

USC Chan

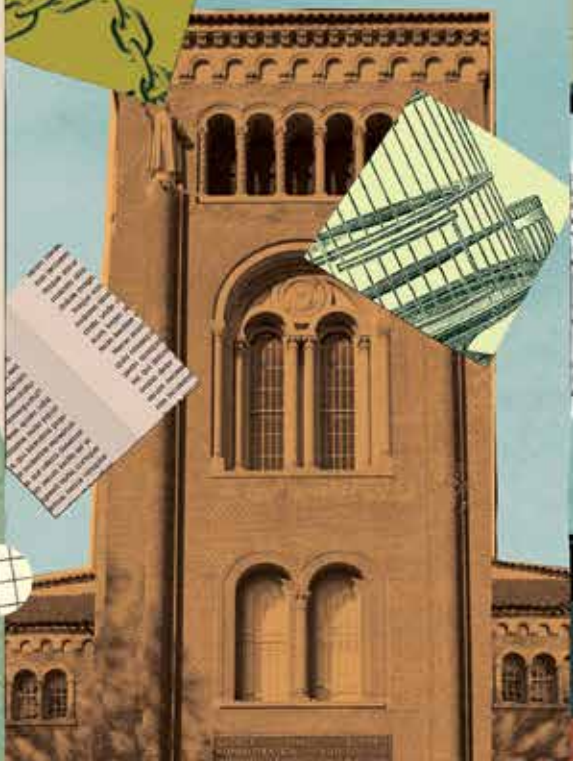
FALL 2022/WINTER 2023

MAGAZINE



DOING DIVERSITY

USC Chan faculty members making a difference for diversity, equity and inclusion.





WITH HONORS

At a portrait unveiling earlier this year, former adjunct faculty member Lela Llorens — an occupational therapy trailblazer known throughout the profession — was inducted into the USC Chan Division’s “Hall of Honor,” a who’s who of the most influential Trojans to have indelibly influenced the profession. Portraits of inductees are prominently displayed at the Center for the Health Professions building on the USC Health Sciences Campus and at the USC Center for Occupation and Lifestyle Redesign® in the University Park neighborhood.

During a career that spanned more than 50 years from the 1950s into the 21st century, Llorens has been an outstanding scholar, exemplary educator and consummate ambassador for occupational therapy. Llorens also delivered the keynote address at the division’s 2022 commencement ceremony.

“I’ve enjoyed a warm, professionally rich relationship with many of the [USC] faculty, most notably Dr. Elizabeth Yerxa and Dr. Florence Clark,” Llorens said. “It is indeed a high honor to join such auspicious company.”



Dear Alumni and Friends,

The first occupational therapy courses were held at USC in the autumn of 1942. During the 80 years since, USC Chan has rightly earned its reputation for academic and clinical excellence.

But for far too long, our professional composition has been stuck in the 1940s; occupational therapy is not proportionately reflective of the diverse populations whom we serve today. That dilemma has surely undermined the profession's ability to provide truly patient-centered care, to substantively close disparity gaps, to dismantle systemic barriers and to advocate for sustainable, structural change. We must ensure that all Trojan Family members feel valued and supported, and that our people and programs can continuously improve to better meet society's pluralistic needs.

This issue of the *USC Chan Magazine* highlights some of the ways in which Trojan clinicians, educators and students are doing more, starting on p. 18 with a trio of cover stories. Faculty member Nora Dixon developed a new Lifestyle Redesign® program at the USC Occupational Therapy Faculty Practice for supporting transgender and gender expansive clients. Faculty members Tessa Milman, Janet Gunter and Jennifer Jones talk about their efforts to decolonize occupational therapy curricula, frameworks and practices. The USC OT/PT Summer Institute, coordinated by Terry Richardson, Arameh Anvarizadeh and Kimberly Kho, is a new pathway program that opens doors to our professions for undergrads from minoritized groups.

We know that Diversity, Equity and Inclusion efforts are also codified within formal structures, and I'm excited to share that two of our faculty members have been appointed to leadership positions to further their critically important work. On p. 7, read about Karrie Kingsley's university-level appointment to their new position as Associate Chief Inclusion and Diversity Officer for Faculty and Staff Success. And on p. 29, get to know Jesús Díaz, the division's first Associate Chair of Diversity, Access and Equity.

Earlier this fall, we stepped into a new era of USC occupational therapy education when our inaugural cohort of Entry-OTD students stepped onto campus. This three-year program is built upon the nation's No. 1 occupational therapy graduate program as ranked by



PHOTO BY NATE JENSEN

U.S. News & World Report. Additionally — and critically — themes of Justice, Equity, Diversity and Inclusion are woven throughout the new curriculum. As such, the next generation of Trojan occupational therapists — more so than any in the 80 years before them — will be able to collaboratively partner with diverse clients and patients, call out and counteract bias and oppression and advance justice, equity and inclusion for marginalized and oppressed populations.

Our profession, like our Trojan Family, is committed to providing a supportive environment where all people can fully engage and flourish. While we may not always get it right the first time, know that our commitment to diversity, equity and inclusion is unwavering. And I hope you too can join in our collective mission, in whatever ways you are able, to make tomorrow's OT profession more inclusive, equitable and beneficial for all.

Grace Baranek PhD, OTR/L, FAOTA

Associate Dean, Chair and Professor

USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy

Herman Ostrow School of Dentistry of USC

USC Chan

MAGAZINE

ASSOCIATE DEAN
AND CHAIR
GRACE BARANEK

DEAN
AVISHAI SADAN MBA '14

DIRECTOR OF
EXTERNAL RELATIONS
**MIKE McNULTY '06,
MA '09, OTD '10**

ILLUSTRATION
CLARE OWEN/i2i ART

PHOTOGRAPHY
PHIL CHANNING
NICK DRAGO
MAKENZIE HOLLAR
NATE JENSEN
KIMBERLY KHO
CONNIE LEE
JOHN LIVZEY
GLENN MARZANO
KYRA McCLAIN MA '23
ABRAHAM RAMIREZ MA '22
GUS RUELAS
TREVOR SAN ANTONIO MA '20, OTD '21
TIMOTHY WANG '21, MA '22
JANIS YUE MA '20, OTD '21

CONTRIBUTORS
EMILY CAMPI MA '20, PHD '24
CATHERINE CROWLEY OTD '06
JANET GUNTER '94, MA '95, OTD '10
ESTHER JAHNG MA '20, OTD '21
JENNIFER JONES MA '06, OTD '07
MIKE McNULTY '06, MA '09, OTD '10
TESSA MILMAN MA '08, OTD '09
ELIZABETH M. PHELPS MA '20, OTD '22
SIDNEY TAIKO SHEEHAN

DESIGN
JHK CREATIVE

The magazine of the USC Mrs. T.H. Chan Division of Occupational Science and Occupational Therapy is published twice yearly. For questions, comments, updates or story suggestions, contact Mike McNulty at mmcnulty@chan.usc.edu or (323) 442-2850.

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FEATURES

AN OCCUPATIONAL LOOK AT SQUID GAME | P. 12

Netflix's global sensation *Squid Game* isn't for the squeamish. But if you can watch with occupation in mind, argues Esther Jahng, the fictional survival series offers plenty of real-world commentary for further exploration.

MAJOR EXPANSION OF OPEN-SOURCE NEUROIMAGING DATA SET TO BOOST STROKE RECOVERY RESEARCH | P. 16

A USC-led team of researchers released an expanded data set of 1,271 brain scans from stroke patients. Their hope? That it accelerate large-scale stroke recovery research to, one day soon, allow clinicians to better customize rehab therapies.

DEPARTMENTS

UP FRONT | P. 5

Lawlor to give 2023 Slagle; Hand it to Hand Therapy Week; Alum designs USC's Official Tee; Blanche wins OTAC Lifetime Achievement Award; Faculty model comes to renowned clinic; Frank retires after 40 years; Kingsley in new inclusion and diversity role; Autism Research publication distinguishes between ASD and DCD; SENSE II rolls out to NICU providers; New children's book about OT.

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5 THINGS TO KNOW ABOUT: JESÚS DÍAZ '05, MA '08, OTD '09 | P. 29

IN PRINT: INCARCERATION, THE PANDEMIC AND OCCUPATIONAL DEPRIVATION | P. 31

A DEEPER MEANING: KATE CROWLEY OTD '06 | P. 33



COVER STORY

DOING DIVERSITY | P. 18

This issue's cover story showcases three ways — from the clinic to the curriculum to the classroom — that USC Chan faculty members are making a real difference for diversity.



PEACE GARDEN | P. 11

“Coming here is a breath of fresh air,” said Daniella Leon, a junior in both the USC Dornsife College of Letters, Arts and Sciences and the USC Roski School of Art and Design. “Los Angeles is so crowded and fast-paced that just having a space to ground yourself is really important.”

Leon recently painted a mural of a bird taking flight at the USC University Park Peace Garden, a new project led by USC Chan faculty member Camille Dieterle. Read more on p. 11.

CONTRIBUTORS



Emily Campi MA '20, PhD '24

Writer, *Research Buzz*, p. 28

Meaningful occupations:

Rock climbing, cooking and line dancing.

About writing *Research Buzz*:

Writing recaps like this helps me take a step back and remember why we do the work we do, and how it can make a broader impact.



Esther Jahng MA '20, OTD '21

Writer, *More Than Just Fun and Games*, p. 12

Meaningful occupations:

Crocheting amigurumi, macraméing, visiting botanical gardens, traveling and exploring L.A.'s culinary scene with friends and family.

About writing *More Than Just Fun and Games*: It made me think more deeply about my cultural roots, deepened my occupational perspective in a global context and alleviated some of my binge-watching guilt!



Elizabeth M. Phelps MA '20, OTD '22

Writer, *In Print*, p. 31

Meaningful occupations:

Going on long walks with my dogs while listening to legal podcasts, sewing and knitting, baking and game nights with friends.

About academic writing and publishing:

My biggest lesson was just to start. Dr. Aldrich's mentorship was invaluable — she encouraged a seedling of an idea, and kept me moving whenever I doubted my ideas' long-term future.



Sidney Taiko Sheehan

Communications Manager, USC Stevens Neuroimaging and Informatics

Institute and writer, *Major Expansion of Open-Source Neuroimaging Data Set*, p. 16

Meaningful occupations: Editing the longstanding independent literary journal *Storm Cellar*.

About writing *Major Expansion*: I'm thrilled to be collaborating with the incredible researchers at the Stevens INI, including Dr. Liew, whose work to create open science resources that uplift the entire scientific community and propel discovery to help all who are impacted by stroke is truly inspiring.



BLANCHE'S LIFETIME ACHIEVEMENT AWARD CAPS 2022 OTAC AWARD-WINNERS

Clinical Professor of Occupational Therapy **Erna Blanche** MA '88, PhD '98 received the Lifetime Achievement Award at the Occupational Therapy Association of California's 2022 Annual Awards Ceremony.

Blanche is an expert in pediatric occupational therapy research and intervention, including Ayres Sensory Integration. Her research includes play, clinical evaluation of children with developmental disabilities and the relationship between sensory processing and lifestyle choices.

PHOTO BY PHIL CHANNING

Three other Trojans received OTAC award recognitions this year. Post-professional OTD student **Teresa Pham** MA '22, OTD '23 received the Outstanding Student Award, **Karen Park** MA '02, OTD '13 received the OTAC Media Award and **Christy Billock** MA '98, PhD '05 was the California Foundation for Occupational Therapy's 2022 honored lecturer.



PHOTO BY CONNIE LEE

CALVIN LEE DESIGNED 'OFFICIAL' SHIRT

Calvin Lee MA '21, OTD '22 designed USC Bookstore's 2022 official T-shirt, which features the slogan "Fight On Forever" on its front and back using a minimal and accessible design. Lee says the tee's design was partly inspired by his occupational therapy coursework.

"I was thinking more about this because we discussed design accessibility in my ergonomics elective course, and in that sense, I think art and design experience can be very useful in ergonomic design and with other aspects of direct patient care like creating home exercise programs," Lee said. "I'm grateful to USC for getting me to where I am and where I will be, so I will Fight On forever!"

Purchase USC's 2022 Official T-Shirt by visiting uscbookstore.com and searching for "Official Tee."



PHOTO BY TREVOR SAN ANTONIO

HAND THERAPY WEEK

Denise Bui MA '21, OTD '22, an occupational therapy doctoral resident at Keck Hospital of USC, helped celebrate 2022 Hand Therapy Week at the hospital with a display of origami flowers made by her patients.

"It was special to share my work helping patients return to their daily lives and activities following hand injury," Bui said. "My patients really enjoyed seeing the poster come together the weeks before, and people in the lobby of Keck Hospital commented on how nice the poster looked and asked who made the origami flowers."

Established by the American Society of Hand Therapists, Hand Therapy Week is a nationwide program of week-long events and celebrations to raise awareness, highlight hand therapy's benefits and educate the public.

"As patients engaged in this origami activity, we had an opportunity to discuss hand rehabilitation and their progress," Bui said. "Clients also saw that they were able to complete an art project to contribute to this poster using prehensions, strength, creativity and compensation techniques."



PHOTO BY PHIL CHANNING

LAWLOR 2023 SLAGLE AWARD RECIPIENT

Associate Chair of Research and Professor Mary Lawlor was named the recipient of the American Occupational Therapy Association's Eleanor Clarke Slagle Lectureship Award, the profession's most prestigious academic honor that recognizes one's substantial and lasting scholarly contributions to the profession.

Lawlor becomes the 16th USC-affiliated recipient of the award, and will deliver her Slagle Lecture during the 2023 AOTA conference in Kansas City.

"I am deeply appreciative, incredibly honored and humbled to be receiving the Eleanor Clarke Slagle award," Lawlor said. "I'm looking forward to the year ahead, and the opportunities it affords to reflect on the trajectories and themes of my work, and all I have learned from mentors, colleagues, mentees, students and families who have engaged with us in our research and stakeholder projects."

Lawlor was one of nine USC faculty, staff and alumni who received annual awards presented by the AOTA and American Occupational Therapy Foundation during the 2022 conference. See the full list of award-winners at chan.usc.edu/events/conference/aota.



FACULTY PRACTICE MODEL AT MOMENTUM PTN

USC Chan has entered into a formal agreement to implement a faculty practice model at Momentum Pediatric Therapy Network (Momentum PTN). This unique partnership ensures that Momentum PTN grows as a respected center of clinical excellence by leveraging the expertise and knowledge mobilization capabilities of USC Chan faculty members.

The faculty practice model provides mutual benefits for USC Chan's academic programs as well as Momentum's clinical and community sites of service. This strategic initiative honors the legacy of former faculty member **A. Jean Ayres** '45, MA '54.

"PTN was founded nearly 25 years ago as a non-profit organization by four occupational therapists, all of whom trained and were research assistants to Dr. Ayres," said Board of Councilors member **Terri Nishimura** MA '85, former CEO of Momentum. "PTN was created to carry on the scholarly and innovative work of Dr. Ayres through high quality, innovative programs based on the foundation of sensory integration, clinical training and education and research. Momentum's commitment to continuing this legacy through the USC Chan faculty practice model will ensure that our mission continues. The faculty practice model will support all our therapists and our programs."

Momentum PTN is an early child development and therapy center providing services for children with special needs and for those at risk for developmental issues. The non-profit organization, formerly known as Pediatric Therapy Network, has clinics located in Torrance, Calif., and Long Beach, Calif., and is now a service line of Momentum Innovative Disability Services (formerly known as United Cerebral Palsy of Los Angeles).

Assistant Professor of Clinical Occupational Therapy **Winnie Soenaryo** MA '05, OTD '18 has been named Senior Director of Professional Development and Research Coordinator at Momentum PTN. An active clinician with extensive international experience for more than 17 years, Soenaryo is an expert in pediatric occupational therapy intervention and is certified in the Sensory Integration and Praxis Test.

"Implementing the faculty practice model ensures that Momentum PTN delivers the most innovative programs, and that clients are receiving high-quality services developed through mentorship, clinical training and professional development for all staff members," Soenaryo said. "With continuous dissemination of evidence-based clinical practices, we can improve quality of care and patient outcomes."

"Our partnership with Momentum PTN opens the next era of the Ayres legacy in excellence and innovation — a legacy that has been intertwined with USC for generations," said Grace Baranek, associate dean and chair of the USC Chan Division. "Our faculty experts will be able to expand world-class services for Southern California clients and their families, and continue to mobilize sensory integration knowledge and best practices to occupational therapists, researchers, students and other stakeholders across the nation and world."

FRANK RETIRES AFTER 40 YEARS

Professor Emeritus **Gelya Frank**, a member of the USC Chan faculty since 1982 with a joint appointment in the Department of Anthropology at the USC Dornsife College of Letters, Arts and Sciences, has retired. She retains the academic rank of professor emeritus of occupational science and occupational therapy.

Frank joined USC's faculty in 1982 after completing her bachelor's, master's and PhD degrees in anthropology at the University of California, Los Angeles. She was hired as the fourth tenure-track member of what was then known as the Department of Occupational Therapy led by Chair **Elizabeth Yerxa** '52, MA '53.

As the department's first non-occupational therapist faculty member, Frank devoted her scholarship to both occupational- and anthropological-focused projects, and she crucially contributed social science perspectives beyond occupational therapy during the founding of occupational science in the mid- and late-1980s.

Her doctoral dissertation work was published as an award-winning book titled *Venus on Wheels: Two Decades of Dialogue on Disability* (University of California Press), which was a required reading in the division's entry-level occupational therapy professional program for years.

That work, like much of Frank's, utilized ethnographic and culturally-oriented inquiries about the human "doing" of occupation and its relationships to social constructions of identity, participation and belonging. Her scholarship approached a number of topics, including the ways in which humans utilize occupations to organize meaningful and purposeful lives, how occupations enhance group solidarity and preserve identity among community, and how the lens of occupation can facilitate understanding between people on individual, relational, cultural and political planes.

Throughout her career she was devoted to a number of applied anthropological and occupation-based projects, including: the New Stories/New Cultures After-School Enrichment Program, which empowered at-risk students in K-12 schools across the University Park Campus neighborhoods with a set of conceptual tools and skills for successfully interpreting and navigating their social worlds; the Tule River Tribal History Project to preserve the cultural history of the Tule River Indian Tribe and use the occupation of history-making as a collec-



PHOTO BY KIMBERLY KHO

tive act of resistance, reclamation and spiritual and social restoration; the NAPA-OT Field School in Antigua, Guatemala, the first and only field school established on the level of the American Anthropological Association, which brings together students from across the health professions and humanities to enact social and occupational justice; and the SOLA Peace Camp, a South L.A. non-profit which empowers youth and teens to participate in cultural interventions to build their individual and collective capacity for peacemaking skills.

Frank has been recognized with many accolades, including the 2010 Ruth Zemke Lectureship from the Society for the Study of Occupation: USA and the Faculty Recognition Award from Phi Kappa Phi, USC's oldest honor society. She also served as president of the Society for Humanistic Anthropology, and she sat on the board of the American Anthropological Association. She earned a Master of Professional Writing degree from USC in 2016.

Her forthcoming book, *Making Better Worlds: Occupational Reconstructions and Social Transformations* (Duke University Press), presents a framework for activists, occupational therapists and other change agents in making social change.

"Dr. Frank's legacy to occupational science is to see the individual nature of occupation through the lens of groups, collectives and societies," said Associate Dean and Chair Grace Baranek at a Sept. reception honoring Frank. "Her writings instruct us — and her real-world efforts have shown us — that the most powerful thing that people can still do, is to do things together."



PHOTO BY JOHN LIVZEY

KINGSLEY IN NEW UNIVERSITY ROLE

Associate Professor of Clinical Occupational Therapy **Karrie Kingsley** MA '01, OTD '07 (pronouns are they/them/theirs) was named USC's associate chief inclusion and diversity officer for faculty and staff success. In this role, Kingsley reports to Christopher Manning, USC's chief inclusion and diversity officer and a member of USC President Carol Folt's senior leadership team.

Kingsley brings years of experience to the role collaborating with staff, students and faculty towards diversity, justice, inclusion and equity. Informed by various frameworks and approaches, they emphasizes collaboration over competition, and seeks to subvert dominant hegemonies and power dynamics historically entrenched in systems of oppression. Kingsley works to center voices of those directly impacted by oppression, recognizing their privilege from a position of humility. Thanks to their clinical background and scholarship centered in occupational therapy, they can keep dis/ability in the forefront of the university's DEI conversation. Kingsley is committed to growing a strongly connected and collaborative USC community with the capacity to achieve a collective vision for equity, justice, diversity and inclusion.

STUDY DISTINGUISHING BETWEEN DCD AND ASD

Results from a new study published in *Autism Research* show that Autism Spectrum Disorder (ASD) and Developmental Coordination Disorder (DCD) each have their own distinct patterns of social and motor skills, which also overlap in some instances.

The results also corroborate a growing body of evidence suggesting that certain movement patterns, while not currently used as a criterion to diagnose autism, may actually be either a core feature of ASD or a very common comorbidity experienced by autistic individuals.

"There are open questions facing the field — whether there are hallmark motor patterns unique to autism, how they might be distinct from those observed in DCD and whether they could inform screening tools and diagnosis," said the article's lead author **Emily Kilroy** PhD '18, Postdoc '21. "This paper moves us closer toward answering those questions."

The study, led by Associate Professor Lisa Aziz-Zadeh, sought to identify common and unique patterns of motor and social impairment in ASD and DCD, how those patterns relate to one another and how they relate to the symptoms and experiences of children with autism. It was conducted as part of a five-year, \$2.1M project led by Aziz-Zadeh funded by the NIH National Institute of Child Health and Human Development.

Aziz-Zadeh is a neuroscientist who studies, among other topics, the ways in which sensory-motor brain regions are involved in processing aspects of higher cognition, including language, thought, emotion, empathy and social understanding. She is jointly appointed at the USC

Dornsife College of Letters, Arts and Sciences' Brain and Creativity Institute and the college's Department of Psychology.

ASD is currently diagnosed on the basis of a person's experiences in two core domains: difficulty with social interaction or communication, and restricted interests and repetitive behaviors. In contrast, DCD is diagnosed on the basis of difficulty performing age-appropriate motor skills, which can subsequently affect social relationships and experiences, especially for children.

"Most standard motor assessments cannot detect differences between ASD and DCD groups," said Aziz-Zadeh. "However in this study, we were able to pinpoint two motor skills that seem especially difficult for youth with autism, even more so than for children with DCD, which may help scientists and clinicians to better discriminate between the conditions using motor measures."

Researchers find gesturing, imitating skills that are specific to autism

The researchers used standardized assessments and scales to measure motor and social skills of 96 participants ranging from 8 to 17 years old across three study groups: typically developing children; children who have diagnosed with ASD; and children who have been diagnosed with DCD.

Compared to typically developing children, the ASD and DCD participants demonstrated greater difficulty performing motor skills. However, the ASD group, as compared to the DCD group, had significantly greater difficulty with two particular tasks: gesturing in response to a verbal command (for example, success-



fully responding when asked "can you wave goodbye?") and imitating meaningful gestures (for example, successfully using their hand to imitate a hammering motion).

"This study identifies signature motor skills in ASD distinct from other comorbidities such as DCD," Aziz-Zadeh said. "There are a number of implications for screening, diagnosis and interventions."

The researchers also found that more than one in three children with DCD scored lower on the social skills assessment, even though social skills are not a criterion for diagnosing DCD. That suggests interventions, like occupational therapy, which focus specifically on building social skills may benefit some individuals with DCD.

"The social experiences of children with DCD may be much more variable than we currently appreciate, so a better understanding of that variability could translate to more precise assessment and treatment by clinicians in the near future," Aziz-Zadeh said.

SENSE UPDATE

The SENSE II program is rolling out now to neonatal health care professionals in hospitals across the world. The Supporting and Enhancing NICU Sensory Experiences (2nd ed.) is an anticipated update of the SENSE program, a comprehensive approach to ensuring high-risk infants are exposed to positive sensory experiences during their stay in the neonatal intensive care unit. The program aims to educate and engage families so they can provide infants with developmentally appropriate, positive sensory exposures each day of hospitalization.

“High-risk infants in the NICU are exposed to noxious and procedural touch as part of necessary medical care,” said Assistant Professor **Bobbi Pineda**, the program’s co-author. “However, there is a large body of research identifying the importance of parent participation at the bedside and the importance of positive sensory exposures. Appropriate types and amounts of positive sensory exposures can improve brain development and optimize neurodevelopmental outcomes, while also boosting the parents’ participation and confidence in their role.”

Pineda is an occupational therapist and scientist who has worked in NICUs, both in clinical and research roles, for nearly 30 years. She also knows what it’s like to experience the NICU from a parental perspective, as her own children once required NICU stays.

The program’s other co-author is Joan Smith, a neonatal nurse practitioner and the director of quality, safety, and practice excellence at St. Louis Children’s Hospital.

SENSE II updates the original program launched by Pineda and colleagues in 2017. The SENSE program is implemented in a NICU under the supervision of an occupational therapist, physical therapist, speech-language pathologist, or other licensed NICU professional such as a physician, registered nurse or nurse practitioner. Neonatal therapists are most often implementing the program and educating families to ensure the infant can tolerate the interventions as described, making adaptations as needed and advancing the program as the baby grows.

Since the SENSE program’s original release, Pineda and colleagues have studied the program, its efficacy and outcomes. During the past five years, clinicians at more than 400 hospitals across the United States and throughout the world have implemented the SENSE program.

A user fee offsets the cost of materials sent to interested hospitals and also supports their online availability as digital downloads. The implementation of the SENSE program in a real-world context not only provides an additional area for research, but is poised to make a significant impact and drastically change the early NICU experience.

“What excites me most is the large number of hospitals using the materials to improve care in the NICU and the enormous impact this can have on the lives of babies and families in the NICU,” Pineda said.

Updates include gender-neutral language, minimum dosing requirement

The SENSE program parent education materials cover a number of relevant topics, including medical terminology, fetal development, the sensory environment in the NICU, sensory development, reading and responding to infant cues, identifying infant readiness for sensory exposures, and descriptions of ways to provide different sensory exposures. It includes a week-by-week guide on specific dosing and timing of tactile, auditory, visual, olfactory and kinesthetic/vestibular activities to ensure that parents can consistently deliver positive sensory experiences across the senses. While these sensory interventions are intended to be provided by parents, the professional care team can also be engaged in order to help meet an infant’s individual sensory needs.

SENSE II builds upon the program’s 2017 foundations, and the revision ensures that the program remains rooted in current evidence. The updating process included an integrative review of studies on sensory interventions with high-risk infants from the past five years, and a review by a multidisciplinary advisory team, including parents. The NICU Therapy Lab — including Research Coordinator Polly Kellner, **Marinthea**



Richter OTD '20, PhD '25, Bethany Gruskin PhD '26, Delaney Smith MA '21, OTD '22 and Carolyn Ibrahim — has been instrumental in bringing SENSE II to fruition.

SENSE II incorporates a number of timely updates. Gender-neutral language is used throughout in recognition of diverse forms of parents and families, and language and terminology are expanded to be more inclusive of the different ways parents fulfill their roles. The new materials emphasize the program’s minimum dosing requirement, in order to encourage increased use of the interventions, as appropriate. Recently published literature on sensory interventions with high-risk infants was also incorporated with some variations in the way visual, olfactory and kinesthetic interventions can be conducted.

“Putting together the updated SENSE II program was a tremendous amount of work, but it is important to do such updates routinely as new evidence is emerging constantly,” Pineda said. “We want the most updated interventions to be used to optimize the early environment, and this requires a commitment to keeping it updated every five years.”

The original SENSE materials have been translated into Spanish, Hebrew and Hindi, and additional translations are underway in Chinese, German, Arabic and French Canadian.

“I am grateful for all of the interest in the SENSE program,” Pineda said. “I look forward to learning more in the coming years about the impact of sensory exposures on high-risk infants in the NICU.”

For more information about SENSE II or to pay a user fee to implement the program in the NICU where you work, visit chan.usc.edu/nicu/sense.



SUMMER INSTITUTE ALUM PUBLISHES CHILDREN’S BOOK

Jasmin Sanchez, a senior Trojan and USC OT/PT Summer Institute alum, wrote *STEAM-Powered Series: Occupational Therapy*, a 40-page children’s book about occupational therapy published by Room to Read in both English and Spanish.

More than 90,000 copies of the STEAM series have been distributed to South Los Angeles elementary schools that partner with USC’s Joint Educational Project, a service-learning organization that brings USC students into local classrooms.

Read *STEAM-Powered Series: Occupational Therapy* at tinyurl.com/steampoweredOT.


News Briefs

Lectures, grants, awards — there’s always so much going on at the USC Chan Division of Occupational Science and Occupational Therapy. Keep your finger on the pulse with these division news briefs:



23 TROJANS EARN ANNUAL AOTA, AOTF HONORS


Annual awards from the American Occupational Therapy Association and American Occupational Therapy Foundation were presented to nine USC faculty, staff and alumni during the association’s 2022 conference. Associate Chair of Research and Prof. **Mary Lawlor** was named the recipient of the AOTA Eleanor Clarke Slagle Lectureship Award. Associate Prof. **Elizabeth Pyatak** ’02, MA ’04, PhD ’10, MS ’15 was inducted into the AOTF Academy of Research in Occupational Therapy. Associate Clinical Prof. **Stacey Morikawa** MA ’11, OTD ’12 received AOTA’s Distinguished Fieldwork Educator Award. *¡Vivir Mi Vida!* research team members Associate Research Prof. **Stacey Schepens Niemiec** Postdoc ’13, staff member **Jeanine Blanchard** MA ’99, PhD ’10, Research Prof. **Mike Carlson** and former faculty members **Cheryl Vigen** and **Jenny Martínez** ’09, MA ’10, OTD ’11 received the Cordelia Myers *American Journal of Occupational Therapy* Best Article Award. **Bryant Edwards** MA ’05, OTD ’06 and Martínez were named to AOTA’s Roster of Fellows. An additional 14 faculty members and alumni also received 2022 AOTA Service Commendations for their volunteer service to various association committees, professional organizations and advisory groups.



INPATIENT REHAB UNIT RANKED AMONG STATE’S BEST

Newsweek has named Keck Hospital of USC’s Acute Rehabilitation Unit one of the top physical rehabilitation centers in California. Coming in at No. 13 in the statewide rankings puts Keck Hospital in the top 10 percent of inpatient rehabilitative care centers in California. The ARU is a comprehensive program staffed by interdisciplinary providers — including four USC Chan clinical faculty

members — who work together to increase patient function, independence and participation. Opened in 2013, Keck Hospital ARU is one of the newest inpatient rehabilitation facilities in California. “To achieve this level of recognition, this early, is a testament to the clinical excellence of our team,” said **Katie Jordan** MA ’03, OTD ’04, associate chair of occupational therapy clinical services. “Occupational therapy has played a noteworthy role in our ARU’s quality measures,” said Clinical Manager **Lucy Hosoda** MA ’16, OTD ’17. “Last year, our change-in-self-care scores put us in the 92nd percentile in the nation, which is a direct reflection of our occupational therapists’ unique and integral role in this setting.”



ENTRY-OTD CURRICULUM SET FOR INCOMING CLASS


The curriculum is underway for the division’s Entry-Level OTD program, which welcomed the first cohort of students to campus in the Fall 2022 semester. The three-year program incorporates several signature elements unique to USC: practice immersions combining didactic coursework with Level I fieldwork experience in the corresponding setting; a part-time Level II fieldwork experience leading to a 14-week doctoral capstone experience, both conducted at the same site; and the option of completing the entire third year of study remotely. USC’s Entry-Level OTD degree program has been granted candidacy status by the Accreditation Council for Occupational Therapy Education®. Learn more at chan.usc.edu/education/entry-level-otd.



TROJAN FAMILY TAKES TO PARIS FOR WFOT CONGRESS

More than 60 faculty, staff and alumni presented at the 18th meeting of the World Federation of Occupational Therapists in Paris in August. WFOT

hosts the International Congress every four years to bring together occupational therapy educators, practitioners and students from around the world. The 2022 Congress featured unique social events, local tours, an extensive exhibition and program of expert presentations on this year’s theme of “Occupational R-Evolution.” See the full list of USC-affiliated presenters at chan.usc.edu/events/conference/wfot. In August, 15 faculty, students and alumni also presented at the inaugural World Occupational Science Conference in Vancouver.



NEW RESEARCH NETWORK TO “SPAN” ACADEMIA AND COMMUNITY

USC Chan is a charter member of a new community-based research network working to improve outcomes for individuals with sensory processing challenges and their families in everyday life. The Sensory Processing and Autism Network, or “SPAN,” is a network of clinicians, researchers and other stakeholders working together to build a data repository, engage in large-scale scientific studies and create a roadmap that promotes innovative, precise and optimally effective approaches and evidence. See more at chan.usc.edu/research/span.



DÍAZ NAMED FIRST-EVER ASSOCIATE CHAIR OF DIVERSITY, ACCESS AND EQUITY

Associate Professor of Research **Jesús Díaz** ’05, MA ’08, OTD ’09 has been named the first associate chair of diversity, access and equity (DAE) for the USC Chan Division. As an integral member of the division’s leadership team, Díaz oversees the development of initiatives, practices, programs and policies across the division. Read more about Díaz in this issue’s 5 Things To Know About on p. 29.

GenNext

Meet the Trojans pushing occupational science and occupational therapy forward.

INTERVIEW BY MIKE MCNULTY '06,
MA '09, OTD '10

ALEXIS RODRIGUEZ
MA '22, OTD '23

Age: 24

Hometowns: Ventura and Bakersfield, Calif.

Previous studies: Bachelor's degree in psychology and minor in behavioral health science, Grand Canyon University (Phoenix)

Meaningful occupations: Hiking, going to sports games (*Go Dodgers!*), going to the beach, traveling and anything having to do with my dog, Koda

Describe OT in one sentence: Using the daily activities that are meaningful to our clients and providing them supports and resources in order to live their lives as independently as possible.

You started graduate school in the middle of the pandemic; what was that like, and are things feeling more normal now?

The hardest part was the loneliness and the lost connections. You can message someone on Zoom, but it's not the same. So I did my best reaching out to classmates and working with our instructors, who were all very understanding. My favorite memories are anytime we got together in-person to connect as classmates. This fall, I start the post-professional OTD program with Dr. Amber Angell's DREAmS [Disparity Reduction and Equity in Autism Services] lab, and I'm looking forward to passing the NBCOT registration exam. Both of those seem relatively typical as far as grad school milestones go.

You had a stroke when you were 16 years old; can you describe what that felt like?

No one's ever asked me that before! I was in my last day of driving class, and I remember calling my mom to say something's not right. She's like, 'oh, I can come pick you up right now,' and I was like, 'no, I need to finish this to get my driver's license!' It started in my cheek, then I felt arm numbness and soon I was in full stroke mode — my face was

drooping, I could not feel anything on my right side and I couldn't speak. First of all, it was frightening. It was like an out-of-body experience because, when I got to the ER, the doctors were asking me orientation questions like 'what's your name,' and in my head I knew the answers but I couldn't find the words to speak. I was airlifted to Valley Children's Hospital in Madera (Calif.), but the neurologists at University of California San Francisco Benioff Children's Hospital felt more equipped and confident to handle my case, so I was airlifted to UCSF. Though I actually don't remember any of that. My first memory was two or three days later, waking up in the hospital room and looking over to see my grandma and aunt. I ended up staying at UCSF for over a month.

How does a personal health experience like that change your outlook as a future practitioner?

I feel that it gives me a better understanding of where the patient is coming from, because I was a patient once too. I know what it feels like, in some circumstances; how intimidating and scary it can be. I actually first learned about occupational therapy when I was in the hospital. The OT came into my room to do my eval, and I really liked her enthusiasm and positivity. That made my recovery bearable, like I would be able to get back to my prior level of functioning. I want to bring that patience and compassion into other people's lives. Yes, it's going to get frustrating at times. However, with support and resources, and a reassuring occupational therapist like me who validates patients' worries and feelings, it is possible.



PEACE GARDEN, NARRATIVE RESEARCH STUDY SELECTED FOR POST-PANDEMIC INITIATIVE FUNDING

*Innovative community-focused projects are part of
USC Chan's \$2.5 million ReSPONs Initiative.*

BY MIKE MCNULTY '06, MA '09, OTD '10

Peace and understanding have been in relatively short supply throughout the COVID-19 pandemic. To help restore them both in the wake of the past two tumultuous years, the USC Chan Division is funding two new faculty-led, community-focused projects.

Digging deep

The University Park Peace Garden Project will transform a dilapidated residential lot owned by USC in the North University Park Campus neighborhood into a flourishing urban garden in which educational, research and health programming can serve community needs. Associate Clinical Professor Camille Dieterle MA '07, OTD '08 is leading the project.

"During the pandemic, we saw how vitally critical outdoor spaces are for people's physical and mental health," Dieterle said. "Not only will the peace garden immediately increase green space access and biodiversity in the UPC neighborhood, it will make a lasting impact on people's health and wellness."

A stakeholder needs assessment is already underway, and once redesigned and replanted, the garden and the programming to be offered within it will demonstrate environmental sustainability, social and environmental justice, health promotion and wellness and community safety. The garden is equal parts classroom, laboratory and community center that together will serve USC students, faculty and staff, children and families affiliated with the non-profit organization SOLA Community Peace Center as well as the neighborhood's own local residents. Partners slated to participate include the USC Office of Sustainability, SOLA Community Peace Center, USC Landscape Architecture, USC Real Estate, USC Garden Club and the USC Department of Public Safety.

"What I'm most excited about are the opportunities that the peace garden can provide for sensory and wellness experiences outside of classroom buildings, for enabling service learning and experiential education and for greater community access to the natural environment in the heart of Los Angeles," Dieterle said.

Back to the future

Professor Mary Lawlor and Clinical Professor Erna Blanche MA' 88, PhD '98 will be co-principal investigators of "Building the Future: Managing Uncertainty in the Lives of Autistic Children, Families, and Clinicians." The qualitative study will use narrative-based inquiry strategies to better understand the lived experiences during the COVID-19 pandemic of autistic children, their families and health service providers. The study will especially focus on how participants have been making sense of the intersectional effects of health and social inequities and racial injustices, as well as how they are navigating complexities and uncertainties in this unprecedented time.

The research team will conduct narrative interviews with 10 family members of children with autism spectrum disorder aged 2-18 — with a focus on families with Black, Latinx and/or female autistic members — and with 10 clinicians, including several occupational therapists.



With a spirit of collaboration and partnership, this study will help elicit multiple perspectives, including those of clinicians, to bridge understandings about home, community and clinical practice worlds. By doing so, it can also address service gaps that have resulted from the pandemic, and enhance existing services for autistic individuals moving forward.

"The beauty of this project is its partnership with our Sensory Processing and Autism Network collaborators," Blanche said. "People are the experts of their own lives, and with the help of our community-based partners, we can have a chance to better understand the nuances and issues that families have faced through the pandemic."

Blanche and Lawlor were also awarded the division's 2021 Lisa A. Test Endowed Research Award to fund their project titled "Building the Future: Managing Uncertainty in the Education of Autistic Children, Teachers and Related Support Services." This award expands their study to examine teachers' and service providers' unique experiences during the pandemic within the settings of educational systems.

A committed response

Both projects are made possible by the USC Chan Division's Responding to Society's Post-pandemic Occupational Needs (ReSPONs) Initiative.

One component of the ReSPONs Initiative is a seed grant mechanism to support early-stage projects that can be completed in one year, with the possibility of leveraging additional funding opportunities. These seed grant-funded projects aim to accelerate innovations across research, education and clinical practice within the division.

"These projects are such exciting, innovative engagements between the division and our surrounding communities because they address the complex occupational needs of individuals, families and populations, both in the immediate aftermath of the public health pandemic, and into the years ahead," said Grace Baranek, USC Chan's associate dean and chair.

Learn more about the ReSPONs Initiative at chan.usc.edu/about-us/respons.

MORE THAN JUST FUN AND GAMES



SQUID GAME

Netflix's sensation *Squid Game* highlights real-world issues for further consideration by occupational therapists and occupational scientists.

BY ESTHER JAHNG MA '20, OTD '21, STAFF MEMBER

It's a typical Saturday night. After eating dinner and doing the dishes, I grab my favorites — Trader Joe's dark chocolate roasted pistachio toffee, some mandarin oranges and a mug of brewed buckwheat tea — and head to the living room couch. It's time to watch *Squid Game*.

No one else is home, but I am not alone in my weekend binge-watching. The Korean-language thriller *Squid Game* became a global smash hit following its Sept. 2021 debut on Netflix. In the first 28 days following its release, it set the record as Netflix's most-watched show with 1.65 billion hours streamed.

While watching along with a worldwide audience, I can't help but think more deeply about a number of issues portrayed in *Squid Game*. The fictional series is set in South Korea, where people of all ages and from all socioeconomic backgrounds participate in a series of life-or-death games, the eventual winner of which receives a huge cash prize.

As a second-generation Korean American, the show's enormous popularity brings me immense joy and pride. The show has more than its share of gore and violence, which would usually deter me from watching if not for star actor (and my celebrity crush) Lee Jung-jae.

As an occupational therapist, I see a number of complex issues prevalent in South Korean society through an occupational lens, dramatized as they are. A global sensation like *Squid Game* has relevance for occupational therapists and occupational scientists, and can spark meaningful conversations within our profession and discipline (if you haven't yet watched but plan to — caution, spoilers are ahead!).

The contexts of childhood games

In *Squid Game*, participants are pitted against each other in contests that take the form of beloved childhood games that reflect South Korean historical, political and economic contexts. Watching the games on-screen brought back nostalgic memories of my own, as I remember often playing similar games (without the mortal stakes, obviously) as a child myself growing up in South Korea.

For example, *Squid Game*'s second round is the Dalgona challenge, a game that gained popularity in the 1950s following the Korean War. Dalgona is a honeycomb-like toffee made with melted sugar and baking soda. Commonly referred to as “ppopgi,” which means to pick or select, Korean children work to carefully remove the stamped shape pressed into the candy without breaking it. According to my mother, the suspense of not knowing if or when the candy would break, its affordable price and sweet taste that could not be reproduced at



home, kept her and her neighborhood friends, regardless of socioeconomic status, entertained for hours. Although the game arose during an economically bleak time in South Korean history, ppopgi continues to be a popular childhood pastime today.

Squid Game's third round, “Juldarigi,” or Tug of War, is commonly played during the first full moon of the Lunar New Year to strengthen village communities in preparation for harvest season. Another game, “Mugunghwa flower has blossomed,” also known as Red Light, Green Light, is named after Korea's national flower, which symbolizes resilience due to its continuously blooming nature. For Korean people who historically experienced colonization by Japan from 1910 to 1945, playing the game, which includes a group chant of “Mugunghwa flower has blossomed,” is a nationalistic demonstration of solidarity, pride and patriotism.

The games illustrate the importance of understanding occupation from a relational perspective without compartmentalizing person, occupation or context, also known as the transactional perspective.¹ In fact, understanding the origins and influences of these games lets us better understand how they have evolved from one generation to the next against the backdrop of Korea's rapidly changing society.

The show's namesake, *Squid Game*, was also a real game played by Korean children in the '70s and '80s. The show's director Hwang Dong-hyuk has said that the title is a metaphor for how Korean society has become increasingly like a socioeconomic Darwinian battleground where only the fittest survive. “I wanted to create a sense of connection between the nostalgic games we played in our childhood and the sense of never-ending competition that modern adults feel,” Hwang said in a 2021 interview.

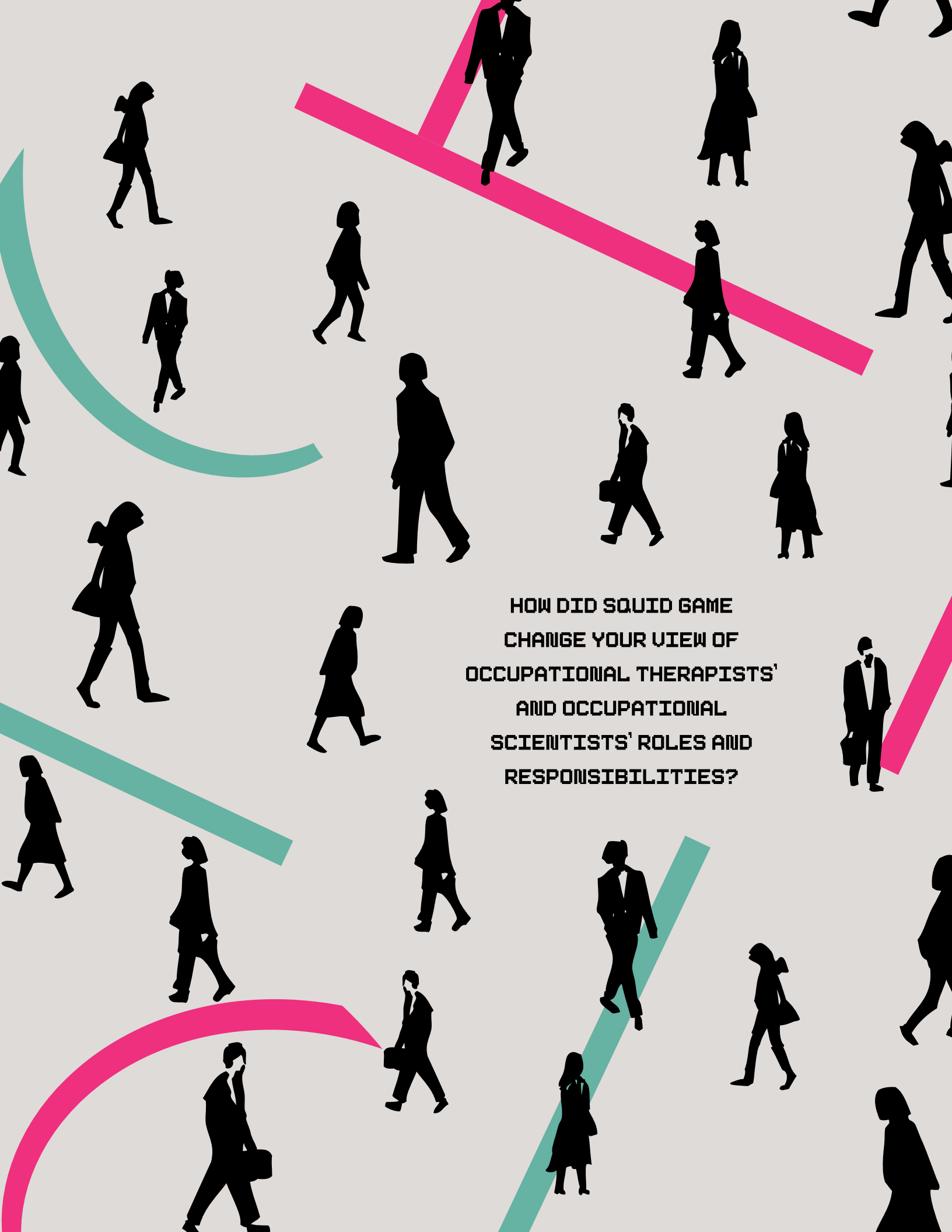
By reflecting on these points from an occupational justice perspective, we can think

critically about how external forces and power differentials can impact and shape the occupations that people engage in. Hwang posed a similar question at a recent media forum: “I kept asking questions like, ‘who made this competition system in our society,’ and ‘who drives us into a corner?’ This is the question [*sic*] that I want to ask everybody living in the midst of the pandemic in the 21st century.”

Occupational injustice in South Korea

In *Squid Game*, the fun and friendly childhood games rapidly devolve into horrific bloodbaths. The 456 adult contestants are initially unaware of the stakes involved, but quickly learn that losing a game is equivalent to dying. Even more sickeningly, the games are watched by wealthy VIP spectators who play along too by placing bets on the contestants' odds of survival. This starkly contrasts with prevailing definitions of occupation in the OT and OS literature as the “subjective experience of joy and fun that comes from engaging in freely chosen, intrinsically motivated, self-directed meaningful occupations.”²

Furthermore, an interesting power dynamic is portrayed in how the organizers and guards treat the contestants as children, punishing them with death if they break any rules, and promising rewards for victory at the expense of everyone else's life. The pink jumpsuit-clad guards consistently emphasize discipline and structure, and exercise absolute control under the pretense of “play.” Ironically, the *Squid Game* organizers perceive themselves as law-abiding citizens who respect the contestants' contrived “choices.” For example, contestants are recruited to the *Squid Game* by receiving an invitation card with a phone number to call if they want to join in. And according to *Squid Game*'s third clause, players can cast a majority vote to either continue or stop the games. But



**HOW DID SQUID GAME
CHANGE YOUR VIEW OF
OCCUPATIONAL THERAPISTS'
AND OCCUPATIONAL
SCIENTISTS' ROLES AND
RESPONSIBILITIES?**

when the third clause is exercised in episode three, more than 90 percent of the remaining contestants vote to return to the game, even after witnessing the terrible slaughter of the first round losers.

On the surface, these rules give Squid Game the veneer of a non-coercive, lawful sport in which players can come and go as they please. But we see that occupational choices are not equally available to all people from all socio-economic circumstances.³ Throughout the series, organizers recruit massively indebted people to play Squid Game with the promise of a cash prize. The poverty and debt crisis in South Korea is a recurring theme, both in the show and in the real world. In 2021, household debt in South Korea was estimated to be 104.2 percent of GDP, the highest of any Asian country.

It's a primary motive for Squid Game contestants too: Seong Gi-hun is perpetually hounded by debt collectors, and decides to enter the game with the hope of paying off his mother's medical bills; Cho Sang-woo, despite graduating from prestigious Seoul National University, enters due to massive debts from siphoning funds and failed investments; North Korean defector Kang Sae-byeok hopes to pay for her family's extraction from North Korea and get her little brother out of an orphanage. Their vulnerable circumstances are exploited by others who are more privileged and powerful, and their participation becomes tied to their very survival. Clearly, players are driven to enter Squid Game out of desperation, not choice. These are occupations that do not emerge from volitional internal agency but from external obligations and forces.

Discrimination and abuse of foreign workers is a historical and contemporary issue in South Korea, where many hold negative attitudes towards foreigners. According to Kronenberg and Pollard, occupational apartheid is defined as "the segregation of groups of people through the restriction or denial of access to dignified and meaningful participation in occupations of daily life on the basis of race, colour, disability, national origin, age, gender, sexual preference, religion, political beliefs, status in society, or other characteristics."⁴

Occupational apartheid is evident in the exploitation and discrimination directed toward immigrants, foreign workers and North Korean refugees. Abdul Ali, a migrant worker, enters the Squid Game to care for his wife, newborn child and family members in Pakistan. We often see him treated unfairly at the factory where he works, and he is never compensated for the workplace accident that severs his

fingers. His status as an undocumented worker subjects him to the whims of his boss who withholds his wages. Ali's storyline highlights the abuse and discrimination by exploitative organizations and employers that foreign workers in South Korea continue to face.

Occupation's potential for mobilizing change

In the series, it becomes evident that there have been 32 previous editions of the Squid Game. Many marginalized people, including Sae-byeok and Ali, have continuously been recruited into the games. A vicious cycle emerges in which vulnerable people continue participating in the Squid Game, which leads to subsequent games being held for the enjoyment of the elite organizers. But we viewers can see that their participation perpetuates occupational injustices that deprive contestants of their dignity, well-being and human rights in an inhumane game. In addition to the external systemic influences that create and maintain disadvantaged groups, their decisions also perpetuate the dominant social order.⁵

Thankfully, the creators of *Squid Game* give the audience reason to hope. At the end of the series, protagonist Gi-hun is seen heading to the airport for a flight to visit his daughter in the U.S. All goes according to plan until he gets off the subway and locks eyes with a familiar face: the recruiter who solicited him to join the Squid Game in the first place. Gi-hun sprints towards the recruiter, but loses him in the crowd. Although the recruiter gets away, Gi-hun snatches the invitation card away from the newest recruit, forcefully demanding him to refuse joining the games. In the next scene we see Gi-hun call the number listed on the back of the card. He identifies himself and then says: "Listen carefully: I'm not a horse, I'm a person. That's why I wanna know ... who you people are, and how you can do these horrible things to people. It wasn't a dream. I can't forgive you ... for everything you're doing."

Despite winning the Squid Game and receiving 45.6 billion won (approximately 38 million U.S. dollars), Gi-hun's life doesn't take a turn for the better. His mother has died, he goes into a period of depression and refuses to spend a single won of his prize. But after meeting with the true organizer of Squid Game, his character arc shifts. Upon learning that another Squid Game is being planned, Gi-hun declares all-out war against its organizers.

While occupation can be a site for perpetuating social conditions, the series reminds me that occupation can also be a site for resisting and transforming them. As defined by Ramugondo, occupational consciousness

refers to the "availability of responses the oppressed can take to disrupt occupational apartheid through everyday doing."⁶ It is my sincere hope that Gi-hun's dramatic decision to fight the system, rather than choosing an easy life of luxury, sparks his occupational consciousness, a first step on his path of resistance to eventually stopping the occupational apartheds committed by the corrupt Squid Game organizers (and yes, this is me nudging the writers of Season 2, which is coming in 2023 or 2024).

For some viewers, finishing *Squid Game* might have just meant moving to the next binge-worthy show. While some people have that "watch, next, repeat" mindset, I believe that we, as professionals, can glean more. The show's creators leave us with open-ended questions to answer. As Frank and dos Santos write, the profession of occupational therapy and discipline of occupational science have moral obligations to counteract inequities and empower marginalized groups and populations.⁷

Which is why I leave you with these questions: If you, too, believe that we have such obligations, what are some of the tasks ahead of us in order to fulfill them? If you did watch the show, or will watch it through an occupational lens, what are some lessons that you take away? How did *Squid Game* change your view of occupational therapists' and occupational scientists' roles and responsibilities?

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MAJOR EXPANSION OF OPEN-SOURCE NEUROIMAGING DATA SET TO BOOST STROKE RECOVERY RESEARCH

USC-led team of researchers releases expanded data set of brain scans from stroke patients with more than four times the data in the hopes of speeding up large-scale stroke recovery research.

BY SIDNEY TAIKO SHEEHAN

A major expansion of an open-source stroke neuroimaging data set known as ATLAS could give a major boost to stroke recovery research.

According to the Centers for Disease Control and Prevention, every 40 seconds someone in the U.S. has a stroke, making stroke a leading cause of disability. During a stroke, blood flow to part of the brain is cut off. Without oxygen, brain cells cease to function, causing damage known as a lesion. Lesions are detected by magnetic resonance imaging (MRI), and they are a critical aspect that researchers study as they develop, test and implement stroke recovery programs.

Before studying a lesion, neuroanatomy experts manually draw boundaries on imaging around the lesion in a process called segmentation — a time-consuming practice that can be subjective and requires neuro-anatomical expertise. Accurate lesion segmentation is critical in stroke rehabilitation research. While manual segmentation is the current gold standard, researchers hope to develop algorithms to automate the practice so they can spend more time examining lesion images with the goal of understanding how lesions impact recovery after a stroke.

Now, a newly expanded data set of brain scans from stroke patients called Anatomical Tracings of Lesion After Stroke (ATLAS) is set to expedite the automation of lesion segmentation.

Led by researchers at the Keck School of Medicine of USC's Mark and Mary Stevens Neuroimaging and Informatics Institute (INI), the new release of ATLAS version 2.0 now includes 1,271 stroke MRI images with manually segmented lesions, according to a new paper in *Scientific Data*, a *Nature* journal. The hope is the data set will facilitate large-scale stroke recovery research which will eventually allow a clinician to predict a patient's response to therapies based on analysis of the patient's unique scans and data.

"We are thrilled to share this open science resource with the scientific community," says Associate Professor Sook-Lei Liew MA '08, PhD '12, lead author of the study with joint appointments at the Stevens INI, the USC Division of Biokinesiology and Physical Therapy and the USC Viterbi School of Engineering. "We hope that our public data set, along with our stroke lesion segmentation challenges — like our ISLES [Ischemic Stroke Lesion Segmentation Challenge] 2022 challenge at MICCAI [the International Conference on Medical Image Computing and Computer Assisted Intervention], our Grand Challenge and our educational challenge in collaboration with the RAMP [Rapid Analytics & Model Prototyping] studio and our colleagues in Paris — will not only spur the creation of robust, powerful algorithms to move the field of stroke neuroimaging forward, but also provide useful educational opportunities for students around the world."

The various challenges hosted by the ATLAS team invite the scientific community to participate in the process of developing and testing algorithms that attempt to automate the lesion segmentation with the greatest



SOOK-LEI LIEW (PHOTO BY PHIL CHANNING)

accuracy. The ATLAS team also showcases their collaborative strength with researchers at USC and beyond.

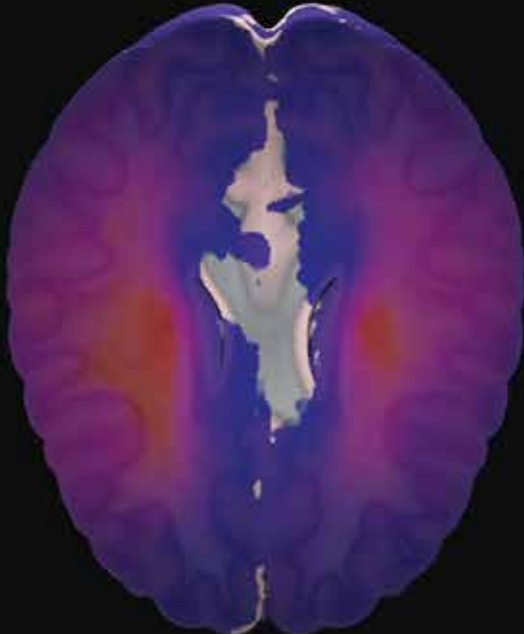
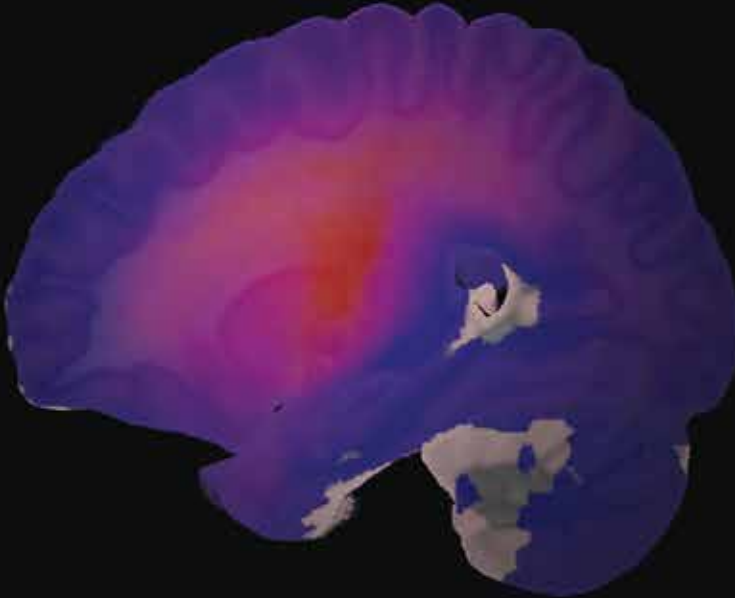
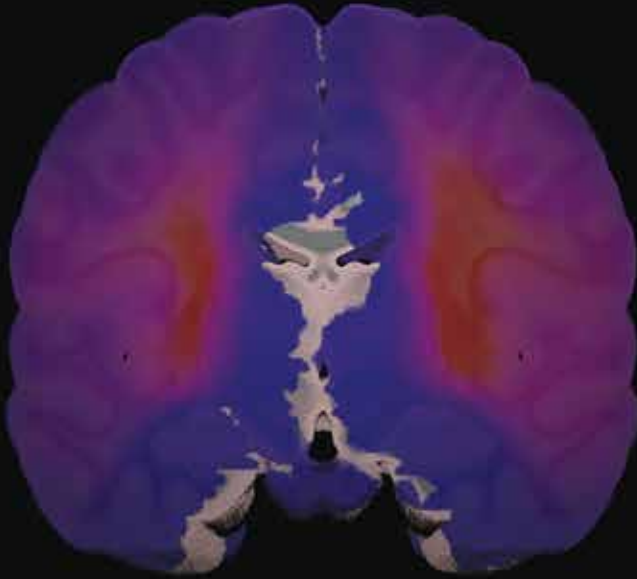
HoSung Kim, assistant professor of neurology at the Stevens INI, created a neuroimaging analysis pipeline to help standardize the images in the data set. Tyler Ard, assistant professor of research at the Stevens INI and creator of Schol-AR, developed custom software for advanced visualization of the lesioned data set, rendering it into several extremely high-resolution videos and images. Sixteen other co-authors across the university assist with analysis, clinical characterization and the collection and storage of data.

"Dr. Liew's team exemplifies how researchers here at the Stevens INI approach complex medical questions from a multimodal approach," says Stevens INI Director Arthur W. Toga. "Our faculty members team up with experts across the university and beyond to apply their expertise in machine learning, data visualization, informatics and neuroradiology to deliver a valuable set of open-source MR images. By gathering all these images and sharing them, we are creating the optimal environment for discovery."

Data from the project are stored by the International Neuroimaging Data-Sharing Initiative housed at the Child Mind Institute, and by the Inter-University Consortium for Political and Social Research housed at the University of Michigan. So far, thousands of researchers worldwide have downloaded the ATLAS data set.

"Algorithm development using this larger data set, with hidden test and evaluation data sets for machine learning challenges, should lead to more robust solutions," notes Liew. "As predictive algorithms improve, our long-term goal is for clinicians to use MRI to inform decisions about stroke patients' treatment. With the progression of this work, we hope to see a future where clinicians can analyze an individual's data to discover their likelihood of responding to different treatments. Using a precision medicine approach, their stroke rehabilitation therapy could be personalized to maximize their recovery."

For more information about accessing the ATLAS data set, visit tinyurl.com/atlasdataset. This research is funded in part by the National Institutes of Health (R01NS115845; R25HD105583; K01HD091283; P2CHD06570; R21HD067906; R01NS090677; R00HD091375; R01NS076348-01, P20 GM109040; R01HD094731; R01HD065438). For additional funders, see publication in Scientific Data.



Probabilistic lesion overlap maps on the Montreal Neurological Institute's MNI-ICBM152 brain template, a crucial tool in neuroimaging analysis, modeled by Liew and colleagues from ATLAS data in order to visualize lesion overlap across all ATLAS subjects (N=955). Hotter colors on the templates represent a greater number of ATLAS subjects with lesions at that particular voxel. (Overlap maps courtesy of Sook-Lei Liew).



SCAN THE QR CODE USING A MOBILE DEVICE TO VIEW INTERACTIVE, VOLUMETRIC 3D DISPLAYS OF THIS DATA WITH THE SCHOL-AR AUGMENTED REALITY APP.





DAILY AFFIRMATIONS

Occupational therapist Nora Dixon leads new Lifestyle Redesign® program for supporting transgender and gender expansive clients.

BY MIKE MCNULTY '06, MA '09, OTD '10

“There was just one website that we referred people to if they wanted to learn more about gender confirmation surgery — that was it,” says Assistant Clinical Professor Nora Dixon, MA '20, OTD '21 with a cringed half-smile. “Education is only one piece of occupational therapy’s really, really large scope, and we could do much better.”

For Dixon, who uses she/her pronouns, the mismatch between current capability and emerging need was too obvious to ignore. She was a doctoral resident at the USC OT Faculty Practice, the home of Lifestyle Redesign® occupational therapy, in 2020 and 2021 when issues surrounding transgender rights and visibility started gaining attention in national media, sports and political dialogues.

As Dixon learned more about both Lifestyle Redesign and best practices to support trans populations, she and her faculty mentors quickly realized they could, and should, do more.

According to the most recent analysis by the UCLA School of Law’s Williams Institute using data from the Centers for Disease Control and Prevention’s Behavior Risk Factor Surveillance System and Youth Risk Behavior Survey, approximately 1.3 million U.S. adults (0.5 percent of the adult population) and approximately 300,000 U.S. teenagers aged 13 to 17 (1.4 percent of that age population) are transgender. Those rates are on the rise. The institute’s estimate of the number of transgender youth doubled from its previous 2017 estimate.

So Dixon dug into the literature and took a course on OT-specific considerations after lower body surgery. While there are a number of conceptual papers — Dixon has predominantly relied upon nursing and primary care medicine sources — gender-affirming approaches have yet to be fully explored in occupational therapy.

“Lifestyle, identity, roles and routines are such an integral part of occupational therapy, but there isn’t much [literature] about OT when you’re sitting one-on-one, side-by-side with a trans client,” Dixon says.

Dixon also realized that providing truly responsive, client-centered care would require her to confront and dismantle her own privilege and positionality.

“It’s because of the hard work and endless advocacy of the trans community that a cisgender person like me is even able to work this area,” Dixon says. “I have really leaned in on the idea of trying to use my privilege for good, while amplifying those voices with the most to offer and the most at stake.”

She began connecting with other USC health care providers in 2021, including Patty Pinanong, clinical assistant professor of family medicine at the Keck School of Medicine and the founder of USC Student Health’s Gender-Affirming Care Team. Dixon hosted an in-service for Pinanong and Student Health providers, and she says their encouragement validated her conviction to build a new comprehensive Lifestyle Redesign program for this population.

“Dr. Pinanong got the ball rolling — she told her colleagues at Keck about our program, I did an in-service there, and it really started catching on — and she’s such a great champion for OT,” Dixon says. “I was just in awe of how this program emerged very quickly over the course of a year because everyone was so ready for change.”



NORA DIXON (PHOTO BY NICK DRAGO)

Enabling euphoria

The American Psychiatric Association’s Diagnostic and Statistical Manual defines gender dysphoria as the psychological distress that results from an incongruence between one’s sex assigned at birth and one’s gender identity. Feelings of dysphoria often begin in childhood, although some people may not experience it until after puberty, and some never experience incongruence or dysphoria. But for those who do to a clinically significant extent as demonstrated by distress in, or impairment to social, job-related or other functional domains, occupational therapy can focus on finding ways to help alleviate its symptoms.

“I’m happy to help educate clients about gender dysphoria, but most people already know way more about it than I ever will as a cis woman,” Dixon says. “So from the very start of the therapeutic process, I address my privilege and power differential and remind people that they are the expert on their own experience, and I’m just the expert on lifestyle modifications.”

Lifestyle Redesign is a type of occupational therapy that guides clients through the process of creating habits and routines that are personally meaningful and health-promoting. Together, clinician and client review basic principles of healthy lifestyles, identify individualized health and behavioral goals and customize plans to achieve them. Changing behaviors is a non-linear, complex process that takes time, which is why clinicians like Dixon help support clients’ physical, mental, cognitive and emotional well-being every step of the way.

In that sense, Dixon says that Lifestyle Redesign for Gender Affirmation is unique because it approaches gender as an occupation, rather than as a status or condition. During Lifestyle Redesign sessions, Dixon and her clients work to identify concrete activities, habits and routines that help diminish perceptions of gender dysphoria, while building a plan to more frequently or more easily engage in those which enhance gender euphoria.

“We pinpoint specific triggers that increase dysphoria and then problem-solve solutions to promote euphoria,” she says. “From that perspective, we take a very similar approach to health coaching and well-being promotion.”

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Occupations that can contribute to dysphoria include bathing and personal hygiene, interacting with one's anatomy, sexual activity and grooming and dressing. Occupational therapists help clients identify, structure and promote safe access to affirming routines, whether those occur daily, such as appearance-related routines, or whether they are one-time milestones, such as filing court documents to legally change one's name and gender identity.

For example, Dixon recalls a client who needed to self-administer weekly testosterone injections, which the literature suggests is a challenging occupation because it typically occurs only once a week and because using a syringe makes many people anxious.

"I came into the session with the assumption, 'OK, let's dig into these barriers,'" Dixon says. "But it turns out that the client's barrier was not 'I hate needles,' it was 'Oh, this is what dysphoria feels like.' So we took a full one-hour session to discuss, connect and explore the layers of occupations and their experiences. That's the depth of care we can offer in occupational therapy, which just isn't available in a 20-minute office consultation with a physician or surgeon."

That depth of care is already making a real-world difference.

"My injections went very well after finding strategies to build the habit," says Dixon's client, who prefers to remain anonymous. "After our sessions, I felt like I had the key and the solution. I have decreased the blame in my brain, and I have tools to stay in the present."

Dixon typically writes plans of care lasting between 10 and 14 one-hour sessions. To guide those sessions, she uses the Canadian Occupational Performance Measure (COPM), a semi-structured interview that fosters open dialogue on issues of importance to the client. Interviewees are asked to rate their performance and satisfaction in identified areas using a 10-point scale, where 1 indicates poor performance and low satisfaction and 10 indicates very good performance and high satisfaction. Longitudinal changes to those scores reflect subjective improvements in clients' chosen occupations and routines.

"One client identified COPM goals around stress management, surgery preparation and surgery recovery, and after about three months working with me in Lifestyle Redesign, they had statistically significant increases in measured performance and satisfaction," Dixon says.

"I felt really happy to have OT as a component of my recovery and an additional source of support because I encountered so much uncertainty after things didn't go as planned after my surgery," says another of Dixon's clients. "I felt very well understood and supported during OT, with creative suggestions and strategies for healing and continuing daily activities after surgery."

While the majority of Dixon's referrals to date have been for post-surgical care as clients relearn and readjust to their activities of daily living, occupational therapy can also address a much broader range of occupational performance. Before surgery, for example, Lifestyle Redesign can help clients mentally prepare, emotionally regulate, align social support

systems and visualize how daily occupations will be impacted and how they might respond.

"As clinicians, we meet people where they are at and where they are going from here," Dixon says.

Duty and dance

In late 2021, the American Occupational Therapy Association's Representative Assembly approved and published "Affirming Gender Diversity and Identity," a document outlining the profession's commitment to the care, safety and inclusion of gender-diverse clients and colleagues. It also outlines occupational therapy practitioners' ethical duty to actively develop, maintain and update continuing competence for providing high-quality, gender-affirming care.

Dixon acknowledges that may sound daunting for some practitioners. But she emphasizes that gender-affirming practices don't need to be complicated in order to make an impact.

"Have your pronouns visible; use a person's name, not their dead-name; use gender-neutral language across all clients; learn to use neopronouns," Dixon says. [Editor's note: Neopronouns are word creations that can function as gender-neutral pronouns, such as xe or xim]. "So my first piece of advice to any provider is to look at all those small tangible things that add up in big ways."

Dixon's second piece of advice is to intentionally build partnerships with other allies in your professional networks.

"My experience shows that other health care professionals are ready to support your efforts, whether that's just one person or a whole team," Dixon says.

Those efforts will continue to be valued as the trans and gender non-conforming population looks likely to keep growing. They are also necessary because, according to Dixon, gender is not so much an endpoint to be reached as it is a component of identity to be continuously expressed and experienced.

"There's a big misconception that people feel completely euphoric post-surgery because they have either a new body part or an eliminated body part," she says. "While surgery can help mitigate dysphoria, it doesn't 'resolve' it — there's no end to a person's transition because it's all very much a dynamic, ongoing process."

With the efforts of occupational therapy practitioners and support from cis and trans colleagues alike, that process is one in which Lifestyle Redesign occupational therapy will continue playing a vital role.

"The literature and the stakeholders I have spoken with don't view transitioning as, 'I started as this, and I ended up as this,'" Dixon says. "Instead, it's like a continuing dance with gender and all the ways it's expressed and how others perceive it."

Learn more about Lifestyle Redesign for Gender Affirmation at chan.usc.edu/patient-care/faculty-practice/gender-affirmation.

Diversity-driven student orgs

While all USC Chan student clubs and organizations offer opportunities to engage with diverse populations, on campus and off, these three student-led groups specifically focus their efforts toward diversity, equity and inclusion initiatives and goals.

COALITION OF OCCUPATIONAL THERAPY ADVOCATES FOR DIVERSITY

The goal of USC's chapter of the Coalition of Occupational Therapy Advocates for Diversity is to build diversity and inclusion within the Chan Division by increasing the profession's visibility and accessibility to underrepresented groups, and increasing cultural humility by sharing and learning about different lived experiences.

ASOCIACIÓN HISPANOHABLANTE DE TERAPIA OCUPACIONAL

Asociación Hispanohablante de Terapia Ocupacional (Spanish-speaking Occupational Therapy Association) is a flourishing student organization dedicated to improving the educational experience of Latinx and/or Hispanic-identifying occupational therapy students, serving as a resource for community members to support one another and advancing clinical care for Spanish-speaking/Latin American populations.

OTS FOR OUTREACH

OTs for Outreach aims to build and strengthen the sense of community for LGBTQ+ students and allies by providing opportunities for social engagement and professional development.



DOING DECOLONIZATION

Faculty members Tessa Milman, Janet Gunter and Jennifer Jones in conversation with *USC Chan Magazine* editor Mike McNulty about dismantling occupational therapy's colonial ideologies and practices.

BY MIKE MCNULTY '06, MA '09, OTD '10

Mike McNulty (MM): Let's start at the beginning: Decolonization is a term that's very much in the Zeitgeist right now; where did it first gain your attention?

Tessa Milman (TM): We were working on the Justice, Equity, Diversity and Inclusion (JEDI) curriculum thread within the entry-level Occupational Therapy Doctorate program and had been looking at literature on diversity, access and equity. [Faculty member] Arameh Anvarizadeh said, 'What we really need to be talking about is decolonization.' That sparked a deep dive into the concept — people were into learning more, and those who were familiar with decolonizing practices seemed excited. That doesn't mean everyone had an expert grasp of the concept. But people agreed it was the right way to take the Entry-OTD curriculum and the JEDI thread.

Then, our clinical reasoning teaching team — Janet, Jen and I — piloted some of the ideas related to decolonization in this course to see how students would respond, how it would impact the class and how it could impact us.

Janet Gunter (JG): We had very positive reactions from students to the concept. But there has been some confusion from faculty about what exactly it is. 'Is decolonization just a renaming of what we're already doing?' Maybe we have been doing parts of it, but it's a very intentional process and is more than just taking global perspectives beyond a Westernized perspective — for example, when analyzing occupations or creating treatments plans. It goes a step beyond that. Unless you engage in deeply intentional reflection of your own perspectives and really consider the person you're working with from this broader viewpoint, then I don't think you're truly doing it.

TM: I've heard critiques that the decolonization idea is just a trendy label or that people like to throw it around in a performative way. But like Janet said, there is a deeper way to really think about it and reflect on its meaning.

MM: Can you say more about that meaning — how do you conceptually define decolonization? Does it help to consider it in contrast to what it means to be colonized?

TM: You have to start with the history of colonization and contemporary impacts from Western countries' colonization and subsequent control and oppression of non-Western countries. A certain way of life and living was imposed, a way of thinking about what is important about being a human being, and assumptions made about who should get a good quality of life, what kind of medicine is appropriate and what kind of knowledge is valid. All of those are products of the colonization of Southern Hemisphere countries, what are labeled as "developing" countries, and they continue to impact us today in the way that Western ideas are more often valued than other ideas.

So for us, to decolonize is to question assumptions about independence and productivity, about what makes good medicine and valid knowledge. It's not as if we want to get rid of those assumptions, but we

have to deeply reflect on their utility in particular situations, and whether or not they're useful for the people we work with. Decolonization also involves critiquing current forms of oppression that people experience, whether they are [Black, Indigenous and People of Color] people or disabled people or LGBTQ people.

MM: Can you outline some examples, in an ideal world, of what decolonized practices look like?

Jennifer Jones (JJ): I've been doing clinical work with a young adult who is coming into her own with her disability identity, and she's realizing, 'No, I actually don't want to be completely independent, and it's OK that I'm not; I'm not going to be independent in certain occupations; I'm going to accept care and support on some of these things so that I can do those occupations I'm more interested in.' It takes time to do that, and time is one of the biggest barriers in clinical practice. But I've seen how much power a decolonized perspective gave back to this client, and how much it supported her own mental health and self-efficacy. To be able to assert control in that way has been a really transformative process for her. Decolonization involves critiquing structural factors, being an advocate, spending time with clients to really understand things from their perspective and doing underground practice that doesn't necessarily get documented.

JG: It's not new for us, as occupational therapists, to ask the people we work with, 'What do you want to work on? What are your goals?' But something gets lost in translation from those conversations to what gets funded and what parents and families are actually concerned about. Parents may not know what they actually want to work on. So they ask us, the quote-unquote experts, 'What should my child be working on?' Parents' own expertise is overshadowed by cultural factors. It's hard for parents to have this conversation because they're so used to the experts in the room saying, 'This is what your child should be doing.'

TM: We talked a bit about questioning the assumption of independence. But the alternative, embracing interdependence, is so important, whether that's trying to support people as they build their networks outside of therapy, or identifying and using different supports, if that's what they want. We don't have to always feel like independence is the way to go, but can instead try to help clients increase networks of support.

MM: If occupational therapy takes an honest look at itself and its own history, will it see an inherently colonizing profession? Or at least, a profession that's a product of colonized systems?

JJ: Occupational therapy obviously has its roots in Western medicine and ways of knowing. From a colonized perspective, the clinician has a knowledge set that is seen as inherently more powerful than what the client brings to the table — the authority of research, the esteem of science, the social capital that professions have — as opposed to the client experience, which has been traditionally less valued.

TM: A lot of our assessments focus on deficits related to performance, productivity and independence, so clinicians should always be watching out for client strengths. That's part of the occupational therapy process in general, but really leaning towards that is an important part of decolonization to me. Those could be strengths in their environment, strengths in their culture or strengths in their community.

JG: It is so heavily embedded in our daily lives in the clinic because colonialism is built into funding — payers are looking for outcomes of

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‘doing,’ and if patients don’t improve their ‘doing’ during therapy, you lose funding. To be reimbursed for services, so much of what I focus my intervention on is ‘doing,’ and because I’m in pediatric practice that’s usually embedded within Western ideals of what a child should be doing at any given age. So instead of what they want to be doing, we resort to a developmental checklist — they should be doing skill A, B or C. A lot of the time, clients may also care about performance, independence and productivity — and that’s wonderful, I’m not suggesting those are a problem in themselves — but problems arise when we, as clinicians, assume that’s what everybody always wants.

MM: In higher education, what do decolonized approaches look like in classroom environments, learning activities or course content? How is decolonization reflected in a syllabus, or play out during a class?

TM: For years in our clinical reasoning course we’ve used Stephen Brookfield’s critical thinking protocol to help students think critically by questioning their own assumptions. We built decolonizing perspectives into that content — students learn about the protocol, analyze their assumptions and read about decolonization. It lets them think about their own assumptions related to colonial ideas of independence, productivity, morals, values and habits and routines. Our experiences teaching the protocol influenced our own understanding of decolonization, because we immediately saw it as a deep and intentional process of questioning assumptions.

For me as an educator, it’s filtered into a lot of things. Whenever I’m in a situation that involves a dilemma or someone is behaving in a way I don’t quite understand, I try to step back and ask myself, ‘What assumptions am I making here? How are those assumptions influencing the way I’m thinking about this situation?’ Let’s say a student critiques my class because they feel like there’s too much group-based work. I have to confront my own assumption that group dialogue and peer interaction is one of the best ways of learning.

JG: Once you start talking about assumptions, students often jump to, ‘Oh, I had this assumption, and it’s so wrong or it’s so bad.’ No, assumptions aren’t bad; they’re just rooted in your past experiences, your culture, your family, your education, et cetera. They’re not bad; we just have to be aware of them. Once you start hearing different perspectives, it solidifies the concept of multiple simultaneous perspectives — people can have different opinions than me that are just as valid and matter just as much as my own opinions. I think that those classroom conversations are so important.

JJ: We’ve also been rethinking the ways that students can demonstrate their understanding. In academia, the traditional way students demonstrate mastery of a concept is by writing a paper or essay. Instead, we’ve been trying to shift some assignment formats to expand the ways students demonstrate their learning. As opposed to writing an essay, our students are allowed to record verbal audio reflections or prepare a presentation. Looking forward, we have more ideas on how to continue doing that — maybe it’s a sit-down discussion with the instructor to talk about what they’ve learned, or a visual representation of conceptual understandings.

MM: Has a more diverse educational experience led to students having “aha!” moments or breakthroughs in ways that they may not have previously?

JG: I’ve had students come back from fieldwork experiences saying, ‘You know, that goal or activity we were working on was not necessarily coming from the client’s intrinsic desire or motivation.’ They realized that perhaps the client would have participated if only the student had first checked-in to ask whether it was something the client actually wanted to

work on, versus using labels afterwards like “noncompliant patient” or that the “client refused therapy.”

JJ: There’s been some discussion about best timing to introduce decolonization to students, and some of the initial feedback was that students need to really learn what occupational therapy is before they can decolonize it. But our response was that it’s easier to identify assumptions and ask critical questions from the very beginning of one’s education, as opposed to unlearning practices later on. So maybe it feels a little muddy to students at the beginning of the semester, but there’s so much more understanding and nuance by the end of the semester.

We can also start by thinking about how to remove the power differential in the classroom. As instructors, we believe that we’re learning together alongside our students, and recognize that we as instructors don’t always have the answer. The classroom can be a collaborative place for mutual growth, as opposed to one led by an instructor with a definitively “right” or “wrong” way.

TM: That comment about unlearning is spot on. For example, say you’re learning about an assessment in mental health that measures cognition. As you’re learning about it, you can take a decolonized stance to acknowledge this assessment is based on the idea that society values people with higher cognitive capacity, or ask whether we’re learning this assessment in order to determine how the person can maximize independence.

Another issue I’ve heard from a few students is that it’s hypocritical to talk about decolonizing when higher education is so expensive and restricted to people who are able to afford it, and whether peoples’ ability to pay tuition or not is based upon historical patterns of discrimination and oppression: ‘How can we decolonize when we’re part of a colonized institution?’ I answer first with validation to acknowledge that, yes, this institution is embedded in coloniality. But the first step is always questioning. We may not have control to change the financial structure or conditions, but we can start with a dialogue that questions assumptions.

MM: What are the next steps on your decolonizing agenda, and what do you see as potential long-term impacts of taking decolonized approaches?

TM: I think that a lot of students today really want to make sure that the care they provide is more than just culturally considerate, but is proactively anti-racist and anti-oppression. I think they have a huge desire to provide services as future clinicians in this way. My hope is that this content will be more threaded throughout our new Entry-OTD program. Each class has some component that addresses JEDI, which builds on decolonization ideas which we introduce in the very first semester. Then, through the Reflective and Responsive Practitioners curriculum thread, students will continue talking about, learning and applying it.

JG: I’m in the clinic the majority of the time, and deficit-based reimbursement — the Westernized concept of using deficits as the qualification basis for OT services — is such a huge hurdle. But I do believe that embedding these concepts into our professional education program prepares USC Chan students to be clinicians who can push back when confronted with colonialism in practice. And when they go out into the world, they can question everything rather than just emulate and perpetuate what’s already happening.

JJ: We presented on this topic at the 2022 AOTA Conference, with a focus on both education and clinical practices. The majority of attendees were faculty members from different institutions, and we had a lot of really powerful conversations about what’s working, what’s not and the facilitators and barriers in certain institutions. That was really fruitful conversation, and everyone was so hungry to share their experiences and support each other in order to do more in their programs — it was really inspiring!



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USC OT/PT SUMMER INSTITUTE IS DIVERSIFYING TOMORROW'S WORKFORCE TODAY

How a six-week undergraduate pathway program empowers future occupational, physical therapists from underrepresented minority backgrounds.

BY MIKE MCNULTY '06, MA '09, OTD '10

On most days in season, you can find Blake Harris on the field under the sweltering New Orleans sun or putting in work at the gym. The junior is a long jump and triple jump athlete at Xavier University of Louisiana, the nation's only historically Black and Catholic university.

But this past summer, you would have found Harris logged into Zoom, where the Houston native met with other undergraduates and USC occupational therapists and physical therapists as a participant in the USC OT/PT Summer Institute. The six-week online program is designed for undergraduate students from racial and ethnic minority groups to learn more about occupational therapy and physical therapy, reflect on their interests and values and chart a path toward reaching their educational and professional goals.

The institute is co-hosted by the USC Chan Division of Occupational Science and Occupational Therapy and the USC Division of Biokinesiology and Physical Therapy. The academic units are respectively ranked as or among the nation's best, according to *U.S. News & World Report*. Now, faculty members from both are leveraging those reputations to reshape the demographics of their respective professions, one student, one Zoom meeting, at a time.

Each week, the Institute covers a different aspect of occupational therapy and physical therapy with guest speakers, multimedia presentations, cases and vignettes and group discussions during synchronous Zoom meetings. Participants, all of whom are undergraduates attending either Xavier, USC, Cal State Dominguez Hills or Cal State Los Angeles, explore topics as applied to their own lives, curate a lifestyle plan that aligns with their values and learn to recognize ways of potentially reducing health disparities while pursuing their goals.

"When the speakers came in and I got to hear their perspective, that's when it all clicked," Harris says. "Dr. Serena Hobson is really holistic — she looks at the patients as a whole and she recognizes the individual differences between the patients — and Dr. Sean Johnson was an athlete, and I'm an athlete right now in college, and he spoke about the same characteristics between athletes and health care teams, about interdependence and how to work with a team."

In addition to hearing directly from Black Trojan therapists like Hobson MA '19, OTD '20 and Johnson DPT '08, who is the president of USC's Biokinesiology and Physical Therapy Black Alumni Association, the institute has also validated Harris' growing desire to pursue an occupational therapy career.

"During my time in prep school, we were taught to be young men for others, and that has influenced my career path," Harris says. "Being an occupational therapist is just a great act of service."

Becoming an occupational therapist would be a personally significant act, too. Harris' grandmother greatly benefited from occupational therapy, an inspirational process that he was able to witness. He has already shadowed clinicians at TIRR Memorial Hermann, the highly regarded rehabilitation hospital in Houston, and says the experience drew him further toward a future in health care.



BLAKE HARRIS (PHOTO COURTESY OF BLAKE HARRIS)

"I took notes and was very curious as to why the therapists did this or that with their patients, and I'm thinking to myself, 'this almost doesn't seem like work, it seems like fun!'"

Special connections that pathways provide

The institute, which formally launched with its first cohort in July 2021, is led by Assistant Professor of Clinical Physical Therapy Terry Richardson II DPT '14, Associate Professor of Clinical Occupational Therapy Arameh Anvarizadeh '05, MA '06, OTD '07 and USC Chan's Director of Marketing and Student Recruitment Kimberly Kho '07, MBA '15. Richardson is a Xavier undergraduate alumnus, and he is quick to note that Xavier annually produces more African American students who go on to graduate from medical school than any other institution in the United States.

Although the USC Chan Division and the USC Division of Biokinesiology and Physical Therapy are academic units independent of each other, they share proximity, being based out of the same building on the USC Health Sciences Campus.

Their respective professions also have shared interests: to increase the accessibility of clinical OT and PT services available to marginalized populations, to combat bias and racism in care delivery systems and to decrease health care disparities, primarily by diversifying the racial and ethnic demographics of their respective workforces (nationally, 84 percent of occupational therapists and 84 percent of physical therapists identify as non-Hispanic White, according to recent survey data).

"We decided to collaborate to create a program that is holistic while also very much focused on traditionally underrepresented minorities and underserved communities, in particular Black, Brown and native Alaskan and American Indian populations," Richardson says. "The only way that we're going to change the professions is by changing the demographics of the programs that educate future professionals."

The institute is an example of what are known as pathway programs (which are sometimes referred to as pipeline programs, although that term has largely fallen out of favor because of its insensitive connotations for Indigenous and Native people). While they can take various forms, pathway programs are designed to recruit, support and empower

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students from minoritized communities to excel at all educational stages. By increasing diversity within a given field, the ultimate goals of pathway programs are to reduce disparities by improving care delivery, providers' competency, service accessibility and population health outcomes.

"Health care pathway programs like ours are massively important, especially for communities of color and, in particular, our underrepresented communities of color," Richardson says. "It gets back to equity; we need to give communities, which historically haven't had the same opportunities, the tools and resources specific to their needs to achieve at the same level as the majority."

Students like Harris can also testify to the impact of instructor representation on student motivation and achievement.

"There's a special connection with someone who's similar to you — who looks like you, talks like you, who comes from a similar background as you," Harris says. "It just makes students want to flat out accomplish more in the classroom, because if someone who looks like you believes in you, you're going to go the extra mile."

The pathway concept is well established within academic medicine. According to 2020 data compiled by the Association of American Medical Colleges, 155 medical schools have some form of pathway program. Yet it is surprisingly rare in other health professions' educational systems. Richardson says he is only aware of two pathway programs in physical therapy education specifically designed for underserved and underrepresented student populations, neither of which utilize an intentionally holistic and interdisciplinary approach like USC's.

And, in another tangible act to minimize barriers, admitted students participate in the Institute free of charge.

"In a lot of respects, we're doing something with the USC OT/PT Summer Institute that just hasn't been done in our professions," Richardson says.

Belief and belonging are the keys to success

Starting with their earliest brainstorming in 2018, Richardson, Anvarizadeh and Kho were committed to creating a unique program that would do more than just meet students' academic needs. True to form, Anvarizadeh approached the task like she does any other.

"What's really important is the consistency and the relationship building, which are at the core of grassroots community work," she says. "It's about understanding community, it's being with people, it's locking arms and saying, 'we see you; we value you; you belong here.'"

Anvarizadeh knows well the type of efforts that go into grassroots organizing. She led the charge to implement USC Chan's holistic admissions process, which in the past three years has yielded the division's most diverse class compositions ever. She is a founding member and chair of the Coalition of Occupational Therapy Advocates for Diversity, a non-profit organization focused on empowering occupational therapy practitioners to engage in diversity- and equity-driven projects and practices. She is also the vice president of the American Occupational Therapy Association, the professional association for America's 135,000-plus licensed occupational therapists and occupational therapy assistants.

"These pathways flourish because the people who you're talking with believe that you care about them," Anvarizadeh says. "At the core of its success is people believing that you believe in them."

The belief fostered by the institute has already been transformed into one measure of success: Of the 17 students who completed the inaugural institute held in July 2021, seven have been admitted to USC's occupational therapy or physical therapy doctoral programs. Some have already begun their graduate school journey barely 13 months after completing the Institute.

"It was refreshing to see this great collaboration build something magical," Anvarizadeh says. "That's the beauty of what we developed; we created a community."

Collaboration and that spirit of community outside of one's home academic unit are vital for anybody looking to implement a pathway program at their own institution, Kho says. She oversees USC Chan's recruitment staff, strategy and operations for its academic programs, which range from an undergraduate minor to a PhD degree.

"There are finite people and resources in any given department or school," Kho says. "For anybody hoping to do this kind of work to expand diversity within their programs, the collaborative element is so crucial for success because there is power in numbers."

But building a pathway program doesn't come quickly or easily, either.

"Too many people approach pathways as a one-and-done effort — just create this flyer, make one email, share it and that's that," Kho says. "But we did so many things throughout the year to build and sustain the relationships with each of the institutions we partnered with."

An experience like none other

For decades, occupational therapy and physical therapy both have wrestled with the faces staring back in the mirror. Can pathway programs like the USC OT/PT Summer Institute effectively do what countless strategic plans, carefully crafted statements, taskforces and committees have not?

"When I speak in keynotes around the country and world, I talk about our summer institute," Anvarizadeh says. "And it intrigues people so much that they'll say to me, 'Tell me about the institute — What did you do? How did you do it?,' like it's a novelty. But this is not some new or wild idea. So it shows that we need to intentionally create places for our faculty and practitioners of color to be involved, get engaged and be empowered to succeed."

The Institute also proves that a more involved, engaged and empowered student body — the clinicians, faculty and administrative leaders of the future — can be cultivated in a relatively short timeframe, when approached with care, intent and connection.

"Our hope is that, as we continue to develop this proof of concept, we'll continue to see the fruits of that labor," Richardson says.

Already, Harris says that his own outlook and habits have noticeably shifted.

"This program has given me — and I'm kind of shocked thinking about it — it's given me a certain confidence in how I speak about my future career decisions," Harris says. "I tend to be a more reserved person in the classroom setting, so this experience has motivated me to speak out, engage in more sessions and reach out to more people."

Harris is back in New Orleans for his junior year at Xavier. He still has two more years of undergraduate work to finish before he hopes to enter an occupational therapy doctorate program. In the meantime, there's plenty to keep him occupied. The indoor track and field season begins in January, followed by the outdoor season opening in March. But now he has something which he didn't at the beginning of summer.

"The USC OT/PT Summer Institute has given me pearls of wisdom, or as Dr. Richardson would say, 'golden nuggets,' that I can put in my back pocket for the future," Harris says. "It's a great program for exposing us to the real world; it's great for our connections; it's great to see how programs operate and to see how the health care system operates. This institute has been an experience like none other."

Learn more about the USC OT/PT Summer Institute at chan.usc.edu/about-us/dae/summer-institute.

NEW STUDY SHOWS AUTISM CORRELATED WITH CHANGING SENSORY PREFERENCES DURING EARLY CHILDHOOD

Results from a USC–UNC study suggest sensory issues in early infancy may be the first signs of a later autism diagnosis.

BY MIKE MCNULTY '06, MA '09, OTD '10

Results from a new study published today in *Child Development* provide the first longitudinal evidence about the trajectories of sensory reactivity patterns during early childhood among a large community sample with diverse developmental outcomes.

Many autistic children have particular preferences for specific sensory stimuli, like focused interest on the flicker of fluorescent lights, pronounced discomfort from a scratchy T-shirt tag or deep cravings for bear hugs, for example. And yet, while every child with autism has a unique sensory pattern, there is little research, either at the individual or population levels, documenting how those patterns shift throughout the stages of early childhood.

In 2013, a team of researchers from the University of Southern California and the University of North Carolina at Chapel Hill began following a cohort of more than 1,500 children, measuring their sensory patterns as the children grew from infancy to school age. Now, the researchers have generated insights into the associations between those sensory changes and various child and family characteristics, including the eventual emergence of autistic symptoms or an autism diagnosis once the children were six or seven years old.

“It’s a prospective study, which means we followed each child over six years to track their individual development,” said Yun-Ju (Claire) Chen PhD '21, the lead author of the *Child Development* article. “At the beginning, we didn’t know which children would develop autism. So it’s incredibly interesting to see that, once they were school age at the end of the study, autistic children’s sensory patterns followed very different trajectories, compared to children with neurotypical outcomes or those with other developmental conditions.”

For infants, sensory issues may be earliest signs of autism

For six years, as part of the North Carolina Child Development Survey project, the researchers followed more than 1,500 children born in North Carolina in 2013. Parents were asked about their child’s sensory behaviors during three childhood stages: at infancy (9–16 months old), at preschool (3–4 years old) and at school-age (6–7 years old). Parents were also asked about their child’s autistic symptoms, about various developmental concerns and whether or not their child had received any diagnoses.

Data analysis showed that the sensory patterns of autistic children, as well as children with autistic traits (but who had not been diagnosed with ASD), tended to grow stronger over time. In comparison, non-autistic children’s sensory patterns, including those with parent-reported sensory issues, were relatively steadier across development. That finding may have significant implications for the ways in which scientists conceptualize, identify and study autism, as well as how therapeutic interventions are designed and delivered, beginning in early infancy, to promote developmental outcomes and provide better supports for families.



“We used to think that social communication differences were the most important behavioral markers for identifying autism in infancy,” Chen said. “But we found that sensory differences may emerge earlier than social communication differences in infants who later developed autism, and these early sensory differences may cascade into more definitive features of autism, including social-communication differences, later in life. This means that sensory processing functions may be much more important in early detection than we have previously thought.”

Chen is currently a postdoctoral research fellow at McMaster University in Ontario, Canada. She and Grace Baranek previously worked together at the University of North Carolina at Chapel Hill, and after coming to USC in 2016, continued using the North Carolina dataset in collaboration with their UNC colleagues.

Chen notes how the study’s longitudinal design honors the individuality and variability of sensory development, regardless of diagnosis.

“Previous studies have tended to compare sensory patterns across different age ranges by aggregating all their cross-sectional data, which makes it hard to draw conclusions about any one specific participant,” Chen said. “But we know that every child has their own trajectory, so our type of data analysis really is a more person-centered approach.”

Parental education level tied to more stable childhood sensory patterns

The researchers also discovered that children of parents with higher educational levels tended to show more stable or improving sensory patterns. While cautious not to misinterpret that finding, Chen says it may underscore the impact of early interventions upon children’s long-term sensory behaviors.

“My guess is that kids with more highly educated parents may have more access to resources, so that once they are identified with sensory challenges, they are more likely to get timely help from professionals,” Chen said. “Of course, we need to do more to decrease disparity for those with lower education levels. But I think this is a promising result because, in comparison to other variables that cannot be changed, early detection and intervention are variables that we can do something about, and that can make a really big difference in children’s and families’ lives.”

The research team is next studying how the launch of a new screening tool can improve the early identification of autism across diverse populations, including Spanish-speaking families primarily of Hispanic/Latino/a ethnicity living in the Los Angeles area.

“The earlier we identify infants at elevated likelihood for autism and begin intervention, the greater the potential for every child to grow to their fullest capacity,” Baranek said. “That hinges on the work we are doing at the insp!re lab — mobilizing the most sensitive tools and new findings so that our care systems can provide families and children with access to the best possible individualized supports, and deliver them early, when they matter most.”



Research Buzz

THE SCIENCE OF “TUNING IN”

BUILDING A MEASURE OF PARENT RESPONSIVENESS TO BETTER UNDERSTAND ITS EFFECT ON INFANTS’ SENSORY DEVELOPMENT.

**BY EMILY CAMPI MA ’20, PHD ’24
OCCUPATIONAL SCIENCE DOCTORAL STUDENT**

When I began my educational journey at USC Chan in 2017, I was an eager, aspiring occupational therapy practitioner who was interested in research insofar as it supports evidence-based clinical practice. Through the gentle encouragement of several faculty members, in addition to engaging with Dr. Grace Baranek’s inspl:re lab as a research assistant, I began to realize that research was an additional passion of mine. In fact, I began to see research as a form of practice in its own way. The idea of stumbling upon an interesting question, designing a strategy to find the answer and then sharing that knowledge seemed so exciting that I decided to pursue my PhD in occupational science.

Now, as a fourth year PhD candidate in the inspl:re lab — short for Innovations in Neurodevelopmental Sensory Processing Research — my primary responsibility is working as an assessor for the Sensory and Social Development in Infants and Toddlers (SASI) study. The SASI study (PI: G. Baranek) examines trajectories of sensory and social communication development, and parent–infant engagement and parent responsiveness to infant cues, over a three month period in infants ages 6–16 months with no known developmental risk factors, as well as in infants who have been identified as at elevated likelihood of autism via a parent-report screening questionnaire.

I am also currently working on my dissertation, which will develop a measure of parent responsiveness to sensory reactivity and regulation cues based upon the extensive parent responsiveness literature. The measure will be relevant for families across developmental contexts, including those described within the SASI study, in addition to infants whose parents grew up in the foster care system, which poses substantial barriers to the development of their parenting skills. I am honored that the USC Center for the Changing Family has chosen to fund this project through their Small Grants for Trainees and Faculty program.

My long-term research interests include further examining infant development in the context of situational risk factors for suboptimal developmental outcomes. This may include parent responsiveness as the manner in which parents use parenting skills to recognize and respond to their infant’s cues; early identification of elevated likelihood of autism in populations who may otherwise be missed by today’s standard screening procedures; and the reciprocal development of parent and child through dyadic transactions in the context of their daily occupations. The occupational science lens promotes rich and meaningful study of parents and infants by emphasizing the interconnections among environment, activity



PHOTO BY JANIS YUE

and people themselves, as well as parent’s own sense of their evolving identity as they participate in the occupations of parenthood.

With the training and experiences I am gaining through at the USC Chan PhD program, I hope to build my own contextualized clinical research program in order to find solutions to real-world challenges. Additionally, I plan to teach future occupational therapy students, with the goal of making research more accessible to clinicians in order to bridge the clinical–research gap in our field and to support implementation of cutting-edge, evidence-based practices in clinical settings.

My journey from aspiring clinician to rising scientist has been one marked by excellent mentors who opened doors to new opportunities for building skills, so that my work can positively impact the field and, ultimately, the clients whom we serve.

5

THINGS TO KNOW ABOUT: JESÚS DÍAZ OTD, OTR/L

BY MIKE MCNULTY '06, MA '09, OTD '10

Jesús Díaz '05, MA '08, OTD '09 was recently named the division's inaugural Associate Chair of Diversity, Access and Equity, joining the faculty leadership team to oversee practices, policies and programs supporting the division's DAE goals. Here are five more things to know about Díaz:

1 This fall, Díaz became USC Chan's latest faculty-in-residence. He is living with his wife and daughters — Julieta-Marie (7) and Ximena (3) — in an apartment at Birnkrant Residential College, an eight-story dormitory on USC's University Park Campus. There, he hosts extracurricular community-building programming for Birnkrant's 250-plus undergrad residents. "Our role is to build connections and relationships with the students who live there, give them a little sense of home and make them part of our extended family while they're making the transition to USC."

2 Díaz grew up around USC. Díaz grew up in South L.A. at a time, he says, when the prevailing perception was that USC was off-limits to neighborhood kids like him. But in high school, a life-changing admissions interview was his ticket to joining the Trojan Family. "Having the opportunity to become a USC student, and then join the faculty and now living at USC, is just amazing to me. It's surreal to move through that narrative of feeling like an outsider, to now literally living on campus."

3 Board games are big time. Playing board games are a favorite leisure occupation for Díaz and his family. "They are very social, require strategic thinking and are a nice way to get away from technology; it's nice to turn off the screen. Right now we really like Wingspan, which was designed by Elizabeth Hargrave and involves building wildlife preserves by collecting a variety of birds; aesthetically, it's such a beautiful game."



PHOTO BY ABRAHAM RAMIREZ

4 Ironically, occupational therapy's diversity (or lack thereof) was an attraction. Increasing occupational therapy's workforce diversity has been a longstanding passion for Díaz, and he says that his new administrative leadership position is an exciting opportunity to continue building a more diverse workforce. But ironically, Díaz notes that the profession's relative lack of diversity meant he had a chance to leave his own mark. "In some ways, it drew me in because, as a Latino Spanish-speaking male, I felt that there was something more I could contribute to the profession, to my students and to my patients."

5 He sees opportunity in the absence of precedent. As USC Chan's first-ever Associate Chair of Diversity, Access and Equity, Díaz says he's excited by the opportunity to define the role at a time when so many are primed for making changes. "It allows me to be very responsive to all the DAE work that I'm doing, but it's also exciting to define the role this position plays within the division. I think providing coordination and guidance from a leadership perspective will be very beneficial to maximizing everybody's ongoing efforts."



YEARS

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USC Chan Division of Occupational Science and Occupational Therapy



LOCKED UP AND LOCKED DOWN: INCARCERATION, PANDEMIC AND THE CONCEPTUAL TERRAIN OF OCCUPATIONAL DEPRIVATION

What started as a query in an independent research course about the COVID-19 pandemic with Associate Clinical Professor Rebecca Aldrich turned into an article published earlier this year in the *Journal of Occupational Science*: I wondered what was happening, occupationally, in prisons during the pandemic? It will not surprise readers that prisons — environments designed to deprive individuals of access to meaningful occupations — were incredibly harsh places to weather the pandemic.

Public health recommendations, such as social distancing and increased ventilation, were impossible to follow, as prisons routinely house more people than their intended capacities, and some lack openable windows or modern HVAC systems. There were reports of prisoners lacking consistent access to soap and running water, and using food or additional labor to barter for cleaning supplies. Due to the high alcohol content in hand sanitizer, most prisons forbid its use, even at the height of the pandemic. Masks were not always provided and sometimes were even prohibited. The health-promoting occupations that most people could choose to engage in were restricted within prisons, meaning that, in a time of crisis, prisoners experienced more, not less, occupational deprivation.

A parallel research inquiry revealed that incarcerated populations in California and across the United States were infected with, and died from, COVID-19 at higher rates than comparable unincarcerated populations. Both these statistics and the restrictions prisoners experienced are very troubling, but together they reveal a horrifying reality: that the occupational deprivations in prisons during the COVID-19 pandemic contributed to excess illness and death.

In previous occupational science literature, the consequences of occupational deprivation have been described as long-term outcomes such as chronic health conditions which develop over extended periods of time. But in contrast, the pandemic exposed the potential for the dangerous short-term outcomes of occupational deprivation.

Recognizing a lack of imminence in its typical portrayals, Dr. Aldrich and I call on occupational scientists and occupational therapists to incorporate a stronger sense of urgency into the conversations, education and research on occupational deprivation. It is our hope to spur the discipline and profession to act, as we are uniquely poised to intervene earlier, at systemic and individual levels, to prevent illness and death. —Elizabeth M. Phelps MA '20, OTD '22

“Incarceration During a Pandemic: A Catalyst for Extending the Conceptual Terrain of Occupational Deprivation” is available in the Journal of Occupational Science at tinyurl.com/incarceration-jos.

Rebecca Aldrich MA '06, **Sarah Bream** MA '96, OTD '09 and **Julie McLaughlin Gray** MA '95, PhD '06 co-authored "Course Creation as a Response to Intersecting Pandemics: Enhancing Students' Abilities to Leverage and Mobilize an Occupational Perspective," published in the *Journal of Occupational Science*.

Amber Angell PhD '16 was the lead author of "Effects of Sex, Race, and Ethnicity on Primary and Subspecialty Healthcare Use by Autistic Children in Florida: A Longitudinal Retrospective Cohort Study (2012–2018)," published in *Research in Autism Spectrum Disorders*.

Grace Baranek and **John Sideris**, with alum **Yun-Ju (Claire) Chen** PhD '21, were co-authors of "Early Measurement of Autism Risk Constructs in the General Population: A New Factor Structure of the First Years Inventory (FYIv3.1) for Ages 6–16 Months," published in *Autism Research*. Chen, Sideris and Baranek were also co-authors of "Developmental Trajectories of Sensory Patterns from Infancy to School Age in a Community Sample and Associations with Autistic Traits," published in *Child Development* (read more about this study on p. 27).

Daniel Park MA '09, OTD '10 and **Sarah Bream**, with alum **Areli Benitez** MA '19, OTD '20, co-authored "International Students' and Alumni Perspectives on their Transition to Graduate Level Occupational Therapy Education and Daily Life in the United States," published in the *Journal of Occupational Therapy Education*.

Christiana Butera PhD '21 and **Lisa Aziz-Zadeh** were co-authors of "Impact of Motor Stroke on Novel and Conventional Action Metaphor Comprehension," published in *Brain and Language*. Butera and Aziz-Zadeh, with **Laura Harrison** Postdoc '20 and **Aditya Jayashankar** PhD '23, were co-authors of "Relationships between Alexithymia, Interoception, and Emotional Empathy in Autism Spectrum Disorder," published in *Autism*.

Sharon Cermak and **Grace Baranek** were co-authors of "Association between Sensory Features and High-Order Repetitive and Restricted Behaviors and Interests among Children with Autism Spectrum Disorder," published in the *American Journal of Occupational Therapy*.

Rebecca Cunningham MA '15, OTD '16 and **Ashley Uyeshiro Simon** '08, MA '10, OTD '11 co-authored "Interventions for Instrumental Activities of Daily Living among Adults with Multiple Sclerosis: A Systematic Review," published in the *American Journal of Occupational Therapy*.

Miranda Donnelly PhD '24, **John Margetis** '11, MA '12, OTD '13, **Pamela Roberts** and **Sook-Lei Liew** MA '08, PhD '12 were co-authors of "Chronic Stroke Sensorimotor Impairment is related to Smaller Hippocampal Volumes: An ENIGMA Analysis," published in the *Journal of the American Heart Association*.

Miranda Donnelly, **Yoko (Ellie) Fukumura** MA '19, PhD '24 and **Marinthea Richter** OTD '20, PhD '25 co-authored "Untapped Sources of Contextualized Knowledge: Exploring Occupational Disruption during COVID-19 as showcased through YouTube Parodies," published in the *Journal of Occupational Science*.

Yiyang (Sunny) Fang '19, MA '20, OTD '21, PhD '26 and **Shawn Roll** were co-authors of "Quality of Carpal Tunnel Syndrome Patient Education Handouts Available on the Internet: A Systematic Analysis of Content and Design," published in *Archives of Physical Medicine and Rehabilitation*.

Yoko (Ellie) Fukumura and **Shawn Roll** were co-authors of "Ergonomic Assessment of Office Worker Postures using 3D Automated Joint Angle Assessment," published in *Advanced Engineering Informatics*.

Shawn Roll and **Beth Pyatak** '02, MA '04, PhD '10, with alum **Raymond Hernandez** PhD '21, were co-authors of "Validation of the National Aeronautics and Space Administration Task Load Index (NASA-TLX) Adapted for the Whole Day Repeated Measures Context," published in *Ergonomics*.

Jess Holguin '96, MA '05, OTD '11 and **John Margetis** were co-authors of "Vascular Cognitive Impairment after Mild Stroke: Connectomic Insights, Neuroimaging, and Knowledge Translation," published in *Frontiers in Neuroscience*.

Polly Kellner and **Roberta Pineda** were co-authors of "Neurodevelopmental Outcomes Following Preterm Birth and the Association with Postmenstrual Age at Discharge," published in the *American Journal of Perinatology*.

Emily Kilroy PhD '18, Postdoc '21, **Christiana Butera**, **Laura Harrison**, **Aditya Jayashankar**, **Lisa Aziz-Zadeh** and **Sharon Cermak**, with alums **Priscilla Ring** MA '18, OTD '19; **Anusha Hossain** MA '19, OTD '20; and **Alexis Nalbach** MA '19, OTD '20 co-authored "Motor Performance, Praxis, and Social Skills in Autism Spectrum Disorder and Developmental Coordination Disorder," published in *Autism Research*.

Karrie Kingsley MA '01, OTD '07 authored "LGBTQ and Gender Expansive Children and Youth," a chapter in the textbook *Adaptation, Coping, and Resilience in Children and Youth: A Comprehensive Occupational Therapy Approach*, published by Slack.

Sook-Lei Liew was a co-author of "Observational Study of Neuroimaging Biomarkers of Severe Upper Limb Impairment after Stroke," published in *Neurology*. She was also a co-author of "Testing a Convolutional Neural Network-Based Hippocampal Segmentation Method in a Stroke Population," published in *Human Brain Mapping*.

Sook-Lei Liew, **Jess Holguin** and **John Margetis** were co-authors of "The ENIGMA Stroke Recovery Working Group: Big Data Neuroimaging to Study Brain–Behavior Relationships after Stroke," published in *Human Brain Mapping*.

Loree Pham PhD '25 was the lead author of "Spirituality in Occupational Therapy Practice: Where is our Spirituality Now?," published in *OTJR: Occupation, Participation and Health*.

Marinthea Richter and **Roberta Pineda** were co-authors of "Health Care Professional Perceptions about a Proposed NICU Intervention: The Importance of Community and Aligning with Everyday Occupations," published in *OTJR: Occupation, Participation and Health*.

Shawn Roll co-authored "Hand Therapy Patients' Psychosocial Symptomology and Interests in Mindfulness: A Cross-Sectional Study," published in the *Canadian Journal of Occupational Therapy*. Roll was also a co-author of "Development of Shoulder Pain with Job-Related Repetitive Load: Mechanisms of Tendon Pathology and Anxiety," published in the *Journal of Shoulder and Elbow Surgery*.

Leah Stein Duker and **Sharon Cermak** co-authored "Caregiver Confidence in Reporting Anxiety Symptoms in Children with Autism Spectrum Disorder," a brief report published in the *Journal of Autism and Developmental Disorders*. **Stein Duker** and **Cermak**, with alum **Melissa Martinez** MA '19, OTD '20, were also co-authors of "Association between Oral Care Challenges and Sensory Over-Responsivity in Children with Down Syndrome," published in the *International Journal of Paediatric Dentistry*. Stein Duker, with students **Willa Giffin** MA '23 and **Natasha Hikita** MA '23, were co-authors of "The Relationship between Dental Fear and Anxiety, General Anxiety/Fear, Sensory Over-Responsivity, and Oral Health Behaviors and Outcomes: A Conceptual Model," published in the *International Journal of Environmental Research and Public Health*.

Buwen Yao PhD '23 and **Shawn Roll** co-authored "An Ultrasound Study of the Mobility of the Median Nerve during Composite Finger Movement in the Healthy Young Wrist," published in *Muscle and Nerve*.

A DEEPER MEANING

Five decades after entering the profession, Kate Crowley is grateful for a long career in occupational therapy.

BY CATHERINE CROWLEY OTD '06

Director of the Minor in Occupational Science Program and Assistant Professor of Clinical Occupational Therapy

For as long as I can remember, I have wanted to take care of others. My parents used to say that I came out of the womb destined to become a veterinarian, doctor, nurse or teacher. They joked that I must have been an incarnation of one of my ancient Irish ancestors.

I was determined to become a physician, and was bound to the pre-med program at the University of Dayton (Ohio) when I received a letter in the mail stating that I had earned a scholarship to the University of Illinois Champaign-Urbana. As the youngest of three, my parents did not need to explain to me that supporting a third kid through college would be a stretch. I took the state-sponsored scholarship.

My parents brought me to Chicago for an interview with Beatrice Wade, an incredibly dynamic occupational therapy educator who led the program at Chicago and Urbana for 30 years. At one point in the interview, she turned to me to explain how occupational therapy is “a wonderful cross between being a doctor, nurse and teacher.” I was certainly intrigued! I will never forget how my father, a wine salesman, closed the deal by gifting Beatrice Wade a bottle of champagne and a compliment — “look at those smiling Irish eyes!” I told my parents not to worry about this change of my major, as I could transfer into medical school the following year. Ha!

From 1968 to 1970, I majored in occupational therapy at the University of Illinois. I transferred to Colorado State University and finished my bachelor's degree in OT. I loved Colorado, I loved “getting out of Dodge,” and I loved hiking in actual mountains. I did one of my fieldworks in Grand Junction, Colorado, in pediatrics at what was then called the Colorado State

Home and Training School. I became the first OT hired by their community mental health center and, within a year, built a small OT department. I was then selected to open a halfway house for adults with chronic mental health challenges. This was in the 1970s, a time when occupational therapy had a much bigger presence in community-based mental health, and funding was generous.

Every weekend, we would go four-wheeling and camping all over the Rocky Mountains. One weekend, heading down a steep, old mining road, we tried navigating around a boulder and the four-wheeler rolled. I was ejected from the vehicle and tumbled downhill about 3,000 feet. Another occupational therapist who was with me, Maribeth McKenna, saved my life by hiking four miles to the nearest campsite, driving to a ranger outpost and radioing to the nearest town for assistance. The rescue ambulances finally located me about six hours later, my neck broken and my left torso pretty well shattered too. My concussion was so severe that I do not remember any of that day or the following month of recovery.

Occupational therapy was moving toward becoming a master's-level profession, and since I wasn't capable of returning to a physically demanding job any time soon, I returned to Chicago to pursue my master's degree at UIC. There, I lived in an apartment next to my sister, who had just had a baby. I fell completely in love watching the development of this child, and couldn't believe how the behaviors of this miraculous baby changed literally every day. I just had to learn more about neurodevelopment! My friends and faculty mentors at UIC, Barb Lyons and Winnie Scott, encouraged me to switch the focus of my master's thesis to early intervention, the practice area that I have worked in ever since. I still use a lot of my mental health and family systems background in working with families, peers and students.

Professionally, I am grateful for those who truly changed my life and broadened my horizons. At UIC, I worked with Cheryl Mattingly and Mary Lawlor on their Crossing Cultural Boundaries research project in the early '90s, and eventually followed them both to USC when I enrolled in the Department's Occupational Science PhD program. In 1997, our family drove across the country to Los Angeles in a big yellow Penske truck, with everyone but me kicking and screaming all the way. I got to work with Gelya Frank on the New Stories/New Cultures after-school project for about three years, and with the late



PHOTO BY TIMOTHY WANG

Ann Neville-Jan on her spina bifida research program. I taught in the entry-level master's program and, with the support of Florence Clark, beefed up the undergraduate Minor in Occupational Science program alongside Kim Morris-Eggleston MA '01, OTD '15. These are just a few of the people who have been so instrumental in my career — there are so many more.

Some semesters, we enroll more than 500 USC undergrads in OS Minor courses. Whether or not they choose to enter the profession, students learn what makes occupational science and occupational therapy so special. That in itself makes such a difference! I get emails from former students 10 years later saying things like, ‘I just read an article about OT,’ or, ‘My grandmother had a stroke and she's doing OT.’ Part of what I have contributed to their lives is an expanded view of health care, of their own mental health and an appreciation for the power of daily habits and routines. Knowing I had a part to play in influencing people's lives is what still keeps me pumped up.

In reflecting on my long career, I think occupational therapy found me. Then, I grabbed the opportunities the profession provided and stumbled into fulfilling work with amazing people. OT has given me flexibility with continuity, jobs that have allowed me to be as creative as I can and chances to move, not just throughout the field, but throughout the country. For all of that, I am incredibly grateful.



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