# Ioannis Sechopoulos

List of Publications by Year
in descending order



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|---|---|---|---|
| 116 papers | 4,245 citations | 172457<br>29 h-index | 123424<br>61 g-index |
| 120 all docs | 120 docs citations | 120 times ranked | 3151 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Stand-Alone Artificial Intelligence for Breast Cancer Detection in Mammography: Comparison With 101 Radiologists. Journal of the National Cancer Institute, 2019, 111, 916-922. | 6.3 | 372 |
| 2 | Detection of Breast Cancer with Mammography: Effect of an Artificial Intelligence Support System. Radiology, 2019, 290, 305-314. | 7.3 | 347 |
| 3 | A review of breast tomosynthesis. Part I. The image acquisition process. Medical Physics, 2013, 40, 014301. | 3.0 | 326 |
| 4 | Review of radiation dose estimates in digital breast tomosynthesis relative to those in two-view full-field digital mammography. Breast, 2015, 24, 93-99. | 2.2 | 186 |
| 5 | RECORDS: improved Reporting of montE CarlO RaDiation transport Studies: Report of the <scp>AAPM</scp> Research Committee Task Group 268. Medical Physics, 2018, 45, e1-e5. | 3.0 | 178 |
| 6 | A review of breast tomosynthesis. Part II. Image reconstruction, processing and analysis, and advanced applications. Medical Physics, 2013, 40, 014302. | 3.0 | 161 |
| 7 | Clinical Digital Breast Tomosynthesis System: Dosimetric Characterization. Radiology, 2012, 263, 35-42. | 7.3 | 140 |
| 8 | Can we reduce the workload of mammographic screening by automatic identification of normal exams with artificial intelligence? A feasibility study. European Radiology, 2019, 29, 4825-4832. | 4.5 | 129 |
| 9 | Computation of the glandular radiation dose in digital tomosynthesis of the breast. Medical Physics, 2006, 34, 221-232. | 3.0 | 124 |
| 10 | Artificial intelligence for breast cancer detection in mammography and digital breast tomosynthesis: State of the art. Seminars in Cancer Biology, 2021, 72, 214-225. | 9.6 | 121 |
| 11 | Optimization of the acquisition geometry in digital tomosynthesis of the breast. Medical Physics, 2009, 36, 1199-1207. | 3.0 | 117 |
| 12 | Imaging Nanoprobe for Prediction of Outcome of Nanoparticle Chemotherapy by Using Mammography. Radiology, 2009, 250, 398-406. | 7.3 | 96 |
| 13 | Dosimetric characterization of a dedicated breast computed tomography clinical prototype. Medical Physics, 2010, 37, 4110-4120. | 3.0 | 85 |
| 14 | Radiation Dose to Organs and Tissues from Mammography: Monte Carlo and Phantom Study. Radiology, 2008, 246, 434-443. | 7.3 | 78 |
| 15 | Scatter radiation in digital tomosynthesis of the breast. Medical Physics, 2007, 34, 564-576. | 3.0 | 76 |
| 16 | Monte Carlo reference data sets for imaging research: Executive summary of the report of AAPM Research Committee Task Group 195. Medical Physics, 2015, 42, 5679-5691. | 3.0 | 76 |
| 17 | Dosimetry in x-ray-based breast imaging. Physics in Medicine and Biology, 2016, 61, R271-R304. | 3.0 | 69 |
| 18 | Characterization of the homogeneous tissue mixture approximation in breast imaging dosimetry. Medical Physics, 2012, 39, 5050-5059. | 3.0 | 68 |

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|---|---|---|---|
| 19 | Tumor Vascular Permeability to a Nanoprobe Correlates to Tumor-Specific Expression Levels of Angiogenic Markers. PLoS ONE, 2009, 4, e5843. | 2.5 | 64 |
| 20 | Multifunctional nanocarriers for mammographic quantification of tumor dosing and prognosis of breast cancer therapy. Biomaterials, 2008, 29, 4815-4822. | 11.4 | 58 |
| 21 | Physical evaluation of an ultra-high-resolution CT scanner. European Radiology, 2020, 30, 2552-2560. | 4.5 | 53 |
| 22 | Cupping artifact correction and automated classification for highâ€resolution dedicated breast CT images. Medical Physics, 2012, 39, 6397-6406. | 3.0 | 49 |
| 23 | Deep learning-based segmentation of breast masses in dedicated breast CT imaging: Radiomic feature stability between radiologists and artificial intelligence. Computers in Biology and Medicine, 2020, 118, 103629. | 7.0 | 48 |
| 24 | Stand-alone artificial intelligence - The future of breast cancer screening?. Breast, 2020, 49, 254-260. | 2.2 | 47 |
| 25 | Radiation dosimetry in digital breast tomosynthesis: Report of AAPM Tomosynthesis Subcommittee Task Group 223. Medical Physics, 2014, 41, 091501. | 3.0 | 43 |
| 26 | Multi-Scale deep learning framework for cochlea localization, segmentation and analysis on clinical ultra-high-resolution CT images. Computer Methods and Programs in Biomedicine, 2020, 191, 105387. | 4.7 | 41 |
| 27 | Influence of breast compression pressure on the performance of population-based mammography screening. Breast Cancer Research, 2017, 19, 126. | 5.0 | 39 |
| 28 | Deep learningâ€"based reconstruction may improve non-contrast cerebral CT imaging compared to other current reconstruction algorithms. European Radiology, 2021, 31, 5498-5506. | 4.5 | 37 |
| 29 | Impact of artificial intelligence support on accuracy and reading time in breast tomosynthesis image interpretation: a multi-reader multi-case study. European Radiology, 2021, 31, 8682-8691. | 4.5 | 37 |
| 30 | Stereoscopic Digital Mammography: Improved Specificity and Reduced Rate of Recall in a Prospective Clinical Trial. Radiology, 2013, 266, 81-88. | 7.3 | 36 |
| 31 | Iodine Maps from Subtraction CT or Dual-Energy CT to Detect Pulmonary Emboli with CT Angiography: A Multiple-Observer Study. Radiology, 2019, 292, 197-205. | 7.3 | 33 |
| 32 | Xâ€ray scatter correction method for dedicated breast computed tomography. Medical Physics, 2012, 39, 2896-2903. | 3.0 | 29 |
| 33 | Progression of Medial Arterial Calcification in CKD. Kidney International Reports, 2018, 3, 1328-1335. | 0.8 | 28 |
| 34 | Glandular radiation dose in tomosynthesis of the breast using tungsten targets. Journal of Applied Clinical Medical Physics, 2008, 9, 161-171. | 1.9 | 27 |
| 35 | An unsupervised automatic segmentation algorithm for breast tissue classification of dedicated breast computed tomography images. Medical Physics, 2018, 45, 2542-2559. | 3.0 | 27 |
| 36 | Impact of Artificial Intelligence Decision Support Using Deep Learning on Breast Cancer Screening Interpretation with Single-View Wide-Angle Digital Breast Tomosynthesis. Radiology, 2021, 300, 529-536. | 7.3 | 27 |

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|---|---|---|---|
| 37 | New reconstruction algorithm for digital breast tomosynthesis: better image quality for humans and computers. Acta Radiologica, 2018, 59, 1051-1059. | 1.1 | 26 |
| 38 | Interval Cancer Detection Using a Neural Network and Breast Density in Women with Negative Screening Mammograms. Radiology, 2022, 303, 269-275. | 7.3 | 26 |
| 39 | Numerical Algorithms for Polyenergetic Digital Breast Tomosynthesis Reconstruction. SIAM Journal on Imaging Sciences, 2010, 3, 133-152. | 2.2 | 25 |
| 40 | A Monte Carlo model for mean glandular dose evaluation in spot compression mammography. Medical Physics, 2017, 44, 3848-3860. | 3.0 | 24 |
| 41 | Homogeneous vs. patient specific breast models for Monte Carlo evaluation of mean glandular dose in mammography. Physica Medica, 2018, 51, 56-63. | 0.7 | 24 |
| 42 | Image quality comparison between a phase-contrast synchrotron radiation breast CT and a clinical breast CT: a phantom based study. Scientific Reports, 2019, 9, 17778. | 3.3 | 24 |
| 43 | Monte Carlo and Phantom Study of the Radiation Dose to the Body from Dedicated CT of the Breast. Radiology, 2008, 247, 98-105. | 7.3 | 23 |
| 44 | One-view digital breast tomosynthesis as a stand-alone modality for breast cancer detection: do we need more?. European Radiology, 2018, 28, 1938-1948. | 4.5 | 23 |
| 45 | Imaging of pulmonary perfusion using subtraction CT angiography is feasible in clinical practice. European Radiology, 2019, 29, 1408-1414. | 4.5 | 23 |
| 46 | Automatic tissue classification for high-resolution breast CT images based on bilateral filtering. , 2011, 7962, 79623H. |  | 21 |
| 47 | Mammography and the Risk of Thyroid Cancer. American Journal of Roentgenology, 2012, 198, 705-707. | 2.2 | 21 |
| 48 | Monte Carlo evaluation of glandular dose in cone-beam X-ray computed tomography dedicated to the breast: Homogeneous and heterogeneous breast models. Physica Medica, 2018, 51, 99-107. | 0.7 | 21 |
| 49 | A softwareâ€based xâ€ray scatter correction method for breast tomosynthesis. Medical Physics, 2011, 38, 6643-6653. | 3.0 | 20 |
| 50 | Can Breast Compression Be Reduced in Digital Mammography and Breast Tomosynthesis?. American Journal of Roentgenology, 2017, 209, W322-W332. | 2.2 | 20 |
| 51 | The compressed breast during mammography and breast tomosynthesis:<i>in vivo</i>shape characterization and modeling. Physics in Medicine and Biology, 2017, 62, 6920-6937. | 3.0 | 20 |
| 52 | Detection of Simulated Microcalcifications in a Phantom with Digital Mammography: Effect of Pixel Size. Radiology, 2007, 244, 130-137. | 7.3 | 19 |
| 53 | Deep learning reconstruction of digital breast tomosynthesis images for accurate breast density and patient-specific radiation dose estimation. Medical Image Analysis, 2021, 71, 102061. | 11.6 | 19 |
| 54 | Comparing dual energy CT and subtraction CT on a phantom: which one provides the best contrast in iodine maps for sub-centimetre details?. European Radiology, 2018, 28, 5051-5059. | 4.5 | 18 |

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| 55 | Theoretical analysis of high-resolution digital mammography. Physics in Medicine and Biology, 2006, 51, 3041-3055. | 3.0 | 16 |
| 56 | Xâ€ray scatter correction in breast tomosynthesis with a precomputed scatter map library. Medical Physics, 2014, 41, 031912. | 3.0 | 15 |
| 57 | A model observer study using acquired mammographic images of an anthropomorphic breast phantom. Medical Physics, 2018, 45, 655-665. | 3.0 | 15 |
| 58 | Patientâ€derived heterogeneous breast phantoms for advanced dosimetry in mammography and tomosynthesis. Medical Physics, 2022, 49, 5423-5438. | 3.0 | 15 |
| 59 | Breast tissue classification in digital tomosynthesis images based on global gradient minimization and texture features. Proceedings of SPIE, 2014, 9034, 90341V. | 0.8 | 14 |
| 60 | Internal breast dosimetry in mammography: Experimental methods and Monte Carlo validation with a monoenergetic xâ€ray beam. Medical Physics, 2018, 45, 1724-1737. | 3.0 | 14 |
| 61 | BreastSimulator: A software platform for breast x-ray imaging research. Journal of Biomedical Graphics and Computing, 2012, 2, . | 0.2 | 13 |
| 62 | Power spectrum analysis of the xâ€ray scatter signal in mammography and breast tomosynthesis projections. Medical Physics, 2013, 40, 101905. | 3.0 | 13 |
| 63 | Internal breast dosimetry in mammography: Monte Carlo validation in homogeneous and anthropomorphic breast phantoms with a clinical mammography system. Medical Physics, 2018, 45, 3950-3961. | 3.0 | 13 |
| 64 | Fibroglandular tissue distribution in the breast during mammography and tomosynthesis based on breast CT data: A patientâ€based characterization of the breast parenchyma. Medical Physics, 2021, 48, 1436-1447. | 3.0 | 13 |
| 65 | Multiâ€marker quantitative radiomics for mass characterization in dedicated breast CT imaging. Medical Physics, 2021, 48, 313-328. | 3.0 | 12 |
| 66 | The DICOM Radiation Dose Structured Report: What It Is and What It Is Not. Journal of the American College of Radiology, 2015, 12, 712-713. | 1.8 | 11 |
| 67 | Development of 3D patient-based super-resolution digital breast phantoms using machine learning. Physics in Medicine and Biology, 2018, 63, 225017. | 3.0 | 11 |
| 68 | Measurement of the useful field of view for single slices of different imaging modalities and targets. Journal of Medical Imaging, 2020, 7, 1. | 1.5 | 10 |
| 69 | Objective models of compressed breast shapes undergoing mammography. Medical Physics, 2013, 40, 031902. | 3.0 | 9 |
| 70 | Patientâ€based 4D digital breast phantom for perfusion contrastâ€enhanced breast <scp>CT</scp> imaging. Medical Physics, 2018, 45, 4448-4460. | 3.0 | 9 |
| 71 | Towards 4D dedicated breast CT perfusion imaging of cancer: development and validation of computer simulated images. Physics in Medicine and Biology, 2019, 64, 245004. | 3.0 | 9 |
| 72 | How does image quality affect radiologistsâ€™ perceived ability for image interpretation and lesion detection in digital mammography?. European Radiology, 2021, 31, 5335-5343. | 4.5 | 9 |

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| 73 | Comparison of simultaneous multi-slice single-shot DWI to readout-segmented DWI for evaluation of breast lesions at 3T MRI. European Journal of Radiology, 2021, 138, 109626. | 2.6 | 9 |
| 74 | Realistic compressed breast phantoms for medical physics applications. , 2020, , . | | 9 |
| 75 | Improvements of an objective model of compressed breasts undergoing mammography: Generation and characterization of breast shapes. Medical Physics, 2017, 44, 2161-2172. | 3.0 | 8 |
| 76 | Validation of a method to simulate the acquisition of mammographic images with different techniques. , 2019, , . | | 8 |
| 77 | Iterative Breast Tomosynthesis Image Reconstruction. SIAM Journal of Scientific Computing, 2013, 35, S192-S208. | 2.8 | 7 |
| 78 | Flat-panel conebeam CT in the clinic: history and current state. Journal of Medical Imaging, 2021, 8, 052115. | 1.5 | 7 |
| 79 | Image Quality of Iodine Maps for Pulmonary Embolism: A Comparison of Subtraction CT and Dual-Energy CT. American Journal of Roentgenology, 2019, 212, 1253-1259. | 2.2 | 6 |
| 80 | Can a channelized Hotelling observer assess image quality in acquired mammographic images of an anthropomorphic breast phantom including image processing?. Medical Physics, 2019, 46, 714-725. | 3.0 | 6 |
| 81 | Monte Carlo study on optimal breast voxel resolution for dosimetry estimates in digital breast tomosynthesis. Physics in Medicine and Biology, 2019, 64, 015003. | 3.0 | 6 |
| 82 | X-ray scatter correction method for dedicated breast computed tomography: improvements and initial patient testing. Physics in Medicine and Biology, 2016, 61, 1116-1135. | 3.0 | 5 |
| 83 | A systematic review on the use of the breast lesion excision system in breast disease. Insights Into Imaging, 2019, 10, 49. | 3.4 | 5 |
| 84 | Accuracy of registration algorithms in subtraction <scp>CT</scp> of the lungs: A digital phantom study. Medical Physics, 2019, 46, 2264-2274. | 3.0 | 5 |
| 85 | Computer-aided diagnosis of masses in breast computed tomography imaging: deep learning model with combined handcrafted and convolutional radiomic features. Journal of Medical Imaging, 2021, 8, 024501. | 1.5 | 5 |
| 86 | Validation of a candidate instrument to assess image quality in digital mammography using ROC analysis. European Journal of Radiology, 2021, 139, 109686. | 2.6 | 5 |
| 87 | Signal template generation from acquired mammographic images for the non-prewhitening model observer with eye-filter. , 2017, , . | | 5 |
| 88 | Reliability of MRI tumor size measurements for minimal invasive treatment selection in small breast cancers. European Journal of Surgical Oncology, 2020, 46, 1463-1470. | 1.0 | 4 |
| 89 | Reference dataset for benchmarking fetal doses derived from Monte Carlo simulations of CT exams. Medical Physics, 2021, 48, 523-532. | 3.0 | 4 |
| 90 | Visualization of the Nipple in Profile: Does It Really Affect Selected Outcomes in Organized Mammographic Screening?. Journal of Breast Imaging, 2021, 3, 427-437. | 1.3 | 4 |

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| 91 | A minimum spanning forest based classification method for dedicated breast CT images. Medical Physics, 2015, 42, 6190-6202. | 3.0 | 3 |
| 92 | Comparison of breast cancer detection and depiction between planar and rotating synthetic mammography generated from breast tomosynthesis. European Journal of Radiology, 2018, 108, 78-83. | 2.6 | 3 |
| 93 | Validation of a mammographic image quality modification algorithm using 3D-printed breast phantoms. Journal of Medical Imaging, 2021, 8, 033502. | 1.5 | 3 |
| 94 | Diffusion weighted imaging for evaluation of breast lesions: Comparison between high b-value single-shot and routine readout-segmented sequences at 3ÂT. Magnetic Resonance Imaging, 2021, 84, 35-40. | 1.8 | 3 |
| 95 | Patient evaluation of breast shape-corrected tomosynthesis reconstruction. , 2019, , . | | 3 |
| 96 | Monte Carlo dose evaluation of different fibroglandular tissue distribution in breast imaging. , 2020, , . | | 3 |
| 97 | Comparison of two-view digital breast tomosynthesis to three-view digital mammography in a simulated screening setting. Acta Radiologica, 2019, 60, 1094-1101. | 1.1 | 2 |
| 98 | Pulmonary nodule enhancement in subtraction CT and dual-energy CT: A comparison study. European Journal of Radiology, 2021, 134, 109443. | 2.6 | 2 |
| 99 | Mammography dose estimates do not reflect any specific patient's breast dose. European Journal of Radiology, 2020, 131, 109216. | 2.6 | 2 |
| 100 | Dose reduction in breast CT by spectrum switching. , 2018, , . | | 2 |
| 101 | The regression detectability index RDI for mammography images of breast phantoms with calcification-like objects and anatomical background. Physics in Medicine and Biology, 2021, 66, . | 3.0 | 2 |
| 102 | Multireader image quality evaluation of dynamic myocardial computed tomography perfusion imaging with a novel four-dimensional noise reduction filter. Acta Radiologica, 2023, 64, 999-1006. | 1.1 | 2 |
| 103 | Development and content validity evaluation of a candidate instrument to assess image quality in digital mammography: A mixed-method study. European Journal of Radiology, 2021, 134, 109464. | 2.6 | 1 |
| 104 | Signal template generation from acquired images for model observer-based image quality analysis in mammography. Journal of Medical Imaging, 2018, 5, 1. | 1.5 | 1 |
| 105 | Automatic estimation of glandular tissue loss due to limited reconstruction voxel size in tomographic images of the breast. , 2018, , . | | 1 |
| 106 | New difference of Gaussian channel-sets for the channelized Hotelling observer?. , 2019, , . | | 1 |
| 107 | Breast parenchyma analysis and classification for breast masses detection using texture feature descriptors and neural networks in dedicated breast CT images. , 2019, , . | | 1 |
| 108 | Deep learning scatter estimation for breast tomosynthesis based on a realistic compressed breast shape model in the CC view. , 2022, , . | | 1 |

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| 109 | Teaching Radiologic Physics to Diagnostic Radiology Residents: How We Do It. Journal of the American College of Radiology, 2014, 11, 1093-1094. | 1.8 | 0 |
| 110 | RECORDS: improved Reporting of montE CarlO RaDiation transport Studies. International Journal of Radiation Oncology Biology Physics, 2018, 101, 792-793. | 0.8 | 0 |
| 111 | Iodine quantification in limited angle tomography. Medical Physics, 2020, 47, 4906-4916. | 3.0 | 0 |
| 112 | Digital Breast Tomosynthesis Screening: Better But Still Not Good Enough for All Women. Radiology, 2020, 297, 532-533. | 7.3 | 0 |
| 113 | Evidence for sequential reading effects in screening mammography. Journal of Vision, 2021, 21, 2212. | 0.3 | 0 |
| 114 | Optimization of the difference-of-Gaussian channel sets for the channelized Hotelling observer. Journal of Medical Imaging, 2019, 6, 1. | 1.5 | 0 |
| 115 | New abstract guidelines for <i>Medical Physics</i>. Medical Physics, 2021, 48, 5583-5583. | 3.0 | 0 |
| 116 | Evaluation of reader performance during interpretation of breast cancer screening: the Recall and detection Of breast Cancer in Screening (ROCS) trial study design. European Radiology, 2022, , . | 4.5 | 0 |