THE SCIENCE OF CONSCIOUSNESS

2024
THE SCIENCE OF CONSCIOUSNESS

April 22–27, 2024
Loews Ventana Canyon Resort • Tucson, AZ
www.consciousness.arizona.edu
Welcome to the 30th annual ‘The Science of Consciousness’ (‘TSC’) Conference, the world’s largest, longest-running and premier gathering addressing fundamental questions regarding consciousness, the brain, reality and existence. TSC is organized and hosted by the Center for Consciousness Studies at the University of Arizona, and is an interdisciplinary conference emphasizing rigorous approaches to the study of consciousness and its place in the universe. Topical areas include neuroscience, philosophy, psychology, cognitive science, biology, quantum physics and quantum brain biology, cosmology, meditation, psychodelic and altered states, artificial intelligence/machine consciousness, the nature of reality, culture and experiential phenomenology. Held annually since 1994, TSC alternates yearly between Tucson, Arizona and various locations including Italy, Denmark, Japan, Sweden, Czech Republic, Hungary, Hong Kong, India, Finland, San Diego and Switzerland. This year our live participation and broadcast will take place at the Loews Ventana Canyon Resort, a beautiful eco-lodge in the hills above Tucson, Arizona.

TSC 2024 is a 6-day gathering consisting of 8 Workshops, 1 Symposium, 14 Plenary/Keynote Sessions, 30 Concurrent Sessions, 2 Poster Sessions and Exhibitor presentations, social, wellness, Poetry Slam and entertainment. We anticipate in person over 600 scientists, philosophers, educators, academicians, students, meditators, artists, interested public and seekers from around the world. Plenary and Keynote sessions, 2 workshops and the Monday evening Symposium will be live streamed virtually and uploaded for on-demand review.

We thank our sponsors, program committee, support staff, hosts, presenters, attendees, exhibitors and volunteers and all the Plenary and Keynote speakers for making TSC possible. We especially acknowledge the extraordinary efforts and many years of service of Abi Behar-Montefiore, Assistant Director of the Center for Consciousness Studies at the University of Arizona. Without Abi, The Center and TSC conferences would not be possible. Special thanks and appreciation to Edgar Mendoza and BioCommunications at the University of Arizona for their overall contribution to present this event through graphic design and production concepts over many years. To the entire staff and Group Managers at Loews Ventana Canyon Resort, thank you for all you do to make our program a success. To the Tucson-based Commotion Studios who were able to work with us on this intense program, thank you Matt George and Team for keeping us online and inline. Special thanks George Mashour.

Plenary bios, abstracts and exhibitor information can be found on the Center’s Website. www.consciousness.arizona.edu

Sincerely,

Stuart Hameroff
Director Center for Consciousness Studies
Program Co-Chair, The Science of Consciousness
MONDAY, APRIL 22, 2024
Workshops
8:30 AM – 12:30 PM
Kiva, Catalina K-L, Catalina J, Executive Board Room - Santa Rita, Sabino

QUANTUM BIOLOGY
Chair: Paige Derr, NIH/NCATS; Stuart Hameroff, U Arizona; Albert Siryaporn, UCI; Nirosha Murugan, Wilfrid Laurier; Manisha Patel, UCSB; Travis Craddock, NSU, (Remote); Philip Kurian, Howard U, (Remote) – Kiva Ballroom

INDIAN KNOWLEDGE, HEALTH AND MEDICAL APPLICATIONS (IKSHMA)
Chair: Martin Fleming, Spi; Remote: Kunal Mooley, CalTech, IIT Mandi, IIT Kanpur, IMICS; Laxmidhar Behera, IIT Mandi; Rama Jayasundar, AllIMS Delhi; In person Tucson: Martin Fleming, Spi; Donald Hoffman, UC Irvine; Christopher Lord, Charles U-Prague; Ramana Vinjamuri, UMBC; Guruprasad Raghavan, Yurts AI – Catalina J

DUAL ASPECT MONISM
Chair: Michael Silberstein, Elizabethtown College; William Seager, U Toronto; Harald Atmanspacher, Collegium Helveticum, ETH Zurich - Jeffrey Kripal, Rice U – Catalina KL

DREAMLESS SLEEP
Chair: JF Pagel, U Colorado; Jerome Alonso, U Calgary; Antonio Zadra, U Montreal; Gina Poe, UCLA – Executive Board Room

BREAK
12:30 PM – 1:30 PM

WORKSHOPS, continued
2:00 PM – 6:00 PM

NEUROPHYSIOLOGY OF LOSS & RECOVERY OF CONSCIOUSNESS
Chair: M. Bruce MacIver, Stanford U; Kathleen Vincent, Harvard U; Anthony Hudetz, U Michigan; Hyunwoo Jang, U Michigan – Kiva

MEDITATION & GLOBAL SPIRITUAL PRACTICES
Chair: Thomas Brophy, CIHS/IONS; Deepak Chopra, Chopra Global; Jeffery Martin, CIHS; Hidehiko Saegusa, IIT Mandi, UArizona, CIHS, AABC; Arnaud Delorme, IONS; Timothy Laporte, CIHS; Sean Esbjörn-Hargens, CIHS; Sohail Shakeri, CIHS; Dean Radin, IONS (Remote); Helané Wahbeh, IONS; Garret Yount, IONS; – Catalina KL

TERMINAL LUCIDITY
Chair: Marjorie Woollacott, U Oregon; Michael Nahm, IFAP Freiburg; Natasha Tassell-Matamua, Massey U, NZ; Chris Roe, U Northampton; Maryne Mutis, U de Lorraine, Fr; Karalee Kothe, U Colorado – Catalina J

EDUCATION IN CONSCIOUSNESS STUDIES
Chair: Laurel Waterman, U Toronto; Joan Walton, St. John U-York; Thomas Bever, UArizona; Justin Riddle, FSU; Sue Blackmore, U Plymouth; Emily Toscianko, U Oxford/Pembroke College – Executive Board Room

SYMPOSIUM
7:00 PM – 10:00 PM

INTEGRATED INFORMATION THEORY OF CONSCIOUSNESS
Moderator: Paavo Pylkkänen, U Helsinki & U Skövde; Christof Koch, Allen Institute; Tiny Blue Dot Foundation; Giulio Tononi, Melanie Boly & Matteo Grasso, U Wisconsin - Madison – Kiva
TUESDAY, APRIL 23, 2024
Conference Opening
Conference Sessions by Day
Early morning experiential clinic: Refreshments

7:30 AM – 8:15 AM
MEDITATION WELLNESS KICKOFF – Kiva Plaza
Deepak Chopra

PLENARY SESSIONS – Kiva Ballroom

8:30 AM – 10:40 AM
PLENARY 1 ‘DETECTING CONSCIOUSNESS’
Steven Laureys, Claudia Passos, Gina Poe

11:10 AM – 12:30 PM
PLENARY 2 ‘CORTICAL OSCILLATIONS, WAVES AND CONSCIOUSNESS 1’
Earl K. Miller, KEYNOTE (Remote)

BREAK

2:00 PM – 4:10 PM
PLENARY 3 ‘CONSCIOUSNESS AND REALITY’
Donald Hoffman, Deepak Chopra, Paavo Pylkkänen

BREAK

5:00 PM – 7:00 PM
TUESDAY CONCURRENT SESSIONS C-1 – C-10
20 min talks: 5 min Q&A - Breakout Rooms:
Catalina J, & KL, Executive Board Room, Grand Ballroom Salons G, H, I, Salons D, E, F, Santa Rita, Sabino

C-1 IMPLICATIONS OF ARTIFICIAL INTELLIGENCE
Ken Mogi, Jonathan Erickson, Bill Mensch, Rizwan Virk, Maria Howard, JF Pagel – Catalina J

C-2 PARAPSYCHOLOGY & NEAR-DEATH EXPERIENCES
Fr. Nathan Castle, O.P., Marina Weiler, Terri Gilbert, Birgitta Therner, Nicole Johnson – Grand Ballroom Salon D

C-3 EXPERIENTIAL APPROACHES TO CONSCIOUSNESS
Roger Russell, Igor Nazarov, Raul Valverde, Carlton ‘Perk’ Clark, Timothy Laporte, Rubin Naiman – Santa Rita

C-4 PHILOSOPHY OF MIND
Scott Ventureya, Scott Olsen, Jonathan Shear, Gustavo Rodrigues Rocha, John Strozier, Patrick Schotanus – Grand Ballroom Salon E

C-5 REPRESENTATION AND ACCESS MODELS OF MIND
Roger C. Schriner, Susan Blackmore, Frank Heile, Matthew Williams, Rakenduvadhana Srinivasan – Grand Ballroom Salon F

C-6 GEOMETRY OF MIND
Terrence Howard, Andres Gomez-Emilsson, Elena Bezzubova, Uziel Awret, Jason Padgett – Executive Board Room

C-7 QUANTIFYING COGNITIVE STATES IN NEURAL DATA
Logan Trujillo, Dimitri Van De Ville, William Bosl, Kira Dolhan, Sandeep Gupta – Sabino

C-8 STUDYING SPIRITUALITY IN NEUROSCIENCE AND THERAPY
Stephen Zerfas, Marco Ruggiero, Master Zhi Gang Sha, Rulin Xiu, Kirit Goyal – Grand Ballroom Salon G

C-9 NEUROSCIENCE OF ALTERED STATES
Nicolas Glynos, Clayton Coleman, Nicholas Denomme, Gratiana Chen – Grand Ballroom Salon H
C-10 QUANTIFYING ALTERED STATES OF CONSCIOUSNESS
Robert Tromm, Marjorie Woollacott, Jessica Cornelle, Sebastian Ehmann, Mona Letourneau – Grand Ballroom Salon I

7:00 PM – 9:00 PM
WELCOME RECEPTION
Cascade Terrace - Drink tickets, hearty appetizers

WEDNESDAY APRIL 24, 2024
Early Wednesday Morning Experiential Clinics
7:15 AM – 8:15 AM
Soul Sickness and Healing Techniques – Master Zhi Gang Sha, Peter Hudoba, Rulin Xiu – Catalina KL
Rumi Healing Meditation – Sohail Shakeri – Catalina J
Feldenkrais Awareness through Movement® – Roger Russell, Jeff Haller – Ventana 2nd Floor.
Finding and Clearing the Emotional Roots of your Suffering – Douglas Tataryn – Santa Rita
TennisCentric Approach to Consciousness – Mark Valladares – Tennis Courts

PLENARY SESSIONS - KIVA BALLROOM
8:30 AM – 10:40 AM
PLENARY 4 'CORTICAL OSCILLATIONS, WAVES AND CONSCIOUSNESS 2' -
André Bastos (Remote), Pulin Gong, Dimitris Pinotsis

11:10 AM – 12:30 PM
PLENARY 5 'THE GLOBAL BRAIN ARGUMENT: "Nodes, Computroniums and the AI Megasystem" '
Susan Schneider, Florida Atlantic University, Boca Raton, FL, USA, KEYNOTE

LUNCH TIME EXHIBITORS & DEMOS
12:30 PM – 1:30 PM
Exhibitors
Demos
“Lunch Time Sound Reset and Integration – Sound Medicine® – Binaural Beats” – Elizabeth Krasnoff - Rincon
The Artwork of Ayahuasquero, Pablo Amaringo – NeoAmazonian style – Scott Olsen - Grand Ballroom Lobby
Altered States Art as a Meditative & Restorative Tool: Painting Colour and Sound with Gestures in Virtual Reality, Leslie Deere - Coronado

2:00 PM – 4:10 PM
PLENARY 6 ‘CONSCIOUSNESS IN RELIGION AND ALTERED STATES’
Tanya Luhrmann, Justin Riddle, George Mashour

BREAK

5:00 PM – 7:00 PM
WEDNESDAY CONCURRENT SESSIONS C-11 - C-20
20 min talks: 5 min Q&A - Breakout Rooms:
Catalina J, Catalina KL, Executive Board Room, Grand Ballroom Salons G, H, I, Salons D, E, F; Sabino, Santa Rita

C-11 ANOMALOUS COGNITION
Helané Wahbeh, James Lake, Christine Simmonds-Moore, Arnaud Delorme, Milena Braticevic, Sean Esbjorn-Hargens – Salon D

C-12 CONSCIOUSNESS & MENTAL HEALTH
Carsten Korth, Ingrid Fredriksson, Darja Kobal Grum, Jurgen Kornmeier, Nina Carrubba, Criscilla Benford – Executive Board Room
C-13 QUANTUM COMPUTATION  
James Tagg, Akihiro Nishiyama, Vasyi Semenov, Roumiana Tsenkova, Mithun Paul, Rachid Lopez – Santa Rita

C-14 INTEGRATED INFORMATION THEORY  
Brian Archibald, Kelvin McQueen, Garrett Mindt, Isaac David, Matteo Grasso – Salon G

C-15 ARTIFICIAL INTELLIGENCE  
William Robinson, Tam Hunt, Karina Vold, Aida Elamrani, Vickram Premakumar, Jay Myers – Salon H

C-16 TIME AND COGNITION  
Laura Deutsch, Abdellatif Abujudeh, Yu Zheng, Joel Bennett, James Corrigan – Salon I

C-17 SOCIAL IMPLICATIONS FOR UNDERSTANDING CONSCIOUSNESS  
Stephen Deiss, Richard Morley, Steven Wingate, Seymen Atasoy, Staci Newmahr – Salon F

C-18 PHYSICS OF MIND  
Florian Metzler, Gregory Horne, Amal Alachkar, Xiaolin Ge, Alon Retter, William Softky – Sabino

C-19 NOVEL MODELS OF CONSCIOUSNESS  
Donald Mender, Meijuan Lu, Christopher Tyler, Meir Weinstein, Deborah Kala Perkins, Sean Clayton – Santa Rita

C-20 PSYCHOANALYSIS AND THE UNCONSCIOUS  
Jenny Vanbergen, Teresa Nowak, Garrett Yount, Asher Soryl – Grand Ballroom Salon E

7:00 PM – 9:00 PM  
RECEPTION, CASH BAR – Grand Ballroom Lobby

7:00 PM – 10:00 PM  
POSTERS, ART TECH DEMOS, EXHIBITORS – Grand Ballroom Lobby; Ballroom B
Posters in Grand Ballroom B - Additional Digital Posters on the perimeter of the Ballroom

POSTER SESSION 1

PO 1 - 1.0 - PHILOSOPHY  
William J. Cox, Richard Gill, U.B. Lozano, Steve Kercel/Mona Letourneau, Ramanujam Prakash, Jeff Sugar

PO 1 - 2.0 - NEUROSCIENCE  
Kewei Chen, Ryo Sato, Pavel Kraikivski, Soosan Beheshti

PO 1 - 3.0 - COGNITIVE SCIENCE & PSYCHOLOGY  
Antonio Zadra, Jin Ma, David Stone, Bruce Nappi, Malcolm Lett, Deni Van, Michael Kutch, Ruslana Remennikova / Bernard Beitman

PO 1 - 4.0 - PHYSICAL & BIOLOGICAL SCIENCES  
Richard Harrington, Peter Lugten, Steen Loeth, Steve Finette, Seungju Ahn, Georges Karma, Deanna Minich, James Beran, William Softky, Criscilla Benford

PO 1 - 5.0 - EXPERIENTIAL APPROACHES  
James Driessen, Palash Goyal, Carl Flygt

PO 1 - 6.0 - CULTURE & HUMANITIES  
Steven Ferrara, Olga Colbert, Kevin Goodrich, Joan Walton, Laurel Waterman, Marianne Nell

EXHIBITORS & DEMOS
THURSDAY, APRIL 25, 2024
Early Thursday Morning Experiential Clinics
7:15 AM – 8:15 AM

Global Spiritual Meditation – Hidehiko Saegusa – Catalina KL
Rumi Healing Meditation – Sohail Shakeri – Catalina J
Feldenkrais Awareness through Movement® – Roger Russell, Jeff Haller – Ventana 2nd Floor
Finding and Clearing the Emotional Roots of Your Suffering – Douglas Tataryn – Santa Rita
TennisCentric Approach to Consciousness – Mark Valladares – Tennis Courts

PLENARY SESSIONS - KIVA BALLROOM

8:30 AM – 10:40 AM
PLENARY 7 ‘MECHANISMS OF CONSCIOUSNESS’
Aaron Schurger, Pieter-Jan Maes, Jerome Busemeyer

11:10 AM – 12:30 PM
PLENARY 8 ‘DODECONOGRAPHY’ (‘DDG’) – 12 ORDERS OF FREQUENCY OSCILLATIONS IN EEG’
Anirban Bandyopadhyay, KEYNOTE

LUNCH TIME EXHIBITORS & DEMOS
12:30PM – 1:30PM
Grand Ballroom Lobby, Rincon, Lobby & Coronado

2:00 PM – 4:10 PM
PLENARY 9 ‘ASTROBIOLOGY AND ASTROCONSCIOUSNESS’
Caleb Scharf, Phillipe Schmitt-Kopplin, Stuart Hameroff

BREAK

6:00 PM – 9:00 PM
OPTIONAL DINNER UNDER THE STARS - SOLD OUT
Ventana Terrace – TICKETS are Required

FRIDAY APRIL 26, 2024
Early Friday Morning Experiential Clinics
7:15 AM – 8:15 AM

Soul Sickness & Healing Techniques – Master Zhi Gang Sha, Peter Hudoba, Rulin Xiu – Catalina KL
Rumi Healing Meditation – Sohail Shakeri – Catalina J
Finding and Clearing the Emotional Roots of your Suffering – Douglas Tataryn – Santa Rita
Feldenkrais Awareness through Movement® – Roger Russell, Jeff Haller – Ventana 2nd Floor
TennisCentric Approach to Consciousness – Mark Valladares – Tennis Courts

PLENARY SESSIONS - KIVA BALLROOM

8:30 AM – 10:40 AM
PLENARY 10 ‘DUAL ASPECT MONISM’
Harald Atmanspacher, Bill Seager, Dean Rickles

11:10 AM – 12:30 PM
PLENARY 11 ‘MOLECULES OF LIFE & CONSCIOUSNESS FROM THE ASTEROID BENNU’
Dante Lauretta, KEYNOTE

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LUNCH TIME DEMOS & EXHIBITORS
12:30PM – 1:30PM
Grand Ballroom B & Lobby

2:00 PM – 4:10 PM
PLENARY 12 'THE SCIENCE OF CONSCIOUSNESS - 30 YEARS ON'
Panel: David Chalmers, Susan Blackmore, Christof Koch, Stuart Hameroff, Paavo Pylkkänen, Giulio Tononi

BREAK

5:00 PM – 7:00 PM
FRIDAY CONCURRENT SESSIONS C-21 - C-20
20 min talks: 5 min Q&A - Breakout Rooms:
Catalina J, Catalina KL, Executive Board Room, Grand Ballroom Salons G, H, I, Salons D, E, F, Sabino, Santa Rita

C-21 QUANTUM THEORIES OF MIND
Phillipe Todd, Peter Lloyd, Thomas Brophy, Anatoly Goldstein, Ivan Kuznetsov, Natalia Cortes – Catalina J

C-22 MULTISCALAR ELECTROPHYSIOLOGY
Asa Young, Bruce Maclver, Ryo Sato, Anthony Hudetz, Hide Saegusa – Salon J

C-23 PERCEPTION AND ATTENTIONAL CONTROL
Michael Silver, Cedric Cannard, Satya Pradhan, Nick Day, Sascha Seifert, Rahul Jain, Jeffery Martin – Salon E

C-24 CAUSALITY AND FREEWILL
Mihretu Guta, Edward Neafsey, Brian Key, John Sanfey, Lynn Rasmussen – Salon F

C-25 PHENOMENOLOGY OF MIND
Lukasz Kurowski, Jenny Simon, Abre Fournier, Soosan Beheshti – Salon G

C-26 PANPSYCHISM AND GLOBAL CONSCIOUSNESS
Scott Ventureyra, Anand Rangarajan, John Starrett, Todd Bureau, Ulf Holmberg – Salon H

C-27 NEUROSTIMULATION TO UNDERSTAND THE MIND
Sanjay Manchanda, Milan Pantovic, Olivia Giguere / Matthew Hicks – Sabino

C-28 MEDITATION PRACTICE TO UNDERSTAND THE MIND
Paul Dallaghan, Peter Hudoba, Rulin Xiu / Master Sha, Dorote Weyers-Lucci, Lavanya Rajesh Kumar, Sky Nelson – Santa Rita

C-29 UNITY OR DISUNITY OF CONSCIOUSNESS
Rocco Gennaro, Makayla Vermette, Famira Racy, Alain Morin, Roger Young – Salon I

C-30 ALTERNATIVE MOLECULAR MODELS OF MIND
Farzad Ahmadkhanlou, Noushin Nabavi, Afshin Lorestani, Charles Ernst, Rajnish Khanna – Executive Board Room

7:00 PM – 9:00 PM
RECEPTION, CASH BAR – Grand Ballroom Lobby

7:00 PM – 10:00 PM
POSTERS, ART TECH DEMOS, EXHIBITORS – Grand Ballroom Lobby; Ballroom B
Posters in Grand Ballroom B - Additional Digital Posters on the perimeter of the Ballroom
POSTER SESSION 2 - GRAND BALLROOM B

7:00 PM – 9:30 PM
POSTERS / DEMOS / EXHIBITORS – Ballroom B, Lobby

PO 2 - 1.0 - Philosophy
Elena Drăghici-Vasilescu, Rajnish Khanna, Aaron Schmidt, Richard Blum, Enrique Chiu Han, Hiroki Yamada, Ann Berger-Knorr, Chris Percy, Frank Warzik, Mukesh Chauhan

PO 2 - 2.0 - Neuroscience
Vipin Gupta, Scott Koshland, Anderson Rodriguez, Ludmila Vucolova

PO 2 - 3.0 - Cognitive Science and Psychology
James Rutherford, Cedric Cannard

PO 2 - 4.0 - Physical & Biological Sciences
Mark Rindner, Anatoly Goldstein, Surendra Pokharna, David Smolker, Anderson Rodriguez, Antonius Laurijssen, Seungju Ahn

PO 2 - 5.0 - Experiential Approaches
Sandro Guerra, Charles Davis, Barbara With, Dwight Holbrook

PO 2 - 6.0 - Culture & Humanities
Scott Lacy, Harland Harrison, Benjamin White

10:00 PM – TBD
FRIDAY POETRY SLAM - ZOMBIE BLUES - NO-END OF CONSCIOUSNESS PARTY – Salon Kiva
Food, Drink DJ Dancing - refreshments / cash bar

SATURDAY APRIL 27, 2024
Early Saturday Morning - Experiential Clinics
7:15 AM – 8:15 AM

Soul Sickness & Healing Techniques – Master Zhi Gang Sha, Peter Hudoba, Rulin Xiu – Catalina J
Finding and Clearing the Emotional Roots of your Suffering – Douglas Tataryn – Santa Rita
Feldenkrais Awareness through Movement® – Roger Russell, Jeff Haller – Ventana 2nd Floor.
TennisCentric Approach to Consciousness – Mark Valladares – Tennis Courts

PLENARY SESSIONS - KIVA BALLROOM

9:00 AM - 10:30 AM
PLENARY 13 ‘DIMENSIONS, WAVEFUNCTIONS & SYMMETRY IN THE BRAIN’
Zirui Huang, Santosh Helekar, Sir Roger Penrose (Remote)

11:00 AM - 12:30 PM
PLENARY 14 ‘SEARCHING FOR CONSCIOUSNESS & ENTANGLEMENT IN CEREBRAL ORGANOIDS’
Alysson Muotri, Harmut Neven

CONFERENCE CLOSE
THANK YOU!

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Ultrabandwidth Praxis

EXPERIENTIAL FACILITATORS

Deepak Chopra
Leslie Deere
Jeff Haller
Peter Hudoba
Roger Russell

Master Zhi Gang Sha
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