

# David F Katz

## List of Publications by Year in descending order

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74  
papers

5,048  
citations

81900

39  
h-index

85541

71  
g-index

74  
all docs

74  
docs citations

74  
times ranked

3067  
citing authors

#	ARTICLE	IF	CITATIONS
1	A vaginal fluid simulant. <i>Contraception</i> , 1999, 59, 91-95.	1.5	598
2	A Review of the Physical and Chemical Properties of Human Semen and the Formulation of a Semen Simulant. <i>Journal of Andrology</i> , 2005, 26, 459-469.	2.0	345
3	Penetration of Human Spermatozoa into the Human Zona Pellucida and the Zona-Free Hamster Egg: A Study of Fertile Donors and Infertile Patients**Supported in part by a grant from the International Planned Parenthood Federation (to R. Y.).. <i>Fertility and Sterility</i> , 1980, 33, 534-542.	1.0	340
4	Factors regulating mammalian sperm migration through the female reproductive tract and oocyte vestments. <i>Gamete Research</i> , 1989, 22, 443-469.	1.7	214
5	Sperm Motility Assessment by Videomicrography. <i>Fertility and Sterility</i> , 1981, 35, 188-193.	1.0	193
6	Morphometric Analysis of Spermatozoa in the Assessment of Human Male Fertility. <i>Journal of Andrology</i> , 1986, 7, 203-210.	2.0	164
7	A Simple Inexpensive Method for Objective Assessment of Human Sperm Movement Characteristics. <i>Fertility and Sterility</i> , 1979, 31, 162-172.	1.0	160
8	In vitro studies of the golden hamster sperm acrosome reaction: Completion on the zona pellucida and induction by homologous soluble zonae pellucidae. <i>Developmental Biology</i> , 1986, 114, 119-131.	2.0	160
9	Andrology Lab Corner*: Reflections on CASA After 25 Years. <i>Journal of Andrology</i> , 2004, 25, 317-325.	2.0	139
10	On the propulsion of micro-organisms near solid boundaries. <i>Journal of Fluid Mechanics</i> , 1974, 64, 33-49.	3.4	132
11	Movement Characteristics and Acrosomal Status of Rabbit Spermatozoa Recovered at the Site and Time of Fertilization. <i>Biology of Reproduction</i> , 1983, 29, 1277-1287.	2.7	132
12	Differences in the Movement of Morphologically Normal and Abnormal Human Seminal Spermatozoa. <i>Biology of Reproduction</i> , 1982, 26, 566-570.	2.7	107
13	Localization of cortical granule constituents before and after exocytosis in the hamster egg. <i>The Journal of Experimental Zoology</i> , 1988, 246, 81-93.	1.4	104
14	Human sperm penetration of zona-free hamster eggs after storage of the semen for 48 hours at 2Å° C to 5Å° C. <i>Fertility and Sterility</i> , 1983, 39, 536-541.	1.0	98
15	What functions of the sperm cell are measured by in vitro fertilization of zona-free hamster eggs?. <i>Fertility and Sterility</i> , 1983, 40, 344-352.	1.0	98
16	A New Quantitative Test for Sperm Penetration into Cervical Mucus. <i>Fertility and Sterility</i> , 1980, 33, 179-186.	1.0	94
17	Rheological properties of contraceptive gels. <i>Contraception</i> , 2000, 62, 321-326.	1.5	92
18	Temperature and pH Sensitive Hydrogels: An Approach Towards Smart Semen-Triggered Vaginal Microbicidal Vehicles. <i>Journal of Pharmaceutical Sciences</i> , 2007, 96, 670-681.	3.3	80

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19	A study of the effect of perchloroethylene exposure on semen quality in dry cleaning workers. American Journal of Industrial Medicine, 1991, 20, 575-591.	2.1	72
20	Mechanisms of filtration of morphologically abnormal human sperm by cervical mucus. Fertility and Sterility, 1990, 54, 513-516.	1.0	70
21	Changes in motility that accompany the acrosome reaction in hyperactivated hamster spermatozoa. Gamete Research, 1984, 10, 253-265.	1.7	66
22	Human cervical mucus: Research update. American Journal of Obstetrics and Gynecology, 1991, 165, 1984-1986.	1.3	63
23	Methods for assessing rat sperm motility. Reproductive Toxicology, 1992, 6, 267-273.	2.9	61
24	Biophysical properties of the zona pellucida measured by capillary suction: Is zona hardening a mechanical phenomenon?. The Journal of Experimental Zoology, 1988, 245, 206-219.	1.4	60
25	Location of the PH-20 Protein on Acrosome-Intact and Acrosome-Reacted Spermatozoa of Cynomolgus Macaques <sup>1</sup> . Biology of Reproduction, 1995, 52, 105-114.	2.7	60
26	Structure of the cumulus matrix and zona pellucida in the golden hamster: A new view of sperm interaction with oocyte-associated extracellular matrices. Cell and Tissue Research, 1988, 251, 555-564.	2.9	59
27	Multivalent Benzoboroxole Functionalized Polymers as gp120 Glycan Targeted Microbicide Entry Inhibitors. Molecular Pharmaceutics, 2010, 7, 116-129.	4.6	59
28	Squeezing Flows of Vaginal Gel Formulations Relevant to Microbicide Drug Delivery. Journal of Biomechanical Engineering, 2006, 128, 540-553.	1.3	58
29	Laboratory methods for assessing human semen in epidemiologic studies: A consensus report. Reproductive Toxicology, 1992, 6, 275-279.	2.9	54
30	In Vitro Capacitation of Human Spermatozoa After Passage Through a Column of Cervical Mucus. Fertility and Sterility, 1980, 34, 604-606.	1.0	53
31	Effect of temperature and pH on contraceptive gel viscosity. Contraception, 2003, 67, 57-64.	1.5	52
32	Simultaneous Assessment of Human Sperm Motility and Morphology by Videomicrography. Journal of Urology, 1981, 126, 357-360.	0.4	49
33	Vaginal drug distribution modeling. Advanced Drug Delivery Reviews, 2015, 92, 2-13.	13.7	48
34	Motility of Rabbit Spermatozoa in the Secretions of the Oviduct. Biology of Reproduction, 1980, 22, 1083-1088.	2.7	46
35	Movement Characteristics of Bovine Epididymal Spermatozoa: Effects of Forward Motility Protein and Epididymal Maturation. Biology of Reproduction, 1983, 29, 389-399.	2.7	46
36	Gravity-induced coating flows of vaginal gel formulations: In vitro experimental analysis. Journal of Pharmaceutical Sciences, 2004, 93, 2941-2952.	3.3	43

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37	Dilution of Microbicide Gels With Vaginal Fluid and Semen Simulants: Effect on Rheological Properties and Coating Flow. <i>Journal of Pharmaceutical Sciences</i> , 2008, 97, 1030-1038.	3.3	43
38	The evolution of hamster sperm motility during capacitation and interaction with the ovum vestments in vitro. <i>Gamete Research</i> , 1986, 14, 333-346.	1.7	42
39	A study of the effect of perchloroethylene exposure on the reproductive outcomes of wives of dry-cleaning workers. <i>American Journal of Industrial Medicine</i> , 1991, 20, 593-600.	2.1	42
40	The Importance of Seminal Plasma for Sperm Penetration of Human Cervical Mucus. <i>Fertility and Sterility</i> , 1980, 34, 569-572.	1.0	40
41	Erosion of microbicide formulation coating layers: Effects of contact and shearing with vaginal fluid or semen. <i>Journal of Pharmaceutical Sciences</i> , 2005, 94, 1705-1712.	3.3	37
42	Dynamics of HIV Neutralization by a Microbicide Formulation Layer: Biophysical Fundamentals and Transport Theory. <i>Biophysical Journal</i> , 2006, 91, 2121-2130.	0.5	37
43	Design of a Semisolid Vaginal Microbicide Gel by Relating Composition to Properties and Performance. <i>Pharmaceutical Research</i> , 2010, 27, 2478-2491.	3.5	37
44	Cervical mucus. <i>Advanced Drug Delivery Reviews</i> , 1993, 11, 385-401.	13.7	35
45	The use of a urinary estrone conjugates assay for detection of optimal mating time in the cynomolgus macaque ( <i>Macaca fascicularis</i> ). <i>Journal of Medical Primatology</i> , 1991, 20, 229-234.	0.6	35
46	Designing Preclinical Perceptibility Measures to Evaluate Topical Vaginal Gel Formulations: Relating User Sensory Perceptions and Experiences to Formulation Properties. <i>AIDS Research and Human Retroviruses</i> , 2014, 30, 78-91.	1.1	31
47	Organization of the Hamster Cumulus Extracellular Matrix: A Hyaluronate-Glycoprotein Gel which Modulates Sperm Access to the Oocyte. <i>Extracellular matrix/Hyaluronate/Oocyte-cumulus complex/Extracellular matrix glycoproteins/Sperm enzymes. Development Growth and Differentiation</i> , 1990, 32, 353-365.	1.5	28
48	Factors influencing nonoxynol-9 permeation and bioactivity in cervical mucus. <i>Journal of Controlled Release</i> , 1999, 60, 23-34.	9.9	28
49	Comparison of the rheological properties of Advantage-S and Replens. <i>Contraception</i> , 2001, 64, 393-396.	1.5	27
50	Compartmental Transport Model of Microbicide Delivery by an Intravaginal Ring. <i>Journal of Pharmaceutical Sciences</i> , 2010, 99, 3514-3521.	3.3	26
51	Multicompartmental Pharmacokinetic Model of Tenofovir Delivery by a Vaginal Gel. <i>PLoS ONE</i> , 2013, 8, e74404.	2.5	25
52	Using modeling to help understand vaginal microbicide functionality and create better products. <i>Drug Delivery and Translational Research</i> , 2011, 1, 256-276.	5.8	22
53	The rational design and development of a dual chamber vaginal/rectal microbicide gel formulation for HIV prevention. <i>Antiviral Research</i> , 2015, 120, 153-164.	4.1	21
54	Biophysical Analysis of Prototype Microbicidal Gels. <i>Journal of Pharmaceutical Sciences</i> , 2007, 96, 661-669.	3.3	20

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55	Transport Theory for HIV Diffusion through In Vivo Distributions of Topical Microbicide Gels. <i>Biophysical Journal</i> , 2009, 97, 2379-2387.	0.5	18
56	Transient spreading and swelling behavior of a gel deploying an anti-HIV topical microbicide. <i>Journal of Non-Newtonian Fluid Mechanics</i> , 2012, 187-188, 36-42.	2.4	18
57	Characteristics of Sperm Motility. <i>Annals of the New York Academy of Sciences</i> , 1991, 637, 409-423.	3.8	17
58	Semi-solid gels function as physical barriers to human immunodeficiency virus transport in vitro. <i>Antiviral Research</i> , 2010, 88, 143-151.	4.1	17
59	The effects of inhomogeneous boundary dilution on the coating flow of an anti-HIV microbicide vehicle. <i>Physics of Fluids</i> , 2011, 23, 093101.	4.0	16
60	Transient swelling, spreading, and drug delivery by a dissolved anti-HIV microbicide-bearing film. <i>Physics of Fluids</i> , 2013, 25, 31901.	4.0	16
61	Semen Analysis. <i>Urologic Clinics of North America</i> , 1987, 14, 441-449.	1.8	16
62	Assessment of a new spermicidal agent against ejaculated dog and human spermatozoa in vitro. <i>Fertility and Sterility</i> , 1983, 40, 231-236.	1.0	14
63	Alteration of human sperm kinematics in cervical mucus due to nonoxynol-9. <i>Contraception</i> , 1997, 55, 209-217.	1.5	14
64	Label-Free Measurements of Tenofovir Diffusion Coefficients in a Microbicide Gel Using Raman Spectroscopy. <i>Journal of Pharmaceutical Sciences</i> , 2017, 106, 639-644.	3.3	11
65	The Mechanisms and Analysis of Sperm Migration Through Cervical Mucus. <i>Advances in Experimental Medicine and Biology</i> , 1982, 144, 319-330.	1.6	10
66	Kinematic Response of Human Spermatozoa to Nonoxynol-9. <i>Biology of Reproduction</i> , 1994, 50, 903-911.	2.7	8
67	Sodium bicarbonate gels: a new promising strategy for the treatment of vulvovaginal candidosis. <i>European Journal of Pharmaceutical Sciences</i> , 2021, 157, 105621.	4.0	8
68	Movement of cynomolgus and rhesus monkey spermatozoa collected from the lower female reproductive tract. <i>Gamete Research</i> , 1989, 24, 333-342.	1.7	5
69	Measuring Dilution of Microbicide Gels with Optical Imaging. <i>PLoS ONE</i> , 2013, 8, e82213.	2.5	5
70	Early Indicators of Male Reproductive Toxicity. <i>Risk Analysis</i> , 1988, 8, 21-26.	2.7	3
71	Tenofovir Diphosphate Concentrations in Human Vaginal Stroma after Different Dosage Regimens with a Vaginal Gel: A Modeling Approach. <i>AIDS Research and Human Retroviruses</i> , 2014, 30, A258-A259.	1.1	2
72	Coupled gel spreading and diffusive transport models describing microbicidal drug delivery. <i>Chemical Engineering Science</i> , 2016, 152, 12-20.	3.8	2

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73	Deducing Mucosal Pharmacokinetics and Pharmacodynamics of the Anti-HIV Molecule Tenofovir from Measurements in Blood. <i>Scientific Reports</i> , 2019, 9, 82.	3.3	2
74	Mass Transport Theory Improves Compartmental PK Modeling of Microbicides and Helps Guide Product Science and Development. <i>AIDS Research and Human Retroviruses</i> , 2014, 30, A147-A147.	1.1	1