanostructures*, F. J. García de Abajo, A. G. Pattantyus-Abraham, N. Zabala, A. Rivacoba, M. O. Wolf, and P. M. Echenique, Physical Review Letters **91,** 143902 (2003)

47.- *Electron energy loss spectroscopy as a probe of two-dimensional photonic crystals*, F. J. García de Abajo, A. Rivacoba, N. Zabala, and P. M. Echenique, Physical Review B **68,** 205105 (2003)

46.- *Nanoring formation by direct-write inorganic electron-beam lithography*, N. Jiang, G. G. Hembree, J. C. H. Spence, J. Qiu, F. J. García de Abajo, and J. Silcox, Applied Physics Letters **83,** 551-553 (2003)

45.- *Electron energy loss and induced photon emission in photonic crystals*, F. J. García de Abajo and L. A. Blanco, Physical Review B **67,** 125108 (2003)

44.- *Electron energy loss in carbon nanostructures*, A. Rivacoba and F. J. García de Abajo, Physical Review B **67,** 085414 (2003)

43.- *Measurement of electron wave functions and confining potentials via photoemission*, A. Mugarza, J. E. Ortega, F. J. Himpsel, and F. J. García de Abajo, Physical Review B **67,** 081404(R) (2003)

42.- *Optical properties of gold nanorings*, J. Aizpurua, P. Hanarp, D. S. Sutherland, M. Käll, G. W. Bryant, and F. J. García de Abajo, Physical Review Letters **90,** 057401 (2003)

41.- *Lateral quantum wells at vicinal Au(111) studied with angle-resolved photoemission*, A. Mugarza, A. Mascaraque, V. Repain, S. Rousset, K. N. Altmann, F. J. Himpsel, Y. M. Koroteev, E. V. Chulkov, F. J. García de Abajo, and J. E. Ortega, Physical Review B **66,** 245419 (2002)

40.- *Retarded field calculation of electron energy loss in inhomogeneous dielectrics*, F. J. García de Abajo and A. Howie, Physical Review B **65,** 115418 (2002)

39.- *Light transmission through a single cylindrical hole in a metallic film*, F. J. García de Abajo, Optics Express **10,** 1475-1484 (2002)

38.- *Angular distributions of electrons photoemitted from core levels of oriented diatomic molecules: multiple scattering theory in non-spherical potentials*, R. Díez Muiño, D. Rolles, F. J. García de Abajo, C. S. Fadley, and M. A. Van Hove, Journal of Physics B: Atomic, Molecular and Optical Physics **35,** L359-L365 (2002)

37.- *Development of the scattering theory of X-ray absorption and core level photoemission*, J. J. Rehr, W. Schattke, F. J. García de Abajo, R. Díez Muiño, and M. A. Van Hove, Journal of Electron Spectroscopy and Related Phenomena **126,** 67-76 (2002)

36.- *Circular dichroism in K-shell ionization from fixed-in-space CO and N_2 molecules*, T. Jahnke, Th. Weber, A. L. Landers, A. Knapp, S. Schössler, J. Nickles, S. Kammer, O. Jagutzki, L. Schmidt, A. Czasch, T. Osipov, E. Arenholz, A. T. Young, R. Díez Muiño, D. Rolles, F. J. García de Abajo, C. S. Fadley, M. A. Van Hove, S. K. Semenov, N. A. Cherepkov, J. Rösch, M. H. Prior, H. Schmidt-Böcking, C. L. Cocke, and R. Dörner, Physical Review Letters **88,** 073002 (2002)

35.- *Photon emission from silver particles induced by a high-energy electron beam*, N. Yamamoto, K. Araya, and F. J. García de Abajo, Physical Review B **64,** 205419 (2001)

34.- *Inelastic scattering of fast electrons in nanowires: a dielectric formalism approach*, N. Zabala, E. Ogando, A. Rivacoba, and F. J. García de Abajo, Physical Review B **64,** 205410 (2001)

33.- *K-shell photoionization of CO and N_2: is there a link between the photoelectron angular distribution and the molecular decay dynamics?* Th. Weber, O. Jagutzki, M. Hattass, A. Staudte, A. Nauert, L. Schmidt, M. H. Prior, A. L. Landers, A. Bräuning-Demian, H. Bräuning, C. L. Cocke, T. Osipov, I. Ali, R. Díez Muiño, D. Rolles, F. J. García de Abajo, C. S. Fadley, M. A. Van Hove, A. Cassimi, H. Schmidt-Böcking, and R. Dörner, Journal of Physics B: Atomic, Molecular and Optical Physics **34,** 3669-3678 (2001)

32.- *Multiatom resonant photoemission*, A. W. Kay, F. J. García de Abajo, S.-H. Yang, E. Arenholz, B. S. Mun, N. Mannella, Z. Hussain, M. A. Van Hove, and C. S. Fadley, Physical Review B **63,** 115119 (2001)

31.- *Multiple scattering of electrons in solids and molecules: a cluster-model approach*, F. J. García de Abajo, M. A. Van Hove, and C. S. Fadley, Physical Review B **63,** 075404 (2001)

30.- *Electron confinement in surface states on a stepped gold surface revealed by angle-resolved photoemission*, A. Mugarza, A. Mascaraque, V. Pérez-Dieste, V. Repain, S. Rousset, F. J. García de Abajo, and J. E. Ortega, Physical Review Letters **87,** 107601 (2001)

29.- *Photoelectron diffraction at the surface of amorphous carbon nitride*, J. M. Ripalda, F. J. García de Abajo, I. Montero, L. Galán, and M. A. Van Hove, Applied Physics Letters **77,** 3394-3396 (2000)

28.- *Kinetics and atomic structure of O adsorption on W(110) from time- and state-resolved photoelectron spectroscopy and full-solid-angle photoelectron diffraction*, R. X. Ynzunza, R. Denecke, F. J. Palomares, J. Morais, E. D. Tober, Z. Wang, F. J. García de Abajo, J. Liesegang, Z. Hussain, M. A. Van Hove, and C. S. Fadley, Surface Science **459,** 69-92 (2000)

27.- *Smith-Purcell radiation emission in aligned nanoparticles*, F. J. García de Abajo, Physical Review E **61,** 5743-5752 (2000)

26.- *Valence-electron energy loss near edges, truncated slabs, and junctions*, J. Aizpurua, A. Howie, and F. J. García de Abajo, Physical Review B **60,** 11149-11162 (1999)

25.- *Relativistic description of valence energy losses in the interaction of fast electrons with clusters of dielectrics: multiple-scattering approach*, F. J. García de Abajo, Physical Review B **60,** 6103-6112 (1999)

24.- *Multiple scattering of radiation in clusters of dielectrics*, F. J. García de Abajo, Physical Review B **60,** 6086-6102 (1999)

23.- *Electron promotion in collisions of protons with a LiF surface*, P. A. Zeijlmans van Emmichoven, A. Niehaus, P. Stracke, F. Wiegershaus, S. Krischok, V. Kempter, A. Arnau, F. J. García de Abajo, and M. Peñalba, Physical Review B **59,** 10950-10958 (1999)

22.- *Multiatom resonant photoemission: theory and systematics*, F. J. García de Abajo, C. S. Fadley, and M. A. Van Hove, Physical Review Letters **82,** 4126-4129 (1999)

21.- *Relativistic energy loss and induced photon emission in the interaction of a dielectric sphere with an external electron beam*, F. J. García de Abajo, Physical Review B **59,** 3095-3107 (1999)

20.- *Interaction of radiation and fast electrons with clusters of dielectrics: a multiple scattering approach*, F. J. García de Abajo, Physical Review Letters **82,** 2776-2779 (1999)

19.- *Contribution of the excitation of conduction band electrons to the kinetic electron emission induced by slow ions in metals*, J. I. Juaristi, M. Rösler, and F. J. García de Abajo, Physical Review B **58,** 15838-15846 (1998)

18.- *Convergence and reliability of the Rehr-Albers formalism in multiple-scattering calculations of photoelectron diffraction*, Y. Chen, F. J. García de Abajo, A. Chassé, R. X. Ynzunza, A. P. Kaduwela, M. A. Van Hove, and C. S. Fadley, Physical Review B **58,** 13121-13131 (1998)

17.- *Coulomb explosion of H_2^+ in surface scattering*, T. Bagdonat, M. Vicanek, J. I. Juaristi, and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **142,** 473-485 (1998)

16.- *Multi-atom resonant photoemission: a method for determining near-neighbor atomic identities and bonding*, A. Kay, E. Arenholz, S. Mun, F. J. García de Abajo, C. S. Fadley, R. Denecke, Z. Hussain, and M. A. Van Hove, Science **281,** 679-683 (1998)

15.- *Interface and bulk effects in the attenuation of low-energy electrons through CaF_2 thin films*, J. E. Ortega, F. J. García de Abajo, P. M. Echenique, I. Manke, T. Kalka, M. Dähne, D. Ochs, S. L. Molodtsov, and A. Rubio, Physical Review B **58,** 2233-2239 (1998)

14.- *Relativistic electron energy loss and electron-induced photon emission in inhomogeneous dielectrics*, F. J. García de Abajo and A. Howie, Physical Review Letters **80,** 5180-5183 (1998)

13.- *Dynamic screening of fast ions moving in solids*, J. D. Fuhr, V. H. Ponce, F. J. García de Abajo, and P. M. Echenique, Physical Review B **57,** 9329-9335 (1998)

12.- *Resonant coherent excitation of fast hydrogen atoms in front of a LiF(001) surface*, C. Auth, A. Mertens, H. Winter, A. G. Borisov, and F. J. García de Abajo, Physical Review Letters **79,** 4477-4480 (1997)

11.- *Surface effects in the energy loss of ions passing through a thin foil*, J. Osma and F. J. García de Abajo, Physical Review A **56,** 2032-2040 (1997)

10.- *Numerical simulation of electron energy loss near inhomogeneous dielectrics*, F. J. García de Abajo and J. Aizpurua, Physical Review B **56,** 15873-15884 (1997)

9.- *Contribution of charge-transfer processes to ion-induced electron emission*, M. Rösler and F. J. García de Abajo, Physical Review B **54,** 17158-17165 (1996)

8.- *Energy loss of MeV protons specularly reflected from metal surfaces*, J. I. Juaristi, F. J. García de Abajo, and P. M. Echenique, Physical Review B **53,** 13839-13850 (1996)

7.- *Resonant-coherent excitation of channeled ions*, F. J. García de Abajo and P. M. Echenique, Physical Review Letters **76,** 1856-1859 (1996)

6.- *Auger intra-atomic transitions in grazing atom-surface collisions*, M. Alducin, F. J. García de Abajo, and P. M. Echenique, Physical Review B **49,** 14589-14598 (1994); (E) 51, 2030 (1995)

5.- *Electron emission induced by resonant coherent interaction in ion-surface scattering at grazing incidence*, F. J. García de Abajo, V. H. Ponce, and P. M. Echenique, Physical Review B **49,** 2832-2845 (1994)

4.- *Surface wake in the random-phase approximation*, F. J. García de Abajo and P. M. Echenique, Physical Review B **48,** 13399-13407 (1993)

3.- *Electron emission induced by resonant coherent ion-surface interaction at grazing incidence*, F. J. García de Abajo, V. H. Ponce, and P. M. Echenique, Physical Review Letters **69,** 2364-2367 (1992)

2.- *Wake potential in the vicinity of a surface*, F. J. García de Abajo and P. M. Echenique, Physical Review B **46,** 2663-2675 (1992)

1.- *Wake-potential formation in a thin foil*, F. J. García de Abajo and P. M. Echenique, Physical Review B **45,** 8771-8774 (1992)

OTHER WORKS

55.- *Back to normal: An old physics route to reduce SARS-CoV-2 transmission in indoor spaces*, F. J. García de Abajo, R. J. Hernández, I. Kaminer, A. Meyerhans, J. Rosell-Llompart, and T. Sanchez-Elsner, ACS Nano **14**, 7704-7713 (2020)

54.- *Present and future of surface-enhanced Raman scattering*, J. Langer *et al.*, ACS Nano **14**, 28-117 (2020)

53.- *Ultrafast electron energy-loss: spectroscopy in transmission electron microscopy*, E. Pomarico, Y.-J. Kim, F. J. García de Abajo, O.-H. Kwon, F. Carbone, and R. M. van der Veen, MRS Bulletin **43,** 497-503 (2018)

52.- *Ultrasound transmission through periodically perforated plates*, H. Estrada, F. J. García de Abajo, P. Candelas, A. Uris, F. Belmar, and F. Meseguer, Chapter 4 in *Acoustic Metamaterials*, edited by R.V. Craster and S. Guenneau (Springer Series in Materials Science, volume 166, Berlin, 2013), pp. 83-113

51.- *Effect of Ag nanoparticles integrated within antireflection coatings for solar cells*, F. Cortés-Juan, C. Chaverri Ramos, J. P. Connolly, C. David, F. J. García de Abajo, J. Hurtado, V. D. Mihailetchi, S. Ponce-Alcántara, and G. Sánchez, Journal of Renewable and Sustainable Energy **5,** 033116 (2013)

50.- *Nanoscale mapping of plasmons, photons, and excitons*, M. Kociak and F. J. García de Abajo, MRS Bulletin **37,** 39-46 (2012)

49.- *Towards femtojoule nanoparticle phase-change memory*, A. I. Denisyuk, K. F. MacDonald, F. J. García de Abajo, and N. I. Zheludev, Japanese Journal of Applied Physics **48,** 03A065 (2009)

48.- *Mapping surface plasmons on single metallic nanoparticles using sub-nm resolved EELS spectrum-imaging*, J. Nelayah, O. Stéphan, M. Kociak, F. J. García de Abajo, L. Henrard, I. Pastoriza-Santos, L. M. Liz-Marzán, and C. Colliex, Microscopy and Microanalysis **13** (Suppl. 2), 144-145 (2007)

47.- *Total light absorption in plasmonic nanostructures*, T. V. Teperik, V. V. Popov, and F. J. García de Abajo, Journal of Optics A: Pure and Applied Optics **9,** S458-S462 (2007)

46.- *Optical super-resolution through super-oscillations*, F. M. Huang, Y. Chen, F. J. García de Abajo, and N. I. Zheludev, Journal of Optics A: Pure and Applied Optics **9,** S285-S288 (2007)

45.- *Response of inhomogeneous media to valence excitation by fast electrons*, A. Howie, A. Rivacoba, and F. J. García de Abajo, Microscopy and Microanalysis **12** (Suppl. 2), 110-111 (2006)

44.- *Simulating electromagnetic response in coupled metallic nanoparticles for nanoscale optical microscopy and spectroscopy: nanorod-end effects*, G. W. Bryant, I. Romero, F. J. García de Abajo, and J. Aizpurua, *Plasmonics: Metallic Nanostructures and their Optical Properties IV*, San Diego, California, USA (2006), edited by M. I. Stockman, Proceedings of SPIE **6323**, 632313 (Bellingham, Washington, 2006)

43.- *Tuneable coupling of surface plasmon-polaritons and Mie plasmons on a planar surface of nanoporous metal*, T. V. Teperik, V. V. Popov, F. J. García de Abajo, and J. J. Baumberg, Physica Status Solidi (c) **2,** 3912-3915 (2005)

42.- *Stopping power and Cherenkov radiation in photonic crystals*, N. Zabala, F. J. García de Abajo, A. Rivacoba, A. G. Pattantyus-Abraham, M. O. Wolf, L. A. Blanco, and P. M. Echenique, Nuclear Instruments and Methods in Physics Research B **230,** 24-30 (2005)

41.- *Total resonant absorption of light by plasmons on the nanoporous surface of a metal*, T. V. Teperik, V. V. Popov, and F. J. García de Abajo, Physics of the Solid State **47,** 178-182 (2005)

40.- *Valence loss mapping in electron microscopy*, A. Howie and F. J. García de Abajo, Microscopy and Microanalysis **10** (Suppl. 2), 266-267 (2004)

39.- *Spontaneous emission enhancement near nanoparticles*, L. A. Blanco and F. J. García de Abajo, Journal of Quantitative Spectroscopy and Radiative Transfer **89,** 37-42 (2004)

38.- *Light scattering in gold nanorings*, J. Aizpurua, L. A. Blanco, P. Hanarp, D. S. Sutherland, M. Käll, G. W. Bryant, and F. J. García de Abajo, Journal of Quantitative Spectroscopy and Radiative Transfer **89,** 11-16 (2004)

37.- *Electromagnetic forces and torques in nanoparticles irradiated by plane waves*, F. J. García de Abajo, Journal of Quantitative Spectroscopy and Radiative Transfer **89,** 3-9 (2004)

36.- *Resonant-coherent excitation of channeled ions*, F. J. García de Abajo and V. H. Ponce, Advances in Quantum Chemistry **46,** 65-89 (2004)

35.- *Electron induced light emission in photonic crystals*, L. A. Blanco and F. J. García de Abajo, Surface Science **532-535,** 611-616 (2003)

34.- *Cherenkov radiation effects in EELS for nanoporous alumina membranes*, N. Zabala, A. Rivacoba, F. J. García de Abajo, and A. G. Pattantyus-Abraham, Surface Science **532-535,** 461-467 (2003)

33.- *X-ray optics, standing waves, and interatomic effects in photoemission and X-ray emission*, C. S. Fadley, S.-H. Yang, B. S. Mun, and F. J. García de Abajo, Chapter 15 in *Solid-State Photoemission and Related Methods: Theory and Experiment*, edited by W. Schattke and M. A. Van Hove (Wiley-VCH, Berlin, 2003), pp. 404-432

32.- *Overview of core and valence photoemission*, W. Schattke, M. A. Van Hove, F. J. García de Abajo, R. Díez Muiño, and N. Mannella, Chapter 2 in *Solid-State Photoemission and Related Methods: Theory and Experiment*, edited by W. Schattke and M. A. Van Hove (Wiley-VCH, Berlin, 2003), pp. 50-115

31.- *Multiple scattering theory of photoelectron angular distributions from oriented diatomic molecules*, R. Díez Muiño, D. Rolles, F. J. García de Abajo, C. S. Fadley, and M. A. Van Hove, Surface Review and Letters **9,** 1213-1217 (2002)

30.- *Multi-atom resonant photoemission*, A. W. Kay, F. J. García de Abajo, S.-H. Yang, E. Arenholz, B. S. Mun, N. Mannella, Z. Hussain, M. A. Van Hove, and C. S. Fadley, Journal of Electron Spectroscopy and Related Phenomena **114-116,** 1179-1189 (2001)

29.- *Elastic scattering of low-energy electrons by randomly oriented and aligned molecules: influence of full non-spherical potentials*, D. Rolles, R. Díez Muiño, F. J. García de Abajo, C. S. Fadley, and M. A. Van Hove, Journal of Electron Spectroscopy and Related Phenomena **114-116,** 107-113 (2001)

28.- *Multiple scattering theory for non-spherical potentials: application to photoelectron angular distributions from oriented diatomic molecules and the study of shape resonances*, R. Díez Muiño, D. Rolles, F. J. García de Abajo, F. Starrost, W. Schattke, C. S. Fadley, and M. A. Van Hove, Journal of Electron Spectroscopy and Related Phenomena **114-116,** 99-105 (2001)

27.- *Circular dichroism in core photoelectron emission from (1×1) oxygen on W(110): experiment and multiple-scattering theory*, R. X. Ynzunza, H. Daimon, F. J. Palomares, E. D. Tober, Z. Wang, F. J. García de Abajo, J. Morais, R. Denecke, J. B. Kortright, Z. Hussain, M. A. Van Hove, and C. S. Fadley, Journal of Electron Spectroscopy and Related Phenomena **106,** 7-28 (2000)

26.- *A new recursive approach to photoelectron diffraction simulation*, F. J. García de Abajo, M. A. Van Hove, and C. S. Fadley, *Theory and Computation of Synchrotron Radiation Spectroscopy*, Frascati, Italy (1999), edited by M. Benfatto, C. R. Natoli, and E. Pace, AIP Conference Proceedings **514**, 123-129 (New York, 2000)

25.- *Multi-atom resonant photoemission*, C. S. Fadley, E. Arenholz, A. W. Kay, F. J. García de Abajo, B. S. Mun, S.-H. Yang, Z. Hussain, and M. A. Van Hove, *X-ray and Inner-Shell Processes*, Chicago, Illinois, USA (1999), edited by R. W. Dunford *et al.*, AIP Conference Proceedings **506**, 251-272 (New York, 2000)

24.- *Localized valence spectroscopy of complex nanostructures*, A. Howie, J. Aizpurua, F. J. García de Abajo, and B. K. Rafferty, Journal of Electron Microscopy **48,** 673-679 (1999)

23.- *Multiple atom resonant photoemission: a new technique for studying near-neighbor atomic identities and bonding*, A. W. Kay, E. Arenholz, B. S. Mun, F. J. García de Abajo, C. S. Fadley, R. Denecke, Z. Hussain, and M. A. Van Hove, Journal of Electron Spectroscopy and Related Phenomena **101-103,** 647-652 (1999)

22.- *Electron spectroscopy from outside - aloof beam or near field?* F. J. García de Abajo and A. Howie, *Electron Microscopy and Analysis Group Conference*, *Institute of Physics Conference Series* **161**, 327-330 (1999)

21.- *Numerical simulation of valence losses in Si/SiO_2 films*, J. Aizpurua, A. Howie, and F. J. García de Abajo, Electron Microscopy **3,** 697-698 (1998)

20.- *Dynamic screening of fast heavy ions in solids*, V. H. Ponce, F. J. Fuhr, J. Díaz Valdés, and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **146,** 11-18 (1998)

19.- *Collective excitations in an infinite set of aligned spheres*, J. Aizpurua, A. Rivacoba, N. Zabala, and F. J. García de Abajo, Surface Science **402-404,** 418-423 (1998)

18.- *Nonlinear effects in the kinetic electron emission induced by slow ions in metals*, J. I. Juaristi, M. Rösler, F. J. García de Abajo, H. Kerkow, and R. Stolle, Nuclear Instruments and Methods in Physics Research B **135,** 487-491 (1998)

17.- *Nonlinear corrections to the image potential of charged particles moving parallel to a metal surface*, A. Bergara, J. M. Pitarke, and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **135,** 97-102 (1998)

16.- *Numerical simulation of valence losses in MgO cubes*, J. Aizpurua, B. Rafferty, F. J. García de Abajo, and A. Howie, *Electron Microscopy and Analysis Group Conference*, *Institute of Physics Conference Series* **153**, 277-280 (1997)

15.- *Dependence of the stopping power on the surface response function*, M. A. Cazalilla and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **125,** 106-109 (1997)

14.- *Electron emission in slow collisions of protons with a LiF-surface*, P. Stracke, F. Wiegershaus, S. Krischok, V. Kempter, P. A. Zeijlmans van Emmichoven, A. Niehaus, and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **125,** 67-70 (1997)

13.- *Ion-induced electron emission from simple metals: charge state effects*, M. Rösler and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **125,** 23-26 (1997)

12.- *Coherent electron emission from high-energy ions in crystals*, F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **125,** 1-6 (1997)

11.- *Resonant-coherent electron emission from channeled ions*, F. J. García de Abajo, *Application of Accelerators in Research and Industry*, Denton, Texas, USA (1996), edited by J. L. Duggan and I. L. Morgan, AIP Conference Proceedings **392**, 15-18 (New York, 1997)

10.- *Spatial dependence of electron-hole pair creation in ion-solid and electron-solid interactions*, F. J. García de Abajo, Scanning Microscopy **10,** 9-32 (1996)

9.- *Impact-parameter dependence of resonant-coherent excitation of channeled ions*, F. J. García de Abajo and P. M. Echenique, Nuclear Instruments and Methods in Physics Research B **115,** 299-305 (1996)

8.- *The role of surface plasmons in ion-induced kinetic electron emission*, F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **98,** 445-449 (1995)

7.- *Dynamic screening of ions in solids*, P. M. Echenique, F. J. García de Abajo, V. H. Ponce, and M. E. Uranga, Nuclear Instruments and Methods in Physics Research B **96,** 583-603 (1995)

6.- *Energy loss in grazing proton-surface collisions*, J. I. Juaristi and F. J. García de Abajo, Nuclear Instruments and Methods in Physics Research B **90,** 252-256 (1994)

5.- *Resonant coherent ionization in grazing ion/atom-surface collisions at high velocities*, F. J. García de Abajo and J. M. Pitarke, Nuclear Instruments and Methods in Physics Research B **90,** 222-226 (1994)

4.- *Ion-induced electron emission in grazing ion-surface collisions*, F. J. García de Abajo and P. M. Echenique, Nuclear Instruments and Methods in Physics Research B **79,** 15-20 (1993)

3.- *Resonant coherent excitation to the continuum in grazing ion-surface collisions*, F. J. García de Abajo, V. H. Ponce, and P. M. Echenique, Journal of Physics: Condensed Matter **5,** A267-A268 (1993)

2.- *Wake potential in the vicinities of a surface*, F. J. García de Abajo and P. M. Echenique, *Interaction of Charged Particles with Solids and Surfaces*, Alicante, Spain (1990), edited by A. Gras-Martí, H. M. Urbassek, N. R. Arista, and F. Flores, *NATO ASI Series B* **271**, 547-556 (Plenum Press, New York, 1991)

1.- *Wake potential and wake binding energy for protons and antiprotons*, F. J. García de Abajo, P. M. Echenique, and R. H. Ritchie, Nuclear Instruments and Methods in Physics Research B **48,** 25-28 (1990)

MISCELLANEOUS

9.- *Special issue "2D materials for nanophotonics"*, F. J. García de Abajo, ACS Photonics **4**, 2959-2961 (2017)

8.- *Focus issue on surface plasmon photonics introduction*, P. Berini, A. Bouhelier, F. J. García de Abajo, and N. Park, Optics Express **21,** 27286-27290 (2013)

7.- *Nanofotónica: control de la luz a escalas nanométricas [In Spanish]*, F. J. García de Abajo, Chapter in *¿Qué es la nanotecnología? Avances, expectativas y riesgos*, edited by Enrique Ortega and Luis Carlos Medina (Colección Poliedro, Cátedra Sánchez-Mazas, 2009), pp. 67-80

6.- *Nanohole arrays enable multiple-point-source imaging*, N. I. Zheludev, F. M. Huang, and F. J. García de Abajo, Laser Focus World **44,** 75-77 (2008)

5.- *Optical properties airing*, F. J. García de Abajo, III-Vs Review **16,** 44-45 (2003)

4.- *Musa, zoria ala jakituria? [In Basque]*, P. Angulo and F. J. García de Abajo, Elhuyar, Zientzia eta Teknika **55,** 54-57 (1992)

3.- *Mankalak [In Basque]*, F. J. García de Abajo and P. Angulo, Elhuyar, Zientzia eta Teknika **48,** 48-52 (1991)

2.- *Toroidal networks for multicomputer systems*, J. Miguel, C. Izu, A. Arruabarrena, F. J. García de Abajo, and R. Beivide, *ISMM International Workshop on Parallel Computing*, Trani, Italy (1991), edited by D. Marino and G. Mastronardi (Acta Press, Anaheim, 1991), pp. 112-116

1.- *Campos magnéticos, torsión de hilos y efecto Seebeck: un experimento para el primer ciclo [In Spanish]*, F. J. García de Abajo and M. J. Tello, Anales de Física B **1,** 20-23 (1987)

COMENTARIES

7.- *Electrons catch light pulses on the fly*, A. Polman and F. J. García de Abajo, Science **383**, 148-149 (2024)

6.- *Comment on "Free-electron-bound-electron resonant interaction"*, F. J. García de Abajo, Physical Review Letters **126**, 019501 (2021)

5.- *Graphene nanophotonics*, F. J. García de Abajo, Science **339,** 917-918 (2013)

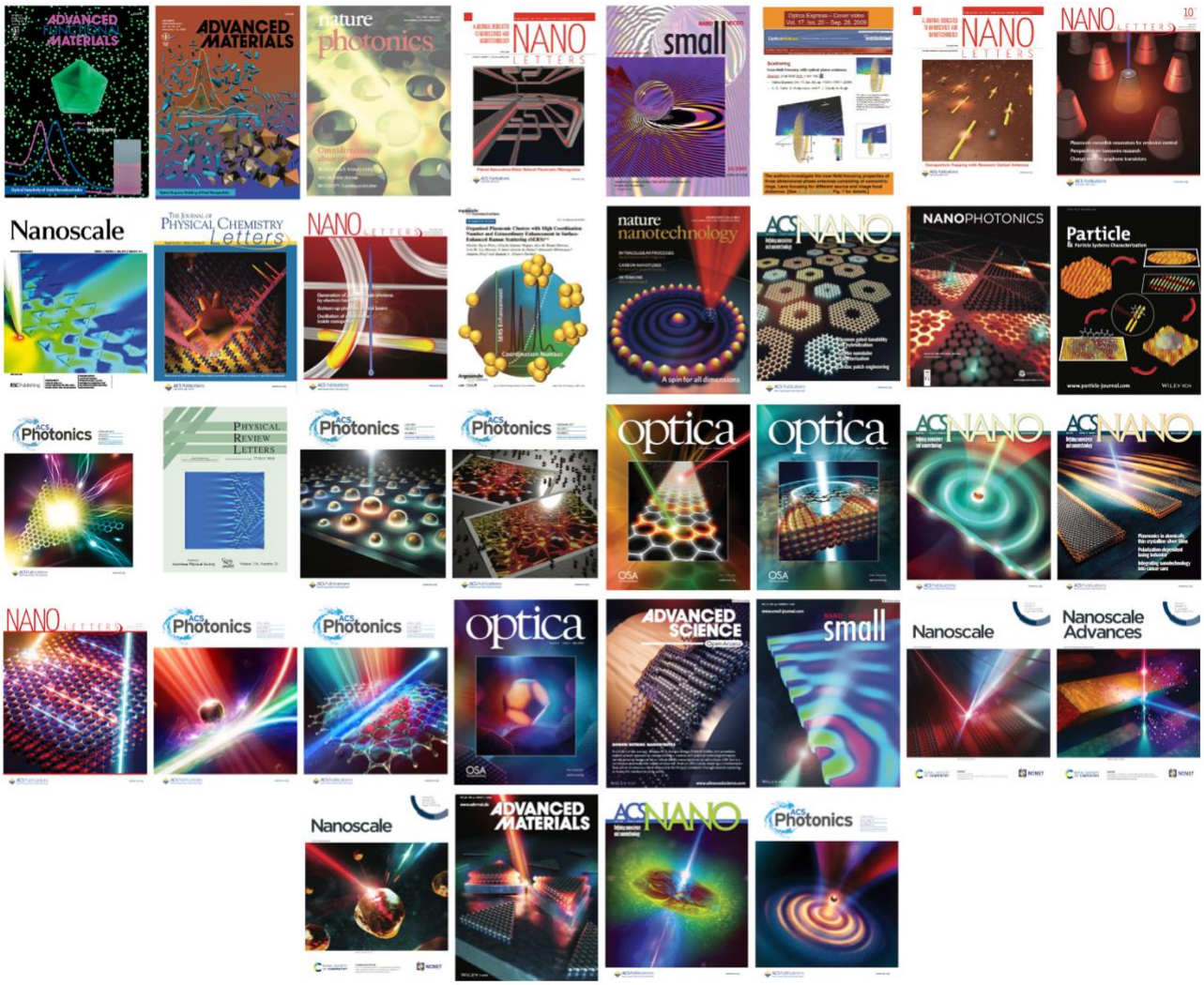
4.- *Plasmons go quantum*, F. J. García de Abajo, Nature **483,** 417-418 (2012)

3.- *Photons and electrons team up*, F. J. García de Abajo, Nature **462,** 861 (2009)

2.- *Seeing without being seen*, F. J. García de Abajo, Physics **2,** 47 (2009)

1.- *Self-assembly works for superlattices*, J. E. Ortega and F. J. García de Abajo, Nature Nanotechnology **2,** 601-602 (2007)

JOURNAL COVER IMAGES



INVITED TALKS

298.- F. J. García de Abajo, *Plasmonics in ultrathin metal films*, MRS Fall Meeting, Symposium EL07–undamental of Plasmonics and Metaphotonics, Boston (Massachusetts, USA), December 2024.

297.- F. J. García de Abajo, *Quantum aspects of the interaction between free electrons, light, and material structures*, MRS Fall Meeting, Symposium CH05–Frontiers of Imaging and Spectroscopy in Transmission Electron Microscopy, Boston (Massachusetts, USA), December 2024.

296.- F. J. García de Abajo, *Quantum interactions between free electrons and confined optical modes*, 5th International Workshop on Quantum and Topological Nanophotonics (QTN), Nanyang Technological University (Singapore), November 2024.

295.- F. J. García de Abajo, *Quantum nanophotonics with free electrons*, Nature Conference on Disruptive Photonics Technologies, Wangzhou (China), November 2024.

294.- F. J. García de Abajo, *Free electrons as a platform to explore quantum physics phenomena*, Workshop on Meta-Optics and Nonlinear Photonics 2024, Nankai University, Tianjin (China), November 2024. **Plenary**.

293.- F. J. García de Abajo, *Toward complete coupling of light to strongly confined polaritons*, SPIE Optics+Photonics, Conference on Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXII, San Diego (California, USA), August 2024.

292.- F. J. García de Abajo, *Quantum optical phenomena in two-dimensional materials*, SPIE Optics+Photonics, Conference on Active Photonic Platforms (APP), San Diego (California, USA), August 2024. **Keynote**.

291.- F. J. García de Abajo, *Nanophotonics in two-dimensional materials*, SPIE Optics+Photonics, Conference on Metamaterials, Metadevices, and Metasystems, San Diego (California, USA), August 2024.

290.- F. J. García de Abajo, *Imaging and sensing based on quantum interactions between free electrons and photonic nanostructures*, SPIE Optics+Photonics, Conference on Enhanced Spectroscopies and Nanoimaging, San Diego (California, USA), August 2024.

289.- F. J. García de Abajo, series of three tutorials: (1) *Plasmonics: Overview and applications*; (2) *Nanophotonics with 2D materials and periodic arrays*; (3) *Free electrons as a powerful tool in nanophotonics: Challenges and opportunities*, Fudan International Summer School for Graduate Students on Optics, Shanghai (China), August 2024.

288.- F. J. García de Abajo, *Ultrafast interactions between free electrons and strongly confined plasmons*, Gordon Research Conference on Plasmonics and Nanophotonics, Sunday River (Maine, USA), July 2024.

287.- F. J. García de Abajo, *Plasmonics in ultrathin metal films*, 5th NanoPlasm Conference, Cetraro (Italy), June 2024.

286.- F. J. García de Abajo, *Free electrons for quantum nanophotonics*, Electrons, Photons, and Plasmons, Nyon (Switzerland), June 2024.

285.- F. J. García de Abajo, *Toward an efficient excitation of 2D polaritons*, Lighting the Way: Empowering Nanophotonics with 2D Semiconductors, Lorentz Center, Leiden (The Netherlands), June 2024.

284.- F. J. García de Abajo, *Quantum interactions of free electrons and confined optical modes*, Polariton Science Conference 2024 (POLIMA), Odense (Denmark), June 2024.

283.- F. J. García de Abajo, *Quantum interactions of free electrons and confined optical modes*, 30th OWTNM Workshop, Kiel (Germany), May 2024.

282.- F. J. García de Abajo, *Quantum interactions between free electrons and photonic nanostructures*, CLEO Special Symposium "Photonics meets free-electron science", Charlotte (North Carolina, USA), May 2024.

281.- F. J. García de Abajo, Hot Topic: *Pushing free-electron ultrafast spectromicroscopy toward the zeptosecond regime*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Chengdu (China), April 2024. **Plenary**.

280.- F. J. García de Abajo, *Quantum light emission by interaction of free electrons with confined optical modes*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Chengdu (China), April 2024. **Keynote**.

279.- F. J. García de Abajo, *Quantum interactions of free electrons and confined optical modes*, Frontiers of Photonics FOP 6, Kumming (China), April 2024. **Keynote**.

278.- F. J. García de Abajo, Tutorial: *Quantum optical phenomena in two-dimensional materials*, Frontiers of Photonics FOP 6, Kumming (China), April 2024. **Plenary**.

277.- F. J. García de Abajo, *Quantum photonics with free electrons: Challenges and opportunities*, International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2024.

276.- F. J. García de Abajo, *Nanophotonics with free electrons*, Electron Beam Spectroscopy for Nanophotonics, Antwerp (Belgium), October 2023.

275.- F. J. García de Abajo, *Nanophotonics in two-dimensional materials*, International Congress on Artificial Materials for Novel Wave Phenomena – Metamaterials, Crete (Greece), September 2023.

274.- F. J. García de Abajo, *Advances toward zeptosecond electron spectromicroscopy*, CDM30 + FisMat 2023, Milano (Italy), September 2023.

273.- F. J. García de Abajo, *Plasmons in atomically thin metals*, SPIE Optics+Photonics, Conference on Plasmonics: Design, Materials, Fabrication, Characterization, and Applications XXI, San Diego (California, USA), August 2023. **Keynote**.

272.- F. J. García de Abajo, *Exploring the limits to spatially resolved optical spectroscopy with free electrons*, SPIE Optics+Photonics, Conference on Enhanced Spectroscopies and Nanoimaging, San Diego (California, USA), August 2023. **Keynote**.

271.- F. J. García de Abajo, *Generation of single and entangled-pair polaritons*, SPIE Optics+Photonics, Conference on Quantum Nanophotonic Materials, Devices, and Systems, San Diego (California, USA), August 2023.

270.- F. J. García de Abajo, *Two-dimensional materials for nanophotonics*, SPIE Optics+Photonics, Conference on Metamaterials, Metadevices, and Metasystems, San Diego (California, USA), August 2023.

269.- F. J. García de Abajo, *Two-dimensional materials for nanophotonics*, OMN+SBFoton Conference, Campinas (Brazil), July 2023. **Plenary**.

268.- F. J. García de Abajo, *Free electrons for infrared nanophotonics*, Microscopy & Microanalysis, Minneapolis (Minnesota, USA), July 2023.

267.- F. J. García de Abajo, *Quantum optical phenomena in two-dimensional materials*, International Conference on Metamaterials META, Paris (France), July 2023. **Keynote**.

266.- F. J. García de Abajo, *Quantum confinement effects in atomic-scale polaritons*, International Conference on Metamaterials META, Paris (France), July 2023.

265.- F. J. García de Abajo, *Nanophotonics in two-dimensional materials*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Prague (Czech Republic), July 2023. **Keynote**.

264.- F. J. García de Abajo, *Free electrons for infrared nanophotonics*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Prague (Czech Republic), July 2023.

263.- F. J. García de Abajo, *Two-dimensional materials for polaritonics*, Dinamo 2023, Svolvær (Norway), June 2023.

262.- F. J. García de Abajo, *Quantum optical phenomena in two-dimensional materials*, Surface-Plasmon Photonics SPP10, Houston (Texas, USA), May 2023.

261.- F. J. García de Abajo, *Nanophotonics with free electrons*, NanoSpain, Tarragona (Spain), April 2023. **Keynote**.

260.- F. J. García de Abajo, *An approach towards spatiotemporal electron beam focusing*, 6th Workshop on Applications of Dielectric Laser Accelerators, Stanford University (California, USA), February 2023.

259.- F. J. García de Abajo, *Challenges and opportunities in 2D polaritonics*, Frontiers in Optics + Laser Science 2022 (virtual meeting, Rochester (New York, USA), October 2022.

258.- F. J. García de Abajo, *Quantum optical phenomena in 2D material heterostructures*, WE-Heraeus Foundation Seminar on 2D Materials and Hybrids: Hybrid Quasiparticles in Quantum Materials, Bad Honef (Germany), September 2022.

257.- F. J. García de Abajo, *Polaritonics with atomically thin materials: Challenges and opportunities*, International Congress on Engineered Material Platforms for Novel Wave Phenomena, Siena (Italy), September 2022.

256.- F. J. García de Abajo, *Photonics with atomically-thin materials*, SPIE Optics+Photonics, Conference on Active Photonic Platforms (APP), San Diego (California, USA), August 2022. **Keynote**.

255.- F. J. García de Abajo, *Solving the in/out-coupling problem in strongly-confined polaritonics*, SPIE Optics+Photonics, Conference on Low-Dimensional Materials and Devices, San Diego (California, USA), August 2022. **Keynote**.

254.- F. J. García de Abajo, *Quantum interactions enable a new generation of low-dimensional materials*, SPIE Optics+Photonics, Conference on Metamaterials, Metadevices, and Metasystems, San Diego (California, USA), August 2022.

253.- F. J. García de Abajo, *Atomically thin polaritonics: Challenges and opportunities*, EPS Symposium on the Third Generation Metamaterials 3.1, Cetraro (Italy), August 2022.

252.- F. J. García de Abajo, *Optical theorems, sum rules, and nanophotonics with point dipoles*, MOLE Conference 2022, San Sebastian (Spain), July 2022.

251.- F. J. García de Abajo, *New directions in the design of atomically thin materials*, International Conference on Metamaterials, Photonic Crystals and Plasmonics META (virtual meeting), Torremolinos (Spain), July 2022. **Keynote**.

250.- F. J. García de Abajo, *Leveraging free-electron wave functions to image and manipulate ultraconfined optical excitations*, AMOLF Summerschool, Amsterdam (The Netherlands), July 2022.

247.- F. J. García de Abajo, *Quantum and classical effects in the interaction of electron beams with optical excitations*, WE-Heraeus Foundation Seminar on Quantum Electron Optics, Nahsholim (Israel), June 2022.

248.- F. J. García de Abajo, *Atomically thin polaritonics: Challenges and opportunities*, 4th NanoPlasm Conference, Cetraro (Italy), June 2022. **Keynote**.

247.- F. J. García de Abajo, *Atomically thin polaritonics: Challenges and opportunities*, Nanophoton Conference: Fundamentals and applications of semiconductor nanocavities, Rungsted Kyst (Denmark), June 2022.

246.- F. J. García de Abajo, *Novel electromagnetic effects in moving media*, CLEO (virtual meeting), San Jose (California, USA), May 2022.

245.- F. J. García de Abajo, *Quantum aspects of the interaction between free electrons, light, and photonic nanostructures*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS) (virtual meeting), Hangzhou (China), April 2022. **Keynote**.

244.- F. J. García de Abajo, *Integration of free electrons in nanophotonics*, 4th International Workshop on Quantum and Topological Nanophotonics, NTU (Singapore), April 2022.

243.- F. J. García de Abajo, *Quantum aspects of the interaction between free electrons, light, and photonic nanostructures*, SPIE Optics + Optoelectronics, Conference on Advances in Ultrafast Condensed Phase Physics III, Strasbourg (France), April 2022.

242.- F. J. García de Abajo, *Quantum and classical effects in the interaction of electron beams with optical excitations*, International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), March 2022.

241.- F. J. García de Abajo, *Quantum optics with free electrons*, Nanolight, Benasque (Spain), March 2022.

240.- F. J. García de Abajo, *Towards complete optical coupling to localized optical modes*, MRS Fall Meeting, Symposium EQ16: Metasurfaces and Metaplatforms for Infrared (virtual meeting), Boston (Massachusetts, USA), December 2021.

239.- F. J. García de Abajo, *Control of light at the atomic scale: Fundamentals and applications*, ImagineNano, Bilbao (Spain), November 2021. **Keynote**.

238.- F. J. García de Abajo, *Complete coupling of light to ultra- confined optical modes using dielectric resonators*, METANANO 2021 (virtual meeting) (ITMO, Russia), September 2021. **Keynote**.

237.- F. J. García de Abajo, *Optical excitations with electron beams: Challenges and opportunities*, METANANO 2021 (virtual meeting) (ITMO, Russia), September 2021.

236.- F. J. García de Abajo, *Quantum interactions between free electrons and metamaterials*, SPIE Optics+Photonics (virtual meeting), San Diego (California, USA), August 2021.

235.- F. J. García de Abajo, *Nanophotonics with two-dimensional materials*, 11th International Conference on Metamaterials META 2021 (virtual meeting), Warsaw (Poland), July 2021. **Keynote**.

234.- F. J. García de Abajo, *Two-dimensional materials for the control of light at the nanoscale*, Optical Society of America Advanced Photonics Congress Summer School (virtual meeting) (Canada), July 2021.

233.- F. J. García de Abajo, *Quantum interactions between free electrons and metamaterials*, METANANO Summer School on Photonics 2D Materials (virtual meeting) (ITMO, Russia), July 2021.

232.- F. J. García de Abajo, *Control of light at the atomic scale*, Electromagnetic and Light Scattering Conference Online (ELS-XIX) (Russia), July 2021.

231.- F. J. García de Abajo, *Control of light at the atomic scale*, Photonics Ireland Conference (virtual meeting), Dublin (Ireland), June 2021.

230.- F. J. García de Abajo, *Quantum interactions between free electrons and optical excitations*, Spintronics Photonics Phononics Magneto-Optics (SPPM) Online International Conference (Spain), June 2021. **Keynote**.

229.- F. J. García de Abajo, *Luz y electrones en la exploración de nuevos materiales*, Cátedra Julio Palacios, Fundación Areces (virtual meeting) (Spain), April 2021.

228.- F. J. García de Abajo, *Optical excitations with free electrons: Challenges and opportunities*, Electrons, Photons and Plasmons (virtual meeting), Lausanne (Switzerland), March 2021.

227.- F. J. García de Abajo, *Control of light at the atomic scale: Fundamentals and applications*, ImagineNano (virtual meeting), Bilbao (Spain), September 2020. **Keynote**.

226.- F. J. García de Abajo, *Control of light at the atomic scale: Fundamentals and applications*, Metamaterials (virtual meeting), New York (New York, USA), September 2020.

225.- F. J. García de Abajo, *Probing and generation of high harmonics with electron beams*, CMD2020GEFES (virtual meeting) (Spain), August 2020.

224.- F. J. García de Abajo, *Quantum aspects of electron-light-plasmons interactions at the atomic scale*, Microscopy & Microanalysis (virtual meeting), Milwaukee (Winsconsin, USA), August 2020.

223.- F. J. García de Abajo, *Quantum effects in the interaction between free-electrons and optical near fields*, Nanolight, Benasque (Spain), March 2020.

222.- F. J. García de Abajo, *Quantum aspects of electron-light-plasmons interactions at the atomic scale*, 3rd Workshop on Theoretical and Numerical Tools for Nanophotonics TNTN, Berlin (Germany), February 2020.

221.- F. J. García de Abajo, *Quantum aspects of free-electron interactions with nanophotonic structures*, 3rd International Workshop on Quantum and Topological Nanophotonics, NTU (Singapore), December 2019.

220.- F. J. García de Abajo, *Control of light at the atomic scale: Fundamentals and applications*, 15th Nanoscience and Nanotechnology Conference NANOTR-15, Antalya (Turkey), November 2019. **Plenary**.

219.- F. J. García de Abajo, *Plasmonics in two-dimensional crystals*, SPIE Photonics Asia, Conference 10028, Hangzhou (China), October 2019. **Keynote**.

218.- F. J. García de Abajo, *Quantum aspects of the interaction between beam electrons and optical near fields*, Time Domain Control of Atomic Shell for Nuclear Excitation, Lerici (Italy), October 2019.

217.- F. J. García de Abajo, *Control of light at the atomic scale*, Trends in Nanotechnology TNT, San Sebastian (Spain), October 2019. **Keynote**.

216.- F. J. García de Abajo, *Fundamental concepts, applications, and current topics in plasmonics*, HICONO, Barcelona (Spain), September 2019.

215.- F. J. García de Abajo, *Quantum aspects of the interaction between beam electrons and optical near fields*, HICONO, Barcelona (Spain), September 2019. **Invited Tutorial**

214.- F. J. García de Abajo, *Plasmonics in two dimensional crystals*, International School and Workshop on 2D Crystals and Photonics, Tbilisi (Georgia), September 2019.

213.- F. J. García de Abajo, *Control of light at the atomic scale: Fundamentals and Applications*, Days of Optics & Photonics, Karlsruhe (Germany), September 2019.

212.- F. J. García de Abajo, *Plasmonics in two-dimensional crystals*, SPIE Optics+Photonics, San Diego (California, USA), August 2019. **Keynote**.

211.- F. J. García de Abajo and E. J. C. Dias, *Complete coupling from a single photon to an ultraconfined plasmon*, SPIE Optics+Photonics, San Diego (California, USA), August 2019.

210.- F. J. García de Abajo, *Optimizing the coupling between electron beams and optical fields*, StEM Workshop, Ringberg Castell, Tegernsee Lake (Germany), July 2019.

209.- F. J. García de Abajo, *Quantum aspects of the interaction between beam electrons and optical near fields*, Q-SORT, Erlangen (Germany), July 2019. **Keynote**.

208.- F. J. García de Abajo, *Ultrafast plasmonics at the atomic scale*, International Conference on Materials and Advanced Technologies ICMAT 2019, Symposium RR, Singapore, June 2019.

207.- F. J. García de Abajo, *Two-dimensional plasmonics in atomically thin materials*, International Conference on Materials and Advanced Technologies ICMAT 2019, Symposium D, Singapore, June 2019. **Keynote**.

206.- F. J. García de Abajo, *Plasmonics in two-dimensional crystals*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Rome (Italy), June 2019. **Keynote**.

205.- F. J. García de Abajo, *Analog computing with physical probes*, International Work-Conference on Artificial Neural Networks, Gran Canaria (Spain), June 2019.

204.- F. J. García de Abajo, *Plasmonics in atomically-thin materials*, Ultrafast Surface Dynamics USD11, Qiandao Lake (China), June 2019.

203.- F. J. García de Abajo, *Plasmonics in two-dimensional crystals*, Surface Plasmon Photonics SPP9, Copenhagen (Denmark), May 2019.

202.- F. J. García de Abajo, *Controlling free-electron wave functions with nanostructured optical fields*, 5th Conference on Frontiers of Aberration Corrected Electron Microscopy, Kasteel Vaalsbroek (The Netherlands), May 2019.

201.- F. J. García de Abajo, *Plasmonics in two-dimensional crystals*, CLEO, San Jose (California, USA), May 2019. **Invited Tutorial**.

200.- F. J. García de Abajo, *2D polaritonics: fundamental limits and prospects for applications*, SPIE Optics + Optoelectronics, Conference on Integrated Optics, Prague (Czech Republic), April 2019.

199.- F. J. García de Abajo, *Plasmonics in atomically thin materials*, Ultrafast Quantum Phenomena on the Nanoscale, Bad Honnef (Germany), March 2019.

198.- F. J. García de Abajo, *Controlling light at the atomic scale with 2D polaritons*, 46th Conference on the Physics and Chemistry of Surfaces and Interfaces (PCSI-46), Santa Fe (New Mexico, USA), January 2019.

197.- F. J. García de Abajo, *2D plasmonics in atomically thin materials*, PQE, Snowbird (Utah, USA), January 2019.

196.- F. J. García de Abajo, *Control of light at the atomic scale: fundamentals and applications*, International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2019. **Plenary**.

195.- F. J. García de Abajo, *Steering the wave function of free electrons with light*, Frontiers in Quantum Control of Free-Space Electrons, Sausalito (California, USA), November 2018.

194.- F. J. García de Abajo, *Collective optical excitations in 2D materials*, Optical Scanning Probe Microscopy of Quantum Materials, Harvard University, Cambridge (Massachusetts, USA), October 2018.

193.- F. J. García de Abajo, *Graphene plasmonics*, Nanophotonics and Micro/Nano Optics International Conference (NANOP), Rome (Italy), October 2018. **Plenary**.

192.- F. J. García de Abajo, *Graphene plasmonics*, Spanish Conference on Nanophotonics, San Sebastian (Spain), October 2018. **Keynote**.

191.- F. J. García de Abajo, *Quantum physics with plasmons in graphene and other atomic-scale systems*, METANANO, Sochi (Russia), September 2018. **Plenary**.

190.- F. J. García de Abajo, *Controlling light at the atomic scale*, Near-Field Optics, Troyes (France), August 2018. **Plenary**.

189.- F. J. García de Abajo, *Materials based on graphene and other atomic-scale systems*, SPIE Optics+Photonics, San Diego (California, USA), August 2018.

188.- F. J. García de Abajo, *Toward atomic-scale metamaterials*, International Multidisciplinary Conference on Optofluidics (IMCO), Shanghai (China), August 2018. **Keynote**.

187.- F. J. García de Abajo, *Quantum physics with plasmons in graphene and other atomic-scale systems*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Toyama (Japan), August 2018. **Keynote**.

186.- F. J. García de Abajo, *Quantum aspects of plasmons in graphene and other atomic-scale systems*, International Conference on Low-Energy Electromagnetics in Solids (LEES), Portonovo (Italy), June 2018.

185.- F. J. García de Abajo, *Quantum physics with plasmons in atomic-scale systems*, International Symposium on Plasmonics and Nanophotonics iSPN, Hangzhou (China), May 2018. **Keynote**.

184.- F. J. García de Abajo, *Ultrafast processes triggered by plasmon fluctuations*, Workshop on Fluctuation-Induced Phenomena in Complex Systems, Bad Honnef (Germany), May 2018.

183.- F. J. García de Abajo, *Collective optical modes at the atomic scale*, Spanish Network for 2D Metamaterials, Madrid (Spain), April 2018.

182.- F. J. García de Abajo, *Quantum physics with plasmons in graphene and other atomic-scale systems*, XXVI International Workshop on Optical Wave & Waveguide Theory and Numerical Modelling, Bad Sassendorf (Germany), April 2018.

180.- F. J. García de Abajo, *Fundamentals and applications of atomic-scale optical excitations*, Nanolight, Benasque (Spain), March 2018.

179.- F. J. García de Abajo, *Plasmons at the atomic scale*, MRS Fall Meeting, Symposium EM3: Novel Materials and Architectures for Plasmonics, Boston (Massachusetts, USA), November 2017.

178.- F. J. García de Abajo, *Controlling Light at the Atomic Scale*, COMP Seminar, Aalto University, Helsinki (Finland), September 2017.

177.- F. J. García de Abajo, *Theoretical description of the interaction between electron beams and plasmonic nanostructures*, 16th International Conference on the Frontiers of ElectronMicroscopy in Materials Science FEMMS, Johannesburg (South Africa), September 2017.

176.- F. J. García de Abajo, *Graphene plasmonics*, Summer School on Plasmonics SSOP4, Porquerolles (France), September 2017.

175.- F. J. García de Abajo, *Ultrafast and quantum phenomena with graphene plasmons*, Metamaterials, Marseille (France), August 2017.

174.- F. J. García de Abajo, *Ultrafast plasmonic processes in atomically thin materials*, Quantum Nanophotonics, Monte Verità (Switzerland), August 2017.

173.- F. J. García de Abajo, *Controlling light at the atomic scale*, SPIE Optics+Photonics, San Diego, (California, USA), August 2017. **Plenary**.

172.- F. J. García de Abajo, *Quantum phenomena with graphene plasmons*, SPIE Optics+Photonics, San Diego, (California, USA), August 2017.

171.- F. J. García de Abajo, *Ultrafast phenomena in 2D materials*, Nanophotonics of 2D Materials and Devices, San Sebastian (Spain), August 2017.

170.- F. J. García de Abajo, *Plasmons in atomic-scale structures*, International Conference on Transparent Optical Networks (ICTON), Girona (Spain), July 2017.

169.- F. J. García de Abajo, *2-hour tutorial on Plasmonics and Graphene Nanophotonics*, Graphene Study, Gothenburg (Sweden), June 2017.

168.- F. J. García de Abajo, *Plasmonics with atomically thin materials*, CLEO Europe 2017, Munich (Germany), June 2017. **Invited Tutorial**.

167.- F. J. García de Abajo, *Intrinsic and extrinsic quantum phenomena with atomically thin structures*, International Conference on Materials and Advanced Technologies ICMAT 2017, Symposium W, Singapore, June 2017. **Keynote**.

166.- F. J. García de Abajo, *Ultrafast and quantum phenomena with graphene*, Electron Microscopy with High Temporal Resolution (EMTHR), Strasbourg (France), May 2017.

165.- F. J. García de Abajo, *Ultrafast and quantum phenomena with graphene*, Progress in Electromagnetics Research Symposium (PIERS), St. Petersburg (Russia), May 2017. **Keynote**.

164.- F. J. García de Abajo, *Plasmon resonances at the atomic scale: from 2D materials to small molecules*, IEEE NEMO International Conference, Seville (Spain), May 2017. **Plenary**.

163.- F. J. García de Abajo, *Ultrafast and quantum optical processes in atomically thin materials*, APS March Meeting, New Orleans (Missouri, USA), March 2017. **Invited Tutorial**.

162.- F. J. García de Abajo, *Ultrafast plasmonic processes in atomically thin materials*, International Workshop on Emerging Applications of Optical Nanostructures, Tel Aviv (Israel), February 2017.

161.- F. J. García de Abajo, *Challenges and opportunities in deep-subwavelength nanoplasmonics*, PQE, Snowbird (Utah, USA), January 2017.

160.- F. J. García de Abajo, *Ultrafast nanophotonic phenomena using graphene*, International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2017.

159.- F. J. García de Abajo, *Quantum phenomena in graphene*, 1st International Workshop on Quantum and Topological Nanophotonics QTN, Singapore, December 2016.

158.- F. J. García de Abajo, *Ultrafast nanophotonic phenomena in nanographenes*, International Workshop on Atomic Physics 2016, Dresden (Germany), November 2016.

157.- F. J. García de Abajo, *Exploiting electron-light interaction in electron microscopy and spectroscopy*, Workshop on Scientific Directions for Future Transmission Electron Microscopy, Jülich (Germany), October 2016.

156.- F. J. García de Abajo, *Quantum optics with graphene plasmons*, SPIE Photonics Asia, Conference 10028, Beijing (China), October 2016.

155.- F. J. García de Abajo, *Recent advances in graphene nanophotonics*, Nanoscience and Nanotechnology N&N 2016, Frascati (Italy), September 2016.

154.- F. J. García de Abajo, *Nanophotonics at the atomic scale*, Workshop on Quantum Materials and Quantum Technologies, Braga (Portugal), September 2016.

153.- F. J. García de Abajo, *Graphene plasmons, quantum emitters, and light modulation at the nanoscale*, Quantum Theory of Nanoparticle Plasmons QTNP, Berlin (Germany), September 2016.

152.- F. J. García de Abajo, *Quantum optics with graphene plasmons*, SPIE Optics+Photonics, Conference 9918, San Diego (California, USA), August 2016. **Keynote**.

151.- F. J. García de Abajo, *Recent advances in graphene nanophotonics*, Quantum Plasmonics Workshop QUPLA, London (UK), August 2016.

150.- F. J. García de Abajo, *Graphene nanophotonics*, Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Shanghai (China), August 2016. **Keynote**.

149.- F. J. García de Abajo, *Graphene nanophotonics*, International Symposium on Photonic and Electromagnetic Crystal Structures PECS XII, York (UK), July 2016.

148.- F. J. García de Abajo, *Nanophotonics in 2D and atomic-scale materials*, 7th International Conference on Metamaterials META'16, Málaga (Spain), July 2016. **Keynote**.

147.- F. J. García de Abajo, *Photonless 2D plasmonics*, Gordon Research Conference on Plasmonics, Sunday River (Maine, USA), July 2016.

146- F. J. García de Abajo, *Quantum plasmonics with electron beams,* Journées de spectroscopie de pertes d'énergie des électrons (JEELS), Tarragona (Spain), June 2016.

145- F. J. García de Abajo, *Graphene nanophotonics,* Sping Workshop on Ultrafast Phenomena at Nanostructures, Les Houches (France), May 2016.

144.- F. J. García de Abajo, *Sensing with graphene and atomic-scale materials,* Nanoscience with Nanocrystals NaNaX 7, Marburg (Germany), April 2016.

143.- F. J. García de Abajo, *Graphene nanophotonics,* Frontiers of Plasmonics FOP 4, Hefei (China), April 2016.

142.- F. J. García de Abajo, *Graphene metamaterials,* Open Readings 2016, OSA Student Chapter, Vilnius (Lithuania), March 2016.

141.- F. J. García de Abajo, *Plasmons in atomic-scale systems,* Nanolight, Benasque (Spain), March 2016.

140.- F. J. García de Abajo, *Quantum plasmonics with free electrons,* APS March Meeting, American Physical Society, Baltimore (Maryland, USA), March 2016.

139.- F. J. García de Abajo, *Quantum plasmonics with free electrons,* Imaging with Femtosecond Electron and X-ray Pulses IFEXS, Trieste (Italy), February 2016.

138.- F. J. García de Abajo, *Graphene nanophotonics,* MRS Fall Meeting, Symposium HH: Optical Metamaterials, Boston (Massachusetts, USA), December 2015.

137.- F. J. García de Abajo, *Graphene photonics,* EPFL Photonics Day, Lausanne (Switzerland), November 2015.

136.- F. J. García de Abajo, *Graphene photonics,* Inaugural Workshop for Purdue Quantum Center, Purdue (Indiana, USA), October 2015.

135.- F. J. García de Abajo, *Graphene plasmonics,* 4th International Workshop on Ultrafast Nanooptics UNO-4, Bad Dürkheim (Germany), October 2015.

134.- F. J. García de Abajo, *Graphene nanophotonics,* Advances in Optoelectronics and Micro/nano-optics AOM2015, Hangzhou (China), October 2015. **Keynote**.

133.- F. J. García de Abajo, *Pushing nanophotonics down to the atomic scale,* Optical Technical for Society, British Council-CSIC, Madrid (Spain), October 2015. **Keynote**.

132.- F. J. García de Abajo, *Plasmons in nanographene and other atomic scale systems,* Nanoscale Assemblies of Semiconductor Nanocrystals NANOSA15, Dresden (Germany), August 2015.

131.- F. J. García de Abajo, *Plasmonics: An overview and some new trends (2 lectures),* Complex Photonics, International School of Physics "Enrico Fermi", Varenna (Italy), July 2015.

130.- F. J. García de Abajo, *Plasmons in graphene and other atomic-scale structures,* International Conference on Materials and Advanced Technologies ICMAT 2015, Symposium K, Singapore, July 2015. **Keynote**.

129.- F. J. García de Abajo, *Modulation of tunable plasmons and their applications,* International Conference on Materials and Advanced Technologies ICMAT 2015, Symposium F, Singapore, July 2015.

128.- F. J. García de Abajo, *Graphene Nanophotonics,* Progress in Electromagnetic Research Symposium Progress in Electromagnetics Research Symposium (PIERS), Symposium F, Prague (Czech Republic), July 2015. **Keynote**.

127.- F. J. García de Abajo, *Graphene nanophotonics,* CLEO Europe, Munich (Germany), June 2015.

126.- F. J. García de Abajo, *Optical sensing and light modulation with atomic scale systems,* Surface Plasmon Photonics SPP7, Jerusalem (Israel), June 2015.

125.- F. J. García de Abajo, *Electron beam decoherence produced by thermal fluctuations,* MRS Spring Meeting, Symposium ZZ: Materials Information with Electron Microscopy, San Francisco (California, USA), April 2015.

124.- F. J. García de Abajo, *Graphene nanophotonics,* 1st International Conference of ICQP, Wuhan (China), March 2015.

123.- F. J. García de Abajo, *Plasmons in graphene and other atomic scale systems,* ImagineNano, Bilbao (Spain), March 2015. **Keynote**.

122.- F. J. García de Abajo, *Plasmons in graphene and other atomic scale systems,* International Winterschool on Electronic Properties of Novel Materials IWEPNM, Kichberg in Tirol (Austria), March 2015.

121.- F. J. García de Abajo, *Inelastic effects on the lateral wave function of electron beams*, Deutsche Physikalische Gesellschaft (DPG), Symposium on Interactions between Twisted Light and Particles, Heidelberg (Germany), March 2015.

120.- F. J. García de Abajo, *Electromagnetic simulations for plasmonics*, Electromagnetic and Light Scattering ELS XV, Leipzig (Germany), June 2015. **Review talk**.

119.- F. J. García de Abajo, *Plasmons in nanographene and other atomic scale systems (2 lectures)*, WinsCool, EPFL-ETH School, Champery (Switzerland), March 2015.

118.- F. J. García de Abajo, *Plasmons in atomic-scale structures*, Faraday Discussion 178, London (UK), February 2015.

117.- F. J. García de Abajo, *The limits of field enhancement in nanoplasmonic optical sensing*, SPIE Photonics West, Conference 9338, San Francisco (California, USA), February 2015.

116.- F. J. García de Abajo, *Ultrafast plasmon dynamics in graphene*, SPIE Photonics West, Conference 9363, San Francisco (California, USA), February 2015.

115.- F. J. García de Abajo, *Extreme plasmonics in atomic-scale structures*, International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2015.

114.- F. J. García de Abajo, *Controlling the optical near field with atomic-scale structures*, MRS Fall Meeting, Symposium L: Optical Metamaterials, Boston (Massachusetts, USA), December 2014.

113.- F. J. García de Abajo, *Plasmons in atomically thin materials*, SPIE Photonics Asia, Conference 9278, Beijing (China), October 2014.

112.- F. J. García de Abajo, *Extreme plasmonics in atomically thin materials*, 30th Panhellenic Conference on Solid-State Physics and Materials Science, Heraklion (Crete), September 2014. **Plenary**.

111.- F. J. García de Abajo, *Extreme plasmonics in atomic-scale materials*, EOSAM - TOM 5, Berlin (Germany), September 2014.

110.- F. J. García de Abajo, *Optical modes in atomically thin materials*, European Conference on Surface Science 30, Antalya (Turkey), August 2014. **Keynote**.

109.- F. J. García de Abajo, *Advances in graphene metamaterials*, Metamaterials, Copenhagen (Denmark), August 2014. **Plenary**.

108.- F. J. García de Abajo, *Extreme plasmonics in atomically thin materials*, SPIE Optics+Photonics, Conference 9160, San Diego (California, USA), August 2014. **Keynote**.

107.- F. J. García de Abajo, *Quantum aspects of the interaction between fast electrons and plasmons*, Condensed Matter in Paris, Paris (France), August 2014.

106.- F. J. García de Abajo, *Extreme plasmonics in atomic-scale materials*, XXIII International Materials Research Congress, Cancún (Mexico), August 2014.

105.- F. J. García de Abajo, *Intensity and coherence in electron microscopy*, Holography Workshop, Dresden (Germany), June 2014.

104.- F. J. García de Abajo, *Extreme plasmonics in atomically thin materials*, Days on Diffraction, St. Petersburg (Russia), May 2014. **Plenary**.

103.- F. J. García de Abajo, *Extreme plasmonics in atomically thin materials*, International Symposium on Photonic and Electromagnetic Crystal Structures PECS XI, Shanghai (China), May 2014.

102.- F. J. García de Abajo, *Extreme plasmonics in atomically thin materials*, Conferencia Española de Nanofotónica, Santander (Spain), May 2014. **Keynote**.

101.- F. J. García de Abajo, *Plasmons in low dimensional structures*, Workshop on Optical Plasmonic Materials, Belin (Germany), March 2014.

100.- F. J. García de Abajo, *Plasmons in low-dimensional structures*, Nanolight, Benasque (Spain), March 2014.

99.- F. J. García de Abajo, *Vacuum and thermal friction in rotating particles*, PQE, Snowbird (Utah, USA), January 2014.

98.- F. J. García de Abajo, *Plasmons in low dimensional structures*, QSS-Asia, Tokyo (Japan), November 2013. **Plenary**.

97.- F. J. García de Abajo, *Plasmon excitations in nanostructured graphene and graphene-related molecules*, ISNTT, Atsugi (Japan), November 2013.

96.- F. J. García de Abajo, *Graphene plasmonics: Challenges and Opportunities*, ACSIN-12, Tsukuba (Japan), November 2013.

95.- F. J. García de Abajo, *Plasmons in low dimensional structures,* MediNano, Lyon (France), October 2013.

94.- F. J. García de Abajo, *Graphene plasmonics and graphene-based metamaterials,* Metamaterials, Bordeaux (France), September 2013. **Keynote**.

93.- F. J. García de Abajo, *Graphene plasmonics,* HIOS-YRW, Brandersburg (Germany), September 2013.

92.- F. J. García de Abajo, *Graphene metamaterials,* Optics+Photonics, Conference 8806, San Diego (California, USA), August 2013.

91.- F. J. García de Abajo, *Classical and quantum effects in graphene plasmonics,* Optics+Photonics, Conference 8809, San Diego (California, USA), August 2013. **Keynote**.

90.- F. J. García de Abajo, *Plasmons in graphene and graphene-based molecules,* 3rd International Workshop on Ultrafast Nanooptics UNO-3, Bad Dürkheim (Germany), June 2013.

89.- F. J. García de Abajo, *Plasmons in low-dimensional structures,* ICONO-13, Moscow (Russia), June 2013.

88.- F. J. García de Abajo, *Current trends in graphene plasmonics,* FLAMN-13, St. Petersburg (Russia), June 2013.

87.- F. J. García de Abajo, *Graphene plasmonics,* CLEO, San Jose (California, USA), June 2013.

86.- F. J. García de Abajo, *Interaction of fast electrons with nanomaterials,* International Electron Energy Loss Spectroscopy Meeting on Enhanced Data Generated by Electrons EDGE 2013, St. Maxime (France), May 2013.

85.- F. J. García de Abajo, *Graphene plasmonics,* Extreme Photonics & Quantum Photonics Summer School, Ottawa (Canada), May 2013.

84.- F. J. García de Abajo, *Plasmons in low-dimensional structures,* NanoWal, Wallonia Network for Nanotechnology, Namur (Belgium), April 2013.

83.- F. J. García de Abajo, *Control de la luz a escalas nanométricas,* Materials Week, Madrid (Spain), April 2013. Opening conference.

82.- F. J. García de Abajo, *Quantum effects in graphene plasmons,* Optical Fiber Communication Conference and Exposition (OFC/NFOEC), Anaheim (California, USA), March 2013.

81.- F. J. García de Abajo, *Classical and quantum effects in graphene plasmonics,* Graphene Nanophotonics, Benasque (Spain), March 2013.

80.- F. J. García de Abajo, *Graphene Plasmonics,* International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2013.

79.- F. J. García de Abajo, *Graphene plasmonics,* Dwek School on Nanophotonics, Weizmann Inst. of Science (Israel), December 2012. **Keynote**.

78.- F. J. García de Abajo, *Electron energy-loss spectroscopy,* Dwek School on Nanophotonics, Weizmann Inst. of Science (Israel), December 2012.

77.- F. J. García de Abajo, *Graphene plasmonics,* Metallic Nano-Objects: From Fundamentals to Applications, Saint Etienne (France), November 2012. **Plenary**.

76.- F. J. García de Abajo, *Control of light with graphene plasmons,* Croucher Advanced Study Institute on New Materials and New Concepts for Controlling Light and Waves, Hong Kong, October 2012. **Keynote**.

75.- F. J. García de Abajo, *Graphene plasmonics,* Trends in Nanotechnology TNT 2012, Madrid (Spain), September 2012.

74.- F. J. García de Abajo, *Graphene plasmonics: An atomically thin look into,* Near Field Optics NFO 2012, San Sebatián (Spain), September 2012.

73.- F. J. García de Abajo, *Graphene plasmonics,* Microchip Plasmonics, Erlangen (Germany), August 2012.

72.- F. J. García de Abajo and V. Myroshnychenko *Probing metal nanoparticles via cathodoluminescence, electron enegy-loss, and optical spectroscopies,* SPIE Optics+Photonics, Conference 8463, San Diego (California, USA), August 2012.

71.- F. J. García de Abajo, S. Thongrattanasiri, A. Manjavacas, and J. Christensen, *Graphene plasmonics: From quantum phenomena to extraordinary nanooptics,* SPIE Optics+Photonics, Conference 8457, San Diego (California, USA), August 2012. **Keynote**.

70.- S. Thongrattanasiri, F. H. L. Koppens, and F. J. García de Abajo, *Complete absorption in graphene mematerials,* SPIE Optics+Photonics, Conference 8455, San Diego (California, USA), August 2012.

69.- F. J. García de Abajo, *New trends in graphene plasmonics,* Carbonhagen, Copenague (Denmark), June 2012.

68.- F. J. García de Abajo, *New spectral microscopies based upon plasmon-ebeam interaction,* Gordon Research Conference on Plasmonics, Waterville (Maine, USA), June 2012.

67.- F. J. García de Abajo, *Nanoparticle plasmonics,* Nanoscience with Nanocrystals NaNaX 5, Fuengirola (Spain), May 2012.

66.- F. J. García de Abajo, *Complete absorption in graphene,* Frontiers of Plasmonics FOP 2, Chengdu (China), April 2012.

65.- F. J. García de Abajo, *Graphene plasmonics,* Nanolight, Benasque (Spain), March 2012.

(Period of inactivity due to chemotherapy treatment: Oct. 2011 to Feb. 2012.)

64.- F. J. García de Abajo, *Plasmonics: Achievements, trends, and challanges,* Biannual meeting of the Spanish Royal Society of Physics (RSEF), Santander (Spain), September 2011.

63.- F. J. García de Abajo, *Graphene, electrons, plasmons, and quantum: A perfect match,* XXII Congress of the International Union of Crystallography IUC, Madrid (Spain), August 2011.

62.- F. J. García de Abajo, *Quantum aspects of the interaction between plasmons and electron beams,* Current Topics in TEM, Ringberg Castell, Tegernsee Lake (Germany), June 2011.

61.- F. J. García de Abajo, *Graphene plasmonics,* ICMAT, Singapore, June 2011.

60.- F. J. García de Abajo, *Quantum aspects of the interaction between plasmons and electron beams,* Nanoplasmonics, Vigo (Spain), June 2011.

59.- F. J. García de Abajo, *Quantum aspects of the interaction between plasmons and electron beams,* Surface Plasmon Photonics SPP5, Busan (Korea), May 2011.

58.- F. J. García de Abajo, *Quantum aspects of electron-plasmon interation,* International Topical Meeting on Nanophotonics and Metamaterials NANOMETA, Seefeld (Austria), January 2011.

57.- F. J. García de Abajo, *Combined use of photons and electrons for spaced-resolved spectroscopy,* MORE, Vienna (Austria), November 2010.

56.- F. J. García de Abajo, *Probing and generating localized optical excitations with fast electrons,* Mediterranean Conference on Nanophotonics MediNano-3, Belgrade (Serbia), October 2010.

55.- F. J. García de Abajo, *Photons and electrons team up,* Passion for Knowledge – Photonics, San Sebastian (Spain), September 2010.

54.- F. J. García de Abajo, *Photons and electrons team up,* International Symposium on Photonic and Electromagnetic Crystal Structures PECS IX, Granada (Spain), September 2010.

53.- F. J. García de Abajo, *Studying localized excitations with fast electrons,* Metamaterials'2010, Karlsruhe (Germany), September 2010.

52.- F. J. García de Abajo, *Localized surface plasmons,* iNANO Graduate Summer School in Advanced Photonics, Aarhus (Denmark), September 2010.

51.- F. J. García de Abajo, *Plasmonics in metallic nanoparticles & Advanced nanophotonics using fast electrons (2 lectures),* Advances on Nanophotonics III: Plasmonics and Energy Efficiency, Erice (Italy), July 2010.

50.- F. J. García de Abajo, *Quantum aspects of electron-plasmon interaction,* Gordon Research Conference – Plasmonics, Waterville (New Hampshire, USA), June 2010.

49.- F. J. García de Abajo, *Plasmon generation by swift electrons,* MRS Spring Meeting, Symposium EE: Materials for Nanophotonics, San Francisco (California, USA), April 2010.

(Period of inactivity due to chemotherapy treatment: May 2009 to Feb. 2010.)

48.- F. J. García de Abajo, *Non-local effects in strongly-interacting plasmons,* MRS Spring Meeting, Symposium EE: Materials for Nanophotonics, San Francisco (California, USA), April 2009.

47.- F. J. García de Abajo, *Plasmons in periodic metallic structures,* International Symposium on Photonic and Electromagnetic Crystal Structures PECS VIII, The 8th International Photonic & Electromagnetic Crystal Structures Meeting, Sydney (Australia), April 2009.

46.- F. J. García de Abajo and R. Sainidou, *Plasmon guided modes and nonlocal effects in closely-spaced nanoparticle metamaterials,* International Topical Meeting on Nanophotonics and Metamaterials NANOMETA 2009, Seefeld (Austria), January 2009.

45.- F. J. García de Abajo, *Simulating plasmons in nanostructured materials,* International Workshop on Theoretical and Computational Nano-Photonics (TACONA), Physikzentrum Bad Honnef (Germany), December 2008.

44.- F. J. García de Abajo, *Plasmons in metallic nanoparticles,* Meeting on Optical Response in Extended Systems (MORE), Vienna (Austria), November 2008.

43.- F. J. García de Abajo, *Understanding localizad plasmons in nanostructured materials,* International Workshop on Metamaterials and Plasmonics (IWNP), Shanghai (China), November 2008.

42.- F. J. García de Abajo, *Non-local effects in strongly-interacting plasmons,* Metamaterials'2008, Pamplona (Spain), September 2008.

41.- A. G. Curto and F. J. García de Abajo, *Near-field optical phase antennas for long-range Plasmon coupling,* SPIE Optics+Photonics, Conference 7033, San Diego (California, USA), August 2008.

40.- F. J. García de Abajo and M. Kociak, *Probing the plasmonic local density of states with electron energy loss spectroscopy,* SPIE Optics+Photonics, Conference 7033, San Diego (California, USA), August 2008.

39.- F. J. García de Abajo, *Non-local effects in the plasmons of strongly interacting nanoparticles, dimers, and waveguides,* SPIE Optics+Photonics, Conference 7032, San Diego (California, USA), August 2008.

38.- F. J. García de Abajo, A. G. Curto, A. Manjavacas, M. R. Dennis and N. I. Zheludev, *Tailoring the near-field through scatterer arrays: Talbot effect, near-field antennas, and related phenomena,* SPIE Optics+Photonics, Conference 7029, San Diego (California, USA), August 2008. **Keynote**.

37.- F. J. García de Abajo, *Plasmons in metallic nanoparticles,* Ultrafast Nanooptics, Physikzentrum Bad Honnef (Germany), June 2008.

36.- F. J. García de Abajo, *Non-local effects in strongly-interacting plasmons,* NATO-META'2008, Marrakesh (Morocco), May 2008.

35.- F. J. García de Abajo, R. Sainidou, T. V. Teperik, M. Dennis, and N. I. Zheludev, *Light confinement at interfaces and Talbot effects in surface modes of various systems,* Metamaterials'2007, Rome (Italy), October 2007.

34.- F. J. García de Abajo, R. Sainidou, T. V. Teperik, M. Dennis, and N. I. Zheludev, *Light confinement at surfaces and the plasmonics Talbot effect,* Frontiers in Optics 2007 (annual OSA meeting), San José (California, USA), September 2007.

33.- F. J. García de Abajo, *Mastering optical near fields in nanostructured materials,* Nicolás Cabrera XIV Summer School, Miraflores, Madrid (Spain), September 2007.

32.- F. J. García de Abajo, *Plasmonics using electron microscopy,* SPIE Optics+Photonics, Conference 6641, San Diego (California, USA), August 2007.

31.- F. J. García de Abajo, N. I. Zheludev, and M. Dennis, *The plasmonic Talbot effect,* SPIE Optics+Photonics, Conference 6638, San Diego (California, USA), August 2007.

30.- F. J. García de Abajo, *Mastering optical near fields in nanostructured materials,* International Workshop Photonic and Electronic Materials, San Sebastian (Spain), July 2007.

29.- F. J. García de Abajo, V. Myroshnychenko, J. Nelayah, M. Kociak, O. Stéphan, M. Tencé, D. Taverna, L. Henrard, C. Colliex, M. V. Bashevoy, F. Jonsson, N. I. Zheludev, I. Pastoriza-Santos, L. Liz-Marzán, and N. Yamamoto, *Plasmonics using electron microscopes,* Surface Plasmon Photonics SPP3, Dijon (France), June 2007.

28.- F. J. García de Abajo, T. Brixner, and W. Pfeiffer, *Mastering optical near fields in nanostructured materials,* DPG Spring Meeting, Ultrafast nanooptics symposium, Regensburg (Germany), March 2007.

27.- F. J. García de Abajo, *Electron-induced radiation emission (EIRE) as a probe of photonic structures,* International Workshop on New Trends in Electron Microscopy, Ringberg Castle, Tegernsee Lake (Germany), March 2007.

26.- F. J. García de Abajo, *Plasmons in nanoparticles,* Low Energy Spectrometry Symposium (LESS), Vienna (Austria), January 2007.

25.- F. J. García de Abajo, *Advances towards surface-state nanoelectronics,* International Topical Meeting on Nanophotonics and Metamaterials NANOMETA 2007, Seefeld (Austria), January 2007.

24.- F. J. García de Abajo, *Mechanisms of plasmon generation,* Workshop on Microscopy and Spectroscopy of Nanomaterials, Taipei (Taiwan), November 2006.

23.- F. J. García de Abajo, *Advances towards surface-state nanoelectronics,* NANO2006 Workshop – Perspectives in Nanoscience and Nanotechnology, San Sebastian (Spain), September 2006.

22.- F. J. García de Abajo, *Methanisms of surface plasmon launching,* SPIE Optics+Photonics, Conference 6323, San Diego (California, USA), August 2006.

21.- F. J. García de Abajo, *Multiscale metamaterials with extraordinary optical properties,* SPIE Optics+Photonics, Conference 6320, San Diego (California, USA), August 2006.

20.- F. J. García de Abajo, *Cathodoluminescence as a probe of photonic structures,* Gordon Research Conference – Plasmonics, Keene (New Hampshire, USA), July 2006.

19.- F. J. García de Abajo, *Materials with extreme optical properties,* OSA – Photonic Metamaterials: from Random to Periodic, Grand Bahama Island (The Bahamas), June 2006.

18- F. J. García de Abajo, *Valence excitations in electron microscopy,* Journées de spectroscopie de pertes d'énergie des électrons (JEELS), Blois (France), May 2006.

17.- F. J. García de Abajo, *Optical resonances in metallic systems: from nanoparticles to hole arrays,* FOM Decemberdagen, Veldhoven (The Netherlands), December 2005.

16.- F. J. García de Abajo and J. J. Sáenz, *Electromagnetic surface states in structured perfect-conductor surfaces,* Materials Research Society, Boston (Massachusetts, USA), December 2005.

15.- F. J. García de Abajo, *I. Interaction of Fast Charged Particles with Photonic Structures. II. Metamaterials with Extraordinary Optical Properties: Artificial dielectrics and Invisible Metals.* Phoremost - Nanophotonics to Realise Molecular Scale Technologies, Erice (Italy), August 2005.

14.- F. J. García de Abajo, *I. Determination of Optical Properties by Electron Microscopy*. *II. Plasmon Resonances in Metallic Nanoparticles.* Distributed European Doctoral School on Metamaterials, San Sebastian (Spain), July 2005.

13.- F. J. García de Abajo, *Lattice, site, and plasmon resonances in structured metal films,* International Symposium on Photonic and Electromagnetic Crystal Structures PECS VI, Crete (Greece), June 2005.

12.- F. J. García de Abajo, *Probing local optical properties with fast electrons,* Trends in Nanotechnology TNT 2004, Segovia (Spain), September 2004. **Keynote**.

11.- F. J. García de Abajo, A. G. Pattantyus-Abraham, N. Zabala, A. Rivacoba, M. O. Wolf, and P. M. Echenique, *Cherenkov radiation in photonic crystals,* International Workshop on Advances in Light Scattering by Particle Systems, Laredo (Spain), July 2004.

10.- F. J. García de Abajo, A. G. Pattantyus-Abraham, N. Zabala, A. Rivacoba, M. O. Wolf, and P. M. Echenique, *Multiscale metamaterials,* Photonic and Electronic Materials, San Sebastian (Spain), June 2004.

9.- F. J. García de Abajo, *The Cherenkov effect as a probe of photonic structures,* Euresco Conference on Nano-Optics: Surface Plasmon Photonics (SPP1), Granada (Spain), September 2003.

8.- F. J. García de Abajo, *The Cherenkov effect in photonic crystals,* Donostia Encounters on Particle-Solid Interactions, San Sebastian (Spain), September 2003.

7.- F. J. García de Abajo, *Photoelectron diffraction – MSCD and EDAC,* Tools for the Analysis and Interpretation of Experimental Data, Daresbury (UK), November 2001.

6.- F. J. García de Abajo, *Dispersión de radiación y espectros de pérdida de energía en nanoestructuras,* Reunión Nacional de Física del Estado Sólido, Madrid (Spain), February 2001.

5.- F. J. García de Abajo and C. S. Fadley, *Atoms talking to one another: multi-atom resonant photoemission,* Golden Gate Materials and Welding Technologies Conference, San Francisco (California, USA), February 1999.

4.- F. J. García de Abajo *Spin-flip in photoelectron diffraction,* Advanced Light Source Workshop on Theory and Computation for Synchrotron Applications, Berkeley (California, USA), October 1997.

3.- F. J. García de Abajo, *Resonant coherent excitation of ions in solids,* ESF Conference on "Particle-Solid Interactions", San Sebastian (Spain), September 1997.

2.- F. J. García de Abajo, *Coherent electron emission by ion-solid interaction,* 14th International Conference on the Aplication of Accelerators in Research and Industry, Denton (Texas, USA), November 1996.

1.- F. J. García de Abajo, *Coherent electron emission by ion-solid interaction,* 11th International Confererence on Inelastic Ion-Surface Collisions, Wangerooge (Germany), October 1996.

MAJOR CONTRIBUTIONS TO THE EARLY CAREER OF EXCELLENT RESEARCHERS

All of the former 42 PhDs and postdocs in García de Abajo's group have evolved into leading jobs in academia or industry. **Ten previous group members are occupying academic positions.** Associate Professors: Alejandro Manjavacas (Univ. New Mexico), Andrea Konečná (Brno Univ.), Andrea Marini (Univ. L'Aquila), Joel Cox (Southern Denmark Univ.), Rebecca Sainidou (Univ. Le Havre), Baptiste Auguié

(Victoria Univ. Wellington). Group Leaders: Johan Christensen (IMDEA Materials), Christin David (FSU Jena). Assistant Professors: Ana Asenjo-Garcia (Columbia Univ.), Deng Pan (East China Normal Univ.).

OTHER ACCOLADES FOR GARCÍA DE ABAJO's GROUP MEMBERS

Outstanding PhD Thesis Award from Complutense Univ. Madrid (Alejandro Manjavacas, 2014). Best PhD Thesis in Condensed Matter Theory (GEFES) in Spain (Alejandro Manjavacas, 2015; Renwen Yu, 2019). Best ICFO theoretical PhD Thesis Award (Renwen Yu, 2020; Valerio Di Giulio, 2023). Outstanding PhD Thesis Award from Polytechnic Univ. Catalonia (Renwen Yu, 2021). European Physics Society (EPS-QEOD) Thesis Prize (Renwen Yu, 2021).

TUTORING OF PhD STUDENTS

- 2013 Alejandro Manjavacas Arévalo,
  Light-matter interaction at the nanoscale,
  Universidad Complutense de Madrid (Spain)
- 2013 Isabel Romero Pérez,
  Plasmon interaction in coupled nanoparticles and voids,
  Universidad del País Vasco (Spain)
- 2013 Xesús Bendaña Sueiro,
  Near-field excitation of optical confined modes,
  Universidad de Santiago (Spain)
- 2014 Ana Asenjo García,
  Plasmon, light, and electron beam interactions at the nanoscale,
  Universidad Complutense de Madrid (Spain)
- 2014 Christin David,
  Nonlocal and collective phenomena in the plasmons of metallic nanostructures,
  Universidad Autónoma de Madrid (Spain).
- 2016 Iván Silveiro Flores,
  Plasmon response of graphene nanostructures,
  Universidad de Santiago (Spain)
- 2017 Vahagn Mkhitaryan,
  Nanophotonics of ultrathin films and 2D periodic structures: a combined experimental and theoretical study,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2018 José Ramón Martínez Saavedra,
  Classical and quantum aspects of the optical response at the nanoscale,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2018 Lijun Meng,
  Thermal and optical-gain effects in nanophotonics with applications to sensing and perfect absorption,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2019 Renwen Yu,
  Towards next-generation nanophotonic devices,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2020 Sandra de Vega Esteban,
  Plasmon-electron interactions in low dimensional materials,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2022 Eduardo J. C. Dias,
  Nanoscale manipulation of optical fields,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2022 Álvaro Rodríguez Echarri,
  Nonlocal and nonlinear effects in nanophotonics,
  ICFO / Universidad Politécnia de Cataluña (Spain)
- 2023 Valerio Di Giulio,
  Nanophotonics with charged particles,
  ICFO / Universidad Politécnia de Cataluña (Spain)

- In progress: Saad Abdullah
  Leila Prélat
  Adamantios P. Synanidis
  Jakub Urban
  Cruz I. Velasco
  Yina Wu

TUTORING OF POSTDOCS

- 2002 Thomas Strasser
- 2000-2004 Luis Alberto Blanco Jiménez
- 2002-2006 Tatiana Teperik
- 2004-2005 Raquel Gómez Medina
- 2006-2008 Revekka Sainidou
- 2009 Baptiste Auguié
- 2007-2013 Viktor Myroshnychenko
- 2010-2012 Johan Christensen
- 2011-2012 Sukosin Thongrattanasiri
- 2013-2019 Joel Douglas Cox
- 2014-2017 Andrea Marini
- 2016-2020 Deng Pan
- 2017-2018 Zakaria M. Abd El-Fattah
- 2017-2021 Vahagn Mkhitaryan
- 2019-2020 Shahav Asban
- 2019-2021 Renwen Yu
- 2019-2021 Andrea Konečná
- 2019-2022 Kamran Akbari
- 2021-2022 Saeid Sasgarnezhad
- 2019- Fadil Iyikanat
- 2020-2025 P. André D. Gonçalves
- 2022-2023 Eduardo J. C. Dias
- 2023-2023 Valerio Di Giulio

PATENTS

- *An optical system and method for sub-wavelength energy concentration,* N. I. Zheludev, F. Huang, and F. J. García de Abajo. International publication number: WO 2008/009931 A1. Publication date: Jan. 28, 2008.
- *Particule comportant deux métaux plasmoniques*, E. Huguet, L. M. Liz Marzán, I. Pastoriza-Santos, A. P. A. Glaria, and F. J. García de Abajo. International publication number: WO 2012/046204 A1. Publication date: Apr. 12, 2012.
- *Single-photon source*, A. Polman, E. J. R. Vesseur, T. Coenen, and F. J. García de Abajo. European application number: 10186046.8
- *Partículas codificadas*, L. M. Liz-Marzán, R. A. Álvarez-Puebla, F. J. García de Abajo, and E. F. García-Rico. International publication number: WO 2012/143577 A1. Publication date: Aug. 13, 2012.
- *Photoconversion device with enhanced photon absorption*, F. Koppens and F. J. García de Abajo. US patent number: 8,507,890 B1. Publication date: Aug. 13, 2013.
- *Magnetic field generator,* N. I. Zheludev, V. A. Fodotov, A. Tsiatmas, F. J. García de Abajo, and W. James. US patent number: 8,780,677 B2. Publication date: Jul. 15, 2014.
- *Tunable light modulation using graphene*, V. Pruneri, R. Yu, and F. J. García de Abajo. International publication number: WO 2016/141125 A1. Publication date: Sept. 9, 2015.

LONG TERM VISITS

- 2010-2013 Optoelectronic Res. Ctr., University of Southampton (UK) (visiting professor, 20 months)
- 2007 AMOLF, Amsterdam (The Netherlands) (2 months)
- 2006 University of Southampton (UK) (Visiting Professor, 2 months)
- 2005-2006 Universidad Autónoma de Madrid (Spain) (sabbatical, 12 months)
- 1994 Centro Atómico Bariloche (Argentina) (1 month)

- 1994 University of California, Irvine (California, USA) (2 months)
- 1992 ORNL, Oak Ridge (Tennessee, USA) (1 month)
- 1991 ORNL, Oak Ridge (Tennessee, USA) (2 months)
- 1987 CERN, Geneva (Switzerland) (2 months)

GRANTS AS PRINCIPAL INVESTIGATOR

- ERC Adv Grant 101141220-QUEFES funded by ERC, *Quantum-enhanced free-electron spectromicroscopy,* June 2024 to May 2029, 2,497,225 €.
- PID2020-112625GB-I00 funded by Plan Nacional of the Spanish MICINN, *Ultrafast optical processes in structured nanomaterials and their interactions with free electrons,* Sept. 2021 to Aug. 2024, 199,650 €.
- H2020-FETOPEN-2018-2019-2020-01 project No. 964591-SMART-electron funded by the European Commission, *SMART-electron – Ultrafast all-optical spatio-temporal electron modulators: Opening new frontiers in electron microscopy*, May 2021 to April 2025, 309,168 € for my group.
- H2020-FETPROACT-2020-2 project No. 101017720-EBEAM funded by the European Commission, *EBEAM – Electron beams enhancing analytical microscopy*, Jan. 2021 to March 2026, 465,000 € for my group.
- ERC Adv Grant 789104-eNANO funded by ERC, *Free electrons as ultrafast nanoscale probes,* Dec. 2018 to Nov. 2023, 1,899,788 €.
- MAT2017-88492-R funded by Plan Nacional of the Spanish MEC, *Interaction of plasmons, photons, and free electrons in the nanoscale,* Jan. 2018 to Dec. 2020, 181,500 €.
- CNECT-ICT-604391 funded by the European Commission, *Graphene Flagship - Graphene-based disruptive technologies,* Oct. 2013 to Sept. 2018, ca. 300,000 € for my group.
- PCIN-2015-155 M.ERA.Net project funded by the Spanish MINECO, *NANOHYPE – Nanoparticle hybrid materials using plasmonic-enhanced upconversion FRET for multiplexed sensing and optical barcoding*, Oct. 2015 to Sept. 2018, 60,000 € for my group.
- FP7-ICT-2013-613024 STREP funded by the European Commission, *GRASP – Graphene-based single-photon nonlinear optical devices*, Jan. 2014 to Jun. 2017, 233,370 € for my group.
- MAT2014-59096-P funded by Plan Nacional of the Spanish MEC, *Graphene plasmons and their interaction with low-energy electron beams,* Jan. 2015 to Dec. 2017, 121,000 €.
- MAT2010-14885 funded by Plan Nacional of the Spanish MEC, *Interaction of light and fast electrons with photonic nanostructures,* Jan. 2011 to Dec. 2013, 96,800 €.
- FP7-ICT-2009-4-248855 Network of Excellence funded by the European Commission, *Nanophotonics4Energy – Nanophotonics for energy efficiency*, Jan. 2010 to Dec. 2013, 99,693 € for my group.
- FP7-ICT-2009-4-248909 STREP funded by the European Commission, *LIMA – Improve photovoltaic efficiency by applying novel effects at the limits of light to matter interaction*, Jan. 2010 to Dec. 2012, 145,093 € for my group.
- NMP4-SL-2008-213669 STREP funded by the European Commission, *ENSEMBLE – ENgineered SElf-organized Multi-component structures with novel controllaBLe Electromagnetic functionalities,* May 2008 to Apr. 2012, 388,014 € for my group.
- Consolider 18411 funded by the Spanish MEC, *Nanolight – Light Control on the Nanoscale,* Oct. 2007 to Sept. 2012, ca. 350,000 € for my group.
- MAT2007-66050 funded by Plan Nacional of the Spanish MEC, *Interaction of light and fast electrons with photonic nanostructures*, Oct. 2007 to Sept. 2010, 117,370 €.
- NMP4-CT-2006-016881 STREP funded by the European Commission, *SPANS – Single particle nano switch*, May 2006 to Apr. 2009, 255,000 € for my group. I was the coordinator of this STREP.
- NAN2004-08843-C05-05 funded by Acciones Especiales of the Spanish MEC**,** *Teoría de Materiales Jerarquizados para Nanofotónica*, Dec. 2005 to Dec. 2008, 108,000 € for my group.
- Bacterial Crystals Intramural funded by CSIC (Spain), Jan. 2005 to Dec. 2007, 33,800 € for my group. I was the coordinator of the project.
- Shofar Agni Intramural funded by CSIC (Spain), Jan. 2005 to Dec. 2007, 37,800 € for my group.
- FIS2004-06490-C03-02 funded by Plan Nacional of the Spanish MEC, *Respuesta electromagnética de estructuras complejas*, Jan. 2005 to Dec. 2007, 63,000 €.