Jrgen Sandkhler

List of Publications by Citations

104 papers	8,753 citations	47 h-index	93 g-index
122 ext. papers	9,594 ext. citations	7.2 avg, IF	6.47 L-index

#	Paper	IF	Citations
104	Models and mechanisms of hyperalgesia and allodynia. *Physiological Reviews*, **2009**, 89, 707-58	47.9	819
103	Corelease of two fast neurotransmitters at a central synapse. *Science*, **1998**, 281, 419-24	33.3	652
102	Synaptic plasticity in spinal lamina I projection neurons that mediate hyperalgesia. *Science*, **2003**, 299, 1237-40	33.3	446
101	Synaptic amplifier of inflammatory pain in the spinal dorsal horn. *Science*, **2006**, 312, 1659-62	33.3	362
100	Neurogenic neuroinflammation: inflammatory CNS reactions in response to neuronal activity. *Nature Reviews Neuroscience*, **2014**, 15, 43-53	13.5	361
99	Learning and memory in pain pathways. *Pain*, **2000**, 88, 113-118	8	310
98	Long-term potentiation of C-fiber-evoked potentials in the rat spinal dorsal horn is prevented by spinal N-methyl-D-aspartic acid receptor blockage. *Neuroscience Letters*, **1995**, 191, 43-6	3.3	272
97	Perceptual correlates of nociceptive long-term potentiation and long-term depression in humans. *Journal of Neuroscience*, **2004**, 24, 964-71	6.6	264
96	Relative contributions of the nucleus raphe magnus and adjacent medullary reticular formation to the inhibition by stimulation in the periaqueductal gray of a spinal nociceptive reflex in the pentobarbital-anesthetized rat. *Brain Research*, **1984**, 305, 77-87	3.7	240
95	Understanding LTP in pain pathways. *Molecular Pain*, **2007**, 3, 9	3.4	238
94	Induction of long-term potentiation at spinal synapses by noxious stimulation or nerve injury. *European Journal of Neuroscience*, **1998**, 10, 2476-80	3.5	236
93	Characterization of inhibition of a spinal nociceptive reflex by stimulation medially and laterally in the midbrain and medulla in the pentobarbital-anesthetized rat. *Brain Research*, **1984**, 305, 67-76	3.7	187
92	Physiological, neurochemical and morphological properties of a subgroup of GABAergic spinal lamina II neurones identified by expression of green fluorescent protein in mice. *Journal of Physiology*, **2004**, 560, 249-66	3.9	166
91	Induction of synaptic long-term potentiation after opioid withdrawal. *Science*, **2009**, 325, 207-10	33.3	160
90	Lamina-specific membrane and discharge properties of rat spinal dorsal horn neurones in vitro. *Journal of Physiology*, **2002**, 541, 231-44	3.9	150
89	Long-term potentiation in spinal nociceptive pathways as a novel target for pain therapy. *Molecular Pain*, **2011**, 7, 20	3.4	149
88	Induction of thermal hyperalgesia and synaptic long-term potentiation in the spinal cord lamina I by TNF-□and IL-1□s mediated by glial cells. *Journal of Neuroscience*, **2013**, 33, 6540-51	6.6	141

87	JUN, FOS, KROX, and CREB transcription factor proteins in the rat cortex: basal expression and induction by spreading depression and epileptic seizures. *Journal of Comparative Neurology*, **1993**, 333, 271-88	3.4	137
86	Pre- and postsynaptic contributions of voltage-dependent Ca2+ channels to nociceptive transmission in rat spinal lamina I neurons. *European Journal of Neuroscience*, **2004**, 19, 103-11	3.5	130
85	Hyperalgesia by synaptic long-term potentiation (LTP): an update. *Current Opinion in Pharmacology*, **2012**, 12, 18-27	5.1	121
84	Modification of classical neurochemical markers in identified primary afferent neurons with Abeta-, Adelta-, and C-fibers after chronic constriction injury in mice. *Journal of Comparative Neurology*, **2007**, 502, 325-36	3.4	120
83	Long-term depression of C-fibre-evoked spinal field potentials by stimulation of primary afferent A delta-fibres in the adult rat. *European Journal of Neuroscience*, **1998**, 10, 3069-75	3.5	118
82	Selective activation of microglia facilitates synaptic strength. *Journal of Neuroscience*, **2015**, 35, 4552-70	6.6	111
81	Multiple targets of □-opioid receptor-mediated presynaptic inhibition at primary afferent A□- and C-fibers. *Journal of Neuroscience*, **2011**, 31, 1313-22	6.6	106
80	Inhibition of caspases prevents cell death of hippocampal CA1 neurons, but not impairment of hippocampal long-term potentiation following global ischemia. *Neuroscience*, **1999**, 93, 1219-22	3.9	100
79	Gliogenic LTP spreads widely in nociceptive pathways. *Science*, **2016**, 354, 1144-1148	33.3	95
78	Brain-derived neurotrophic factor improves long-term potentiation and cognitive functions after transient forebrain ischemia in the rat. *Experimental Neurology*, **1999**, 159, 511-9	5.7	95
77	Activation of spinal N-methyl-D-aspartate or neurokinin receptors induces long-term potentiation of spinal C-fibre-evoked potentials. *Neuroscience*, **1998**, 86, 1209-16	3.9	92
76	Distinctive membrane and discharge properties of rat spinal lamina I projection neurones in vitro. *Journal of Physiology*, **2004**, 555, 527-43	3.9	87
75	Partial correlation analysis for the identification of synaptic connections. *Biological Cybernetics*, **2003**, 89, 289-302	2.8	83
74	Identification of synaptic connections in neural ensembles by graphical models. *Journal of Neuroscience Methods*, **1997**, 77, 93-107	3	82
73	Spinal somatostatin superfusion in vivo affects activity of cat nociceptive dorsal horn neurons: comparison with spinal morphine. *Neuroscience*, **1990**, 34, 565-76	3.9	81
72	Potentiated expression of FOS protein in the rat spinal cord following bilateral noxious cutaneous stimulation. *Neuroscience*, **1992**, 48, 525-32	3.9	73
71	Erasure of a spinal memory trace of pain by a brief, high-dose opioid administration. *Science*, **2012**, 335, 235-8	33.3	71
70	Spinal pathways mediating tonic or stimulation-produced descending inhibition from the periaqueductal gray or nucleus raphe magnus are separate in the cat. *Journal of Neurophysiology*, **1987**, 58, 327-41	3.2	64

69	Direct excitation of spinal GABAergic interneurons by noradrenaline. *Pain*, **2009**, 145, 204-10	8	61
68	Induction of long-term potentiation of C fibre-evoked spinal field potentials requires recruitment of group I, but not group II/III metabotropic glutamate receptors. *Pain*, **2003**, 106, 373-379	8	59
67	How to erase memory traces of pain and fear. *Trends in Neurosciences*, **2013**, 36, 343-52	13.3	58
66	Physiological properties of spinal lamina II GABAergic neurons in mice following peripheral nerve injury. *Journal of Physiology*, **2006**, 577, 869-78	3.9	57
65	Induction of homosynaptic long-term depression at spinal synapses of sensory a delta-fibers requires activation of metabotropic glutamate receptors. *Neuroscience*, **2000**, 98, 141-8	3.9	57
64	Pain in neuromyelitis optica--prevalence, pathogenesis and therapy. *Nature Reviews Neurology*, **2014**, 10, 529-36	15	56
63	Distinct mechanisms underlying pronociceptive effects of opioids. *Journal of Neuroscience*, **2011**, 31, 16748-56	6.6	55
62	Spread of excitation across modality borders in spinal dorsal horn of neuropathic rats. *Pain*, **2008**, 135, 300-310	8	55
61	Central nervous system mast cells in peripheral inflammatory nociception. *Molecular Pain*, **2011**, 7, 42	3.4	52
60	Blockade of GABAA receptors in the midbrain periaqueductal gray abolishes nociceptive spinal dorsal horn neuronal activity. *European Journal of Pharmacology*, **1989**, 160, 163-6	5.3	51
59	Long-term potentiation at C-fibre synapses by low-level presynaptic activity in vivo. *Molecular Pain*, **2008**, 4, 18	3.4	49
58	Inhibition of c-Fos protein expression in rat spinal cord by antisense oligodeoxynucleotide superfusion. *European Journal of Neuroscience*, **1994**, 6, 880-4	3.5	48
57	Reduction of glycine receptor-mediated miniature inhibitory postsynaptic currents in rat spinal lamina I neurons after peripheral inflammation. *Neuroscience*, **2003**, 122, 799-805	3.9	47
56	Controlled superfusion of the rat spinal cord for studying non-synaptic transmission: an autoradiographic analysis. *Journal of Neuroscience Methods*, **1995**, 58, 193-202	3	47
55	Impaired excitatory drive to spinal GABAergic neurons of neuropathic mice. *PLoS ONE*, **2013**, 8, e73370	3.7	47
54	Effects of the NMDA-receptor antagonist ketamine on perceptual correlates of long-term potentiation within the nociceptive system. *Neuropharmacology*, **2007**, 52, 655-61	5.5	41
53	VGluT3+ primary afferents play distinct roles in mechanical and cold hypersensitivity depending on pain etiology. *Journal of Neuroscience*, **2014**, 34, 12015-28	6.6	39
52	Role of kainate receptors in nociception. *Brain Research Reviews*, **2002**, 40, 215-22		39

51	Characteristics of midbrain control of spinal nociceptive neurons and nonsomatosensory parameters in the pentobarbital-anesthetized rat. *Journal of Neurophysiology*, **1991**, 65, 33-48	3.2	39
50	Synaptic input of rat spinal lamina I projection and unidentified neurones in vitro. *Journal of Physiology*, **2005**, 566, 355-68	3.9	38
49	Characteristics of propriospinal modulation of nociceptive lumbar spinal dorsal horn neurons in the cat. *Neuroscience*, **1993**, 54, 957-67	3.9	38
48	Low dose of S+-ketamine prevents long-term potentiation in pain pathways under strong opioid analgesia in the rat spinal cord in vivo. *British Journal of Anaesthesia*, **2005**, 95, 518-23	5.4	36
47	Identification and characterization of rhythmic nociceptive and non-nociceptive spinal dorsal horn neurons in the rat. *Neuroscience*, **1994**, 61, 991-1006	3.9	36
46	Heterosynaptic long-term potentiation at GABAergic synapses of spinal lamina I neurons. *Journal of Neuroscience*, **2011**, 31, 17383-91	6.6	33
45	Inhibition of spinal nociceptive neurons by microinjections of somatostatin into the nucleus raphe magnus and the midbrain periaqueductal gray of the anesthetized cat. *Neuroscience Letters*, **1995**, 187, 137-41	3.3	33
44	The massive expression of c-fos protein in spinal dorsal horn neurons is not followed by long-term changes in spinal nociception. *Neuroscience*, **1996**, 73, 657-66	3.9	33
43	Synchronicity of nociceptive and non-nociceptive adjacent neurons in the spinal dorsal horn of the rat: stimulus-induced plasticity. *Neuroscience*, **1997**, 76, 39-54	3.9	31
42	Non-Hebbian plasticity at C-fiber synapses in rat spinal cord lamina I neurons. *Pain*, **2013**, 154, 1333-42	8	30
41	Activation of group I metabotropic glutamate receptors induces long-term depression at sensory synapses in superficial spinal dorsal horn. *Neuropharmacology*, **2000**, 39, 2231-43	5.5	30
40	Opioids and central sensitisation: II. Induction and reversal of hyperalgesia. *European Journal of Pain*, **2005**, 9, 149-52	3.7	29
39	Differential effects of spinalization on discharge patterns and discharge rates of simultaneously recorded nociceptive and non-nociceptive spinal dorsal horn neurons. *Pain*, **1995**, 60, 55-65	8	29
38	Signal transduction pathways of group I metabotropic glutamate receptor-induced long-term depression at sensory spinal synapses. *Pain*, **2005**, 118, 145-54	8	28
37	Possible sources and sites of action of the nitric oxide involved in synaptic plasticity at spinal lamina I projection neurons. *Neuroscience*, **2006**, 141, 977-988	3.9	28
36	The effects of extrasynaptic substance P on nociceptive neurons in laminae I and II in rat lumbar spinal dorsal horn. *Neuroscience*, **1995**, 68, 1207-18	3.9	27
35	Long-range oscillatory Ca2+ waves in rat spinal dorsal horn. *European Journal of Neuroscience*, **2005**, 22, 1967-76	3.5	26
34	Epileptiform activity in rat spinal dorsal horn in vitro has common features with neuropathic pain. *Pain*, **2003**, 105, 327-38	8	24

33	Low doses of fentanyl block central sensitization in the rat spinal cord in vivo. *Anesthesiology*, **2004**, 100, 1545-51	4.3	24
32	Effects of peripheral inflammation on the blood-spinal cord barrier. *Molecular Pain*, **2012**, 8, 44	3.4	22
31	Central sensitization versus synaptic long-term potentiation (LTP): a critical comment. *Journal of Pain*, **2010**, 11, 798-800	5.2	22
30	Presynaptic inhibition of optogenetically identified VGluT3+ sensory fibres by opioids and baclofen. *Pain*, **2015**, 156, 243-251	8	21
29	Distinct patterns of activated neurons throughout the rat midbrain periaqueductal gray induced by chemical stimulation within its subdivisions. *Journal of Comparative Neurology*, **1995**, 357, 546-53	3.4	20
28	Bidirectional actions of nociceptin/orphanin FQ on A delta-fibre-evoked responses in rat superficial spinal dorsal horn in vitro. *Neuroscience*, **2001**, 107, 275-81	3.9	19
27	Pentobarbital, in subanesthetic doses, depresses spinal transmission of nociceptive information but does not affect stimulation-produced descending inhibition in the cat. *Pain*, **1987**, 31, 381-390	8	19
26	Pronociceptive and Antinociceptive Effects of Buprenorphine in the Spinal Cord Dorsal Horn Cover a Dose Range of Four Orders of Magnitude. *Journal of Neuroscience*, **2015**, 35, 9580-94	6.6	17
25	Xenon blocks the induction of synaptic long-term potentiation in pain pathways in the rat spinal cord in vivo. *Anesthesia and Analgesia*, **2007**, 104, 106-11	3.9	17
24	Inhibition of spinal nociceptive neurons by excitation of cell bodies or fibers of passage at various brainstem sites in the cat. *Neuroscience Letters*, **1988**, 93, 67-72	3.3	17
23	Differential actions of spinal analgesics on mono-versus polysynaptic Adelta-fibre-evoked field potentials in superficial spinal dorsal horn in vitro. *Pain*, **2000**, 88, 97-108	8	15
22	Group I metabotropic glutamate receptor-induced Ca(2+)-gradients in rat superficial spinal dorsal horn neurons. *Neuropharmacology*, **2007**, 52, 1015-23	5.5	14
21	Map of spinal neurons activated by chemical stimulation in the nucleus raphe magnus of the unanesthetized rat. *Neuroscience*, **1995**, 67, 497-504	3.9	14
20	Raphe magnus-induced descending inhibition of spinal nociceptive neurons is mediated through contralateral spinal pathways in the cat. *Neuroscience Letters*, **1987**, 76, 168-72	3.3	14
19	Properties of spinal lamina III GABAergic neurons in naïve and in neuropathic mice. *European Journal of Pain*, **2013**, 17, 1168-79	3.7	9
18	Low dimensional attractors in discharges of sensory neurons of the rat spinal dorsal horn are maintained by supraspinal descending systems. *Neuroscience*, **1996**, 70, 191-200	3.9	9
17	Opioids and central sensitisation: I. Preemptive analgesia. *European Journal of Pain*, **2005**, 9, 145-8	3.7	8
16	Fear the pain. *Lancet, The*, **2002**, 360, 426	40	7

List of Publications

15	Interferon-β facilitates the synaptic transmission between primary afferent C-fibres and lamina I neurons in the rat spinal dorsal horn via microglia activation. *Molecular Pain*, **2020**, 16, 1744806920917249	3.4	7
14	Translating synaptic plasticity into sensation. *Brain*, **2015**, 138, 2463-4	11.2	6
13	Nozizeption bei Früh- und Neugeborenen. *Schmerz*, **2000**, 14, 297-301	2.4	6
12	B-vitamins enhance afferent inhibitory controls of nociceptive neurons in the rat spinal cord. *Klinische Wochenschrift*, **1990**, 68, 125-8		6
11	Fundamental sex differences in morphine withdrawal-induced neuronal plasticity. *Pain*, **2020**, 161, 2022-2034	8	4
10	Induction of the Proto-Oncogene c-fos as a Cellular Marker of Brainstem Neurons Activated from the PAG **1991**, 267-286		4
9	Lamina-specific properties of spinal astrocytes. *Glia*, **2021**, 69, 1749-1766	9	3
8	Withdrawal from an opioid induces a transferable memory trace in the cerebrospinal fluid. *Pain*, **2019**, 160, 2819-2828	8	3
7	Neuronal effects of controlled superfusion of the spinal cord with monoaminergic receptor antagonists in the cat. *Progress in Brain Research*, **1988**, 77, 321-7	2.9	2
6	Neuroinflammation and Neuroplasticity in Pain		2
5	A brief, high-dose remifentanil infusion partially reverses neuropathic pain in a subgroup of post herpetic neuralgia patients. *Journal of Clinical Neuroscience*, **2017**, 40, 195-197	2.2	1
4	Neurobiologische Grundlagen des Schmerzgedächtnisses. *Psychoneuro: Psychiatrie - Neurologie - Psychotherapie*, **2005**, 31, 77-80		1
3	Spontaneous, Voluntary, and Affective Behaviours in Rat Models of Pathological Pain.. *Frontiers in Pain Research*, **2021**, 2, 672711	1.4	1
2	Long-Term Potentiation in Superficial Spinal Dorsal Horn: A Pain Amplifier **2009**, 201-218		1
1	Nozizeptives System von Früh- und Neugeborenen **2015**, 35-48		