The Mechanosensory Lateral Line Neurobiology And Evolution

#mechanosensory lateral line #lateral line neurobiology #evolution of sensory systems #aquatic mechanoreception #neuroscience of evolution

Explore the fascinating world of the mechanosensory lateral line, examining its complex neurobiology and the evolutionary pathways that have shaped this crucial sensory system. This field offers deep insights into how aquatic organisms perceive their environment and the neurological development behind their survival.

These articles serve as a quick reference for both beginners and advanced learners.

The Mechanosensory Lateral Line Neurobiology And Evolution

Neurobiology - Neurobiology by The Explorer's Guide to Biology 7,968 views 1 year ago 4 minutes, 13 seconds - This whiteboard video gives a basic overview of the concept of **Neurobiology**, including the basic structure of neurons, how they ...
Neurobiology 5.6: Vertebrate olfactory system - Neurobiology 5.6: Vertebrate olfactory system by Nitin Gupta 660 views 3 years ago 14 minutes, 15 seconds - In this video, we look at the organization of the olfactory system in vertebrates (humans and mice) and see how it compares to the ...
Neural Mechanisms of Navigation Behavior - Neural Mechanisms of Navigation Behavior by Labroots 386 views 3 years ago 1 hour, 2 minutes - Presented By: Rachel Wilson, PhD Speaker Biography: Rachel Wilson, Ph.D., earned an A.B. in chemistry from Harvard College ...
Compass behavior
Roadmap
E-PG neurons receive visual input from R neurons
Visually-evoked synaptic input to E-PG neurons
Compass cues can be multimodal
The compass tracks the direction of the wind
The mechanics of wind sensing
Bilateral integration in R neurons
Summary of part 2
Descending neurons
Right-left differences in a2 activity predict steering
Steering neurons integrate multiple sensory modalities

Steering generated by the compass system
One cell type is interposed between the compass and a2
Summary of part 3
Tool UseTechnology and Evolution: Leah Krubitzer - Cortical Phenotypes Within and Across Lifetimes - Tool UseTechnology and Evolution: Leah Krubitzer - Cortical Phenotypes Within and Across Lifetimes by University of California Television (UCTV) 1,265 views 5 years ago 16 minutes - This symposium addresses the interactive gene-culture co-**evolution**, of the human brain with tool use and technology - ranging ...
Comparative Analysis
Epigenetic Influences
Duck-Billed Platypus
Meccano Sensory Receptors
Experimental Manipulations in Peripheral Morphology
Early Blindness
Natural Behavior
What Factors Contribute to Phenotype
The evolution of perceptions, Donald Hoffman - The evolution of perceptions, Donald Hoffman by Science and Nonduality 2,922 views 8 years ago 3 minutes, 11 seconds - Donald Hoffman is a cognitive scientist and author of more than 90 scientific papers and three books, including Visual ...
Neuro-Evolution of Augmenting Topologies (NEAT) - Complex Systems Simulation and Artificial Life - Neuro-Evolution of Augmenting Topologies (NEAT) - Complex Systems Simulation and Artificial Life by Chris Marriott - Computer Science 933 views 8 months ago 38 minutes - In this video I present the popular NEAT algorithms for evolving the topology and weights of a neural network.
How Hearing Evolved | Evolution Of The Brain - Episode 4 - How Hearing Evolved | Evolution Of The Brain - Episode 4 by Psyched! 2,503 views 2 years ago 18 minutes - How did the brain evolve? Why do we have a brain? What functions did our brains aqcuire over millions of years of **evolution**,?
Introduction
Smell is not enough to sense invisible dangers
Why hearing evolved
Evolution of hair cells
How the first hair cells worked
Superior olive and Inferior colliculus
Evolution of the middle ear in land animals
Changes to the inner ear in land animals
Medial geniculate nucleus
Middle and outer ear development of mammals
Auditory cortex
Understanding vocalizations and language
A rich experience of the world around us
It's "just" basal cell - It's "just" basal cell by Janet Ray Podcast 7,541,274 views 5 years ago 8 minutes, 23 seconds - Don't wear sunscreen? You may rethink that decision after watching this video about the reconstruction process after the removal ...
Intro
Face flap
Scar
forehead flap
Neuroevolution Explained by Example - Neuroevolution Explained by Example by argonaut 2,386 views 1 year ago 8 minutes, 12 seconds - Neuroevolution is an AI technique that evolves neural networks using the principles of natural selection. In this video, I share the ...
Rabies patient barking as a dog - Rabies patient barking as a dog by Apni bate 8,511,946 views 4 years ago 1 minute, 22 seconds - Just treatment after bit of dog.
The Circle in the Zen Tradition, Kazuaki Tanahashi - The Circle in the Zen Tradition, Kazuaki Tanahashi by Science and Nonduality 40,770 views 8 years ago 3 minutes, 54 seconds - An excerpt of the Interview with Kazuaki Tanahashi featured in the SAND Anthology vol. 5. Kazuaki Tanahashi, born in Japan and ...
Neuroscientist Anil Seth Answers Neuroscience Questions From Twitter | Tech Support | WIRED - Neuroscientist Anil Seth Answers Neuroscience Questions From Twitter | Tech Support | WIRED by WIRED 1,808,273 views 6 years ago 11 minutes, 10 seconds - Neuroscientist and public science communicator Anil Seth uses the power of Twitter to answer some common questions about ...

Can we implant new memories
How do we store memories
Punching yourself in the brain
Dopamine
Brain reading
Brain decoding
Bad decision
Faceblindness
Dreams
The amygdala
How does memory work
How does oxygen work
What is a smile
Snake learns with NEUROEVOLUTION (implementing NEAT from scratch in C++) - Snake learns with NEUROEVOLUTION (implementing NEAT from scratch in C++) by Tech With Nikola 11,246 views 5 months ago 28 minutes - Coding Quests Episode 1: Implementing the NEAT Algorithm from scrach in C++ What's this video about? I was reading a lot ...
Intro
Neural Networks
Genetic Algorithms
NEAT genotype and phenotype
NEAT Crossover + impl
NEAT Mutations + impl
NEAT implementation
Snake Engine
Snake UI
Fitness Function
Training (food)
Training (wall)
Training (snake body)
NEAT Species
Genetic Engineering
Outro
24. Neurobiology 1 - 24. Neurobiology 1 by MIT OpenCourseWare 153,588 views 10 years ago 51 minutes - In this lecture, Professor Sive explains the nervous system as a communication network, beginning with neurons, action potentials ...
The Problem with Using Ips Cells Therapeutically
Nervous System
Electrical Analogies
Cell Type
Structure of the Neuron
Dendrites
Axon
Potential Difference
Plasma Membrane
Depolarization 3
Changing Membrane Potential
Threshold Potential
Action Potential
Uni Directional Propagation
Action Potentials
Rate of Transmission
Ion Channels and Pumps
Gated Channels
Resting Potential
Sodium Potassium Pump
Voltage-Gated Sodium
AAC Spotlight - Ep. 2 - Neuromorphic Computing, Diligent Analog Discovery 3, Silicon Labs FG28 - AAC Spotlight - Ep. 2 - Neuromorphic Computing, Diligent Analog Discovery 3, Silicon Labs FG28

by All About Circuits 11,596 views 8 months ago 2 minutes, 20 seconds - -- For more information, as well as all the latest All About Circuits projects and articles, visit the official website at ...
Interface-type Memristive Device Pushes Neuromorphic Computing Onward
Digilent Completes Tiny Test Equipment Trilogy With Analog Discovery 3
Silicon Labs Rolls Dual-band SoC for Long-range Wireless Protocols
What can you do with a neuroscience degree? - What can you do with a neuroscience degree? by Neuro Transmissions 191,601 views 4 years ago 15 minutes - If you've graduated recently with a degree in **neuroscience**,, or if you're on your way, you might be asking yourself, "what kind of ...
What Can You Do with a Degree in Neuroscience
The Traditional Career Paths in Neuroscience
Bachelor's Degree in Neuroscience
A Job in Industry
Science Advocacy
Academic Administration
A Career in Education
What Can You Do with a Phd in Neuroscience
A Post Doctoral Fellowship
Data Science
Get a Medical Degree
2021's Breakthroughs in Neuroscience and Other Biology - 2021's Breakthroughs in Neuroscience and Other Biology by Quanta Magazine 1,234,156 views 2 years ago 8 minutes, 56 seconds - A paradigm shift in how we think about the functions of the human brain. A long-awaited genetic sequence of Rafflesia arnoldii, ...
Exploring how the nervous system produces movement sequences - Exploring how the nervous system produces movement sequences by MITCBMM 931 views 4 years ago 48 minutes - Andrew Seeds - Institute for **Neurobiology**,, University of Puerto Rico, Medical Sciences Campus.
Intro
Grooming movements performed by a dusty fly
Neural activation screen for grooming specific neurons
Hypothesis: hierarchical suppression drives
Hierarchical suppression drives grooming
Model of hierarchical suppression
Managing priorities and evolution
What are the sensory neurons that elicit specific grooming movements?
Mechanosensory systems in Drosophila
How do the sensory neurons elicit specific grooming movements?
A subset of Johnston's Organ (JO) neurons elicits antennal grooming
JO neurons do not directly activate the antennal grooming pattern generator
Reconstructing neural circuits in an EM volume
Partially EM reconstructed antennal grooming circuit
Revised antennal grooming command circuit
Neurons that elicit different head grooming movements
Mapping the projections of head bristle mechanosensory neurons
Organization of head grooming circuits
Hypothesis: neurons in the grooming
1.3 - Evolutionary Thinking: Mismatch, a Major Cause of Maladaptation - 1.3 - Evolutionary Thinking: Mismatch, a Major Cause of Maladaptation by YaleCourses 22,996 views 8 years ago 8 minutes, 47 seconds - "**Evolutionary**, Medicine" Sinauer Associates (2015) is the textbook that supports these lectures. Instructors can request ...
Mismatch: often invoked, frequently misused
Mismatch occurs two ways
Mismatches in Time
Evolution takes time: Lactase persistence in adults
The point of the lactose example
Summary
NeuroTracker Science & Benefits - Module 6: Training Evolution - NeuroTracker Science & Benefits - Module 6: Training Evolution by NeuroTracker 1,419 views 3 years ago 1 minute, 5 seconds - S&B Module 6.
Human Brain Evolution - vulnerability to neuropsychiatric disease by design? Martin Brune - Human

Brain Evolution - vulnerability to neuropsychiatric disease by design? Martin Brune by EPSIG UK 434 views 7 months ago 1 hour, 14 minutes - Martin Brune is Professor of Psychiatry and head of division of social neuropsychiatry and **evolutionary**, medicine at LWL ...
Scientist Stories: Viviana Gradinaru, Machine Learning Assisted Directed Evolution - Scientist Stories: Viviana Gradinaru, Machine Learning Assisted Directed Evolution by Axial 319 views 11 months ago 30 minutes - Viviana Gradinaru completed her BS at Caltech and did her PhD research at Stanford University. She is now a professor of ...
The Evolution of Ergoline : The Vitality TLT // Product Highlights - The Evolution of Ergoline : The Vitality TLT // Product Highlights by Advluence 755 views 1 year ago 40 seconds - Experience the next level of tanning with the game-changing Vitality TLT, Ergoline's latest innovation that is set to transform the ...
Discussion - Chemosensory cognition and the evolution of olfaction - Discussion - Chemosensory cognition and the evolution of olfaction by UCLABEC 223 views 10 years ago 22 minutes - 4/8/2013 Lucia Jacobs - University of California Berkley "Chemosensory cognition and the **evolution**, of olfaction" "The chemical ...
John Long, 10/18/13: Robot (R)Evolution - John Long, 10/18/13: Robot (R)Evolution by Beacon Center 176 views 10 years ago 1 hour, 14 minutes - Robot (R)**Evolution**,: Biomimetics, Biomechanics, and Behavior Drive the Engineering of Robots for Research John Long (Vassar ...
Robot (R)Evolution
Inspired by Robots
Helical
Select for Feeding
Modeling Evolution
Evolution of Genes
Fitness
Predator and Prey
Selection in Action
Measuring
Impact of Tool Use and Technology on Evolution of the Mind - Leah Krubitzer John Shea Paula Tallal - Impact of Tool Use and Technology on Evolution of the Mind - Leah Krubitzer John Shea Paula Tallal by University of California Television (UCTV) 6,659 views 5 years ago 45 minutes - This symposium addresses the interactive gene-culture co-**evolution**, of the human brain with tool use and technology - ranging ...
The Combinatorial Creature: Cortical Phenotypes Within and Across Lifetimes
Behavioral Modernity vs. Complexity: What Stone Tools Teach Us
Writing and Reading: The Evolution of Social Media
Locomotion modeling evolves with brain-inspired neural networks - Locomotion modeling evolves with brain-inspired neural networks by Science X: Phys.org, Medical Xpress, Tech Xplore 458 views 1 year ago 41 seconds - Credit: Ecole Polytechnique Federale de Lausanne Subscribe: https://www.youtube.com/c/Science-X-Network Join Science X ...
Search filters
Keyboard shortcuts
Playback
General
Subtitles and closed captions
Spherical videos