

Abhijit Sinha Roy

List of Publications by Year in descending order

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77
papers

2,812
citations

236925

25
h-index

223800

46
g-index

77
all docs

77
docs citations

77
times ranked

2514
citing authors

#	ARTICLE	IF	CITATIONS
1	Novel Pachymetric Parameters Based on Corneal Tomography for Diagnosing Keratoconus. Journal of Refractive Surgery, 2011, 27, 753-758.	2.3	290
2	Corneal Biomechanics and Biomaterials. Annual Review of Biomedical Engineering, 2011, 13, 269-295.	12.3	188
3	Comparison of biomechanical effects of small-incision lenticule extraction and laser in situ keratomileusis: Finite-element analysis. Journal of Cataract and Refractive Surgery, 2014, 40, 971-980.	1.5	159
4	Quantification of Vessel Density in Retinal Optical Coherence Tomography Angiography Images Using Local Fractal Dimension. , 2016, 57, 246.		152
5	Linking Retinal Microvasculature Features With Severity of Diabetic Retinopathy Using Optical Coherence Tomography Angiography. , 2016, 57, OCT519.		140
6	Patient-Specific Computational Modeling of Keratoconus Progression and Differential Responses to Collagen Cross-linking. , 2011, 52, 9174.		129
7	Method for optical coherence elastography of the cornea. Journal of Biomedical Optics, 2011, 16, 016005.	2.6	129
8	Effects of Altered Corneal Stiffness on Native and Postoperative LASIK Corneal Biomechanical Behavior: A Whole-eye Finite Element Analysis. Journal of Refractive Surgery, 2009, 25, 875-887.	2.3	101
9	Evaluation of coupled convective—diffusive transport of drugs administered by intravitreal injection and controlled release implant. Journal of Controlled Release, 2005, 105, 279-295.	9.9	97
10	Hemodynamic wall shear stress profiles influence the magnitude and pattern of stenosis in a pig AV fistula. Kidney International, 2008, 74, 1410-1419.	5.2	83
11	Discriminant Value of Custom Ocular Response Analyzer Waveform Derivatives in—Keratoconus. Ophthalmology, 2014, 121, 459-468.	5.2	82
12	Air-puff associated quantification of non-linear biomechanical properties of the human cornea in vivo. Journal of the Mechanical Behavior of Biomedical Materials, 2015, 48, 173-182.	3.1	73
13	Discriminant Function of Optical Coherence Tomography Angiography to Determine Disease Severity in Glaucoma. , 2016, 57, 6079.		70
14	Patient-Specific Modeling of Corneal Refractive Surgery Outcomes and Inverse Estimation of Elastic Property Changes. Journal of Biomechanical Engineering, 2011, 133, 011002.	1.3	67
15	Serial biomechanical comparison of edematous, normal, and collagen crosslinked human donor corneas using optical coherence elastography. Journal of Cataract and Refractive Surgery, 2014, 40, 1041-1047.	1.5	47
16	Biological and Biomechanical Responses to Traditional Epithelium-Off and Transepithelial Riboflavin-UVA CXL Techniques in Rabbits. Journal of Refractive Surgery, 2013, 29, 332-341.	2.3	44
17	Keratoconus: A biomechanical perspective on loss of corneal stiffness. Indian Journal of Ophthalmology, 2013, 61, 392.	1.1	43
18	Patterned corneal collagen crosslinking for astigmatism: Computational modeling study. Journal of Cataract and Refractive Surgery, 2014, 40, 943-953.	1.5	42

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19	Role of Age and Myopia in Simultaneous Assessment of Corneal and Extraocular Tissue Stiffness by Air-Puff Applanation. <i>Journal of Refractive Surgery</i> , 2016, 32, 486-493.	2.3	38
20	Inverse computational analysis of in-vivo corneal elastic modulus change after collagen crosslinking for keratoconus. <i>Experimental Eye Research</i> , 2013, 113, 92-104.	2.6	37
21	Waveform analysis of deformation amplitude and deflection amplitude in normal, suspect, and keratoconic eyes. <i>Journal of Cataract and Refractive Surgery</i> , 2017, 43, 1271-1280.	1.5	37
22	Characterizing momentum change and viscous loss of a hemodynamic endpoint in assessment of coronary lesions. <i>Journal of Biomechanics</i> , 2007, 40, 652-662.	2.1	36
23	Guidewire flow obstruction effect on pressure drop-flow relationship in moderate coronary artery stenosis. <i>Journal of Biomechanics</i> , 2006, 39, 853-864.	2.1	35
24	Biomechanics of the Cornea Evaluated by Spectral Analysis of Waveforms from Ocular Response Analyzer and Corvis-ST. <i>PLoS ONE</i> , 2014, 9, e97591.	2.5	35
25	Application of high resolution OCT to evaluate irregularity of Bowman's layer in asymmetric keratoconus. <i>Journal of Biophotonics</i> , 2017, 10, 701-707.	2.3	33
26	Cone Location-Dependent Outcomes After Combined Topography-Guided Photorefractive Keratectomy and Collagen Cross-linking. <i>American Journal of Ophthalmology</i> , 2015, 159, 419-425.e2.	3.3	32
27	Biomechanics of LASIK Flap and SMILE Cap: A Prospective, Clinical Study. <i>Journal of Refractive Surgery</i> , 2019, 35, 324-332.	2.3	32
28	Correlation of Corneal Biomechanical Stiffness With Refractive Error and Ocular Biometry in a Pediatric Population. <i>Cornea</i> , 2017, 36, 1221-1226.	1.7	28
29	Bowman's topography for improved detection of early ectasia. <i>Journal of Biophotonics</i> , 2019, 12, e201900126.	2.3	27
30	In Vivo Prediction of Air-Puff Induced Corneal Deformation Using LASIK, SMILE, and PRK Finite Element Simulations. , 2018, 59, 5320.		24
31	Functional and Anatomical Diagnosis of Coronary Artery Stenoses. <i>Journal of Surgical Research</i> , 2008, 150, 24-33.	1.6	23
32	Noncontact Quantification of Topography of Anterior Corneal Surface and Bowman's Layer With High-Speed OCT. <i>Journal of Refractive Surgery</i> , 2017, 33, 330-336.	2.3	23
33	Bilaterally Asymmetric Corneal Ectasia Following SMILE With Asymmetrically Reduced Stromal Molecular Markers. <i>Journal of Refractive Surgery</i> , 2019, 35, 6-14.	2.3	22
34	Quantitative Comparison of Retinal Vascular Features in Optical Coherence Tomography Angiography Images From Three Different Devices. <i>Ophthalmic Surgery Lasers and Imaging Retina</i> , 2018, 49, 488-496.	0.7	22
35	Customized Corneal Cross-linking Using Different UVA Beam Profiles. <i>Journal of Refractive Surgery</i> , 2017, 33, 676-682.	2.3	20
36	A Novel Zernike Application to Differentiate Between Three-dimensional Corneal Thickness of Normal Corneas and Corneas With Keratoconus. <i>American Journal of Ophthalmology</i> , 2015, 160, 453-462.e2.	3.3	19

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37	Quantitative Evaluation of Microdistortions in Bowman's Layer and Corneal Deformation after Small Incision Lenticule Extraction. <i>Translational Vision Science and Technology</i> , 2016, 5, 12.	2.2	18
38	Intra-Operative Cap Repositioning in Small Incision Lenticule Extraction (SMILE) for Enhanced Visual Recovery. <i>Current Eye Research</i> , 2016, 41, 1532-1538.	1.5	18
39	Wavefront-Guided LASIK Has Comparable Ocular and Corneal Aberrometric Outcomes but Better Visual Acuity Outcomes Than SMILE in Myopic Eyes. <i>Journal of Refractive Surgery</i> , 2018, 34, 527-532.	2.3	18
40	Outcomes of Corneal Cross-Linking Correlate With Cone-Specific Lysyl Oxidase Expression in Patients With Keratoconus. <i>Cornea</i> , 2018, 37, 369-374.	1.7	17
41	Correlation of Clinical and Biomechanical Outcomes of Accelerated Crosslinking (9) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 587 T Genes. <i>Current Eye Research</i> , 2016, 41, 1419-1423.	1.5	16
42	Quantitative Comparison Between Optical Coherence Tomography Angiography and Fundus Fluorescein Angiography Images: Effect of Vessel Enhancement. <i>Ophthalmic Surgery Lasers and Imaging Retina</i> , 2018, 49, e175-e181.	0.7	16
43	Understanding the Correlation between Tomographic and Biomechanical Severity of Keratoconic Corneas. <i>BioMed Research International</i> , 2015, 2015, 1-9.	1.9	14
44	Comparison of waveform-derived corneal stiffness and stress-strain extensometry-derived corneal stiffness using different cross-linking irradiances: an experimental study with air-puff applanation of ex vivo porcine eyes. <i>Graefe's Archive for Clinical and Experimental Ophthalmology</i> , 2020, 258, 2173-2184.	1.9	14
45	A cross-sectional study to compare intraocular pressure measurement by sequential use of Goldman applanation tonometry, dynamic contour tonometry, ocular response analyzer, and Corvis ST. <i>Indian Journal of Ophthalmology</i> , 2015, 63, 815.	1.1	14
46	Adaptive optics imaging of the retina. <i>Indian Journal of Ophthalmology</i> , 2014, 62, 60.	1.1	13
47	OCT layered tomography of the cornea provides new insights on remodeling after photorefractive keratectomy. <i>Journal of Biophotonics</i> , 2018, 11, e201700027.	2.3	13
48	Quantification of Ocular Biomechanics In Ocular Manifestations of Systemic Autoimmune Diseases. <i>Ocular Immunology and Inflammation</i> , 2019, 27, 1127-1137.	1.8	12
49	Artificial Intelligence Efficiently Identifies Regional Differences in the Progression of Tomographic Parameters of Keratoconic Corneas. <i>Journal of Refractive Surgery</i> , 2021, 37, 240-248.	2.3	12
50	Quantitative High-speed Assessment of Droplet and Aerosol From an Eye After Impact With an Air-puff Amid COVID-19 Scenario. <i>Journal of Glaucoma</i> , 2020, 29, 1006-1016.	1.6	11
51	Corneal Viscous Properties Cannot Be Determined From Air-Puff Applanation. <i>Journal of Refractive Surgery</i> , 2019, 35, 730-736.	2.3	11
52	An automated framework to quantify areas of regional ischemia in retinal vascular diseases with OCT angiography. <i>Journal of Biophotonics</i> , 2018, 11, e201600312.	2.3	9
53	Association Between Corneal Deformation and Ease of Lenticule Separation From Residual Stroma in Small Incision Lenticule Extraction. <i>Cornea</i> , 2015, 34, 1067-1071.	1.7	8
54	Corneal tomographic features of postrefractive surgery ectasia. <i>Journal of Biophotonics</i> , 2019, 12, e201800253.	2.3	8

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55	Epithelium Zernike Indices and Artificial Intelligence Can Differentiate Epithelial Remodeling Between Flap and Flapless Refractive Procedures. <i>Journal of Refractive Surgery</i> , 2020, 36, 97-103.	2.3	8
56	Early Corneal and Epithelial Remodeling Differences Identified by OCT Imaging and Artificial Intelligence Between Two Transepithelial PRK Platforms. <i>Journal of Refractive Surgery</i> , 2020, 36, 678-686.	2.3	8
57	Repeatability of a Commercially Available Adaptive Optics Visual Simulator and Aberrometer in Normal and Keratoconic Eyes. <i>Journal of Refractive Surgery</i> , 2017, 33, 769-772.	2.3	7
58	Ectasia After SMILE: Correct Interpretation of Biomechanical Hypothesis. <i>Journal of Refractive Surgery</i> , 2017, 33, 66-66.	2.3	6
59	Quantitative evaluation of optical coherence tomography angiography images of diabetic retinopathy eyes before and after removal of projection artifacts. <i>Journal of Biophotonics</i> , 2018, 11, e201800003.	2.3	6
60	Enhanced Vitreous Imaging in Uveitis. <i>Ocular Immunology and Inflammation</i> , 2019, 27, 148-154.	1.8	6
61	Vascular changes precede tomographic changes in diabetic eyes without retinopathy and improve artificial intelligence diagnostics. <i>Journal of Biophotonics</i> , 2020, 13, e202000107.	2.3	6
62	Optical coherence tomography angiography (OCTA) of retinal vasculature in patients with post fever retinitis: a qualitative and quantitative analysis. <i>Scientific Reports</i> , 2021, 11, 17647.	3.3	6
63	Accuracy of OCT Curvature and Aberrations of Bowman's Layer: A Prospective Comparison With Physical Removal of Epithelium. <i>Journal of Refractive Surgery</i> , 2020, 36, 193-198.	2.3	6
64	Universal architecture of corneal segmental tomography biomarkers for artificial intelligence-driven diagnosis of early keratoconus. <i>British Journal of Ophthalmology</i> , 2023, 107, 635-643.	3.9	6
65	Laser Vision Correction with Q Factor Modification for Keratoconus Management. <i>Current Eye Research</i> , 2017, 42, 542-548.	1.5	5
66	Influence of Anterior Biometry on Corneal Biomechanical Stiffness of Glaucomatous Eyes Treated With Chronic Medication or Filtration Surgery. <i>Journal of Glaucoma</i> , 2019, 28, 626-632.	1.6	5
67	Patient-specific determination of change in ocular spherical aberration to improve near and intermediate visual acuity of presbyopic eyes. <i>Journal of Biophotonics</i> , 2019, 12, e201800259.	2.3	5
68	Simultaneous Topography-Guided PRK/CXL Versus Topography-Assisted PTK/CXL: 1-Year Prospective Outcomes in Keratoconic Eyes. <i>Journal of Refractive Surgery</i> , 2021, 37, 562-569.	2.3	5
69	An Interesting Case of Data Gaps in Measurement of Corneal Curvature With Scheimpflug Tomography. <i>Journal of Refractive Surgery</i> , 2020, 36, 350-351.	2.3	5
70	Optical models for intraocular lens planning in keratoconus: A step in the right direction and more to do. <i>Indian Journal of Ophthalmology</i> , 2017, 65, 654.	1.1	5
71	Status of Residual Refractive Error, Ocular Aberrations, and Accommodation After Myopic LASIK, SMILE, and TransPRK. <i>Journal of Refractive Surgery</i> , 2019, 35, 624-631.	2.3	5
72	Repeatability of OCT Anterior Surface and Bowman's Layer Curvature and Aberrations in Normal and Keratoconic Eyes. <i>Journal of Refractive Surgery</i> , 2020, 36, 247-252.	2.3	4

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73	A Simple Calculator to Decide UVA Time for Cross-linking of Thin Keratoconic Corneas (< 400) Tj ETQq1 1 0.784314 rgBT /Ov	2.3	3
74	Unique corneal tomography features of allergic eye disease identified by <scp>OCT</scp> imaging and artificial intelligence. Journal of Biophotonics, 2020, 13, e202000156.	2.3	2
75	Intracorneal Ring Segments Followed by Simultaneous Topography-Guided Removal of Epithelium and Stroma With Accelerated Collagen Cross-Linking For Keratoconus (I-TRESK/CXL). Asia-Pacific Journal of Ophthalmology, 2021, 10, 152-160.	2.5	2
76	Re: Qassim etÂal.: Corneal stiffness parameters are predictive of structural and functional progression in glaucoma suspects (Ophthalmology. 2020 Nov 25;S0161-6420(20)31116-7. doi:) Tj ETQq0 0 0 rgBT /Overlock 102f 50 617 Td (10.1	2.3	0
77	Why Indentation Cannot Be Considered Exactly Equivalent to Non-contact Tonometry. Journal of Refractive Surgery, 2017, 33, 496-496.	2.3	0