

# CURRENT REPERTOIRE



**Celebrating our 15th Annual Conference on  
Autism & Related Disorders:  
Research-Based Solutions  
Saturday, April 30, 2022  
Together in Solvang, California or Virtually**



## INSIDE THIS EDITION

Meet Our Invited Speakers	2-4	New Editions in CCBS Store	10
Call for Posters	5	Historians' Corner by BOD Andy Lattal	
CCBS Annual Meeting of the Trustees		<i>Chains of Fame (And Infamy)</i>	11
Save the Date for 2022	5	Save-the-Date for ETHICS 2022	12
In Memory of Dr. Beth Sulzer-Azaroff	6	Standard Celeration Society News	13
Distinguished Scholar Maya Fallon		Featured On-Demand CE Courses	13
Shares a Meaningful Difference	7	FREE ABACLive Webinars in	
Nominate Your Student for Our		March & April	14
Distinguished Scholar Group	8	Streamlined Safety Accreditation	
Join the Conversation with		Process Announced	15
Hank Pennypacker & Frank Perez		Our Safety Experts at Safety In Action	15
about <i>Engineering the Upswing</i>	9	Ways You Can Help	16
<i>Behavior &amp; Philosophy</i> Article			
"The Covariance Based Law of Effect"	10		

## In Memory of Beth Sulzer-Azaroff





Introduction by  
Dr. Janet S. Twyman  
blast: A Learning  
Sciences Company &  
Cambridge Center for  
Behavioral Studies

## A HYBRID EVENT

An in-person gathering  
with virtual option.

# 15th Annual Conference on Autism & Related Disorders: Research-Based Solutions Hotel Corque, Solvang, California or Virtually

**Saturday, April 30, 2022**

Earn **BACB Learning CEUs** and **Psychology CE Credits**

A one-day conference featuring leading experts in fields of  
Science, Special Education and Autism Spectrum Disorders

**REGISTER**

## Meet Our Invited Speakers

**Jill C. Dardig, EdD & William L. Heward, EdD, BCBA**



### Contracting: A Positive Way to Improve Family Dynamics and Learn New Skills

**Jill C. Dardig, EdD**, is Professor Emerita of Education at Ohio Dominican University where she trained special education teachers for 30 years. During a sabbatical, Jill was a consultant at Centro da Vilariñha, a program that taught daily living and vocational skills to teenagers and young adults with developmental disabilities, in Porto, Portugal. She has been a visiting professor at Keio University

in Tokyo, Japan and presented workshops for teachers and parents in Europe, South America, and Asia. Dr. Dardig has written several books and other publications about and for parents including *Involving Parents of Students with Special Needs: 25 Ready-to-Use Strategies* (Corwin Press, 2008).

**William L. Heward, EdD, BCBA-D**, is Professor Emeritus in the College of Education and Human Ecology at Ohio State University. He has taught at universities in Brazil, Japan, Portugal, and Singapore and given lectures and workshops in 22 other countries. A Past President and Fellow of the Association for Behavior Analysis International, Bill's publications include co-authoring the books, *Applied Behavior Analysis* (3rd ed., Pearson, 2020) and *Exceptional Children: An Introduction to Special Education* (12th ed., Pearson, 2022). Awards recognizing Dr. Heward's contributions to education and behavior analysis include the Fred S. Keller Behavioral Education Award from the American Psychological Association's Division 25, the Ellen P. Reese Award for Communication of Behavioral Concepts from the Cambridge Center for Behavioral Studies, and the Distinguished Psychology Department Alumnus Award from Western Michigan University.



## Tara Fahmie, PhD, BCBA-D



### Rethinking the Safety of Functional Analyses

Dr. Tara Fahmie, BCBA-D is an Associate Professor and Associate Director of the Severe Behavior Program at the University of Nebraska Medical Center's Munroe-Meyer Institute. Dr. Fahmie received her bachelor's degree in Psychology from the University of Florida in 2005. She received her Master's degree in Applied Behavioral Sciences from the University of Kansas under the

mentorship of Dr. Gregory Hanley in 2007. She received her PhD from the University of Florida in Behavior Analysis under the mentorship of Dr. Brian Iwata in 2012. Between 2012 and 2020, Dr. Fahmie was a faculty member of the Psychology Department at California State University, Northridge. In 2021, Dr. Fahmie joined the Severe Behavior Program at the Munroe-Meyer Institute as an Associate Director. The Severe Behavior Program clinics provide assessment and treatment services to children with severe problem behaviors. The aim of services is to provide evidence-based behavioral assessment, intervention, and training to individuals and their

caregivers, focusing on decreasing problematic and maladaptive behaviors and teaching functional, alternative behaviors using the principles of Applied Behavior Analysis.

Dr. Fahmie specializes in the assessment and treatment of problem behavior and has experience providing these behavioral services in various settings (homes, schools, residential programs, clinics). At California State University, Northridge, Dr. Fahmie directed the Functional Assessment and Healthy Behavior (FAHB) clinic and research lab, which provided low- or no-cost access to assessment and treatment services in an outpatient university setting and in collaboration with local schools and autism agencies. In addition, Dr. Fahmie regularly consults with service providers in her local community and internationally to assist in the development and implementation of evidence-based, best practice strategies for the assessment and treatment of problem behavior. Dr. Fahmie focuses on training and consultation models that are culturally informed and sustainable. Dr. Fahmie also investigates assessment and intervention strategies that will prevent minor forms of problem behavior from escalating in severity.

Dr. Fahmie thoroughly enjoys mentoring students and professionals from various backgrounds and strives to provide an inclusive training environment that embraces diverse perspectives.

## Chunying S. Jin, PhD, BCBA-D



### Assessment and Treatment of Sleep Problems in Children Diagnosed with Autism Spectrum Disorders

Chunying Jin PhD, BCBA-D currently serves as a lecturer at the department of psychology at California State University, Northridge and teaches for the M.S. ABA program at CSUN. Dr. Jin received her undergraduate training in behavioral psychology at the University

of California, San Diego and received her doctoral degree in Behavior

Analysis under the mentorship of Dr. Gregory Hanley at Western New England University. Prior to her current post at CSUN, Dr. Jin resided in New England and served as an assistant professor of psychology at Eastern Connecticut State University and a teaching fellow at Western New England University. She has been applying the principles of learning to improve the lives of individuals of typical development and individuals with developmental disabilities for over 10 years. Dr. Jin has published in areas such as the assessment and treatment of sleep problems in young children and function-based interventions for severe problem behavior associated with autism. Her research and clinical interests include assessment and treatment of sleep problems, behavioral pediatrics, child development and early life skills, pedagogical tactics in higher education, and function-based interventions.

## Alice Shillingsburg, PhD, BCBA-D



### Strengthening Gestures: A Critical Component to Building Robust Communication Skills for Autistic Children

Dr. Shillingsburg serves as Senior Vice President of Children's Clinical Services and Training at May Institute, providing clinical leadership to all children's programs including the May Center Schools and our home- and center-

based services. She holds a joint appointment as Assistant Director of the National Autism Center at May Institute.

Dr. Shillingsburg received her PhD in clinical psychology from Auburn University and completed her pre-doctoral internship and post-doctoral fellowship at the Marcus Autism Center. She previously

served as the Director of the Language and Learning Clinic at the Marcus Autism Center and was Associate Professor at Emory University in the Division of Autism and Related Developmental Disabilities.

Dr. Shillingsburg is a licensed psychologist and Board Certified Behavior Analyst (BCBA) at the doctoral level. Her clinical expertise includes the development of language and behavioral programming to address a variety of behavioral difficulties and social communication deficits associated with autism and other developmental disabilities.

Dr. Shillingsburg has published over 45 empirical papers on interventions for children with developmental disabilities. She is currently an Associate Editor of the *Journal of Applied Behavior Analysis* and an editorial board member for *Focus on Autism and Other Developmental Disabilities*. She is a former Associate Editor of *The Analysis of Verbal Behavior*.

# Invited Speakers *Continued*

## 15th Annual Conference on Autism & Related Disorders: Research-Based Solutions

### Rob Holdsambeck, EdD, LCP, BCBA-D



#### **Ethical Issues in Autism: Reflections on Bombs, Bits, and Babies**

Dr. Holdsambeck is a licensed psychologist with 45 years of clinical experience delivering services to people with developmental disabilities, including those on the autism spectrum. He was one of the first in the nation to become board certified in behavior analysis (#0007). The company he founded, Holdsambeck Behavioral

Health, employs over 100 clinicians serving 1000+ individuals annually in California and Hawaii. Previously he served his country

as a Captain in the Air Force Reserves and his community as a tenured professor of psychology. He was selected as the 2010 distinguished colleague by the Chicago School of Professional Psychology's department of applied behavior analysis. In 2011, he received the outstanding service award from the Cambridge Center for his work in bringing evidence-based practices to California. Dr. Holdsambeck is an author and frequent keynote speaker at International, National and State conferences. His most recent publications are the highly acclaimed books, "Behavior Science: Tales of Inspiration Discovery and Service" (Holdsambeck and Pennypacker Eds., 2017, Omnibus as well as volumes I, II, and III). In addition to the activities mentioned above, Dr. Holdsambeck is currently serving in his 9th year as the Executive Director of the prestigious Cambridge Center for Behavioral Studies™.

### Joyce Tu, EdD, BCBA-D



#### **Taking A Multidisciplinary Approach to Intensive Case Management of Severe Behaviors in Individuals with Profound Autism and Other Disorders**

Dr. Joyce C. Tu is a Board Certified Behavior Analyst with a doctorate in educational psychology from West Virginia University, specializing in

applied behavior analysis (ABA). She has over twenty years' experience as both a behavior analysis professor and a practitioner — teaching behavior analysis in universities and providing ABA services, training, workshops and supervision for parents and professionals working with individuals with developmental disabilities in the U.S. and abroad.

Dr. Tu's specialization and research interests are chiefly in verbal behavior, specifically, joint control and its role in listeners' behavior. She has authored several peer-reviewed publications and serves as a behavior analysis journal reviewer. Additionally, in 2011, Dr. Tu co-authored a Chinese-language textbook published by Peking University Press, including chapters on topics such as shaping, prompting/fading, chaining and generalization.

Over the past 20 years, Dr. Tu has held workshops and speaking engagements for national and international professional organizations such as the Ai You Foundation, ABA International (ABAI) and the California Association for Behavior Analysis (CalABA). Dr. Tu has served on CalABA's Board of Directors, including as its President, and she currently serves as President of the B.F. Skinner Foundation.

In the private sector, Dr. Tu was founder and director of Center for Behavioral Sciences, Inc. for 16 years. CBS was an ABA provider with over 100 employees throughout California. The company was acquired by Easterseals Southern California (ESSC) in 2019, and Dr. Tu became ESSC's Vice President of Clinical Transformations, Autism Services.

Dr. Tu is also the founder and director of ABA Unlimited, Inc. (ABAU), a behavior analysis consulting and continuing education provider. In 2021, AB AU entered a contract with Peking University School of Medical Education in Beijing to develop a new verified ABA course sequence, with Dr. Tu designing and teaching the courses.

In 2003, Dr. Tu co-founded Applied Behavior Consultants-China, which trained approximately 200 administrators, teachers, parents and behavior interventionists to provide behavioral services to children with autism. Through this organization, ABA classrooms in China were established for children with autism aged three to 12, an underserved population otherwise assigned to general education.



**Congratulations CCBS Trustee Tara Fahmie  
Winner of the  
2022 American Psychological Association  
Division 25 B. F. Skinner Foundation  
New Researcher Award in Applied Research**



# CALL for Student RESEARCH posters

15th Annual  
Conference on Autism & Related Disorders:  
Research-Based Solutions  
Saturday, April 30

The Cambridge Center for Behavioral Studies through our associates at the University of West Florida, Center for Behavior Analysis, is now accepting poster presentations for our next conference. This year we are pleased to announce that Trustee Robyn Catagnus, The Chicago School of Professional Psychology, is joining Trustee Leasha Barry of UWF as Co-Chair.

Our 15th Annual Conference on Autism & Related Disorders: Research-Based Solutions will again be held as a hybrid in-person and online event this year. We are offering you an opportunity to present your poster to our attendees through a virtual poster session, a channel to disseminate your empirically-based ABA research in a visual online format.

Your poster will be presented during a special online presentation, as well as projected in-person. Each presenter will have a short, one minute video played prior to their poster, so viewers can receive an overview before the image of the poster is presented.

**[Interested participants should complete the linked application.](#)**

**Deadline to apply: 03/20/2022**



Raytheon Amphitheater  
Egan Research Center  
**Northeastern  
University  
Campus**  
Boston, MA



## 2022 Annual Meeting of the Trustees Morning of Tuesday, May 31

*following the 48th Annual ABAI Convention*

***CCBS Trustees, Advisors & Friends Welcome!***

### What to Expect:

Dr. Hank Pennypacker, Chair of our Board of Directors, will call to order at 8:30 am (Eastern) with Trustees voting for acceptance of the 2021 minutes and for nominated incoming Trustees and Advisors. The financials and past, present & future projects will be reviewed by Rob Holdsambeck, Executive Director, with updates from our volunteers who have championed projects, presenting in-person and streaming in virtually.

### A HYBRID EVENT

An in-person gathering with virtual option.

**REGISTER TO ATTEND**



**Our Host**

**Advisor Nicole Davis**

Associate Clinical Professor &  
Program Director  
Applied Behavior Analysis Programs  
Department of Applied Psychology  
Northeastern University

# In Memory of Dr. Beth Sulzer-Azaroff

I am very sad that my fantastic mentor, friend, teacher and second-mother, Beth Sulzer-Azaroff, died this past Saturday, February 26th. She was 91. I spent a very sad but richly reflective day, Sunday, thinking about all my wonderful times with her. I went to the University of Massachusetts-Amherst for my doctorate in 1973 just to work with her. Behavior analysis in schools was my destination. She already had such a good reputation in the budding field of Applied Behavior Analysis, with a background as a first-grade teacher to boot.

After working with her for a short time, I realized what a lucky choice I made. Beth taught me so many repertoires! She fed my big interests in PSI and college teaching, allowing me to set up a behavioral system for running her large Educational Psychology course. We did so many research studies in that system, publishing 10 papers before earning my PhD. In that system I learned so much from her about staff development. Two repertoires stand out. I learned how to shape typical adult behaviors, going with staff members existing relevant repertoires and building from there. Our PSI proctors were anything but blank slates! Beth was also so good at giving direct, frank and positive feedback. She also taught me all about applied behavior analysis with children and youth, populations I had not yet served but was eager to help. I have applied so many of these repertoires while working in my own elementary and middle school, Morningside Academy.

I also learned so much about how to critically evaluate research. When Beth served as an Associate Editor for JABA, I had many opportunities to play shadow editor, reviewing papers in graduate seminar exercises and making predictions about the content of the "official" incoming reviews. She also taught me how to write. We wrote so many study guides and essay tests, as well as articles and chapters. She also recruited me to help her write her textbook revisions. Finally, Beth

taught me how to do and love public speaking, one of my most favorite professional activities.

At an ABAI awards ceremony honoring her accomplishments—in 2003 I think?—I presented a slideshow that I called, *A Confluence of Beth-Influence*. It contained a list of 7 of my favorite "Beth-adjectives," I can't think of anything better to share with you than these, so here you go:

My 7 favorite Beth-adjectives:

- nurturing
- tenacious
- frank
- pragmatic
- accomplished
- systematic, and
- personal

Fortunately I visited Beth for a few days at her home in Naples, Florida, in 2017. We had such a fun and exhilarating time together, picking up right where we had left off. These 7 Beth-adjectives still rang true.

I'm really looking forward to reading her new and final chapter on women in behavior analysis for a book that ABAI will soon publish. Stay tuned for that one!



**Trustee Kent Johnson**  
Founder and Executive Director  
Morningside Academy, Seattle

Dr. Beth Sulzer-Azaroff has been an ardent supporter of the Cambridge Center for Behavioral Studies through spirit, volunteer work and financial contributions. She has held several positions since her appointment to Trustee in 1991 including Chair of the Board of Directors. Read about the legacy of Dr. Sulzer-Azaroff in her chapter, "[The Journey of a Pioneer Woman Applied Behavior Analyst](#)" contributed to our "Behavioral Science: Tales of Inspiration, Discovery, and Service – Omnibus Edition" publication. [A gift to you in tribute to Beth.](#)





# Meaningful Differences

## from Distinguished Scholar Maya Fallon

I am a third-year doctoral student sprinting towards the finish line. Graduation. With the end of my student career insight, I have often caught myself reflecting on my graduate student experiences. Late-night readings, copious cups of coffee, research meetings, courses, conferences...oof, I'm tired. Moving past the exhaustion, I genuinely look back on this time fondly.

As a student, you begin to discover your passions and interests. For me, one of my first interests was verbal behavior. I wanted to know why people said the things they said. In my master's program, I had an interesting first exposure to verbal behavior. As students, we started with the basic verbal operants in our courses. We learned the definitions of mands, tacts, echoics, intraverbals, transcriptions, and textuials and their controlling and maintaining variables. At about the same time in my educational journey, I started exploring more complex verbal relationships, as in conversations, in a research lab. I quickly found that things didn't add up. Are all the speaker's responses intraverbals? Said differently, were their responses predominately controlled by the conversation partner's verbal behavior? This interpretation felt insufficient to explain complex verbal behaviors; something was missing.

Reading *The Multiple Control of Verbal Behavior* (2011) for the first time was like finding missing puzzle pieces. The gaps to an insufficient conceptualization of complex verbal behavior were being filled. The authors eloquently touched

on the relevance of multiple control in applied settings, reiterating Skinner's point that pure forms of verbal behavior (i.e., basic verbal operants) are rare. They pointed out that students often mistakenly try to classify all verbal responses as one of the verbal operants. Thus, their interpretation and conceptualization are inadequate. I'm glad I wasn't the only one.

The concept of multiple control answered my question that the participants' responses during conversation skills training were not solely under the control of the conversation partner (speaker) behavior. I continue to be fascinated by the types of multiple control and often picture diagrams of what could be controlling variables for various verbal behaviors.

Whether it was an assigned reading in one of my graduate courses or a resource for designing evaluations, I identified something new I loved about the article each time I read it. Recently, I have been interested in the role of multiple control in remembering (recalling) and the emergence of novel verbal behavior. *The Multiple Control of Verbal Behavior* (2011) has been a constant in my time as a graduate student. A constant that continues to have a meaningful impact on me. A constant that inspires me to develop complex research questions and influence my clinical practice.

### References

Michael, J., Palmer, D. C., & Sundberg, M. L. (2011). The multiple control of verbal behavior. *The Analysis of Verbal Behavior*, 27(1), 3-22. <https://doi.org/10.1007/BF03393089>



**Maya Fallon, MS, BCBA**

Munroe-Meyer  
Institute for Genetics  
and Rehabilitation  
University of Nebraska  
Medical Center

 Springer Link

---

Published: 08 July 2017

### The Multiple Control of Verbal Behavior

Jack Michael , David C. Palmer & Mark L. Sundberg

[The Analysis of Verbal Behavior](#) 27, 3–22 (2011) | [Cite this article](#)

512 Accesses | 109 Citations | 20 Altmetric | [Metrics](#)

---

#### Abstract

Amid the novel terms and original analyses in Skinner's *Verbal Behavior*, the importance of his discussion of multiple control is easily missed, but multiple control of verbal responses is the rule rather than the exception. In this paper we summarize and illustrate Skinner's analysis of multiple control and introduce the terms *convergent multiple control* and *divergent multiple control*. We point out some implications for applied work and discuss examples of the role of multiple control in humor, poetry, problem solving, and recall. Joint control and conditional discrimination are discussed as special cases of multiple control. We suggest that multiple control is a useful analytic tool for interpreting virtually all complex behavior, and we consider the concepts of derived relations and naming as cases in point.

[Article available through Springer Link](#)

CAMBRIDGE CENTER  
FOR  
BEHAVIORAL STUDIES

Distinguished  
Scholar

Nominate your distinguished student to become a new inductee as a Distinguished Scholar of the Cambridge Center for Behavioral Studies. Learn more next page...



CAMBRIDGE CENTER  
FOR  
BEHAVIORAL STUDIES

**We are seeking nominations for new inductees as Distinguished Scholars of the Cambridge Center for Behavioral Studies.**

CAMBRIDGE CENTER  
FOR  
BEHAVIORAL STUDIES

**Distinguished  
Scholar**

The mission of the Distinguished Scholars is to support the advancement of elite graduate students on their journeys toward becoming leaders in behavioral science. In service of the mission of the Center, Distinguished Scholar volunteers collaboratively identify, explore, and execute projects under the guidance of established leaders, the Center Advisors and Trustees.

The group was formed in response to the one of the Center's primary goals: to improve the future of behavioral science by education and development of the next wave of behavioral scientists and practitioners. Student-initiated projects align with the Center's other main goals: to create and deliver trustworthy information on high quality behavioral services and science around the world, and to promote global collaboration among behavioral organizations. Students also work in various capacities to support the Center, such as through volunteer efforts at Center conferences.

Master and doctoral level graduate students are nominated by their advisors for consideration of induction as Distinguished Scholars. In addition to above, we seek nominations of potential Scholars who are aligned with Center's overall mission: to use the science of human behavior to alleviate human suffering.

Nominations will be accepted now through Thursday, April 1, 2021. We cannot accept nominations after this date to ensure fairness of the screening and selection process.

If you would like to nominate a distinguished scholar, [complete the nomination survey linked here](#). If you have never nominated a potential Scholar, or have not nominated one in recent years, we encourage you to do so.

Individuals will be made aware of their acceptance shortly before the ABAI Annual Convention at the end of May.

Please contact me with any questions.

My best regards,

*Michael*

Michael P. Kranak, PhD, BCBA-D  
[kranak@oakland.edu](mailto:kranak@oakland.edu)  
Distinguished Scholars Leader  
CCBS Advisor



Michael Kranak, PhD, BCBA-D  
Assistant Professor  
Department of Human Development  
and Child Studies  
Director  
Research for the Center for Autism  
Oakland University

**Nominate a Distinguished Scholar today!**  
**[Use ONLINE SURVEY FORM](#)**





# Join **THE** Conversation

with

Henry S. Pennypacker & Francisco I. Perez

**EngineeringTheUpswing.org**

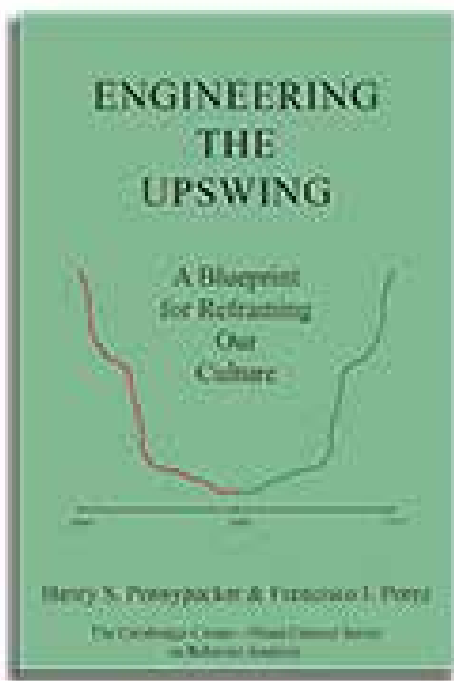
**BUY & READ** the book

**SHARE** a testimonial

**CONNECT US WITH INFLUENCERS** in your realm who can help us

**SHARE** the book with family and friends

**JOIN OUR CONVERSATION** in our FORUM at [www.engineeringtheupswing.org](http://www.engineeringtheupswing.org)



**Join Hank & Frank *online* Friday, April 1**

**"Engineering the Upswing – A Blueprint for Reframing Our Culture"**

**A FREE ABACLive Webinar**

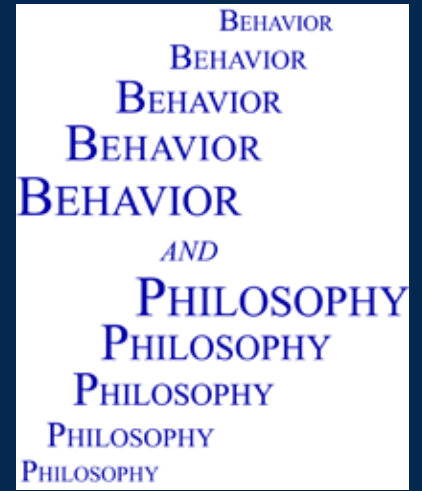
Friday, April 1, 2022 at 10:00 am - 12:00 pm (EDT) - [Learn more on Page 14](#)

# Volume 49 Continues

## THE COVARIANCE BASED LAW OF EFFECT: A FUNDAMENTAL PRINCIPLE OF BEHAVIOR

M. Borgstede, University of Bamberg & V.J. Luque, University of Valencia

**ABSTRACT:** Building on George Price's formal account of selection, we present an abstract theoretical account of behavioral selection that integrates the domains of individual learning and evolution. From the perspective of the multilevel model of behavioral selection (MLBS), we argue that the *covariance based law of effect* (CLOE) qualifies as a fundamental principle of behavior in that it provides a general formal framework for selectionist thinking and model building. We demonstrate the feasibility of our approach by means of a covariance based model of choice behavior that explains the effects of changeover delays on operant matching. [Read Article.](#)



## Call for Submissions

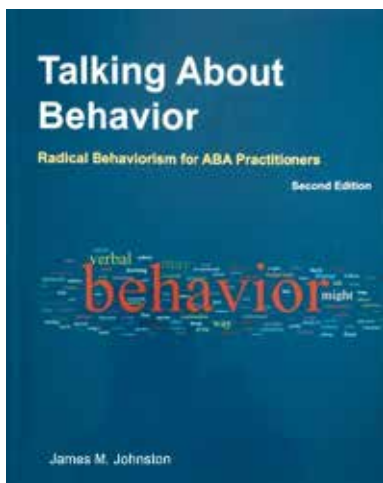
*Behavior and Philosophy* publishes articles dedicated to theoretical issues concerning behavior analysis as well as allied behavior sciences (e.g., conceptual analysis; methodological discussions; reflections on epistemology and ontology; ethical and political investigations).

All manuscripts in accordance with *Behavior and Philosophy's* scope will be considered for publication after a double-blind review process by two anonymous reviewers invited by the Editor for the task.

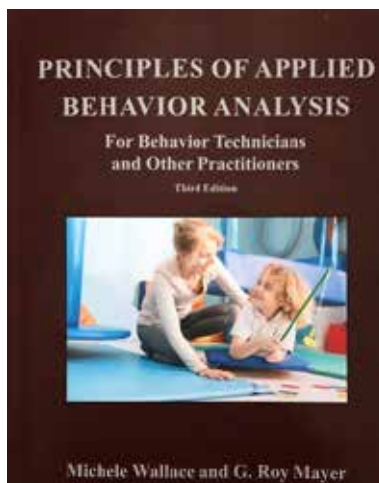
*Behavior and Philosophy* adopts the continuous publishing model of publication. Finished the copy-editing process, articles accepted for publication will be published [online on Behavior and Philosophy site](#) in a continuous flow. The journal volumes will be closed by the end of each year with the papers published during this period. The continuous publication process promotes speed and agility in the process of availability of research. In case of manuscripts accepted for publication, it takes 3 months on average between submission and the publication online.

**Contact Editor Dr. Diego Zilio to submit your article.**

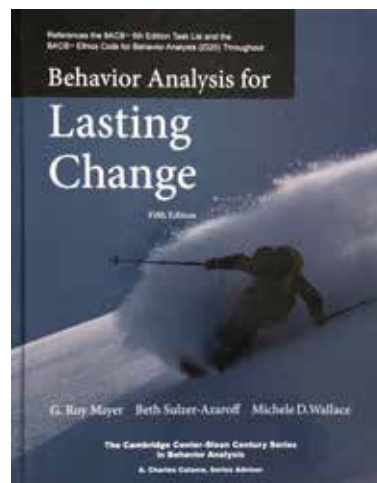
## New & Updated Editions in the CCBS Store



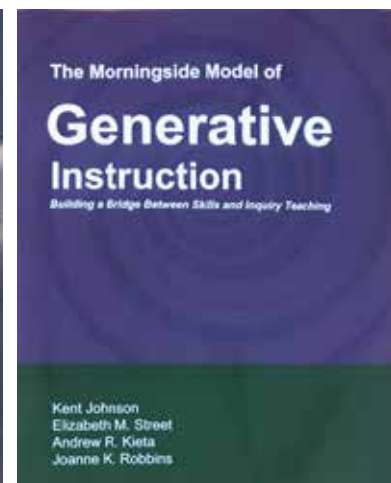
**\$52.95**



**\$39.95**



**\$130.95**



**\$89.95**



# HISTORIANS' CORNER

## Chains of Fame (and Infamy)

**Andy Lattal**  
West Virginia University  
Board of Directors Member, CCBS

Photo by Edge2Edge Media on Unsplash

A chain is a series of things or events linked together. In *Behavior of Organisms*, Skinner described what he called The Law of Chaining: "The response of one reflex may constitute or produce the eliciting or discriminative stimulus of another" (1938, p. 32). A chained schedule of reinforcement is one in which topographically similar or dissimilar responses are chained together such that they produce, according to schedules of reinforcement, successive stimuli, with a response in the final link of the chain producing a reinforcer. Ferster

and Skinner (1957) described the behavioral (mostly key pecks of pigeons) effects of arranging a variety of different schedules as different links in the chain. Debates continue to the present as to the relative efficacy of teaching multiple-link chains by starting with the first or last link of the chain. The former is labeled "forward chaining" and the latter as "backward chaining."

A project on establishing a response chain was a part of the first "rat lab" course on behavior principles (Keller & Schoenfeld, 1949). Rats learned to respond one each of two different operanda in a fixed order, a demonstration that became a standard for subsequent iterations of rat lab exercises (e.g., Michael, 1963).

Perhaps the most widely cited example of response chaining was that described in something called "The Barnabus Study," conducted at Brown University sometime in the late 1950s and reported widely in (mostly college) magazines and newspapers. It later was the subject of a 1979 film, "Barnabus: A study in complex behavior chaining" that was part of a film series on behavioral psychology produced by Northeastern University. The Barnabus Study was the brainchild of one of the

first women behavior analysts, Rosemary Pierrel Sorrento, who subsequently taught at Columbia University and returned to Brown as Dean of its Pembroke College. Pierrel Sorrento trained several rats (like two of the three handyman brothers in the old Bob Newhart television series who also had the same name, the rats all were named Barnabus-in-a-recurring-joke-throughout-the Newhart series, the viewer was reminded that the brothers both were named Darryl) on an elaborate chain comprised of several topographically distinct responses the completion of which in sequence ended in access to food. The apparatus that was constructed for the project is shown in Figure 1. Fortunately, it has been preserved as part of the permanent collection of the Center for the History of Psychology at the University of Akron in Akron, Ohio. [Barnabus Demonstration Box \(Maze\) with Motor \(A\) - Cummings Center Artifacts - University of Akron Digital Collections \(uakron.edu\)](#)

Another well-known example of response chaining was that reported by Epstein and Skinner as part of the Colombian Simulation Project (Epstein et al., 1984). [A Pigeon Solves the Classic Box-and-Banana Problem - YouTube](#). They first trained pigeons on three separate tasks: standing on a box, pecking the box, and pecking a plastic banana. The responses were trained in different orders for different pigeons. The experiment was something of a tongue-in-cheek-with-a-serious-message replication of the 1920s studies of Gestalt psychologist Wolfgang Kohler on "insight learning" in which a banana was suspended just out of reach of the chimps housed in the cage. Several boxes were placed in the chamber and, without specific training, the chimps eventually came to move and stack the boxes under the banana, stand on the stacked boxes, and on the, and retrieve the banana, as shown in Figure 2 (*next page*) and in the



Figure 1. The Barnabus Study apparatus. Thanks to The University of Akron Cummings Center for the History of Psychology



Figure 2. Wolfgang Koehler's problem-solving chimpanzees.

film clip at this web address: [Chimpanzee Insight \(Kohler Study Footage\) - YouTube](#). Similarly, after training the pigeon to engage each of the three objects, the banana was raised to the top of the chamber such that it could only be pecked by the pigeon moving the box under the banana and then standing on the box. It did so. In this manner, the three responses were "spontaneously" formed into a chain of successive responses that resulted in reinforcement.

Chains of responses are an important part of functioning outside the laboratory by not only humans, but also by nonhuman animals. The bane of many who enjoy watching birds gather at their bird feeders are the squirrels who navigate their way to the feeder and engorge themselves on the treats intended only for their feathered brethren. The lengths to which squirrels will go to access bird feeders has been the subject of many films and clips, revealing amazingly myriad intricate response chains these facile beasts will master. Such fetes more than matching

the wits of the bird watchers who devise sometimes almost diabolical devices to foil such thievery. [Backyard Squirrel Maze 1.0- Ninja Warrior Course - YouTube](#).

#### References

- Epstein, R., Kirshnit, C. E., Lanza, R. P., & Rubin, L. C. (1984). 'Insight' in the pigeon: antecedents and determinants of an intelligent performance. *Nature*, 308, 61-62. doi: 10.1038/308061a0.
- Ferster, C. B., & Skinner, B. F. (1957). *Schedules of reinforcement*. Appleton-Century-Crofts.
- Keller, F. S., Schoenfeld, W. N. (1949). The psychology curriculum at Columbia College. *American Psychologist*, 4(6), 165-172. <https://doi.org/10.1037/h0057770>
- Michael, J. (1963). *Laboratory studies in operant behavior*. McGraw-Hill.
- Skinner, B. F. (1938). *Behavior of organisms*. Appleton-Century-Crofts.

A one-day conference featuring leading experts in fields of Science, Special Education, and Autism Spectrum Disorders.



Thanks to Trustee  
Mary Jane Weiss  
and  
Endicott College

Cambridge Center for Behavioral Studies™ in cooperation with Endicott College is proud to present

# ETHICS in Professional Practice

**Save the Date!**

**Friday  
August 5, 2022**

**Endicott College Campus  
Beverly, Massachusetts**

**behavior.org**





NOVEMBER 3-5, 2022  
35<sup>th</sup> Annual  
Conference of the  
Standard Celeration  
Society

*The Curtis Hotel  
Denver, Colorado*

**SAVE  
THE  
DATE**

*Also through the  
Center's collaboration with  
Standard Celeration Society  
Coming in April!*

Standard Celeration  
Society &  
Cambridge Center  
International Webinar

## Featured On-Demand CEU Courses

Thanks to our collaboration with the Center for Behavior Analysis, University of West Florida with **Trustee Leasha Barry** and her team including **Advisors Dayna Beddick** and **Michelle Lambert** with CCBS friends Sarah Kent and Jerry Charvat.



### CEU Course List

[View our growing on-demand library of CEUs at uwf.behavior.org.](http://uwf.behavior.org)

Use the search function or browse by category. Simply click on a course name to view the full description and watch a preview video.

## Ethics

**David Cox** – Moral Philosophy, Ethical Theories, and Applied Ethics

**Rita Gardner** – Ensuring Organizational Ethics: Another Case for Organizational Behavior Management

## Supervision

**Sal Ruiz & Alaina Cox** – Impact of Remote Supervision on Reading Skills for High School Students with Dyslexia

**Helena Maguire** – Leadership Under Fire: Effective Supervision and Organizational Integrity: A Treatment Package for Crisis Events

## ABACLive Cambridge Center Series **FREE** Webinars

Joanne Robbins, PhD; Sean Will, MS; Lucero Neri-Hernandez: MS, BCBA, LBA;  
and Lilly Alejandra Flores-Fiumara, MA, BCBA Present

### **Say! Say! Say! Finding a Common Language for Teaching and Learning Reasoning Skills**

Thursday, March 24 (6:00 pm-8:00 pm Eastern/NY)



Whether the “problem solver” is a scholar, a scientist, an artist, a writer, a child, a parent, or an entrepreneur, certain repertoires are required to tackle the problem-solving environment successfully. A strategy designed decades ago is currently implemented in various settings by behavior analysts. This strategy called TAPPS (Think Aloud Pair Problem Solving) or TAPS (Talk Aloud Problem Solving) can be implemented

with elementary to college-age students in general education and special education settings and by career professionals, parents, and others. The presenters will describe the implementation of a TAPS program through the context of a Constructional Approach (Goldiamond, 1974), the three repertoires that are required to successfully reason and problem solve, and present a contingency analysis regarding creating a “culture” of problem-solving in a group of individuals, ensuring that the teaching and implementation of TAPS maintains over time and lineages of individuals (Glenn, 2004; Layng et al., 2020). Those attending will leave with a more complete picture of what problem-solving is, what it takes for someone to reason through a problem independently, and learn of the various settings that take advantage of its utility.

**REGISTER**

Henry S. Pennypacker, PhD, & Francisco I. Perez, PhD, ABPP, Present

### **Engineering the Upswing – A Blueprint for Reframing Our Culture**

Friday, April 1, 2022 (10:00 pm-12:00 pm Eastern/NY)

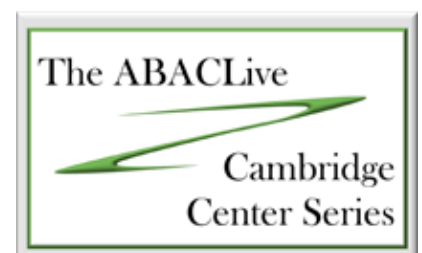
Putnam & Garrett (2020) document the significant cultural changes that occurred in the United States over the last century to the present. They noted a long upswing toward increasing solidarity in the early 20th century, followed by a steep downturn into increasing individualism. They concluded that the swing was driven by human action. Skinner (1976) warned us that “great changes must be made in the American way of life...”. He urged us to “use our knowledge about human behavior to create a social environment in which we shall live productive lives...”.

In this two-hour webinar, Drs. Perez and Pennypacker will provide tools for expanding the reach of behavior analyst in the important task of healing our culture and enhancing the well-being of humanity. by engineering practices of collaboration, conflict resolution, increase the frequency of prosocial behavior, decrease consumerism and waste etc.

**REGISTER**

### **“Helping Those Who Help Others, One Live Webinar at a Time”**

Our [ABACLive Cambridge Center Series](#) is **FREE** or at a discounted registration fee to earn BACB® Learning CEs plus other continuing education opportunities.





# Streamlined Accreditation Process Announced by the Center's Commission on Accreditation for Behavioral Safety



1. Review Accreditation Docs (*linked below*)
2. Complete & Submit Contact Form
3. The Commission Will Arrange an Interview

[Award Types and Levels - Accreditation Standards](#)

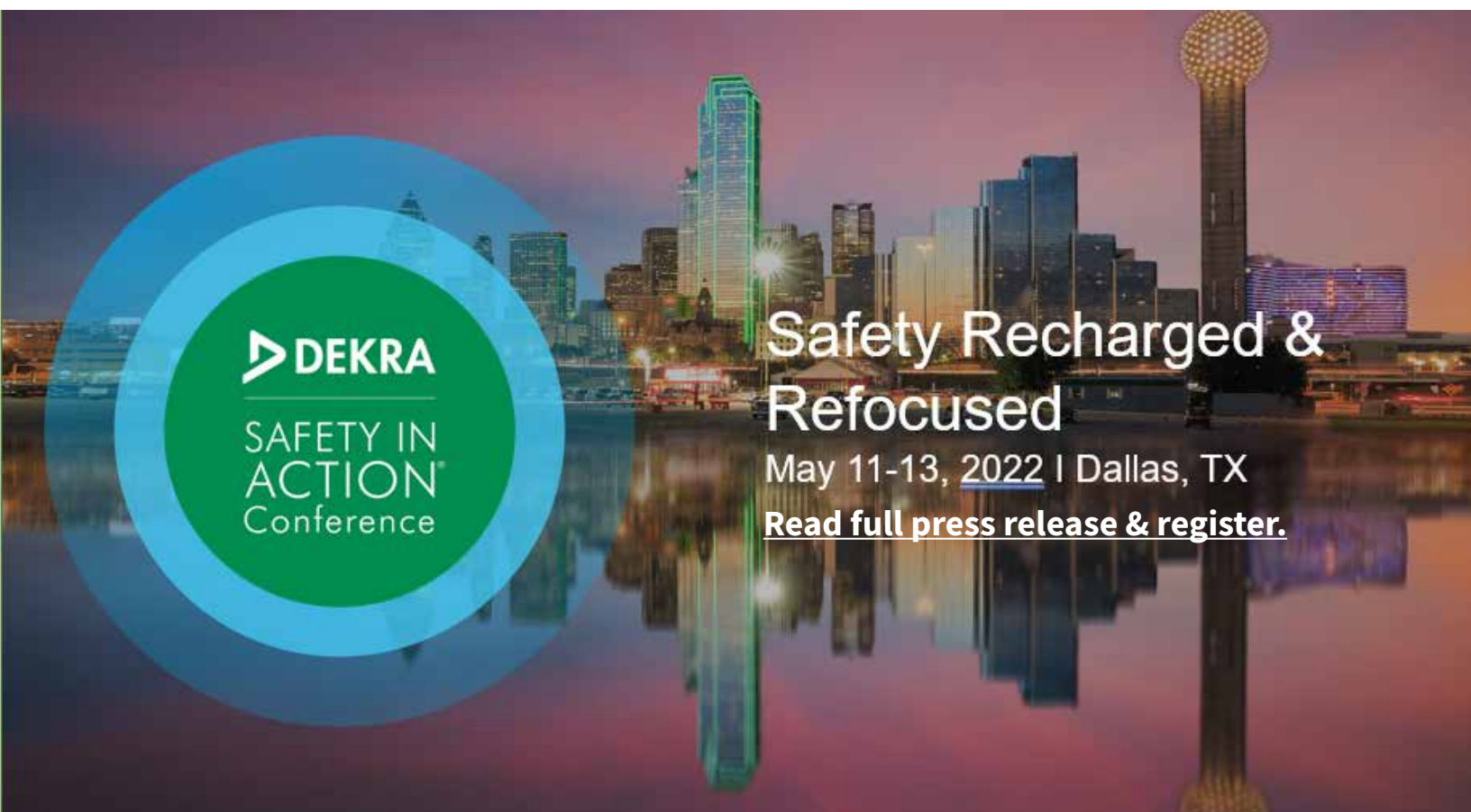
[Contact Form](#) (Note: This is a MSWord document download.)

[Fee Structure](#)

[Learn more about the Accreditation process on \*\*behavior.org\*\*.](#)

The Cambridge Center is proud to Accredite the best-in practice Behavioral Safety programs in the world as exemplars for other programs seeking to improve their impact. Read about these best practices in the 'Accredited Companies' link above.

If you would like an objective, independent review of your behavioral safety program based on our Accreditation Standards, please use the links below to learn about our Accreditation program, our standards and the application process. We would be proud to learn your story and begin your program's path toward Accreditation.



## CCBS Presenters

Accreditation Commissioner & Board of Director Timothy Ludwig, PhD; Trustees Angelica Grindle, PhD & Terry McSween, PhD; Advisor Kent Corso, PsyD, BCBA-D & Sigurdur Sigurdsson, PhD; and Distinguished Scholars Matthew Laske & Adressa Sleiman, MS

# OUR TRUSTEES

Mark Alavosius, PhD  
**Ronald F. Allen, PhD\***  
Paul Andronis, PhD  
Erik Arntzen, PhD  
Judah B. Axe, PhD  
Leasha M. Barry, PhD  
Carl Binder, PhD  
**Andy Bondy, PhD\***  
Darrel Bostow, PhD  
José E. Burgos, PhD  
Robyn M. Catagnus, EdD  
Joseph Dagen, PhD  
Ronnie Detrich, PhD  
Michael F. Dorsey, PhD  
Eitan Eldar, PhD  
**Stephen Eversole, EdD\***  
Tara Fahmie, PhD  
Edward Feeney  
Hua Margarate Feng, PhD  
Lanny Fields, PhD  
Richard Foxx, PhD  
Patrick C. Friman, PhD

## \*Board of Directors Members

R. Wayne Fuqua, PhD  
Peter F. Gerhardt, EdD  
Celia Wolk Gershenson, PhD  
Nicole Gravina, PhD  
Angelica C. Grindle, PhD  
Gregory Hanley, PhD  
William L. Heward, EdD  
**Philip Hine, PhD\***  
Rob Holdsambeck, EdD  
Ramona Houmanfar, PhD  
Kent Johnson, PhD  
Mickey Keenan, DPhil  
Jeff Kupfer, PhD  
Amanda P. Laprime, PhD  
Eric V. Larsson, PhD  
**A. Darnell Lattal, PhD\***  
**Kennon (Andy) Lattal, PhD\***  
T. V. Joe Layng, PhD  
Justin Leaf, PhD  
Marta León, PhD  
Lori Ludwig, PhD  
**Timothy D. Ludwig, PhD\***  
Russell W. Maguire, PhD  
M. Jackson Marr, PhD  
Tetsuro Matsuzawa, PhD  
Thomas C. Mawhinney, PhD

Terry McSween, PhD  
Francis Mechner, PhD  
Kerri Milyko, PhD  
Paolo Moderato, PhD  
Edward K. Morris, PhD  
James Mulick, PhD  
Martha Pelaez, PhD  
Robert Pennington, PhD  
**Henry S. Pennypacker, PhD\***  
Francisco I. Perez, PhD  
Chuck Pettinger, PhD  
Ruth Anne Rehfeldt, PhD  
Marius M. Rietdijk, PhD  
Jesús Rosales-Ruiz, PhD  
Claire St. Peter, PhD  
Henry Schlinger, PhD  
Julie M. Smith, PhD  
J.E.R. Staddon, PhD  
Kenneth Stephens, PhD  
**Janet Twyman, PhD\***  
Karen R. Wagner, PhD  
Michael Weinberg, PhD  
Mary Jane Weiss, PhD  
Oliver Wirth, PhD  
**Thomas L. Zane, PhD\***

Most of our work is through the voluntary efforts of our directors, trustees, and advisors. These individuals represent the best experts in behavioral science and practice. [Find out "Who We Are" on behavior.org.](#)

**GIVE  
TODAY**

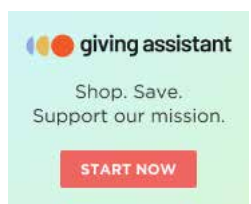
## DONATE

Your generosity brings the best of behavioral science to the public.



## AMAZON SMILE

Choose the Cambridge Center for Behavioral Studies™ as your charity on Amazon Smile! Remember, always start at smile.amazon.com Amazon will donate .5% of the price of your eligible AmazonSmile purchases. <https://smile.amazon.com>



## GIVING ASSISTANT

Giving Assistant shoppers earn cash back, and donate a percentage of that cash back to organizations like us! Just sign up for free to start earning and giving. You'll also enjoy huge savings at 3,000+ popular retailers like Sears and Target, as well as limited-time offers including exclusive Lowe's coupons! It's never been easier to change the world.

## SOCIAL MEDIA

Join and follow us on  
[Facebook](#) and [LinkedIn](#).



**on behavior.org**

The Cambridge Center is a non-profit 501 (c) 3 organization whose mission is to advance the scientific study of behavior and its humane application to the solution of practical problems, including the prevention and relief of human suffering.

Telephone contact: (978) 369-2227  
E-mail contact: [center@behavior.org](mailto:center@behavior.org)  
Address: 410 Newtown Road, Littleton, MA 01460