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 **Google Scholar:** <https://scholar.google.com/citations?user=JOFkspMAAAAJ>

 **Interactive List:** All publications link directly to the source [↗](#).

 **Key publications:** Selection of works with particular impact or broad interest are highlighted .

 **Bibliographic Summary:** >160 publications and preprints (>50 cited more than 100 times) in leading multidisciplinary journals and top-tier specialized physics/optics/AI venues, 9 patents. For detailed citation counts and metrics, please refer to my Google Scholar profile.

 **Research Pillars:** Publications are categorized by their core focus:

[SCATTERING] Mesoscopic wave physics, coherent control and multiple scattering.

[IMAGING] Computational imaging and inverse problems in complex environments.

[BIO] Bio-imaging and biophysics.

[COMPUTING] Physical neural networks, analog photonic computing and machine learning.

[QUANTUM] Multimode quantum optics and complex quantum systems.

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Reviews, Roadmaps & Perspectives

- ★ ◇ **Training of Physical Neural Networks**
A. Momeni, et al
Nature 645, 53 (2025) [↗](#) [COMPUTING]
- ◇ **Roadmap on computational methods in optical imaging and holography**
J. Rosen et al.
Appl. Phys. B 130, 166 (2024) [↗](#) [IMAGING]
- ◇ **Neurophotronics beyond the Surface: Unmasking the Brain's Complexity Exploiting Optical Scattering**
F. Xia, C. Vaz Rimoli, W. Akemann, C. Ventalon, L. Bourdieu, S. Gigan, H. B de Aguiar
Neurophotonics, 11, S11510 (2024) [↗](#) [IMAGING] [BIO]
- ◇ **Phase Retrieval: From Computational Imaging to Machine Learning, a tutorial**
J. Dong, L. Valzania, A. Maillard, T. Pham, S. Gigan, M. Unser
IEEE Signal Processing Magazine 40, 45 (2023) [↗](#) [IMAGING] [COMPUTING]
- ◇ **Intelligent Computing: The Latest Advances, Challenges and Future**
S. Zhu, et al.
Intelligent Computing 10.34133/icomputing.0006 (2023) [↗](#) [COMPUTING]
- ★ ◇ **Imaging and computing with disorder**
S. Gigan
Nature Physics 18, 980 (2022) [↗](#) [SCATTERING] [IMAGING] [COMPUTING]
- ◇ **Roadmap on Wavefront Shaping and deep imaging in complex media**
S. Gigan, O. Katz et al.
JPhys Photonics 4 042501 (2022) [↗](#) [IMAGING]

- ◇ **Roadmap on chaos-inspired imaging technologies**
J. Rosen, et al.
Applied Physics B (2022) 128:49 [↗](#) [IMAGING]
- ◇ **Roadmap on multimode light shaping**
M. Piccardo, et al.
Journal of Optics 24 013001 (2022) [↗](#)
- ★ ◇ **Inference in artificial intelligence with deep optics and photonics**
G. Wetzstein, A. Ozcan, S. Gigan, S. Fan, D. Englund, M. Soljačić, C. Denz, D. Miller, D. Psaltis
Nature, 588, 39 (2020) [↗](#) [COMPUTING]
- ★ ◇ **Light fields in complex media: mesoscopic scattering meets wave control**
S. Rotter, S. Gigan
Rev. Mod. Phys. 89, 015005 (2017) [↗](#) [SCATTERING]
- ★ ◇ **Wavefront shaping for biomedical imaging** (Edited Book)
J. Kubby, S. Gigan, M. Cui (Editors)
Cambridge University Press (2017) [↗](#) [IMAGING] [BIO]
- ◇ **Photoacoustics with coherent light**
E. Bossy and S. Gigan
Photoacoustics, 4, 22 (2016) [↗](#) [IMAGING]

Preprints

- ◇ **Real-time Calibration-free Imaging Through Dynamic and Distinct Multimode Fibers via Spatial Harmonic Invariant Nonlinear Encoding (SHINE)**
Z. Wang, H. Li, S. Luo, J. Chen, T. Zhong, J. Yao, J. Pu, Z. Yu, S. Gigan, Z. Chen, P. Lai
arXiv:2602.20562 [physics.optics] [↗](#) [IMAGING]
- ◇ **Training deep physical neural networks with local physical information bottleneck**
H. Wang, Z. Wang, X. Liang, H. Zhao, J. Hu, J. Jiang, X. Fu, J. Tang, H. Wu, S. Gigan, Q. Liu
arXiv:2602.09569 [cs.LG] [↗](#) [COMPUTING]
- ◇ **Light and Sound Driven Wavefront Shaping and Imaging through Scattering Tissue**
F. Xia, I. Leite, S. Xiao, N. Kaydanov, F. Goerlitz, S. Gigan, R. Prevedel
arXiv:2602.01172 [physics.optics] [↗](#) [IMAGING]
- ◇ **Controlling microalgae populations by phototactic memory**
G. Jacucci, D. Breoni, P. Illien, L. Tubiana, J.F. Allemand, S. Gigan, R. Jeanneret
arXiv:2601.07741 [cond-mat.soft] [↗](#) [BIO]
- ◇ **Optical kernel machine with programmable nonlinearity**
S. Han, F. Xia, S. Gigan, B. Loureiro, H. Cao
arXiv:2511.17880 [physics.optics] [↗](#) [COMPUTING]
- ◇ **Optical Computing with Spectrally Multiplexed Features in Complex Media**
X. Dong, K. Lion, F. Xia, Y. Baek, Z. Wang, N. He, S. Gigan
arXiv:2510.04321 [physics.optics] [↗](#) [COMPUTING]
- ★ ◇ **Harnessing optical disorder for Bell inequalities violation**
B. Courme, M. Joly, A. Makowski, S. Gigan, H. Defienne
arXiv:2509.21052 [quant-ph] [↗](#) [QUANTUM]
- ◇ **Harnessing Photon Indistinguishability in Quantum Extreme Learning Machines**
M. Joly, A. Makowski, B. Courme, L. Porstendorfer, S. Wilksen, E. Charbon, C. Gies, H. Defienne, S. Gigan
arXiv:2505.11238 [quant-ph] [↗](#) [QUANTUM] [COMPUTING]
- ◇ **Non-classical optimization through complex media**
B. Courme, C. Vernière, M. Joly, D. Faccio, S. Gigan, H. Defienne
arXiv:2503.24283 [quant-ph] [↗](#) [SCATTERING] [QUANTUM]

- ◇ **Roadmap on Neuromorphic Photonics**
D. Brunner et al.
arXiv:2501.07917 [cs.ET] [↗](#) [COMPUTING]
- ◇ **Low Photon Number Non-Invasive Imaging Through Time-Varying Diffusers**
A. Makowski, W. Zwolinski, P. Szczypkowski, B. Gorzkowski, S. Gigan, R. Lapkiewicz
arXiv:2409.18072 [physics.optics] [↗](#) [IMAGING] [QUANTUM]
- ★ ◇ **Streamlined optical training of large-scale modern deep learning architectures with direct feedback alignment**
Z. Wang, K. Müller, M. Filipovich, J. Launay, R. Ohana, G. Pariente, S. Mokaadi, C. Brossollet, F. Moreau, A. Cappelli, I. Poli, I. Carron, L. Daudet, F. Krzakala, S. Gigan
arXiv:2409.12965 [↗](#) [COMPUTING]
- ◇ **Light-in-the-loop: using a photonics co-processor for scalable training of neural networks**
J. Launay, I. Poli, K. Müller, I. Carron, L. Daudet, F. Krzakala, S. Gigan
arXiv:2006.01475 [physics.optics] [↗](#) [COMPUTING]

Peer-Reviewed Research Articles

- 2026** (137) **Terahertz Fourier Ptychographic Imaging**
P. Mukherjee, V. Kumar, F. Fauquet, A. Badon, D. Bigourd, K. Khare, S. Gigan, P. Mounaix
Optica 13, 424-433 (2026) [↗](#) [IMAGING]
- 2025** (136) **An optical Ising spin glass simulator with tuneable short range couplings**
L. Delloye, G. Jacucci, R. Pandya, D. Pierangeli, C. Conti, S. Gigan
Phys. Rev. A 112, 063510 (2025) [↗](#) [COMPUTING]
- (135) **Three-dimensional holographic imaging of incoherent objects through scattering media**
Y. Baek, H. De Aguiar, S. Gigan
Nature Communications (2025) [↗](#) [SCATTERING] [IMAGING]
- (134) **Two-photon microscopy through scattering media harnessing speckle autocorrelation**
L. Zhu, B. Rauer, H. De Aguiar, S. Gigan
Optics Express (2025) [↗](#) [IMAGING]
- (133) **Computational terahertz phase imaging using a sequence of multi-plane intensity measurements**
V. Kumar, P. Mukherjee, F. Fauquet, K. Khare, S. Gigan, P. Mounaix
APL Photonics 10, 096108 (2025) [↗](#) [IMAGING]
- (132) **Optical next generation reservoir computing**
H. Wang, J. Hu, Y. Baek, K. Tsuchiyama, M. Joly, Q. Liu, S. Gigan
Light: Science and Applications 14, 245 (2025) [↗](#) [COMPUTING]
- (130) **Replica-assisted super-resolution fluorescence imaging in scattering media**
T. Wu, Y. Baek, F. Xia, S. Gigan, H. B. de Aguiar
ACS Photonics (2025) [↗](#) [IMAGING]
- (129) **Generalized angle-orbital-angular-momentum Talbot effect and modulo mode sorting**
J. Hu, M. Eriksson, S. Gigan, R. Fickler
Nature Photonics (2025) [↗](#)
📌 J. Azana, "Intertwining with Fourier optics" News and Views, *Nature Photonics* (2025) [↗](#)
- (128) **Fourier Synthetic Aperture-based Time-resolved Terahertz Imaging**
V. Kumar, P. Mukherjee, L. Valzania, A. Badon, P. Mounaix, S. Gigan
Photon. Res. 13, 407-416 (2025) [↗](#) [IMAGING]
- 2024** (127) **Concurrent oxygen evolution reaction pathways revealed by high-speed compressive Raman imaging**
R. Pandya, F. Dorchies, D. Romanin, S. Gigan, A. W. Chin, H. B. de Aguiar, A. Grimaud
Nature Communications, 15, 8362 (2024) [↗](#) [IMAGING]

- (126) **Correlating light fields through disordered media across multiple degrees of freedom**
L. Devaud, B. Rauer, S. Mauras, S. Rotter, S. Gigan
Phys. Rev. Research 6, 033265 (2024) [↗](#) [SCATTERING]
- ★ (125) **Nonlinear optical encoding enabled by recurrent linear scattering**
F. Xia, K. Kim, Y. Eliezer, L. Shaughnessy, S. Gigan, H. Cao
Nature Photonics (2024) [↗](#) [COMPUTING]
- (124) **Demixing fluorescence time traces transmitted by multimode fibers**
C. Vaz Rimoli, C. Moretti, F. Soldevila, E. Brémont, C. Ventalon, S. Gigan
Nature Communications, 15 : 6286 (2024) [↗](#) [IMAGING] [BIO]
- (123) **Patchy landscapes promote stability of small groups**
G. Jacucci, D. Breoni, S. Heijnen, J. Palomo, P. Jones, H. Löwen, G. Volpe, S. Gigan
Communications Physics 7, 245 (2024) [↗](#) [BIO]
- ★ (122) **Large-scale photonic computing with nonlinear disordered media**
H. Wang, J. Hu, A. Morandi, A. Nardi, F. Xia, X. Li, R. Savo, Q. Liu, R. Grange, S. Gigan
Nat Comput Sci, 4, 429 (2024) [↗](#) [SCATTERING] [COMPUTING]
 ⓘ Tianyu Wang, News and Views "A nonlinear dimension for machine learning in optical disordered media" *Nature Computational Science* (2024) [↗](#)
 ⓘ H. Wang et al. , "Photonics Breakthroughs 2024 : Nonlinear Photonic Computing at Scale" *IEEE Photonics Journal* (2025) [↗](#)
- (121) **Label-free super-resolution stimulated Raman scattering imaging of biomedical specimens**
J. Guilbert, A. Negash, S. Labouesse, S. Gigan, A. Sentenac, H. B de Aguiar
Advanced Imaging, 1, 011004 (2024) [↗](#) [IMAGING] [BIO]
 ⓘ Haonan Lin and Ji-Xin Cheng , News and Views "Breaking the diffraction limit for label-free chemical imaging" *Advanced Photonics*, 6, 060502 (2024). [↗](#)
- (120) **Speckle-enabled in vivo demixing of neural activity in the mouse brain**
H. Sarafraz, T. Nöbauer, H. Kim, F. Soldevila, S. Gigan, and A. Vaziri
Biomed. Opt. Express 15, 3586 (2024) [↗](#) [IMAGING] [BIO]
- (119) **Large Reconfigurable Quantum Circuits with SPAD Arrays and Multimode Fibers**
A. Makowski, M. Dąbrowski, I. M. Antolovic, C. Bruschini, H. Defienne, E. Charbon, R. Lapkiewicz, S. Gigan
Optica 11, 340 (2024) [↗](#) [SCATTERING] [QUANTUM]
- (118) **Single-pixel transmission matrix recovery via two-photon fluorescence**
S. Zhao, B. Rauer, L. Valzania, J. Dong, R. Liu, F. Li, S. Gigan, H. B. de Aguiar
Science Advances 10, eadi3442 (2024) [↗](#) [IMAGING]
- 2023 (117) **Fast wavefront shaping for two-photon brain imaging with multipatch correction**
B. Blochet, w. Akemann, S. Gigan, L. Bourdieu
Proceedings of the National Academy of Sciences 120 (51) e2305593120 [↗](#) [IMAGING] [BIO]
- (116) **Three-dimensional operando optical imaging of particle and electrolyte heterogeneities inside Li-ion batteries**
R. Pandya, L. Valzania, F. Dorchie, F. Xia, J. Mc Hugh, A. Mathieson, J. Hwee Tan, T. G. Parton, M. De Volder, J.M. Tarascon, S. Gigan, H. B. de Aguiar, A. Grimaud
Nature Nanotechnology 18, 1185 (2023) [↗](#) [IMAGING]
 ⓘ S. Dongmin Kang and W.C. Chueh , News and Views "Probing the depths of battery heterogeneity" *Nature Nanotechnology* 18, 1185 (2023) [↗](#)
- ★ (115) **Phase conjugation with spatially incoherent light in complex media**
Y. Baek, H. B. de Aguiar, S. Gigan
Nature Photonics 17, 1114(2023) [↗](#) [SCATTERING] [IMAGING]
- (114) **Linear Optical Random Projections Without Holography**
R. Ohana, D. Hesslow, D. Brunner, S. Gigan, K. Müller
Opt. Express 31, 25881-25888 (2023) [↗](#) [COMPUTING]

- (113) **Quantifying high-dimensional spatial entanglement with a single-photon-sensitive time-stamping camera**
B. Courme, C. Vernière, P. Svihra, S. Gigan, A. Nomerotski, H. Defienne
Optics Letters 48 (13), 3439 (2023) [↗](#) [QUANTUM]
- (112) **Functional imaging through scattering medium via fluorescence speckle demixing and localization**
F. Soldevila, C. Moretti, T. Nöbauer, H. Sarafraz, A. Vaziri, S. Gigan
Optics Express 31 (13) 21107 (2023) [↗](#) [IMAGING] [BIO]
- (111) **Online learning of the transfer matrix of dynamic scattering media: wavefront shaping meets multidimensional time series**
L. Valzania, S. Gigan
Optica 10, 708-716 (2023) [↗](#) [SCATTERING] [COMPUTING]
- (110) **Direct Imaging of Micrometer Thick Interfaces in Salt-Salt Aqueous Biphasic Systems**
D. Degoulange, R. Pandya, M. Deschamps, D. A. Skiba, B. M. Gallant, S. Gigan, H. B. de Aguiar, A. Grimaud
Proceedings of the National Academy of Science 120 (17) e2220662120 [↗](#) [IMAGING]
- (109) **Manipulation and Certification of High-Dimensional Entanglement through a Scattering Medium**
B. Courme, P. Cameron, D. Faccio, S. Gigan, and H. Defienne
PRX Quantum 4, 010308 (2023) [↗](#) [QUANTUM]
- 2022 (108) **Scattering correcting wavefront shaping for three-photon microscopy**
B. Rauer, H. B. de Aguiar, L. Bourdieu, S. Gigan
Opt. Lett. 47, 6233 (2022) [↗](#) [IMAGING] [BIO]
- (107) **Physics-based neural network for non-invasive control of coherent light in scattering media**
A. d'Arco, F. Xia, A. Boniface, J. Dong, S. Gigan
Opt. Express 30, 30845(2022) [↗](#) [IMAGING] [COMPUTING]
- (106) **A high-fidelity and large-scale reconfigurable photonic processor for NISQ applications**
A. Cavaillès, P. Boucher, L. Daudet, I. Carron, S. Gigan, K. Müller
Opt. Express 30, 30058 (2022) [↗](#) [COMPUTING]
- (105) **Temporal light control in complex media through the singular value decomposition of the time-gated transmission matrix**
L. Devaud, B. Rauer, M. Kühmayer, J. Melchard, M. Mounaix, S. Rotter, S. Gigan
Phys. Rev. A 105, L051501 (2022) [↗](#) [SCATTERING]
- (104) **Non-invasive chemically selective energy delivery and focusing inside a scattering medium guided by Raman scattering**
B. Tian, B. Rauer, A. Boniface, J. Han, S. Gigan, H. B. de Aguiar
Optics Letters 47, 2145 (2022) [↗](#) [IMAGING]
- (103) **Tuneable spin-glass optical simulator based on multiple light scattering**
G. Jacucci, L. Delloye, D. Pierangeli, M. Rafayelyan, C. Conti, S. Gigan
Phys. Rev. A 105, 033502 (2022) [↗](#) [COMPUTING]
- ★ (102) **Large field-of-view non-invasive imaging through scattering layers using fluctuating random illumination**
L. Zhu, F. Soldevila, C. Moretti, A. d'Arco, A. Boniface, X. Shao, H. B. de Aguiar, S. Gigan
Nature Communications, 13, 1447 (2022) [↗](#) [IMAGING]
- 2021 (101) **Chromato-axial memory effect in step index multimode fibers**
L. Devaud, M. Guillon, I. Gusachenko, S. Gigan
APL Photonics 6, 126105 (2021) [↗](#) [SCATTERING]
- (100) **Controlling spatial coherence with an optical complex medium**
A. Nardi, F. Tebbenjohanns, M. Rossi, S. Divitt, A. Norrman, S. Gigan, M. Frimmer, L. Novotny
Optics Express Vol. 29 (25), 40831 (2021) [↗](#) [SCATTERING]

- (99) **Engineering spatial correlations of entangled photon pairs by pump beam shaping**
P. Boucher, H. Defienne, S. Gigan
Opt. Lett. 46, 4200 (2021) [↗](#) [QUANTUM]
- (98) **Speckle engineering through singular value decomposition of the transmission matrix**
L. Devaud, B. Rauer, J. Melchard, M. Kühmayer, S. Rotter, S. Gigan
Phys. Rev. Lett. 127, 093903 (2021) [↗](#) [SCATTERING]
- (97) **Statistical Nonlinear Optical Mapping of Localized and Delocalized Plasmonic Modes in Disordered Gold Metasurfaces**
G. Roubaud, S. Bidault, S. Gigan, S. Grésillon
ACS Photonics 10.1021/acsp Photonics.1c00776 (2021) [↗](#) [SCATTERING]
- (96) **Deeply Subwavelength Localization with Reverberation-Coded Aperture**
M. Del Hougne, S. Gigan, P. Del Hougne
Phys. Rev. Lett. 127, 043903 (2021) [↗](#) [SCATTERING]
📌 Rachel Berkowitz "Ricocheting Waves Pinpoint an Object's Location" *Physics* 14, 107 [↗](#)
- (95) **Three-dimensional broadband light beam manipulation in forward scattering samples**
P. Arjmand, O. Katz, S. Gigan, M. Guillon
Opt. Express 29, 6563 (2021) [↗](#) [SCATTERING]
- (94) **Visualization of Directional Beaming of Weakly Localized Raman from a Random Network of Silicon Nanowires**
M. J. Lo Faro, G. Ruello, A. Leonardi, D. Morganti, A. Irrera, F. Priolo, S. Gigan, G. Volpe, B. Fazio
Advanced Science, 2100139 (2021) [↗](#) [SCATTERING]
- (93) **Mean path length invariance in wave-scattering beyond the diffusive regime**
M. Davy, M. Kühmayer, S. Gigan, S. Rotter
Commun Phys 4, 85 (2021) [↗](#) [SCATTERING]
- ★ (92) **Scalable spin-glass optical simulator**
D. Pierangeli, M. Rafayelyan, C. Conti, S. Gigan
Phys. Rev. Applied 15, 034087 (2021) [↗](#) [SCATTERING] [COMPUTING]
- (91) **Spectrally-resolved point-spread-function engineering using a complex medium**
A. Boniface, M. Mounaix, B. Blochet, H. B. de Aguiar, F. Quéré, S. Gigan
Opt. Express 29, 8985-8996 (2021) [↗](#) [SCATTERING]
- (90) **Accelerating ptychographic reconstructions using spectral initializations**
L. Valzania, J. Dong, S. Gigan
Optics Letters 46, 1357 (2021) [↗](#) [IMAGING] [COMPUTING]
- 2020 ★ (89) **Large-Scale Optical Reservoir Computing for Spatiotemporal Chaotic Systems Prediction**
M. Rafayelyan, J. Dong, Y. Tan, F. Krzakala, S. Gigan
Phys. Rev. X 10, 041037 (2020) [↗](#) [COMPUTING]
- (88) **Hardware Beyond Backpropagation: a Photonic Co-Processor for Direct Feedback Alignment**
J. Launay, I. Poli, K. Müller, G. Pariente, I. Carron, L. Daudet, F. Krzakala, S. Gigan
NeurIPS, Beyond Backpropagation Workshop (2020) [↗](#) [COMPUTING]
- (87) **Non-invasive focusing and imaging in scattering media with a fluorescence-based transmission matrix**
A. Boniface, J. Dong, S. Gigan
Nature Communications 11: 6154 (2020) [↗](#) [IMAGING]
- (86) **Non-invasive single-shot recovery of point-spread function of a memory effect based scattering imaging system**
T. Wu, J. Dong, S. Gigan
Optics Letters, Opt. Lett. 45, 5397 (2020) [↗](#) [IMAGING]
- (85) **Chromato-axial memory effect through a forward-scattering slab**
L. Zhu, J. Boutet de Monvel, P. Berto, S. Brasselet, S. Gigan, and M. Guillon
Optica 7, 338 (2020) [↗](#) [SCATTERING]

- ★ (84) **Readout of fluorescence functional signals through highly scattering tissue**
 C. Moretti, S. Gigan
Nature Photonics 14, 361 (2020) [↗](#) [IMAGING] [BIO]
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- (83) **Far-field Wavefront Control of Nonlinear Luminescence in Disordered Gold Metasurfaces**
 G. Roubaud, P. Bondareff, G. Volpe, S. Gigan, S. Bidault, S. Gresillon
NanoLetters 20, 5, 3291 (2020) [↗](#) [SCATTERING]
- (82) **Local Optimization of Wavefronts for high sensitivity PHase Imaging (LowPhi)**
 T. Juffmann, A. de los Ríos Sommer, S. Gigan
Optics Communications, 124484 (2020) [↗](#) [IMAGING]
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- ★ (80) **Programmable linear quantum networks with a multimode fibre**
 S. Leedumrongwatthanakun, L. Innocenti, H. Defienne, T. Juffmann, A. Ferraro, M. Paternostro, S. Gigan
Nature Photonics 14, 139 (2020) [↗](#) [SCATTERING] [QUANTUM]
 ⓘ *Research Highlight*, N. Meinzer "Mix and Match" *Nat. Phys.* 16, 4 (2020) (2020) [↗](#)
- 2019 (79) **Enhanced stability of the focus obtained by wavefront optimization in dynamical scattering media**
 B. Blochet, K. Joaquina, L. Blum, L. Bourdieu, S. Gigan
Optica 6, 1554 (2019) [↗](#) [SCATTERING] [IMAGING]
- (78) **Non-invasive light focusing in scattering media using speckle variance optimization**
 A. Boniface, B. Blochet, J. Dong, S. Gigan
Optica 6, 1381 (2019) [↗](#) [SCATTERING] [IMAGING]
- (77) **Spectral Method for Multiplexed Phase Retrieval and Application in Optical Imaging in Complex Media**
 J. Dong, F. Krzakala, S. Gigan
IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 10.1109/ICASSP.2019.8682329 (2019) [↗](#) [COMPUTING]
- (76) **Invariance properties of bacterial random walks in complex structures**
 G. Frangipane, G. Vizsniczai, C. Maggi, R. Savo, A. Sciortino, S. Gigan, R. Di Leonardo
Nature Communications 10, 2442 (2019) [↗](#) [BIO]
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- (75) **Spatially-entangled Photon-pairs Generation Using Partial Spatially Coherent Pump Beam**
 H. Defienne, S. Gigan
Phys. Rev. A 99, 053831(2019) [↗](#) [QUANTUM]
- (74) **High-sensitivity high-speed compressive spectrometer for Raman imaging**
 B. Sturm, F. Soldevila, E. Tajahuerce, S. Gigan, H. Rigneault, H. B. de Aguiar
ACS Photonics 6, 1409 (2019) [↗](#) [IMAGING] [COMPUTING]
- (73) **Fast compressive Raman bio-imaging via matrix completion**
 F. Soldevila, J. Dong, E. Tajahuerce, S. Gigan, H. B. De Aguiar
Optica, 6, 341 (2019) [↗](#) [IMAGING] [COMPUTING] [BIO]
- (72) **Rapid broadband characterization of scattering medium using hyperspectral imaging**
 A. Boniface, I. Gusachenko, K. Dholakia, S. Gigan
Optica 6, 274 (2019) [↗](#) [SCATTERING]
- (71) **Controlling light in complex media beyond the acoustic diffraction-limit using the acousto-optic transmission matrix**
 O.Katz, F. Ramaz, S. Gigan, M. Fink
Nature Communications, 10:717 (2019) [↗](#) [SCATTERING] [IMAGING]

- 2018** (70) **Snapshot fiber spectral imaging using speckle correlations and compressive sensing**
R. French, S. Gigan, O. Muskens
Optics Express 26, 32302 (2018) [↗](#) [SCATTERING]
- (69) **Transmission matrix approaches for non-linear fluorescence excitation through multiple scattering media** M. Mounaix, D. M. Ta, S. Gigan
Optics Letters 43, 2831 (2018) [↗](#) [IMAGING]
- (68) **Scaling up Echo-State Networks with multiple light scattering**
J. Dong, S. Gigan, F. Krzakala, G. Wainrib
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◇ **Voir à travers le brouillard**

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