Sebastian A Kaiser

List of Publications by Citations

70 papers	1,218 citations	20 h-index	31 g-index
77 ext. papers	1,516 ext. citations	3.7 avg, IF	4.76 L-index

#	Paper	IF	Citations
70	VCSEL-based, high-speed, in situ TDLAS for in-cylinder water vapor measurements in IC engines. *Optics Express*, **2013**, 21, 19951-65	3.3	89
69	Reaction-rate, mixture-fraction, and temperature imaging in turbulent methane/air jet flames. *Proceedings of the Combustion Institute*, **2002**, 29, 2687-2694	5.9	64
68	Thermal stratification in an internal combustion engine due to wall heat transfer measured by laser-induced fluorescence. *Proceedings of the Combustion Institute*, **2013**, 34, 2911-2919	5.9	51
67	Quantitative planar laser-induced fluorescence of naphthalenes as fuel tracers. *Proceedings of the Combustion Institute*, **2005**, 30, 1555-1563	5.9	48
66	Multiscalar imaging in partially premixed jet flames with argon dilution. *Combustion and Flame*, **2005**, 143, 507-523	5.3	47
65	High-resolution imaging of dissipative structures in a turbulent jet flame with laser Rayleigh scattering. *Experiments in Fluids*, **2008**, 44, 221-233	2.5	44
64	Polarized/depolarized rayleigh scattering for determining fuel concentrations in flames. *Proceedings of the Combustion Institute*, **2002**, 29, 2703-2709	5.9	41
63	Mixture Formation in Direct Injection Hydrogen Engines: CFD and Optical Analysis of Single- and Multi-Hole Nozzles. *SAE International Journal of Engines*, **2011**, 4, 2361-2375	2.4	38
62	Imaging of dissipative structures in the near field of a turbulent non-premixed jet flame. *Proceedings of the Combustion Institute*, **2007**, 31, 1515-1523	5.9	37
61	Combined production of power and syngas in an internal combustion engine Experiments and simulations in SI and HCCI mode. *Fuel*, **2018**, 215, 40-45	7.1	35
60	Two-dimensional cycle-resolved exhaust valve temperature measurements in an optically accessible internal combustion engine using thermographic phosphors. *Applied Physics B: Lasers and Optics*, **2012**, 106, 945-951	1.9	32
59	Spatial scales of extinction and dissipation in the near field of non-premixed turbulent jet flames. *Proceedings of the Combustion Institute*, **2009**, 32, 1639-1646	5.9	29
58	An analysis of lower-dimensional approximations to the scalar dissipation rate using direct numerical simulations of plane jet flames. *Proceedings of the Combustion Institute*, **2009**, 32, 1455-1463	5.9	28
57	Power and syngas production from partial oxidation of fuel-rich methane/DME mixtures in an HCCI engine. *Fuel*, **2019**, 243, 97-103	7.1	27
56	A comparison of selected organic tracers for quantitative scalar imaging in the gas phase via laser-induced fluorescence. *Applied Physics B: Lasers and Optics*, **2014**, 117, 183-194	1.9	26
55	An Optical Study of Mixture Preparation in a Hydrogen-fueled Engine with Direct Injection Using Different Nozzle Designs. *SAE International Journal of Engines*, **2009**, 2, 119-131	2.4	24
54	High-resolution imaging of turbulence structures in jet flames and non-reacting jets with laser Rayleigh scattering. *Experiments in Fluids*, **2010**, 49, 823-837	2.5	23

53	High-speed film-thickness measurements between a collapsing cavitation bubble and a solid surface with total internal reflection shadowmetry. *Physics of Fluids*, **2019**, 31, 097108	4.4	22
52	The Electrospray and Combustion at the Mesoscale.. *Journal of the Mass Spectrometry Society of Japan*, **2003**, 51, 42-49	0.2	22
51	Spatially Resolved Experimental and Numerical Investigation of the Flow through the Intake Port of an Internal Combustion Engine. *Oil and Gas Science and Technology*, **2016**, 71, 2	1.9	22
50	Development of laser-induced fluorescence to quantify in-cylinder fuel wall films. *International Journal of Engine Research*, **2018**, 19, 134-147	2.7	19
49	Use of Rayleigh imaging and ray tracing to correct for beam-steering effects in turbulent flames. *Applied Optics*, **2005**, 44, 6557-64	1.7	19
48	Numerical investigation of the process steps in a spray flame reactor for nanoparticle synthesis. *Proceedings of the Combustion Institute*, **2015**, 35, 2259-2266	5.9	18
47	Quantitative two-dimensional measurement of oil-film thickness by laser-induced fluorescence in a piston-ring model experiment. *Applied Optics*, **2016**, 55, 269-79	0.2	18
46	Endoscopic temperature imaging in a four-cylinder IC engine via two-color toluene fluorescence. *Proceedings of the Combustion Institute*, **2015**, 35, 3697-3705	5.9	18
45	Numerical and Optical Evolution of Gaseous Jets in Direct Injection Hydrogen Engines **2011**,		18
44	Influence of the Flow Field on Flame Propagation in a Hydrogen-Fueled Internal Combustion Engine. *SAE International Journal of Engines*, **2011**, 4, 2376-2394	2.4	18
43	Optimizing Precision and Accuracy of Quantitative PLIF of Acetone as a Tracer for Hydrogen Fuel. *SAE International Journal of Fuels and Lubricants*, **2009**, 2, 737-761	1.8	18
42	Analysis of scalar mixing dynamics in LES using high-resolution imaging of laser Rayleigh scattering in turbulent non-reacting jets and non-premixed jet flames. *Proceedings of the Combustion Institute*, **2011**, 33, 1373-1381	5.9	18
41	High-Speed Imaging of Early Flame Growth in Spark-Ignited Engines Using Different Imaging Systems via Endoscopic and Full Optical Access. *SAE International Journal of Engines*, **2016**, 9, 704-718	2.4	18
40	Calibration-free, high-speed, in-cylinder laser absorption sensor for cycle-resolved, absolute H2O measurements in a production IC engine. *Proceedings of the Combustion Institute*, **2015**, 35, 3653-3661	5.9	16
39	Endoscopic Imaging of Early Flame Propagation in a Near-Production Engine. *SAE International Journal of Engines*, **2014**, 7, 351-365	2.4	16
38	CFD and Optical Investigations of Fluid Dynamics and Mixture Formation in a DI-H2ICE **2010**,		16
37	PIV and PLIF to Evaluate Mixture Formation in a Direct-Injection Hydrogen-Fuelled Engine. *SAE International Journal of Engines*, **2008**, 1, 657-668	2.4	16
36	High-resolution LES of a starting jet. *Computers and Fluids*, **2016**, 140, 435-449	2.8	14

35	Analysis of the interaction of Spray G and in-cylinder flow in two optical engines for late gasoline direct injection. *International Journal of Engine Research*, **2020**, 21, 169-184	2.7	14
34	LIF-based imaging of preferential evaporation of a multi-component gasoline surrogate in a direct-injection engine. *Proceedings of the Combustion Institute*, **2019**, 37, 1365-1372	5.9	13
33	Interaction of Intake-Induced Flow and Injection Jet in a Direct-Injection Hydrogen-Fueled Engine Measured by PIV **2011**,		13
32	The effects of laser-sheet thickness on dissipation measurements in turbulent non-reacting jets and jet flames. *Measurement Science and Technology*, **2011**, 22, 045403	2	13
31	Modeling and Experiments on Mixture Formation in a Hydrogen Direct-Injection Research Engine. *SAE International Journal of Engines*, **2009**, 2, 530-541	2.4	12
30	Influence of the In-Cylinder Flow Field (Tumble) on the Fuel Distribution in a DI Hydrogen Engine Using a Single-Hole Injector. *SAE International Journal of Engines*, **2010**, 3, 309-325	2.4	11
29	Flexible energy conversion and storage via high-temperature gas-phase reactions: The piston engine as a polygeneration reactor. *Renewable and Sustainable Energy Reviews*, **2020**, 133, 110264	16.2	10
28	Self-quenching in toluene LIF. *Proceedings of the Combustion Institute*, **2017**, 36, 4505-4514	5.9	10
27	A Computational Study of the Mixture Preparation in a Direct Injection Hydrogen Engine. *Journal of Engineering for Gas Turbines and Power*, **2015**, 137,	1.7	10
26	Schlieren measurements in the round cylinder of an optically accessible internal combustion engine. *Applied Optics*, **2013**, 52, 3433-43	1.7	10
25	Optical Diagnostics for Knock in Compression-Ignition Engines via High-Speed Imaging. *SAE International Journal of Engines*, **2018**, 11, 903-918	2.4	9
24	LES of Flow Processes in an SI Engine Using Two Approaches: OpenFoam and PsiPhi **2014**,		9
23	Multi-pulse shadowgraphic RGB illumination and detection for flow tracking. *Experiments in Fluids*, **2018**, 59, 1	2.5	8
22	Investigation of an IC Engine Intake Flow Based on Highly Resolved LES and PIV. *Oil and Gas Science and Technology*, **2017**, 72, 15	1.9	7
21	Penetration of the Flame Into the Top-Land Crevice - Large-Eddy Simulation and Experimental High-Speed Visualization **2015**,		7
20	The kinetics of methane ignition in fuel-rich HCCI engines: DME replacement by ozone. *Proceedings of the Combustion Institute*, **2021**, 38, 5567-5574	5.9	7
19	Application of reduced state spaces to laser-based measurements in combustion. *Proceedings of the Combustion Institute*, **2009**, 32, 887-894	5.9	5
18	High-resolution LIF-Imaging of the oil film thickness in the piston-ring / cylinder-liner contact in an optical tribometer. *Tribology International*, **2020**, 147, 106230	4.9	5

17	In-cylinder temperature measurements via time-correlated single-photon counting of toluene laser-induced fluorescence through a fiber-based sensor. *Optics Letters*, **2012**, 37, 5244-6	3	4
16	Experimental and Numerical Investigation of Damage on an Aluminum Surface by Single-Bubble Cavitation. *Materials Performance and Characterization*, **2018**, 7, 20180038	0.5	4
15	In-Cylinder LIF Imaging, IR-Absorption Point Measurements, and a CFD Simulation to Evaluate Mixture Formation in a CNG-Fueled Engine. *SAE International Journal of Engines*, **2018**, 11, 1221-1238	2.4	3
14	Development of a LIF-Imaging System for Simultaneous High-Speed Visualization of Liquid Fuel and Oil Films in an Optically Accessible DISI Engine **2018**,		3
13	Modeling study of reactive species formation from C1–C3 alkanes in an HCCI engine. *Combustion Theory and Modelling*, **2019**, 23, 1119-1133	1.5	3
12	Imaging of Fuel-Film Evaporation and Combustion in a Direct-Injection Model Experiment		3
11	Endoscopic fuel film, chemiluminescence, and soot incandescence imaging in a direct-injection spark-ignition engine. *Proceedings of the Combustion Institute*, **2021**, 38, 5869-5877	5.9	3
10	Large Eddy Simulations and Tracer-LIF Diagnostics of Wall Film Dynamics in an Optically Accessible GDI Research Engine		2
9	The oil film around a cylindrical micropore in a sliding contact visualized by fluorescence microscopy on a tribometer. *Tribology International*, **2022**, 165, 107309	4.9	2
8	Visualization of Fuel Wall Wetting, Oil Dilution by Fuel, and Oil Transport Mechanisms in an Optically Accessible Engine by LIF Imaging **2018**, 189-202		2
7	Visualization of soot formation from evaporating fuel films by laser-induced fluorescence and incandescence. *Proceedings of the Combustion Institute*, **2021**, 38, 1089-1097	5.9	2
6	In-cylinder temperature measurements via fiber-based toluene-LIF time-correlated single-photon counting **2012**,		1
5	A Study of ECN Spray B in a Light-Duty Optically Accessible Diesel Engine Based on High-Speed Imaging with LED Retro-Reflection		1
4	Comparison of damage mechanisms: Acoustic cavitation versus series of single laser-induced bubbles. *Wear*, **2021**, 476, 203641	3.5	1
3	Visualization and image analysis of droplet puffing and micro-explosion in spray-flame synthesis of iron oxide nanoparticles. *Experiments in Fluids*, **2022**, 63, 1	2.5	1
2	Characterization of the fluorescence properties of selected organic compounds for measuring the thickness of evaporating liquid fuel films. *Applied Physics B: Lasers and Optics*, **2021**, 127, 1	1.9	0
1	Analysis of high-speed broadband flame chemiluminescence imaging in a SI engine. *IOP Conference Series: Materials Science and Engineering*, **2020**, 788, 012060	0.4	