Anthony James Barkovich

List of Publications by Year
in descending order

135 papers	13,067 citations	31976 53 h-index	24258 110 g-index
136 all docs	136 docs citations	136 times ranked	15277 citing authors

#	Article	IF	Citations
1	The clinicopathologic spectrum of focal cortical dysplasias: A consensus classification proposed by an ad hoc Task Force of the ILAE Diagnostic Methods Commission1. Epilepsia, 2011, 52, 158-174.	5.1	1,454
2	A developmental and genetic classification for malformations of cortical development: update 2012. Brain, 2012, 135, 1348-1369.	7.6	849
3	Abnormal Brain Development in Newborns with Congenital Heart Disease. New England Journal of Medicine, 2007, 357, 1928-1938.	27.0	734
4	Patterns of brain injury in term neonatal encephalopathy. Journal of Pediatrics, 2005, 146, 453-460.	1.8	487
5	Somatic Activation of AKT3 Causes Hemispheric Developmental Brain Malformations. Neuron, 2012, 74, 41-48.	8.1	413
6	Temporal and Anatomic Risk Profile of Brain Injury With Neonatal Repair of Congenital Heart Defects. Stroke, 2007, 38, 736-741.	2.0	336
7	Identification of â€œPremyelinationâ€•by Diffusion-Weighted MRI. Journal of Computer Assisted Tomography, 1995, 19, 28-33.	0.9	313
8	Serial quantitative diffusion tensor MRI of the premature brain: Development in newborns with and without injury. Journal of Magnetic Resonance Imaging, 2002, 16, 621-632.	3.4	305
9	Clinical, genetic and imaging findings identify new causes for corpus callosum development syndromes. Brain, 2014, 137, 1579-1613.	7.6	278
10	Mutations in PNKP cause microcephaly, seizures and defects in DNA repair. Nature Genetics, 2010, 42, 245-249.	21.4	268
11	Mutations in WDR62, encoding a centrosome-associated protein, cause microcephaly with simplified gyri and abnormal cortical architecture. Nature Genetics, 2010, 42, 1015-1020.	21.4	259
12	Somatic Mutations Activating the mTOR Pathway in Dorsal Telencephalic Progenitors Cause a Continuum of Cortical Dysplasias. Cell Reports, 2017, 21, 3754-3766.	6.4	247
13	Neural Stem Cell Engraftment and Myelination in the Human Brain. Science Translational Medicine, 2012, 4, 155ra137.	12.4	238
14	Mammalian target of rapamycin pathway mutations cause hemimegalencephaly and focal cortical dysplasia. Annals of Neurology, 2015, 77, 720-725.	5.3	235
15	An siRNA-based functional genomics screen for theÂidentification of regulators of ciliogenesis and ciliopathyÂgenes. Nature Cell Biology, 2015, 17, 1074-1087.	10.3	215
16	Molar tooth sign of the midbrain-hindbrain junction: Occurrence in multiple distinct syndromes. American Journal of Medical Genetics Part A, 2004, 125A, 125-134.	2.4	213
17	Comparing the diagnosis of white matter injury in premature newborns with serial MR imaging and transfontanel ultrasonography findings. American Journal of Neuroradiology, 2003, 24, 1661-9.	2.4	204
18	Brain injury and development in newborns with critical congenital heart disease. Neurology, 2013, 81, 241-248.	1.1	191

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19	Focal transmantle dysplasia: A specific malformation of cortical development. Neurology, 1997, 49, 1148-1152.	1.1	173
20	Brain involvement in muscular dystrophies with defective dystroglycan glycosylation. Annals of Neurology, 2008, 64, 573-582.	5.3	172
21	Gray matter heterotopia. Neurology, 2000, 55, 1603-1608.	1.1	166
22	Anomalies of the Corpus Callosum: An MR Analysis of the Phenotypic Spectrum of Associated Malformations. American Journal of Roentgenology, 2006, 187, 1343-1348.	2.2	162
23	Risk of Recurrent Arterial Ischemic Stroke in Childhood. Stroke, 2016, 47, 53-59.	2.0	138
24	Hypomyelinating leukodystrophies: Translational research progress and prospects. Annals of Neurology, 2014, 76, 5-19.	5.3	132
25	Comparing microstructural and macrostructural development of the cerebral cortex in premature newborns: Diffusion tensor imaging versus cortical gyration. NeuroImage, 2005, 27, 579-586.	4.2	130
26	Arteriopathy Diagnosis in Childhood Arterial Ischemic Stroke. Stroke, 2014, 45, 3597-3605.	2.0	130
27	The spectrum of lissencephaly: Report of ten patients analyzed by magnetic resonance imaging. Annals of Neurology, 1991, 30, 139-146.	5.3	129
28	Phased array detectors and an automated intensity-correction algorithm for high-resolution MR imaging of the human brain. Magnetic Resonance in Medicine, 1995, 34, 433-439.	3.0	126
29	Genotype-phenotype analysis of human frontoparietal polymicrogyria syndromes. Annals of Neurology, 2005, 58, 680-687.	5.3	124
30	Cerebellar Hemorrhage on Magnetic Resonance Imaging in Preterm Newborns Associated with Abnormal Neurologic Outcome. Journal of Pediatrics, 2011, 158, 245-250.	1.8	124
31	The middle interhemispheric variant of holoprosencephaly. American Journal of Neuroradiology, 2002, 23, 151-6.	2.4	122
32	Pathogenic DDX3X Mutations Impair RNA Metabolism and Neurogenesis during Fetal Cortical Development. Neuron, 2020, 106, 404-420.e8.	8.1	121
33	Current concepts of polymicrogyria. Neuroradiology, 2010, 52, 479-487.	2.2	117
34	Association of Prenatal Diagnosis of Critical Congenital Heart Disease With Postnatal Brain Development and the Risk of Brain Injury. JAMA Pediatrics, 2016, 170, e154450.	6.2	117
35	Sodium Channel SCN3A (NaV1.3) Regulation of Human Cerebral Cortical Folding and Oral Motor Development. Neuron, 2018, 99, 905-913.e7.	8.1	109
36	Neurocutaneous Melanosis in Association with the Dandyâ€Walker Complex. Pediatric Dermatology, 1992, 9, 37-43.	0.9	105

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37	Malformations of Cortical Development and Epilepsy. Cold Spring Harbor Perspectives in Medicine, 2015, 5, a022392-a022392.	6.2	104
38	Lissencephaly: Expanded imaging and clinical classification. American Journal of Medical Genetics, Part A, 2017, 173, 1473-1488.	1.2	104
39	Infection, vaccination, and childhood arterial ischemic stroke. Neurology, 2015, 85, 1459-1466.	1.1	100
40	De novo mutations in KIF1A cause progressive encephalopathy and brain atrophy. Annals of Clinical and Translational Neurology, 2015, 2, 623-635.	3.7	96
41	Malformations of cortical development. Annals of Neurology, 2016, 80, 797-810.	5.3	95
42	Shared genetic risk between corticobasal degeneration, progressive supranuclear palsy, and frontotemporal dementia. Acta Neuropathologica, 2017, 133, 825-837.	7.7	90
43	Clinical and Imaging Characteristics of Arteriopathy Subtypes in Children with Arterial Ischemic Stroke: Results of the VIPS Study. American Journal of Neuroradiology, 2017, 38, 2172-2179.	2.4	89
44	Early postnatal docosahexaenoic acid levels and improved preterm brain development. Pediatric Research, 2016, 79, 723-730.	2.3	84
45	Neonatal Brain Injury and Timing of Neurodevelopmental Assessment in Patients With Congenital Heart Disease. Journal of the American College of Cardiology, 2018, 71, 1986-1996.	2.8	83
46	The Contribution of the Corpus Callosum to Language Lateralization. Journal of Neuroscience, 2016, 36, 4522-4533.	3.6	77
47	A developmental classification of malformations of the brainstem. Annals of Neurology, 2007, 62, 625-639.	5.3	75
48	Autism and developmental disability caused by KCNQ3 gainâ€ofâ€function variants. Annals of Neurology, 2019, 86, 181-192.	5.3	73
49	De Novo Mutations of RERE Cause a Genetic Syndrome with Features that Overlap Those Associated with Proximal 1p36 Deletions. American Journal of Human Genetics, 2016, 98, 963-970.	6.2	67
50	CXCR4 involvement in neurodegenerative diseases. Translational Psychiatry, 2018, 8, 73.	4.8	66
51	Astroglial-Mediated Remodeling of the Interhemispheric Midline Is Required for the Formation of the Corpus Callosum. Cell Reports, 2016, 17, 735-747.	6.4	64
52	Biallelic mutations in human DCC cause developmental split-brain syndrome. Nature Genetics, 2017, 49, 606-612.	21.4	62
53	The association between cardiac physiology, acquired brain injury, and postnatal brain growth in critical congenital heart disease. Journal of Thoracic and Cardiovascular Surgery, 2018, 155, 291-300.e3.	0.8	61
54	Redefining the Etiologic Landscape of Cerebellar Malformations. American Journal of Human Genetics, 2019, 105, 606-615.	6.2	61

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55	Mutations in PYCR2, Encoding Pyrroline-5-Carboxylate Reductase 2, Cause Microcephaly and Hypomyelination. American Journal of Human Genetics, 2015, 96, 709-719.	6.2	60
56	White matter injury in term neonates with congenital heart diseases: Topology & comparison with preterm newborns. NeuroImage, 2019, 185, 742-749.	4.2	60
57	Disorders of Microtubule Function in Neurons: Imaging Correlates. American Journal of Neuroradiology, 2016, 37, 528-535.	2.4	56
58	Association of Histologic Chorioamnionitis With Perinatal Brain Injury and Early Childhood Neurodevelopmental Outcomes Among Preterm Neonates. JAMA Pediatrics, 2018, 172, 534.	6.2	55
59	Challenges in pediatric neuroimaging. NeuroImage, 2019, 185, 793-801.	4.2	54
60	Diminished White Matter Injury over Time in a Cohort of PrematureÂNewborns. Journal of Pediatrics, 2015, 166, 39-43.	1.8	53
61	Pediatric neuro MRI: tricks to minimize sedation. Pediatric Radiology, 2018, 48, 50-55.	2.0	53
62	Magnetic resonance imaging compatible neonate incubator. Concepts in Magnetic Resonance, 2002, 15, 117-128.	1.3	52
63	Antenatal Exposure to Magnesium Sulfate Is Associated with Reduced Cerebellar Hemorrhage in Preterm Newborns. Journal of Pediatrics, 2016, 178, 68-74.	1.8	52
64	Mutations in mitochondrial enzyme GPT2 cause metabolic dysfunction and neurological disease with developmental and progressive features. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E5598-607.	7.1	51
65	Quantitative surface analysis of combined MRI and PET enhances detection of focal cortical dysplasias. NeuroImage, 2018, 166, 10-18.	4.2	49
66	Transmantle sign in focal cortical dysplasia: a unique radiological entity with excellent prognosis for seizure control. Journal of Neurosurgery, 2013, 118, 337-344.	1.6	47
67	ComprehensiveEMX2genotyping of a large schizencephaly case series. American Journal of Medical Genetics, Part A, 2007, 143A, 1313-1316.	1.2	46
68	Maternal or neonatal infection: association with neonatal encephalopathy outcomes. Pediatric Research, 2014, 76, 93-99.	2.3	45
69	Developmental disorders of the midbrain and hindbrain. Frontiers in Neuroanatomy, 2012, 6, 7.	1.7	40
70	Deficient activity of alanyl-tRNA synthetase underlies an autosomal recessive syndrome of progressive microcephaly, hypomyelination, and epileptic encephalopathy. Human Mutation, 2017, 38, 1348-1354.	2.5	40
71	Integrated genome and transcriptome sequencing identifies a noncoding mutation in the genome replication factor DONSON as the cause of microcephaly-micromelia syndrome. Genome Research, 2017, 27, 1323-1335.	5.5	40
72	Disrupted glutamate-glutamine cycle in acute encephalopathy with biphasic seizures and late reduced diffusion. Neuroradiology, 2015, 57, 1163-1168.	2.2	39

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73	New insights into neurocutaneous melanosis. Pediatric Radiology, 2018, 48, 1786-1796.	2.0	39
74	MRI analysis of sulcation morphology in polymicrogyria. Epilepsia, 2010, 51, 17-22.	5.1	37
75	NEOCIVET: Towards accurate morphometry of neonatal gyrification and clinical applications in preterm newborns. NeuroImage, 2016, 138, 28-42.	4.2	37
76	Novel lossâ€ofâ€function variants in DIAPH1 associated with syndromic microcephaly, blindness, and early onset seizures. American Journal of Medical Genetics, Part A, 2016, 170, 435-440.	1.2	36
77	Analysis of the cerebral cortex in holoprosencephaly with attention to the sylvian fissures. American Journal of Neuroradiology, 2002, 23, 143-50.	2.4	35
78	Long-Term Safety, Immunologic Response, and Imaging Outcomes following Neural Stem Cell Transplantation for Pelizaeus-Merzbacher Disease. Stem Cell Reports, 2019, 13, 254-261.	4.8	34
79	Subcortical heterotopic gray matter brain malformations. Neurology, 2019, 93, e1360-e1373.	1.1	33
80	Impaired cognitive performance in premature newborns with two or more surgeries prior to term-equivalent age. Pediatric Research, 2015, 78, 323-329.	2.3	32
81	Schizencephaly. Journal of Child Neurology, 2013, 28, 198-203.	1.4	30
82	Hindbrain regional growth in preterm newborns and its impairment in relation to brain injury. Human Brain Mapping, 2016, 37, 678-688.	3.6	29
83	Neuroimaging in disorders of cortical development. Neuroimaging Clinics of North America, 2004, 14, 231-254.	1.0	28
84	Surgical management of medically refractory epilepsy in patients with polymicrogyria. Epilepsia, 2016, 57, 151-161.	5.1	28
85	Early changes in brain structure correlate with language outcomes in children with neonatal encephalopathy. NeuroImage: Clinical, 2017, 15, 572-580.	2.7	27
86	Neuroimaging in perinatal hypoxic-ischemic injury. Mental Retardation and Developmental Disabilities Research Reviews, 1997, 3, 28-41.	3.6	26
87	De novo PIK3R2 variant causes polymicrogyria, corpus callosum hyperplasia and focal cortical dysplasia. European Journal of Human Genetics, 2016, 24, 1359-1362.	2.8	26
88	Hypomyelinating disorders: An MRI approach. Neurobiology of Disease, 2016, 87, 50-58.	4.4	26
89	Expanding the Distinctive Neuroimaging Phenotype of ACTA2 Mutations. American Journal of Neuroradiology, 2018, 39, 2126-2131.	2.4	24
90	Fetal brain growth and risk of postnatal white matter injury in critical congenital heart disease. Journal of Thoracic and Cardiovascular Surgery, 2021, 162, 1007-1014.e1.	0.8	24

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91	A Machine Learning Approach to Automated Structural Network Analysis: Application to Neonatal Encephalopathy. PLoS ONE, 2013, 8, e78824.	2.5	23
92	PSMD12 haploinsufficiency in a neurodevelopmental disorder with autistic features. American Journal of Medical Genetics Part B: Neuropsychiatric Genetics, 2018, 177, 736-745.	1.7	23
93	Early changes in pro-inflammatory cytokine levels in neonates with encephalopathy are associated with remote epilepsy. Pediatric Research, 2019, 86, 616-621.	2.3	23
94	Brain without Anatomy: Construction and Comparison of Fully Network-Driven Structural MRI Connectomes. PLoS ONE, 2014, 9, e96196.	2.5	23
95	Characterization of Death in Neonatal Encephalopathy in the Hypothermia Era. Journal of Child Neurology, 2017, 32, 360-365.	1.4	22
96	Different patterns of cerebellar abnormality and hypomyelination between POLR3A and POLR3B mutations. Brain and Development, 2014, 36, 259-263.	1.1	21
97	Neuroimaging in the term newborn with neonatal encephalopathy. Seminars in Fetal and Neonatal Medicine, 2021, 26, 101304.	2.3	21
98	The Developmental Brain Disorders Database (DBDB): A curated neurogenetics knowledge base with clinical and research applications. American Journal of Medical Genetics, Part A, 2014, 164, 1503-1511.	1.2	20
99	Identification of a novel CNTNAP1 mutation causing arthrogryposis multiplex congenita with cerebral and cerebellar atrophy. European Journal of Medical Genetics, 2017, 60, 245-249.	1.3	20
100	Early role for a Na ⁺ ,K ⁺ -ATPase (ATP1A3) in brain development. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	20
101	Postnatal polyunsaturated fatty acids associated with larger preterm brain tissue volumes and better outcomes. Pediatric Research, 2018, 83, 93-101.	2.3	19
102	Disruption and Compensation of Sulcation-based Covariance Networks in Neonatal Brain Growth after Perinatal Injury. Cerebral Cortex, 2020, 30, 6238-6253.	2.9	19
103	Posterior Neocortex-Specific Regulation of Neuronal Migration by CEP85L Identifies Maternal Centriole-Dependent Activation of CDK5. Neuron, 2020, 106, 246-255.e6.	8.1	19
104	Early Identification of Cerebral Palsy Using Neonatal MRI and General Movements Assessment in a Cohort of High-Risk Term Neonates. Pediatric Neurology, 2021, 118, 20-25.	2.1	19
105	Cerebellar hypoplasia of prematurity: Causes and consequences. Handbook of Clinical Neurology / Edited By P J Vinken and G W Bruyn, 2019, 162, 201-216.	1.8	18
106	Microstructure of the Default Mode Network in Preterm Infants. American Journal of Neuroradiology, 2017, 38, 343-348.	2.4	17
107	Bronchopulmonary dysplasia precursors influence risk of white matter injury and adverse neurodevelopmental outcome in preterm infants. Pediatric Research, 2021, 90, 359-365.	2.3	14
108	Early Magnetic Resonance Imaging Predicts 30-Month Outcomes after Therapeutic Hypothermia for Neonatal Encephalopathy. Journal of Pediatrics, 2021, 238, 94-101.e1.	1.8	14

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109	Systemic spread of meconium peritonitis. Pediatric Radiology, 1998, 28, 714-716.	2.0	13
110	Regionally specific TSC1 and TSC2 gene expression in tuberous sclerosis complex. Scientific Reports, 2018, 8, 13373.	3.3	13
111	Regulation of human cerebral cortical development by EXOC7 and EXOC8, components of the exocyst complex, and roles in neural progenitor cell proliferation and survival. Genetics in Medicine, 2020, 22, 1040-1050.	2.4	13
112	Increased Nâ€acetylaspartate in model mouse of pelizaeusâ€merzbacher disease. Journal of Magnetic Resonance Imaging, 2012, 35, 418-425.	3.4	12
113	Abnormal Morphology of Select Cortical and Subcortical Regions in Neurofibromatosis Type 1. Radiology, 2018, 289, 499-508.	7.3	12
114	MR Imaging of Normal Brain Development. Neuroimaging Clinics of North America, 2019, 29, 325-337.	1.0	12
115	Reprint of â€œHypomyelinating disorders: An MRI approach. Neurobiology of Disease, 2016, 92, 46-54.	4.4	11
116	Neurochemistry in shiverer mouse depicted on MR spectroscopy. Journal of Magnetic Resonance Imaging, 2014, 39, 1550-1557.	3.4	10
117	Robust Cortical Thickness Morphometry of Neonatal Brain and Systematic Evaluation Using Multi-Site MRI Datasets. Frontiers in Neuroscience, 2021, 15, 650082.	2.8	10
118	Long-term cognitive outcomes in term newborns with watershed injury caused by neonatal encephalopathy. Pediatric Research, 2022, 92, 505-512.	2.3	10
119	A Metabolomics Study of Hypoxia Ischemia during Mouse Brain Development Using Hyperpolarized ¹³C. Developmental Neuroscience, 2020, 42, 49-58.	2.0	8
120	De novo variants in SUPT16H cause neurodevelopmental disorders associated with corpus callosum abnormalities. Journal of Medical Genetics, 2020, 57, 461-465.	3.2	7
121	The Effect of Size and Asymmetry at Birth on Brain Injury and Neurodevelopmental Outcomes in Congenital Heart Disease. Pediatric Cardiology, 2022, 43, 868-877.	1.3	7
122	Microstructural maturation of white matter tracts in encephalopathic neonates. Clinical Imaging, 2016, 40, 1009-1013.	1.5	6
123	Monoallelic and biallelic mutations inRELNunderlie a graded series of neurodevelopmental disorders. Brain, 2022, 145, 3274-3287.	7.6	6
124	Hazards of Neurological Nomenclature. JAMA Neurology, 2017, 74, 1165.	9.0	5
125	Aberrant Structural Brain Connectivity in Adolescents with Attentional Problems Who Were Born Prematurely. American Journal of Neuroradiology, 2018, 39, 2140-2147.	2.4	5
126	Plasma cholesterol levels and brain development in preterm newborns. Pediatric Research, 2019, 85, 299-304.	2.3	4

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127	A proposed magnetic resonance imaging grading system for the spectrum of central neonatal parasagittal hypoxicâ€“ischaemic brain injury. Insights Into Imaging, 2022, 13, 11.	3.4	4
128	Thalamus L-Sign: A Potential Biomarker of Neonatal Partial, Prolonged Hypoxic-Ischemic Brain Injury or Hypoglycemic Encephalopathy?. American Journal of Neuroradiology, 2022, 43, 919-925.	2.4	4
129	Imaging of the Newborn Brain. Seminars in Pediatric Neurology, 2019, 32, 100766.	2.0	3
130	Cyto/myeloarchitecture of cortical gray matter and superficial white matter in early neurodevelopment: multimodal MRI study in preterm neonates. Cerebral Cortex, 2022, 33, 357-373.	2.9	3
131	Technical and practical tips for performing brain magnetic resonance imaging in premature neonates. Seminars in Perinatology, 2021, 45, 151468.	2.5	2
132	Magnetic resonance imaging confirms periventricular venous infarction in a term-born child with congenital hemiplegia. Developmental Medicine and Child Neurology, 2007, 47, 706-708.	2.1	1
133	A Web-based System to Assist With Etiology Differential Diagnosis in Children With Arterial Ischemic Stroke. Topics in Magnetic Resonance Imaging, 2021, 30, 253-257.	1.2	1
134	Misleading Public Statements About COVID-19. Journal of the American College of Radiology, 2021, 18, 6-7.	1.8	0
135	Congenital Visual Field Loss from a Schizencephalic Cleft Damaging Meyerâ€™s Loop. Neuro-Ophthalmology, 2021, 45, 277-280.	1.0	0