



July-September, 2017

Our Mission

To promote joy of learning through rhythmic integrative movement and advocate for its recognition as the bedrock of education.

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Comments
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Subject Line: **Newsletter**



The Kavli Prize: Recognizing Advances in Science

The Kavli Prize recognizes scientists for their seminal advances in three research areas: astrophysics, nanoscience, and neuroscience. The 2016 Kavli Prize In Neuroscience was awarded to Eve Marder, Michael M. Merzenich, and Carla J. Shatz 'for the discovery of mechanisms that allow experience and neural activity to remodel brain function.' Each addressed the fundamental question: How does the brain change during learning and development, while remaining structurally stable and producing reliable behavior? Their discoveries showed how neuronal activity, generated either by experience or by intrinsic brain function, actively sculpts structural and functional connections between nerve cells. At the same time, essential stability is provided by self-regulating mechanisms that drive nerve cells to produce consistent patterns of activity. (This excerpt focuses on Michael Merzenich.)

Michael Merzenich demonstrated that sensory circuits in the cerebral cortex can be reorganized by experience in adulthood. Different parts of the body are represented in a continuous map in the somatosensory cortex. After demonstrating reorganization of this map after injury, Merzenich showed that simply expanding or limiting the use of different fingers leads to a corresponding change in the representation of the hand in the brain's map.

He also showed that the auditory cortex can change its map of sound frequencies after individuals are trained to detect fine differences in pitch. This discovery helps explain how humans can recover their perception of speech with electronic cochlear implants. Merzenich showed that neuromodulators as well as cognitive factors, including attention, determine whether adult plasticity takes place. This work is being extended to maximize learning and recovery from brain injury and disease.

The Neurologically Atypical. At UCSF, Keck Center for Integrative Neurosciences, Merzenich established a research team designed to integrate bioengineering, behavioral science, neurophysiology, and medicine in pursuit of understanding the neurological bases of human ability—and the brain's 'failure modes' generally defined as 'developmental disorders', or psychiatric and neurological 'illness'. His team demonstrated that the acquisition and experience-driven refinements of any skill or ability is almost certainly a direct product of neurologically progressive brain remodeling. Physical brain change, through the course of life, is the primary source of operational human abilities and identities.



The Kavli Prize (con't)

Struggling Children and Adults. With the appreciation that they could drive predictable, controlled, positive changes in the brains of neurologically impaired or struggling human populations, his team initiated studies designed to further define how to most effectively engage brain mechanisms to most strongly and rapidly enable adult brain plasticity.

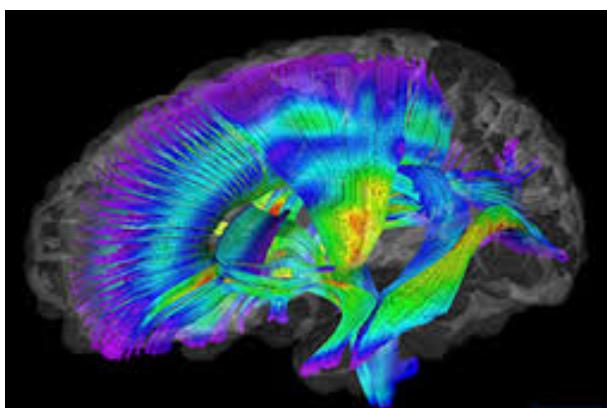
The growing understanding of how to apply brain plasticity to guide us to better lives IS a revolution that has the potential for transforming human societies on a grand scale.

At the same time, in Merzenich's words '...neuro-science has transformed our understanding of our true human natures. We are endowed with plastic brains that enable the creation of an interpretable model of the world within each of us in our lives as an ongoing, life-long work in progress on the basis of the information that we gather from that world and from our external and intra-cranial operations within it, through quadrillions or centillions of change moments. Over the next decades, we shall rapidly grow our understanding of how to exploit this great endowment, for the enrichment of every human life—and by that science, to transform human lives and societies—hopefully very much for the better.'

For an overview of Michael Merzenich's scientific contributions and historical perspective, see Merzenich MM (2014) *Soft-Wired*. Parnassus Publ., San Francisco (Amazon).

Excerpt from kavliprize.org

Contributed by Shirley Kelley, Somatic Movement Ed/T



Review—The Body Has a Mind of Its Own by Sandra & Matthew Blakeslee



Explore the exciting science of 'body maps' in the brain and how startling new discoveries about the mind-body connection can change and improve our lives. Just as road maps represent interconnections across the landscape, your many body maps represent all aspects of your bodily self, inside and out. In concert, they create your physical and emotional awareness and your sense of being a whole, feeling self in a larger social world. —Why do you still feel fat after losing weight? What makes video games so addictive? How can 'practicing' your favorite sport in your imagination improve your game? Answers can be found in body maps.

Body maps are profoundly elastic. Your self doesn't begin and end with your physical body but extends into the space around you. This space morphs every time you put on or take off clothes, ride a bike, or wield a tool. When you drive a car, your personal body space grows to envelop it. When you play a video game, your body maps automatically track and emulate the actions of your character onscreen. When you watch a scary movie, your body maps put dread in your stomach and send chills down your spine.

The Body Has a Mind of Its Own will change the way you think about the way you think.

'In the last 10 years there has been a paradigm shift in understanding the brain and how its various specialized regions respond to environmental challenges. This book provides a brilliant overview of recent revolutionary discoveries on body image and brain plasticity.' --V. S. Ramachandran, M.D.

—Review by Goodreads.com

Diffusion Tensor Imaging (DTI) is a noninvasive MRI technique used to measure diffusion of water within the tissues of the brain. Measuring the rate and pattern of water diffusion within regions of the brain provides information regarding the structural integrity of these specific tissues. In the CoGeNT lab, DTI is used to show how Alzheimer's disease alters pathways in the limbic system and memory-related regions of the brain and tracks the progression from normal aging to mild cognitive impairment to Alzheimer's disease. MSU.edu



Greetings! From Your Screen to Ours

I am a reading tutor who uses BAVX & Brain Gym to help my students get balanced. Just took a training where we learned the new 'steps' routine. It is a challenge for me because I basically do 'adaptive' routines & don't practice the more advanced movements. I was inspired by your newsletter. May I share it with others to motivate them? I use BAVX with Alzheimer's patients also. It's so amazing to watch their 'muscle memory' wake up when they feel/see a ball or bag.

I relate to Lisa Helbig's story (Apr 2017). I fell last year on my knees (while walking on a sidewalk that suddenly had a big dip) & caught myself by putting both hands straight out in front of me. That helped me from smashing my face, but caused compression in my shoulders & neck. After much therapy, I am better, but similar to Lisa's story, I have trouble catching with my left hand—it doesn't close fast enough—but I am practicing with the bags.

—Barbara Powers

I put my 2nd graders on an series of stations this morning trying to hit the coronal, sagittal & temporal planes to see if it could 'get the Spring' out of them a bit. Stations were swing set, coordinated jumping jacks, running & play structure—up stairs, over bridge, down slide, across monkey bars, jump onto & over stage, repeat. Now, as a Waldorf school we do a lot of movement every morning, but THIS was a panacea. We did 2-minute stations for a few rounds. They LOVED it. By the time we got inside, they were so engaged & on-target. We did our recitations, writings, phonics work & flutes so quickly that I had to find more to do before snack! Only one child refused to participate in the stations (par for course recently).

Moreover, why am I always surprised when doing EVEN MORE movement with 2nd graders turns such high dividends? Each time I up the ante, they meet me with grace and form.

—Jacob Carr

Tweak That Technique:

How do I correct my assistant instructor's partner's receiving hand from drifting toward center during the Hand-Over-Hand series? Currently, I stand on the side and quickly hold her wrist to receive the bag. When I stop, she drifts back to center.—Jonathan Portero

Glad you asked. This is a perfect opportunity to teach your assistant how to tweak errors in technique. (See BAVX Disc 1: Foundation Exs)

SET-UP: You are Instructor with the above learner (L). Next to you is your assistant instructor (AI) with a different L.

Your AI copies you.

1-BAG SQUARE, R-HAND PASS

Thumb Lock Action: L passes to AI (we know this). AI crosses midline to clap bag onto R-hand. Now slide L-hand under L's R-hand with thumb over L's thumb. This locks L's hand in HOME position. Pass bag. Repeat repeatedly. AND repeatedly repeat on the left side.

Explain: We cross our body's midline to build stronger connections in our brain that help us think better & smarter.

If L reverts back to center: Move on to 2-Bag Square. Receive/Pass Bag. FREEZE in HOME position. Stay frozen until L moves to HOME. This effectively forces L to figure out HOME, because no further action will take place until L is in HOME position.

Slow the pass and ARC-HOME to give L the time to register each move.



BAVX Training Schedule

Bal-A-Vis-X: Balance, Auditory, Vision eXercises provides 1,000s of rhythmic midline crossings that enable the mind-body system to experience the state of integration. To confirm or schedule a workshop, contact Bill Hubert at: Bill@bal-a-vis-x.com

Sessions : A (17hrs), B (20hrs), C (24hrs)

July 11-14	A	Norman, OK (closed)
July 17-19	C	Wichita, KS
July 24-26	C	Ontario, OR
Aug 1		Norman, OK (previous training req'd)
Aug 5-6	A	Anchorage, AK (closed)
Aug 10-11	A	Maryville, MO
Aug 14-15	A	Whitehall, WI
Aug 21-22	A	Chehalis, WA (closed)
Sep 8-10	A	Tulsa, OK
Nov 20-21	A	Oklahoma City, OK (Staff)

2018

Jan 12-14	B	Newton, KS
Jan 20-21	A	Oakland, CA
Feb 8-9	A	Cary, NC

International

Sep 22-24	C	Melrose, Scotland
Dec 8-10	C	Tokyo, Japan

A: Foundation. Fundamental principles, rhythms, patterns. Modifications for special needs & elderly.

B: Intermediate. Session A + intermediate exercises.

C: Complete BAVX. A/B + advanced individual/partner/group exercises + academic layering.

A,B,C refers to length & content of trainings, not their order. You may take any training any time.



Regional BAVX Opportunities

7/20-21	Binghamton, NY.	candicosgrove.com
7/26-27	A	Ocala, FL. preston01@juno.com
8/3		Huntington, NY. brainworksplus.com
8/4-6	A	Ann Arbor, MI. katy@learningheart.com
9/22-23	A	Tucson, AZ. integratedstates.com
10/13-14	A	Sacramento, CA. bldgblox@comcast.net
10/28		Advanced Skills. Berkeley, CA Shirley Kelley, skelley4100@yahoo.com
11/4		Preschool. Tucson AZ integratedstates.com



Resources BAVX Practitioner (P) Trainer (T)

Bags, Balls & Brains, Rochester, NY
Shirley Kelley—P, bags-balls-and-brains.com

Brainworks Plus, Long Island, NY
Emily Eisen—P/T, brainworksplus.com

Brightbrain, Scotland, UK. Jane Oliver—P/T,
brightbrain-scotland.co.uk

Creating Connections, New Hampshire, CT
Candi Cosgrove—P/T, candicosgrove.com

Deana Douglas—P/T, Phoenix, AZ,
deana.bavx@hotmail.com

Hand-in-Hand Therapeutics, Modesto, CA
Wayne Stevenson—P, gangly45@yahoo.com

Innovative Connections, Salina, KS
Elizabeth Caselman, elizabethcaselman@usd305.com

Institute for Kinesiology, Damme, Germany
Renate Wennekes, Dir ikl-kinesiologie.de

IN2GR8ED, Sac, CA, Francis Norsworthy/Julie Leach—P/T, in2gr8ed.com

Integrated Brain, London, UK
Usha Patel—P, integratedbrain.co.uk

Integrated States, Tucson AZ, Terry Tinney/Anne Wheaton—P/T, integratedstates.com

Learning from the Heart, Ann Arbor, MI
Katy Held—P/T, learningheart.com

MOBBI, Frankfort MI, MaryAnn Short—P/T
mobbi.ma@gmail.com

S'cool Moves, Shasta, CA
DebraEm Wilson, founder schoolmoves.com

Snapshots at jasonlove.com



It's subjective...or is it objective?