

WIERNE I

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From: Brian Josephson <BDJ10@phx.cam.ac.uk>  
To: Multiple recipients of list <pdl@jsasoc.com>  
Subject: Tucson conference program  
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*Nobel Prize physicist*

This is the official program, with minor corrections. To the best of my knowledge, it differs only trivially from the hard copy version sent out some time ago.

Brian

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Toward A Scientific Basis for Consciousness  
An Interdisciplinary Conference

Representatives from psychology, neuroscience, computer science, physics, mathematics, medicine, philosophy, and other fields are invited to an international, interdisciplinary scientific conference on consciousness.

The University of Arizona  
Tucson, Arizona  
April 12-17, 1994  
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Toward A Scientific Basis for Consciousness

Consciousness

What is consciousness? Ignored, denied, and mystified in the past, consciousness is now recognized as one of the greatest scientific frontiers facing humanity. It is being approached across a spectrum ranging from reductionism (the mind is the brain) to dualism (the mind is distinct and merely interacts with the brain). Between these extremes lie ample evidence, theory, and tools to begin to unravel the mind/brain "problem." Representatives from psychology, neuroscience, computer science, physics, mathematics, medicine, philosophy, and other fields will gather to discuss these issues at an international, interdisciplinary scientific conference on consciousness.

Communication across disciplinary lines isn't always easy; each field has jargon and biases that get in the way. We hope to promote understanding through an atmosphere of open discussion and festive challenge. While focusing on objective scientific approaches to consciousness, we also recognize the importance of subjective experiences and hope to provide avenues for discussing them. Join us in finding a common synergy among different fields, and help us move toward a new understanding of what "consciousness" really means.

Details

When: The conference begins Tuesday, April 12 with a welcoming reception starting at 6:30 p.m. Sessions continue through Sunday afternoon, April 17.  
Where: Duvall Auditorium in The University of Arizona Health Sciences Center.  
Cost: \$220.00 per person; a special student rate of \$75.00 is also available.  
Parking: Parking is available at the conference parking lot just south of the Arizona Health Sciences Center. Parking permits cost \$6 for the entire conference, and will be available at the registration table.  
For further information contact: Jim Laukes, Program Coordinator, The University of Arizona Extended University, 1955 East Sixth Street, Tucson, Arizona 85719; phone (602) 624-UofA, ext. 253; fax (602) 621-3269; e-mail, jlaukes@ccit.arizona.edu.

Organizers

This document is made available through the declassification efforts  
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# The Black Vault



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Stuart Hameroff, M.D., Department of Anesthesiology, The University of Arizona  
Alfred Kaszniak, Ph.D., Department of Psychology, The University of Arizona  
Alwyn Scott, Ph.D., Department of Mathematics, The University of Arizona  
Gordon Olson, M.D., Internal Medicine, Sierra Vista, Arizona  
Jim Laukes, M.A., Extended University, The University of Arizona

\*\*\*\*\*SCHEDULE OF EVENTS\*\*\*\*\*  
\*\*\*\*\*  
Duval Auditorium  
The University of Arizona Health Sciences Center

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TUESDAY, APRIL 12

6:30-8:30 PM Reception at Arizona Inn

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WEDNESDAY, APRIL 13

8:00-8:30 AM Continental Breakfast

PHILOSOPHY OF MIND

8:30-9:15 AM--  
Owen Flanagan, PhD, Department of Philosophy, Duke University  
"Constructive naturalism and consciousness: philosophic perspectives"

9:15-9:45 AM--  
Alvin Goldman, PhD, Department of Philosophy, University of Arizona  
"Philosophy of mind: defining consciousness"

9:45-10:15 AM--  
David Chalmers, PhD, Department of Philosophy, Washington University, St. Louis, Missouri  
"On explaining consciousness scientifically: choices and challenges"

10:15-10:45 AM Break

COGNITIVE APPROACHES

10:45-11:30 AM--  
Bernard Baars, PhD, Wright Institute, Berkeley, California  
"Cognitive theory of consciousness"

11:30-12:00 PM--  
John Kihlstrom, PhD, Department of Psychology, University of Arizona  
"The unconscious in social interaction"

12:00-12:30 PM--  
David Galin, MD, Department of Psychiatry, University of California, San Francisco  
"The structure of subjective experience"

12:30-2:00 PM Lunch on Your Own

PERSPECTIVES FROM PATHOLOGY I

2:00-2:45 PM--  
Petra Stoerig, PhD, Institute of Medical Psychology, Ludwig-Maximilians University of Munich, Munich, Germany  
"Blindsight and human consciousness"

2:45-3:15 PM--

LR Talbot, PhD, HA Whitaker, PhD, Centre de Recherche du Centre  
Hospitalier Cte-des-Neiges, Montreal, Quebec, Canada  
"Brain injured persons in an altered state of consciousness: measures and  
intervention strategies"

3:15-3:45 PM--

James Whinnery, PhD, MD, Chief Aeromedical Scientist, Naval Air Warfare  
Center, Warminster, Pennsylvania  
"Induction of consciousness in the ischemic brain"

3:45-4:15 PM Break

#### PERSPECTIVES FROM PATHOLOGY II

4:15-5:00 PM--

Alfred Kaszniak, PhD, Departments of Psychology, Neurology and Psychiatry,  
University of Arizona  
"Self-awareness in patients with Alzheimer's disease"

5:00-5:30 PM--

Victor Mark, MD, Department of Neuroscience, University of North Dakota,  
North Dakota  
"Diagnostic communicative behavior in a splitbrain subject"

5:30-6:00 PM--

Polly Henninger, PhD, California Institute of Technology  
"Out of left-hemisphere awareness: what the commissurotomy subjects show  
us about consciousness"

#### POSTER SESSION I

6:30-9:00 PM--

Poster Session I & Dinner Buffet  
Poster Presenters with Last Names A-N  
Plaza Hotel Conference Center  
(Poster Titles/Authors Follow Speaker List)

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THURSDAY, APRIL 14

8:00-8:30 AM Continental Breakfast

#### NEUROBIOLOGY OF CONSCIOUSNESS

8:30-9:15 AM--

Christof Koch, PhD, Division of Biology, California Institute of Technology  
"Towards a neurobiological theory of consciousness"

9:15-9:45 AM--

Bruce McNaughton, PhD, Matthew Wilson, PhD, Department of Psychology,  
University of Arizona  
"Ensemble neural codes for spatial experience, and their reactivation during  
sleep"

9:45-10:15 AM--

Valerie Gray Hardcastle, Department of Philosophy, Virginia Polytechnic  
Institute and State University, Virginia  
"The binding problem and neurophysiological oscillations"

10:15-10:45 Break

#### EXPERIMENTAL FACTORS IN CONSCIOUSNESS

10:45-11:30 AM--

Benjamin Libet, PhD, Department of Physiology, University of California, San

Francisco

"Neural time factor in conscious and unconscious functions"

11:30-12:00 PM--

Gary Schwartz, PhD, Department of Psychology, University of Arizona  
"Olfaction, consciousness and the brain"

12:00-12:30 PM--

Peter L nsky, Institute of Physiology, Academy of Sciences of the Czech Republic, Prague  
Jean-Pierre Rospars, Dpartement de Zoologie and Laboratoire de Biomtrie, Institut National de la Recherche Agronomique, Versailles Cedex, France  
"Stochastic model of odor intensity coding"

12:30-2:00 PM

Lunch on Your Own

SUB-NEURAL MECHANISMS OF CONSCIOUSNESS I

2:00-2:45 PM--

Karl Pribram, MD, Brain Research Center, Radford University, Radford, Virginia  
"Dendritic microprocessing and consciousness"

2:45-3:15 PM--

Stuart Hameroff, MD, Department of Anesthesiology, University of Arizona  
"Anesthesia, protein conformational dynamics and consciousness"

3:15-3:45 PM--

Djuro Koruga, PhD, Faculty of Engineering, University of Belgrade, Belgrade, Serbia, Yugoslavia  
"Information physics, neuromolecular computing and consciousness"

3:45:4:15 PM

Break

SUB-NEURAL MECHANISMS OF CONSCIOUSNESS II

4:15-5:00 PM--

Michael Conrad, PhD, Department of Computer Science, Wayne State University, Detroit, Michigan  
"Biomolecular quantum computing and consciousness"

5:00-5:30 PM--

John Watterson, PhD, Faculty of Engineering and Applied Science, Griffith University Gold Coast, Australia  
"Pixels of consciousness: organized clusters at protein-water interface"

5:30-6:00 PM--

Jack Tuszynski, PhD, University of Alberta, Edmonton, Canada  
"Microtubular self-organization and information processing capabilities"

6:30-9:00 PM

Western BBQ

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FRIDAY, APRIL 15

8:00-8:30 AM

Continental Breakfast

QUANTUM THEORY AND CONSCIOUSNESS I

8:30-9:15 AM--

Roger Penrose, PhD, Mathematical Institute, Oxford University, UK  
"Quantum coherence and consciousness"

9:15-9:45 AM--

Mari Jibu, MD, Kunio Yasue, PhD, Notre Dame Seishin University,  
Okayama, Japan  
"Quantum optical coherence in microtubules: implications for consciousness"

9:45-10:15 AM--  
Walter Schempp, PhD, Department of Mathematics, University of Siegen,  
Germany  
"Quantum neural holography"

10:15-10:45 AM Break

Quantum Theory and Consciousness II

10:45-11:30 AM--  
Danah Zonar, B. Sc., OxfordBrookes University, United Kingdom  
"Consciousness and Bose-Einstein condensates"

11:30-12:00 PM--  
Ezio Insinna, PhD, Schoeller Elektronik, Lyon, France  
"Jungian synchronicity, non-locality and consciousness"

12:00-12:30 PM--  
Fred Wolf, PhD, La Conner, Washington  
"On the quantum mechanics of dreams and the arising of the self-concept"

12:30-2:00 PM Lunch on Your Own

POSTER SESSION II

6:30-9:00 PM--  
Poster Session II & Dinner Buffet  
Poster Presenters with Last Names O-Z  
Arizona Inn  
(Poster Titles/Authors Follow Speaker List)

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SATURDAY, APRIL 16

8:00-8:30 AM Continental Breakfast

EMERGENT PHENOMENA

8:30-9:15 AM--  
Chris Barrett, PhD, Los Alamos National Laboratories, Los Alamos, New  
Mexico  
"Functionalism, emergence, and mental processes"

9:15-9:45 AM--  
Steen Rasmussen, PhD, Los Alamos National Laboratories, Santa F Institute  
"Self-organization and consciousness"

9:45-10:15 AM--  
Alan Newell, PhD, Department of Mathematics, University of Arizona  
"Patterns in optics: a paradigm"

10:15-10:45 AM Break

HIERARCHICAL ORGANIZATION

10:45-11:30 AM--  
Eric Harth, PhD, Department of Physics, Syracuse University, New York  
"The creative loop: how the brain makes a mind"

11:30-12:00 PM--  
Nils Baas, PhD, Department of Mathematical Sciences, University of Trondheim, Norway  
"Higher order cognitive processes"

12:00-12:30 PM--  
Alwyn Scott, PhD, Department of Mathematics, University of Arizona  
"Hierarchical organization in the brain%emergence of consciousness"

12:30-2:00 PM Lunch on Your Own

NEURAL NETWORKS

2:00-2:45 PM--  
John Taylor, PhD, Centre for Neural Networks, Department of Mathematics, King's College, London, United Kingdom  
"Toward a neural network model of the mind"

2:45-3:15 PM--  
Judith Dayhoff, PhD, Systems Research Center, University of Maryland  
"Artificial neural networks: biological plausibility"

3:15-3:45 PM--  
Andrew Wuensche, School of Cognitive and Computer Science, University of Sussex, UK & Santa Fe Institute  
"The ghost in the machine"

3:45-4:15 PM Break

PHENOMENOLOGY

4:15-5:00 PM--  
Andrew Weil, MD, Division of Social Perspective, College of Medicine, University of Arizona  
"Pharmacology of consciousness"

5:00-5:30 PM--  
Dharma Singh Khalsa, MD, Department of Anesthesiology, Maricopa Medical Center  
"Eastern philosophy, meditation and consciousness"

5:30-6:00 PM--  
Brian Josephson, PhD, Department of Physics, University of Cambridge, United Kingdom and Tethys Carpenter, Royal Holloway and Bedford New College, United Kingdom,  
"Music, Meaning and Design"

6:30-9:30 PM Western BBQ Dinner

SUNDAY, APRIL 17

8:00-8:30 AM Continental Breakfast

OVERVIEW

8:30-9:15 AM--  
Walter Freeman, PhD, Neurobiology, University of California, Berkeley  
"Some category confusions in studies of the biology of consciousness"

9:15-9:45 AM--  
I. N. Marshall, M.A., M.B.B.S., Oxford Brookes University, United Kingdom  
"Three kinds of thinking"

9:45-10:15 AM--

Arthur Winfree, PhD, Ecology and Evolutionary Biology, University of Arizona

"Is it impossible to 'measure% consciousness?"

10:15-10:45 AM

Break

10:45-11:15 AM--

Willis W. Harman, PhD, Institute of Noetic Sciences, Sausalito, California

"A comparison of three approaches to reconciling science and consciousness"

11:15-12:30 PM

Wrap-up Discussion

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Toward a Scientific Basis for Consciousness  
An Interdisciplinary Conference  
April 12-17, 1994  
Poster Presentations

As of 3/8/94

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Richard Amoroso, Director of the Noetic Institute, Orinda, California  
"Consciousness: A radical definition"

Britt Anderson, MD, Thomas Head, MD, Department of Neurology and the  
Alzheimer's Disease Center, University of Alabama at Birmingham,  
Birmingham, Alabama  
"Evidence for covert language comprehension in a severe 'sensory' aphasic"

Richard P. Atkinson, PhD, Heath Earl, Weber State University  
"Enhanced vigilance in guided meditation: Perceptual implications of altered  
consciousness"

Parthasarathi Banerjee, PhD, National Institute of Science, Technology and  
Development Studies, New Delhi, India  
"The four spaces of consciousness"

John Barnden, PhD, Computing Research Laboratory and Computer Science  
Department, New Mexico State University, Las Cruces, New Mexico  
"Consciousness and folk-psychological metaphors of mind"

Mikael Bergenheim, PhD, Hkan Johansson, Brittmarie Granlund, Jonas  
Pedersen, Division of Work Physiology, National Institute of Occupational  
Health, Sweden; and the Department of Physiology, University of Ume,  
Ume, Sweden  
"Synchronization of sensory information to conscious experience"

John Boitano, PhD, Department of Psychology, Fairfield University, Fairfield,  
Connecticut  
"Edelman's biological theory of consciousness"

Greg Brack, PhD, Catherine Brack, PhD, Mary Kate Bagwell, MS, Georgia  
State University  
"Exploring the underlying mechanisms of dissociation as a modification of  
consciousness"

Robert Alan Brown, Engineering Consultant, R.A. Brown Technologies,  
Mettapoissett, Massachusetts

"Self-learning, memory-controlled machines: Nonliving beings"

Dwight Bulkley, PhD, Seattle Institute for the Life Sciences, Seattle, Washington

"Electromagnetic micromechanisms: a necessary prelude to understanding consciousness."

Jean Burns, PhD, San Leandro, California

"The possibility of empirical test of hypotheses about the relationship between consciousness and the physical world"

Joseph P. Cammarota, Aerial Combat Maneuvering Enhancement Laboratory, Naval Air Warfare Center, Aircraft Division, Warminster, Pennsylvania  
"A dynamic model of the induction of unconsciousness due to acceleration (+Gz) induced ischemia"

Allan Combs, PhD, Department of Psychology, University of North Carolina at Asheville

"Consciousness as a system near the edge of chaos"

Deborah Conrad, PhD, Department of Philosophy, Wayne State University, Detroit, Michigan

"Consciousness and rule following"

Randall Cork, MD, PhD, Department of Anesthesiology, Louisiana State University, New Orleans, Louisiana

"The effect of surgical sedation on implicit memory"

Thaddeus M. Cowan, PhD, Department of Psychology, Kansas State University, Manhattan, Kansas

"Sensation, perception, and the theory of conscious extent"

Sheila Davis, The New School for Social Research, New York

"Cerebral function, Jungian typology and language style: Toward a new theory"

Arthur J. Deikman, MD, Clinical Professor of Psychiatry, University of California San Francisco, San Francisco, California

"The role of intention and self as determinants of consciousness: a functional approach to spiritual experience"

Vinod Deshmukh, MD, PhD, Department of Neurology, University of Florida, Jacksonville, Florida

"The quiescent brain and consciousness"

Norman Don, PhD, Bruce McDonough, PhD, Departments of Psychiatry and Human Factors & Behavioral Toxicology Laboratory, University of Illinois at Chicago

"EEGs, event-related brain potentials, altered states of consciousness and psi"

Martin Dudziak, PhD, Medical College of Virginia, Richmond

"Quantum processes and dynamic networks in biological systems"

Avshalom C. Elitzur, Department of Chemical Physics, The Weizmann Institute of Science, Rehovot, Israel

"Can relativity shed a new light on consciousness?"

B. Raymond Fink, MD, Department of Anesthesiology, University of Washington  
"Hub-action theory of nervous systems and consciousness"

Gregg Franzwa, PhD, Department of Philosophy, Texas Christian University, Fort Worth, Texas  
"Descartes, Searle and Edelman: The organic paradigm"

Michael Gilinsky, PhD, Institute of Physiology, Siberian Branch of Russian Academy of Medical Sciences, Novosibirsk  
"Participation of consciousness and emotions in elaboration of cold adaptation strategies"

George Graham, PhD, and G. Lynn Stephens, Department of Philosophy, University of Alabama at Birmingham, Birmingham, Alabama  
"Reflexive personal agnosia and the self"

Güven Guzeldere, Center for the Study of Language & Information, Stanford University, Stanford, California  
"Consciousness and the functional link hypothesis"

Scott Hagan, BS, Department of Physics, McGill University, Montreal, Quebec  
"Coherent activity in microtubules and its implications for global brain function"

John S. Hagelin, PhD, Maharishi International University, Fairfield, Iowa  
"Is consciousness the unified field? A field theorist's perspective"

Keith Harary, PhD, Institute for Advanced Psychology  
"A filmed pilot trial in extended perception"

Howard T. Herman, MD, John C. Kotelly, BS, Newtonville, Massachusetts  
"A candidate architecture for characterizing consciousness"

Marco Iacoboni, Jan Rayman, Eran Zaidel, Department of Psychology, University of California, Los Angeles, California  
"Left brain says yes, right brain says no: normative duality in the split brain"

Svetlana Jankovic, MD(1), Djuro Koruga, PhD(1,2), 1) AKADEMIA NOVA-GMT, Division for Consciousness Research, Serbia, Yugoslavia; 2) Advanced Biotechnology Laboratory, Department of Anesthesiology, University of Arizona, Tucson, Arizona  
"Biomedical approach to consciousness research"

S. Jeffers, J. Sloan, Department of Physics and Astronomy, York University, Ontario, Canada  
"Optical diffraction and interference phenomena as potential indicators of anomalous phenomena"

Alexander Jourjine, PhD, Analog Intelligence DA, Winchester, Massachusetts  
"Consciousness as modeling of environment"

Stanley Klein, PhD, School of Optometry, University of California Berkeley,  
Berkeley, California  
"The dual nature of consciousness"

Don Krieger, PhD, Department of Neurosurgery, University of Pittsburgh,  
Pittsburgh, Pennsylvania  
"40 Hz cortical oscillations: The tip of the iceberg"

George Kurian, PhD, Department of Psychology, Punjabi University, Patiala,  
India  
"Microgenesis of consciousness"

R Lahoz-Beltra, PhD(1), SR Hameroff, MD(2), J Dayhoff, PhD(3), 1)  
Department of Applied Mathematics, Faculty of Biological Sciences,  
Complutense University of Madrid, Madrid, Spain;  
2) Advanced Biotechnology Laboratory, Department of Anesthesiology,  
University of Arizona, Tucson, Arizona; 3) Systems Research Center,  
University of Maryland, College Park, Maryland  
"Phase transitions in bound water and their role as cytoskeletal communication  
interface and medium for information representation"

Dyan Louria, Departments of Physiology and Anesthesiology, University of  
Arizona, Tucson, Arizona  
"Computer simulation of anesthetic quantum effects in proteins"

Ljubomir J. Kljakic, AKADEMIA NOVA, Division for consciousness  
research, Novi Beograd, Serbia  
"The Pelasgian creation myth as a starting point of new scientific paradigm of  
human consciousness?"

John Limber, Psychology Department, University of New Hampshire,  
Durham, New Hampshire  
"Traynes of Thought" in language and consciousness: past and present"

Paul Lovland, M.SC., Klofta, Norway  
"Meaning, motivation, and disorder: Thermodynamic model and possible  
experiment"

Rollin McCraty, MA(1), Mike Atkinson(1), and William A. Tiller, PhD(2), 1)  
Institute of HeartMath, Boulder Creek, California; 2) Department of Materials  
Science and Engineering, Stanford University, Standord, California  
"Heart rate variability as an indicator of highly ordered states of  
consciousness"

Neil Law Malcolm, The Rowland Institute for Science, Cambridge,  
Massachusetts  
"Awareness of colours"

Peter J. Marcer, DPhil, FBCS, CEng., Aikido Enterprises, United Kingdom  
"The nanotechnology of consciousness"

Donald Mathis, Michael Mozer, Computer Science Department, University of  
Colorado, Boulder, Colorado  
"On the computational utility of consciousness"

Douglas Matzke, Texas Instruments, Dallas, Texas  
"Consciousness: A new computational paradigm"

J. Hulse Neufeld, Department of Anesthesiology, VA Medical Center, San Diego, California  
"A rat model of chronic pain and hypercortisolism for the study of attention"

Se n % Nualli n, PhD, Dublin City University and National Research Council, Ottawa, Ontario, Canada  
"An integrated theory of consciousness and cognitive development"

C.M.H. Nunn, PhD, C.J.S. Clarke, B.H. Blott, Department of Psychiatry, Royal South Hants Hospital, and I.N. Marshall, MA, MBBS, Southampton, United Kingdom  
"Collapse of a quantum field may affect brain function"

Ayub Ommaya, MD, FRCS, FACS, Neurological Surgery, Center for Interdisciplinary Brain Research Foundation, and George Washington University Medical Center, Bethesda, Maryland  
"Emotion as consciousness: A thermodynamic approach"

David C. Osmon and Yana Suchy, University of Wisconsin, Milwaukee, Wisconsin  
"A neural network model of dissociative disorder"

Rose Paradis and Eric Dietrich, Program in Philosophy and Computers and Systems Science, Binghamton University, Binghamton, New York  
"Capturing cognitive phenomena in computational models"

Donald Perlis, Department of Computer Science and Institute for Advanced Computer Studies, University of Maryland, College Park, Maryland  
"An error-theory of consciousness"

Willis Pitkin, Jr., PhD, Department of English, Utah State University, Logan, Utah  
"Discourse, dreams, and the dawn of modern consciousness"

Paavo Pyllkanen, Academy of Finland Researcher in Cognitive Science, Department of Philosophy, University of Helsinki; and Research Fellow Department of Physics, Birbeck College University of London, England  
"Mind, consciousness and the quantum theory"

Miloje M. Rakocevic, Department of Chemistry, University of Nis, Nis, Serbia, Yugoslavia  
"Does universal consciousness exist?"

Dejan Rakovi%, Faculty of Electrical Engineering, University of Belgrade, Belgrade, Serbia, Yugoslavia  
"Neural networks, brainwaves and ionic structures; biophysical model for states of consciousness?"

Peter A. Reynolds, PhD, Gennie H. Reynolds, Management and Organizational Behavior, Northern Arizona Univeristy, Flagstaff, Arizona  
"The projective differential (PD) response phenomenon: New tool for consciousness research?"

EM Reiman, RD Lane, GL Ahern, GE Schwartz, RJ Davidson, Departments of Psychiatry, Neurology, and Psychology, University of Arizona, Department

of Psychology, University of Wisconsin, and the Samaritan PET Center, Good Samaritan Regional Medical Center, Phoenix, Arizona  
"Positron emission tomography and the conscious experience of emotion"

Antti Revonsuo, Department of Philosophy and Center for Cognitive Neuroscience University of Turku, Finland  
"Semantic processing without conscious understanding in global aphasia"

William S. Robinson, Philosophy Department, Iowa State University, Ames, Iowa  
"Intrinsic consciousness"

W. Teed Rockwell, Daly City, California  
"On what the mind is identical with"

Steven K. Rogers, Matthew Kabrisky, Department of Electrical and Computer Engineering, Air Force Institute of Technology, Wright-Patterson Air Force Base, Ohio  
"Consciousness, just another computation!"

Alexei Samsonovich, Applied Mathematics Program, University of Arizona, Tucson, Arizona  
"Quantum neural networks: implications for modelling consciousness"

Eric Silverman, MD, Brian Rucker, BSEE, Richard Watt, MSEE, Eugene Maslana, BSME, Stuart Hameroff, MD, Advanced Biotechnology Laboratory, Department of Anesthesiology, University of Arizona, Tucson, Arizona  
"Visual/auditory relaxation and sedation"

Saul-Paul Sirag, Eugene, Oregon; Jeffrey Mishlove, PhD\*, Global Intuition Network, Institute of Noetic Sciences, Sausalito, California  
"Saul-Paul Sirag's model of consciousness"

Marya Schechtman, Department of Philosophy, University of Illinois at Chicago  
"Psychopharmaceuticals and the philosophy of mind"

Conrad Schneiker, AthenaTech, Tucson, Arizona  
"The second scientific revolution"

Matthew C. Scott, Indiana University  
"Antichaos unbound: The antiquation of the human mind"

A.M. Selvam, Indian Institute of Tropical Meteorology, India  
"Self-organized adaptive networks in atmospheric flows: A model for neural networks of the human brain"

Ron Shaffer, PhD, and Greg Dootson, Western Washington University  
"Phenomenimagery"

Stuart Silvers, Department of Philosophy and Religion, Clemson University  
"Consciousness and it's proper place in cognitive theory"

Douglas M. Snyder, PhD, Los Angeles, California  
"On the relationship of consciousness to the physical world in the theory of

understanding of consciousness"

George K. York, MD, David A. Steinberg, MD, Kaiser Stockton Medical Center and the Sa Institute, Fiddletown, California  
"Clinical neurology and the study of consciousness"

Fred Zaman, Hill Air Force Base, Utah  
"Consciousness: A psychobiomagnetic dynamo"

\* Presenter

#### Field Trips

Take half a day or several to enjoy the scenic Southwest and study its wonders by signing up for these field trips. Just check off the trips you would like to attend on the conference registration form.

All trips will leave from the north entrance of the Plaza Hotel, 1900 East Speedway, Tucson, Arizona and will be reserved on a first-come, first-served basis.

#### Preconference Field Trips

##### The Grand Canyon

April 9-11

Travel to the Grand Canyon's magnificent South Rim. Take day hikes into the canyon and near the rim, or choose a local bus tour.

When: Departs Tucson 9:00 a.m., Saturday, April 9; returns 6:00 p.m., Monday, April 11. Reservations available until March 7.

Cost: \$345, based on double occupancy; includes transportation, park admission, and two nights' lodging at the South Rim (Bus tours can be arranged at the rim for an additional charge). Meals on your own.

##### Ramsey Canyon Preserve

April 12

This mile-high wildlife preserve, managed by The Nature Conservancy, is renowned for its scenic beauty and the diversity of its plant and animal life. The abrupt rise of mountains from the surrounding arid grasslands creates "islands" harboring rare species. In this season, many migrant songbirds and hummingbirds are present. Golden eagles may be nesting, and butterflies are common. Communities ranging from desert grassland to pine-fir forest are found within the canyon. You may choose a short hike (0.7 mile) or a longer one to a mountain overlook. A \$3 donation is requested for visitors who are not members of The Nature Conservancy.

When: 9:00 a.m.-5:30 p.m., Tuesday, April 12

Cost: \$45; includes transportation and a box lunch

##### Ethnobotany or the Desert as Supermarket

April 12

Hike in Catalina State Park and enjoy a tasting session of native plant foods. Explore desert plants and learn how desert peoples relied on these plants for food, fiber, fuel, and building materials. Conducted by the staff of Tucson Botanical Gardens.

When: 8:00 a.m.-2:30 p.m., Tuesday, April 12

Cost: \$55; includes transportation and a box lunch

##### Kitt Peak, Casa Grande, and Picacho Peak

April 12

Visit a world-class observatory, experience the wide expanse of an Indian reservation, look back in time at a national monument, and see the site of Arizona's only Civil War battle.

Begin with Kitt Peak, whose collection of telescopes sits high above the desert at an elevation of 6,882 feet. The grouping includes the McMath solar

campus. Call the hotel of choice to reserve your room, when registering,

E-mail

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Please indicate any special needs you have

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Payment information:

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Cancellation policy: If you cancel your conference registration before March 11, 1994, you'll receive a refund less a \$25.00 cancellation fee. Field trip cancellations vary according to advance reservation requirements and may not be refundable.

If you have a disability and require accommodations please let us know at the time of registration.