

# Ivan Krupka

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

123  
papers

1,629  
citations

23  
h-index

33  
g-index

137  
ext. papers

1,854  
ext. citations

3.1  
avg, IF

4.9  
L-index

#	Paper	IF	Citations
123	Biotribology of synovial cartilage: Role of albumin in adsorbed film formation <b>2022</b> , 34, 101090		0
122	The effect of top of rail lubricant composition on adhesion and rheological behaviour <b>2022</b> , 35, 101100		1
121	Tribological behaviour of 3D printed materials for small joint implants: A pilot study. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2022</b> , 132, 105274	4.1	
120	Experimental investigation of friction in compliant contact: The effect of configuration, viscoelasticity and operating conditions. <i>Tribology International</i> , <b>2021</b> , 165, 107340	4.9	1
119	Raman analysis of chemisorbed tribofilm for metal-on-polyethylene hip joint prostheses. <i>Biosurface and Biotribology</i> , <b>2021</b> , 7, 1-11	1	0
118	Towards the understanding of lubrication mechanisms in total knee replacements [Part I: Experimental investigations. <i>Tribology International</i> , <b>2021</b> , 156, 106874	4.9	7
117	Analysis of Friction in Total Knee Prosthesis during a Standard Gait Cycle. <i>Lubricants</i> , <b>2021</b> , 9, 36	3.1	3
116	Analysis of Chemisorbed Tribo-Film for Ceramic-on-Ceramic Hip Joint Prostheses by Raman Spectroscopy. <i>Journal of Functional Biomaterials</i> , <b>2021</b> , 12,	4.8	2
115	Asperity-based model for prediction of traction in water-contaminated wheel-rail contact. <i>Tribology International</i> , <b>2021</b> , 157, 106900	4.9	5
114	Biotribology of Synovial Cartilage: A New Method for Visualization of Lubricating Film and Simultaneous Measurement of the Friction Coefficient. <i>Materials</i> , <b>2020</b> , 13,	3.5	7
113	The Effect of Synovial Fluid Composition, Speed and Load on Frictional Behaviour of Articular Cartilage. <i>Materials</i> , <b>2020</b> , 13,	3.5	9
112	On the Relation between Friction Increase and Grease Thickener Entraining on a Border of Mixed EHL Lubrication. <i>Lubricants</i> , <b>2020</b> , 8, 12	3.1	2
111	Investigation of the tribological performance of ionic liquids in non-conformal EHL contacts under electric field activation. <i>Friction</i> , <b>2020</b> , 8, 982-994	5.6	1
110	Running-in friction of hip joint replacements can be significantly reduced: The effect of surface-textured acetabular cup. <i>Friction</i> , <b>2020</b> , 8, 1137-1152	5.6	14
109	Use of Pyrene for Quantitative Fluorescence Observation of Li-Grease around EHL Contacts. <i>Tribology Online</i> , <b>2020</b> , 15, 117-125	0.9	0
108	The low adhesion problem: The effect of environmental conditions on adhesion in rolling-sliding contact. <i>Tribology International</i> , <b>2020</b> , 151, 106521	4.9	7
107	Deformation of Rough Surfaces in Point EHL Contacts. <i>Tribology Letters</i> , <b>2019</b> , 67, 1	2.8	6

106	A systematic review on correlation between biochemical and mechanical processes of lubricant film formation in joint replacement of the last 10 years. <i>Lubrication Science</i> , <b>2019</b> , 31, 85-101	1.3	4
105	Observation of lubrication mechanisms in knee replacement: A pilot study. <i>Biotribology</i> , <b>2019</b> , 17, 1-7	2.3	9
104	Local Effects in EHL Contacts with Oil-Impregnated Sintered Materials. <i>Lubricants</i> , <b>2019</b> , 7, 1	3.1	24
103	On the observation of lubrication mechanisms within hip joint replacements. Part I: Hard-on-soft bearing pairs. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2019</b> , 89, 237-248	4.1	20
102	On the observation of lubrication mechanisms within hip joint replacements. Part II: Hard-on-hard bearing pairs. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2019</b> , 89, 249-259	4.1	9
101	Thermal Elastohydrodynamic Lubrication of Ceramic Materials. <i>Tribology Transactions</i> , <b>2018</b> , 61, 869-879	1.8	8
100	Mechanical wear and oxidative degradation analysis of retrieved ultra high molecular weight polyethylene acetabular cups. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2018</b> , 79, 314-323	4.1	17
99	Film formation in EHL contacts with oil-impregnated sintered materials. <i>Industrial Lubrication and Tribology</i> , <b>2018</b> , 70, 612-619	1.3	2
98	The role of constituents contained in water-based friction modifiers for top-off application. <i>Tribology International</i> , <b>2018</b> , 117, 87-97	4.9	11
97	In situ observation of lubricant film formation in THR considering real conformity: The effect of model synovial fluid composition. <i>Tribology International</i> , <b>2018</b> , 117, 206-216	4.9	19
96	Effects of lateral harmonic vibrations on film thickness in EHL point contacts. <i>Tribology International</i> , <b>2018</b> , 117, 236-249	4.9	4
95	The effect of surface roughness on friction and film thickness in transition from EHL to mixed lubrication. <i>Tribology International</i> , <b>2018</b> , 128, 356-364	4.9	24
94	The Effect of Kinematic Conditions and Synovial Fluid Composition on the Frictional Behaviour of Materials for Artificial Joints. <i>Materials</i> , <b>2018</b> , 11,	3.5	9
93	UHMWPE acetabular cup creep deformation during the run-in phase of THA's life cycle. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2018</b> , 87, 30-39	4.1	11
92	Metal matrix to ceramic matrix transition via feedstock processing of SPS titanium composites alloyed with high silicone content. <i>Journal of Alloys and Compounds</i> , <b>2018</b> , 764, 776-788	5.7	16
91	Analytical Formula for the Ratio of Central to Minimum Film Thickness in a Circular EHL Contact. <i>Lubricants</i> , <b>2018</b> , 6, 80	3.1	4
90	The Effect of Kinematic Conditions on Film Thickness in Compliant Lubricated Contact. <i>Journal of Tribology</i> , <b>2018</b> , 140,	1.8	4
89	On the Temperature and Lubricant Film Thickness Distribution in EHL Contacts with Arbitrary Entrainment. <i>Lubricants</i> , <b>2018</b> , 6, 101	3.1	4

88	Effects of out-of-contact lubricant channeling on friction and film thickness in starved elastohydrodynamic lubrication point contacts. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , <b>2017</b> , 231, 432-440	1.4	2
87	Wear Analysis of Extracted Polyethylene Acetabular Cups Using a 3D Optical Scanner. <i>Tribology Transactions</i> , <b>2017</b> , 60, 437-447	1.8	10
86	Numerical study on the interaction of transversely oriented ridges in thermal elastohydrodynamic lubrication point contacts using the Eyring shear-thinning model. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , <b>2017</b> , 231, 93-106	1.4	7
85	Influence of Lubricant Inlet Film Thickness on Elastohydrodynamically Lubricated Contact Starvation. <i>Journal of Tribology</i> , <b>2017</b> , 139,	1.8	7
84	The impact of surface and geometry on coefficient of friction of artificial hip joints. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2017</b> , 72, 192-199	4.1	28
83	The Influence of Proteins and Speed on Friction and Adsorption of Metal/UHMWPE Contact Pair. <i>Biotribology</i> , <b>2017</b> , 11, 51-59	2.3	16
82	The effect of surface grooves on transition to mixed lubrication. <i>Tribology International</i> , <b>2017</b> , 114, 409-417	4.1	6
81	In situ observation of lubricant film formation in THR considering real conformity: The effect of diameter, clearance and material. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2017</b> , 69, 66-74	4.1	18
80	Effects of lubricant rheology and impact speed on EHL film thickness at pure squeeze action. <i>Tribology International</i> , <b>2017</b> , 106, 1-9	4.9	8
79	Prediction of Shallow Indentation Effects in a Rolling-Sliding EHL Contact Based on Amplitude Attenuation Theory. <i>Tribology Online</i> , <b>2017</b> , 12, 1-7	0.9	3
78	Influence of Li Grease Thickeners Types on Film Thicknesses Formed between Smooth and Dented Surfaces. <i>Tribology Online</i> , <b>2017</b> , 12, 262-273	0.9	3
77	Experimental Comparison of the Behavior between Base Oil and Grease Starvation Based on Inlet Film Thickness. <i>Tribology in Industry</i> , <b>2017</b> , 39, 110-119	1.9	2
76	Lubricant flow in thin-film elastohydrodynamic contact under extreme conditions. <i>Friction</i> , <b>2016</b> , 4, 380-390	4.9	8
75	Transition from plug-flow to linear speed profile near a dent in a rolling-sliding EHL contact. <i>Tribology International</i> , <b>2016</b> , 100, 344-350	4.9	4
74	Experimental Study of Roughness Effect in a Rolling-Sliding EHL Contact. Part II: Complementary Effects. <i>Tribology Transactions</i> , <b>2016</b> , 59, 277-285	1.8	9
73	Effect of surface roughness on lubricant film breakdown and transition from EHL to mixed lubrication. <i>Tribology International</i> , <b>2016</b> , 100, 116-125	4.9	33
72	Influence of thermal conductivity of contact bodies on perturbed film caused by a ridge and groove in point EHL contacts. <i>Tribology International</i> , <b>2016</b> , 100, 84-98	4.9	8
71	A novel functional layered diamond like carbon coating for orthopedics applications. <i>Diamond and Related Materials</i> , <b>2016</b> , 61, 56-69	3.5	20

70	Experimental Study of Roughness Effect in a RollingSliding EHL Contact. Part I: Roughness Deformation. <i>Tribology Transactions</i> , <b>2016</b> , 59, 267-276	1.8	17
69	The Influence of Surface Modification on Friction and Lubrication Mechanism Under a Bovine SerumLubricated Condition. <i>Tribology Transactions</i> , <b>2016</b> , 59, 316-322	1.8	2
68	Abnormal lubricant aggregation on roughness features in a rollingSliding elastohydrodynamic contact. <i>Tribology International</i> , <b>2016</b> , 94, 346-351	4.9	1
67	Surface Roughness Effects under High Sliding EHL Conditions. <i>Tribology Online</i> , <b>2016</b> , 11, 34-39	0.9	1
66	Study of Scale Effect in a Starved Elastohydrodynamically Lubricated Contact. <i>Applied Mechanics and Materials</i> , <b>2016</b> , 821, 138-143	0.3	
65	Lubrication within hip replacements - Implication for ceramic-on-hard bearing couples. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2016</b> , 61, 371-383	4.1	16
64	Improved wear resistance of functional diamond like carbon coated Ti-6Al-4V alloys in an edge loading conditions. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2016</b> , 59, 586-595	4.1	27
63	The effect of surface grooves on film breakdowns in point contacts. <i>Tribology International</i> , <b>2016</b> , 102, 249-256	4.9	10
62	Laboratory investigation of ability of oil-based friction modifiers to control adhesion at wheel-rail interface. <i>Wear</i> , <b>2016</b> , 368-369, 230-238	3.5	17
61	Comment on History, Origins and Prediction of Elastohydrodynamic FrictionBy Spikes and Jie. <i>Tribology Letters</i> , <b>2015</b> , 58, 1	2.8	36
60	Lubricant Rupture Ratio at Elastohydrodynamically Lubricated Contact Outlet. <i>Tribology Letters</i> , <b>2015</b> , 59, 1	2.8	6
59	Mechanism for Controlling Oil Replenishment in Starved Elliptical EHL Contacts. <i>Tribology Letters</i> , <b>2015</b> , 60, 1	2.8	0
58	Experimental and numerical investigation on the behavior of transverse limited micro-grooves in EHL point contacts. <i>Tribology International</i> , <b>2015</b> , 84, 81-89	4.9	27
57	Influence of sanding parameters on adhesion recovery in contaminated wheelRail contact. <i>Wear</i> , <b>2015</b> , 322-323, 218-225	3.5	28
56	Tribological investigation of ultra-high molecular weight polyethylene against advanced ceramic surfaces in total hip joint replacement. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , <b>2015</b> , 229, 410-419	1.4	14
55	Towards near-permanent CoCrMo prosthesis surface by combining micro-texturing and low temperature plasma carburising. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2015</b> , 55, 215-227	4.1	17
54	The effect of lubricant constituents on lubrication mechanisms in hip joint replacements. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2015</b> , 55, 295-307	4.1	25
53	Fabrication and characterization of DLC coated microdimples on hip prosthesis heads. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , <b>2015</b> , 103, 1002-12	3.5	24

52	Reducing the friction of lubricated nonconformal point contacts by transverse shallow micro-grooves. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , <b>2015</b> , 229, 420-428	1.4	7
51	Fundamentals of thermal elastohydrodynamic lubrication in Si <sub>3</sub> N <sub>4</sub> and steel circular contacts. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , <b>2015</b> , 229, 929-939	1.4	10
50	A novel tribological study on DLC-coated micro-dimpled orthopedics implant interface. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , <b>2015</b> , 45, 121-31	4.1	40
49	EXPERIMENTAL OBSERVATION OF ELASTOHYDRODYNAMICALLY LUBRICATED CONTACTS REPLENISHMENT. <i>MM Science Journal</i> , <b>2015</b> , 2015, 640-644	1.9	4
48	FILM THICKNESS MAPPING IN LUBRICATED CONTACTS USING FLUORESCENCE. <i>MM Science Journal</i> , <b>2015</b> , 2015, 821-824	1.9	3
47	EXPERIMENTAL INVESTIGATION OF LUBRICATION FILM FORMATION AT START-UP OF SMOOTH SURFACES. <i>MM Science Journal</i> , <b>2015</b> , 2015, 825-828	1.9	2
46	Surface Modifications and Tribological Effect in Orthopedics Implants. <i>Advances in Chemical and Materials Engineering Book Series</i> , <b>2015</b> , 193-217	0.2	
45	Evidence of Plug Flow in RollingSliding Elastohydrodynamic Contact. <i>Tribology Letters</i> , <b>2014</b> , 54, 151-160.8	1.8	14
44	Microgroove formation in surface ridges in impact elliptical EHL contacts. <i>Lubrication Science</i> , <b>2014</b> , 26, 283-299	1.3	2
43	In situ measurements of thin films in bovine serum lubricated contacts using optical interferometry. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , <b>2014</b> , 228, 149-58	1.7	25
42	Analytical and experimental investigation on friction of non-conformal point contacts under starved lubrication. <i>Meccanica</i> , <b>2013</b> , 48, 545-553	2.1	18
41	Quantitative elastohydrodynamic film thickness of mechanically degraded oil. <i>Tribology International</i> , <b>2013</b> , 64, 33-38	4.9	9
40	Theoretical and Experimental Investigations on EHL Point Contacts with Different Entrainment Velocity Directions. <i>Tribology Transactions</i> , <b>2013</b> , 56, 728-738	1.8	14
39	Experimental study of starved EHL contacts based on thickness of oil layer in the contact inlet. <i>Tribology International</i> , <b>2013</b> , 67, 140-145	4.9	23
38	Enhancing the parameters of starved EHL point conjunctions by artificially induced replenishment. <i>Tribology International</i> , <b>2013</b> , 66, 134-142	4.9	18
37	Formation of micro-grooves under impact loading in elliptical contacts with surface ridges. <i>Tribology International</i> , <b>2013</b> , 65, 336-345	4.9	5
36	Effect of Surface Velocity Directions on Elastohydrodynamic Film Shape. <i>Tribology Transactions</i> , <b>2013</b> , 56, 301-309	1.8	15
35	An Approximate Approach to Predict the Degree of Starvation in BallDisk Machine Based on the Relative Friction. <i>Tribology Transactions</i> , <b>2013</b> , 56, 681-686	1.8	5

34	Application of Spectroscopic Reflectometry to Elastohydrodynamic Lubrication Films Study. <i>Tribology Letters</i> , <b>2012</b> , 45, 195-205	2.8	3
33	The Behavior of Surface Roughness in EHL Contacts Under Small Slide to Roll Ratios. <i>Tribology Letters</i> , <b>2012</b> , 47, 357-366	2.8	9
32	Study of Elastohydrodynamic Film Shape Under Different Directions of Velocity Vectors <b>2011</b> ,		1
31	Effect of shot peening on rolling contact fatigue and lubricant film thickness within mixed lubricated non-conformal rolling/sliding contacts. <i>Tribology International</i> , <b>2011</b> , 44, 1726-1735	4.9	27
30	Effect of surface texturing on lubrication film formation and rolling contact fatigue within mixed lubricated non-conformal contacts. <i>Meccanica</i> , <b>2011</b> , 46, 491-498	2.1	21
29	Mechanical Degradation of the Liquid in an Operating EHL Contact. <i>Tribology Letters</i> , <b>2011</b> , 41, 191-197	2.8	10
28	Effect of surface texturing on elastohydrodynamically lubricated contact under transient speed conditions. <i>Tribology International</i> , <b>2011</b> , 44, 1144-1150	4.9	30
27	The Effect of Load (Pressure) for Quantitative EHL Film Thickness. <i>Tribology Letters</i> , <b>2010</b> , 37, 613-622	2.8	36
26	Effect of surface topography on mixed lubrication film formation during start up under rolling/sliding conditions. <i>Tribology International</i> , <b>2010</b> , 43, 1035-1042	4.9	29
25	Effect of surface texturing on rolling contact fatigue within mixed lubricated non-conformal rolling/sliding contacts. <i>Tribology International</i> , <b>2010</b> , 43, 1457-1465	4.9	52
24	Newtonian quantitative elastohydrodynamic film thickness with linear piezoviscosity. <i>Tribology International</i> , <b>2010</b> , 43, 2159-2165	4.9	16
23	Effect of real longitudinal surface roughness on lubrication film formation within line elastohydrodynamic contact. <i>Tribology International</i> , <b>2010</b> , 43, 2384-2389	4.9	12
22	An Experimental Validation of the Recently Discovered Scale Effect in Generalized Newtonian EHL. <i>Tribology Letters</i> , <b>2009</b> , 33, 127-135	2.8	42
21	Behavior of thin viscous boundary films in lubricated contacts between micro-textured surfaces. <i>Tribology International</i> , <b>2009</b> , 42, 535-541	4.9	17
20	Numerical evaluation of pressure from experimentally measured film thickness in EHL point contact. <i>Lubrication Science</i> , <b>2008</b> , 20, 47-59	1.3	2
19	The Shear-Thinning Elastohydrodynamic Film Thickness of a Two-Component Mixture. <i>Journal of Tribology</i> , <b>2008</b> , 130,	1.8	15
18	Effect of Surface Texturing on Very Thin Film EHD Lubricated Contacts. <i>Tribology Transactions</i> , <b>2008</b> , 52, 21-28	1.8	20
17	Effect of surface texturing on mixed lubricated non-conformal contacts. <i>Tribology International</i> , <b>2008</b> , 41, 1063-1073	4.9	50

16	Behavior of real roughness features within mixed lubricated non-conformal contacts. <i>Tribology International</i> , <b>2008</b> , 41, 1153-1160	4.9	20
15	The effect of surface texturing on thin EHD lubrication films. <i>Tribology International</i> , <b>2007</b> , 40, 1100-1110	4.9	89
14	The influence of thin boundary films on real surface roughness in thin film, mixed EHD contact. <i>Tribology International</i> , <b>2007</b> , 40, 1553-1560	4.9	16
13	EHL Film Thickness Behaviour Under High Pressure [Comparison between Numerical and Experimental Results. <i>Solid Mechanics and Its Applications</i> , <b>2006</b> , 217-228	0.4	3
12	Experimental study of the behaviour of real asperities within lubricated contacts. <i>Lubrication Science</i> , <b>2006</b> , 18, 129-139	1.3	3
11	Pressure Distribution Within EHD Point Contacts Based on Measured Film Thickness <b>2006</b> , 55		1
10	Thin lubricating films behaviour at very high contact pressure. <i>Tribology International</i> , <b>2006</b> , 39, 1726-1731	4.1	8
9	EHL simulation using the free-volume viscosity model. <i>Tribology Letters</i> , <b>2006</b> , 23, 27-37	2.8	38
8	Calculation of pressure distribution in EHD point contacts from experimentally determined film thickness. <i>Tribology International</i> , <b>2005</b> , 38, 391-401	4.9	7
7	Differential Colorimetry: A tool for the analysis of fluid film lubrication. <i>Mecanique Et Industries</i> , <b>2002</b> , 3, 571-581		3
6	Experimental study of central and minimum film thickness in elastohydrodynamic elliptic contacts. <i>Tribology Series</i> , <b>2001</b> , 39, 495-504		
5	Thin film lubrication study by colorimetric interferometry. <i>Tribology Series</i> , <b>2000</b> , 38, 695-704		6
4	Experimental Study of Central and Minimum Elastohydrodynamic Film Thickness by Colorimetric Interferometry Technique. <i>Tribology Transactions</i> , <b>2000</b> , 43, 611-618	1.8	11
3	An Automatic System for Real-Time Evaluation of EHD Film Thickness and Shape Based on the Colorimetric Interferometry. <i>Tribology Transactions</i> , <b>1999</b> , 42, 303-309	1.8	73
2	Elastohydrodynamic lubricant film shape - comparison between experimental and theoretical results. <i>Tribology Series</i> , <b>1998</b> , 34, 221-232		3
1	Film thickness interrelationship of base oil and grease lubricated compliant and hard non-conformal contacts. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 135065012110535	1.4	