

CURRICULUM VITAE

Personal Information

Name: J Scott Turner
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Degrees Conferred

Doctor of Philosophy 1982.

Department of Zoology and Entomology, Colorado State University.

Dissertation title: *The relationship between heat exchange and blood flow in reptiles.*

Advisor: Dr C R Tracy.

Master of Science 1979.

Department of Zoology and Entomology, Colorado State University.

Bachelor of Arts 1976.

College VIII, University of California, Santa Cruz.

Membership and Service in Professional Societies

Memberships Past or Present

American Association for the Advancement of Science.

American Physiological Society

American Geophysical Union

International Paleopsychology Project

The Darwin Project

Human Biology & Evolution Society

International Society for the History, Philosophy and Social Studies of Biology

Sigma Xi

Service

Sigma Xi (Vice President, Syracuse Chapter. 1995-1996)

Sigma Xi (President, Syracuse Chapter. 1996-1997)

Sigma Xi (Past-President, Syracuse Chapter. 1997-1998)

Sigma Xi (Awards Chairman, Syracuse Chapter. 1998-1999)

Sigma Xi (Newsletter editor, Syracuse Chapter. 2003-present)

SUNY College of Environmental Science & Forestry (Executive Chair of the Faculty, 2002-present)

Honors

Senior Award for Excellence in Research (Sigma Xi, Syracuse Chapter, 2003)

Distinguished Teacher Award (ESF Undergraduate Student Association, 2004)

World's Top Twelve Researchers in Biomimicry (nomination). (Biomimicry Institute and Zero Emissions Research Group, 2008)

Inclusion of Essay *Signs of Design* in the compilation *Best American Spiritual Writing of 2008*. Jimmy Carter and Philip Zaleski (ed). Houghton-Mifflin.

Positions Held

Visiting Scholar

Department of Earth Sciences. Cambridge University. (January-July 2010.)

Professor

State University of New York, Syracuse, College of Environmental Sciences and Forestry,
Department of Environmental and Forest Biology. 2009-present. .

Associate Professor

State University of New York, Syracuse, College of Environmental Sciences and Forestry,
Department of Environmental and Forest Biology. August 1995 to present.

Assistant Professor

State University of New York, Syracuse, College of Environmental Sciences and Forestry,
Department of Environmental and Forest Biology. November 1990 - August 1995.

Lecturer

University of Bophuthatswana (now University of the Northwest), Department of Biology. 1990.

Research Officer

Roy W Siegfried, Supervisor. Council for Scientific and Industrial Research, Foundation for
Research Development.

University of Cape Town, Percy FitzPatrick Institute of African Ornithology. August 1988 -
December 1989

University of Cape Town Postdoctoral Fellow

Gideon N Louw and Roy W Siegfried, Sponsors: *Thermal Energetics of Avian Incubation*,
University of Cape Town.

University of Cape Town, Department of Zoology and Percy FitzPatrick Institute of African
Ornithology. August 1987 - August 1988.

Research Assistant Professor

Charles V Paganelli, Principal Investigator: *The Effect of Ambient Pressure on Gas-Phase
Diffusion Processes*, National Institutes of Health.

State University of New York at Buffalo, Department of Physiology. February 1986 - August
1987

Post Doctoral Fellow

Gideon N Louw, *Principal Investigator*: Council for Scientific and Industrial Research -
Foundation for Research Development Comprehensive Grant.

University of Cape Town, Department of Zoology. 1985 -February 1986.

Visiting Assistant Professor

Franklin and Marshall College, Department of Biology. 1984-1985.

Research Associate

Knut Schmidt-Nielsen, Principal Investigator: *Studies in Temperature Regulation*, National
Institutes of Health.

Duke University, Department of Zoology. 1984.

Temporary Instructor

Duke University, Department of Zoology. 1982-1984.

Research Assistant

Charles L. Ralph, Principal Investigator: *The Pineal Complex and Thermoregulation*, National
Science Foundation.

Colorado State University, Department of Zoology and Entomology 1976-1980.

Alan G. Holbert, Principal Investigator: *The Habitat of the Santa Cruz Long-Toed Salamander
(Ambystoma macrodactylum croceum)*, California Department of Fish and Game.

Cabrillo College, Department of Biology. 1975.

Teaching Assistant

Colorado State University, Department of Zoology and Entomology. 1980-1982.
Cabrillo College, Department of Biology. 1974-1976.

Teaching*Currently taught courses:*

Physics of Life. SUNY College of Environmental Science and Forestry. 2011-present
Animal Physiology: Environmental & Ecological, SUNY College of Environmental Science and Forestry. 1997-present. (online)
Biophysical Field Methods. (Hybrid Online / Field course in collaboration with Prof Berry Pinshow, Ben-Gurion University of the Negev, Israel, Dr Gillian Maggs-Kölling, Gobabeb Desert Research and Training Centre, Namibia and Dr Eugene Marais, National Museum of Namibia. 2016.

Previously taught courses:

Symbiosis, SUNY College of Environmental and Forest Biology. 2001-present.
Animal Physiology: Organismal, SUNY College of Environmental Science and Forestry. 1997-1999.
Environmental Physiology, Cranberry Lake Biological Station, SUNY College of Environmental Science and Forestry. 1992-1994.
Animal Physiological Ecology, SUNY College of Environmental Science and Forestry. 1992-1996.
Functional Design of Organisms, SUNY College of Environmental Science and Forestry. 1997-1999.
Herpetology, SUNY College of Environmental Science and Forestry. 1994.
Animal Physiology Laboratory, SUNY College of Environmental Science and Forestry. 1997-1999.
Vertebrate Anatomy. Franklin and Marshall College, Fall 1984.
General Physiology. Franklin and Marshall College, Fall 1984.
Organismal Biology. Franklin and Marshall College, Spring 1985.
Elements of Human Physiology, University of Bophuthatswana, 1990.
Physiology and Biochemistry, University of Bophuthatswana, 1990.
Practical Teaching (supervising student *teachers* in black township high schools), University of Bophuthatswana, 1990.
Principles of Zoology, SUNY College of Environmental Science and Forestry. 1991-1996.
Animal Physiology, SUNY College of Environmental Science and Forestry. 1992-1996.

Seminars:

Seminar on "The Problem of Biological Design", SUNY College of Environmental Science and Forestry. 2004-2008.
Seminar on "Do you believe in Gaia?", SUNY College of Environmental Science and Forestry. 1999-2000.
Seminar on "Environmentalism and Freedom", SUNY College of Environmental Science and Forestry. 1995.
Biology Freshman Seminar, SUNY College of Environmental Science and Forestry. 1993-present.
Seminar on "Physiological Ecology of Climate Change", SUNY College of Environmental Science and Forestry. 1991.

*Miscellaneous other teaching experience:*Teaching Assistant in:

Advanced Topics in Ecology. Colorado State University, Spring 1982.
Cell Biology. Colorado State University, Fall 1980 through Fall 1981.
Introduction to the Animal Kingdom. Colorado State University, Fall 1979
Herpetology. Colorado State University, Spring 1977 (Teaching Assistant).
Introduction to Biology: Cellular and Molecular. Cabrillo College, Fall 1975 and Spring 1976.
Natural History of the Sierra Nevada. Cabrillo College, Summers 1974 and 1975.
Marine Biology. Cabrillo College, Spring 1974.

Laboratory Coordinator in:

Principles of Physiology. Duke University, Fall 1982 through Spring 1984.

Voluntary Teaching Service in:

Environmental Physiology, University of Cape Town, 1987-1989.

Design, Progress and Evolution, University of Cape Town, 1987-1989.

Zoology Journal Club, University of Cape Town, 1987-1989.

Representative Service and Consulting (since 2000)

Media

NPR Science Friday. Robot builders with bugs for brains. With Ira Flatow and Dr Justin Werfel. March 28, 2014.

This View of Life. This is the podcast / web platform for the Evolution Institute, David Sloan Wilson's provocative web site that explores the interface of evolutionary biology and religious faith (pending: recorded 1 February 2016).

National Geographic Online. Collective mind in the mound: How do termites build their huge structures? Profile of my termite research written by Ms Lisa Margonelli. Lisa Margonelli is an award-winning author and journalist (Oil on the Brain). She is currently writing a book on termites where I feature prominently. August 01, 2014.

BBC Radio 4 Material World. Termite engineering. With Quentin Cooper and Dr Rupert Soar. 2 June 2005.

BBC 4. Life in the undergrowth with David Attenborough. I was an expert consultant for the episode on social insects: (Programme 5. Supersocieties).

Beyond biomimicry: What termites can tell us about realizing the living building. Namibia Institute of Architecture, Windhoek, Namibia. 31 May 2009.

To be featured in upcoming article in *National Geographic* magazine.

Consulted for a new program in biology and industry. Ardman Productions, UK

Consulted for BBC Natural History Unit, Bristol, UK

Consulted for the television documentary *Termites and the Triumph of Life*. Green Umbrella Productions (2000).

Consulted for an untitled program in development on termites. Mark Rubens for the series *Equinox* (2000).

Consulted for BugWorld for an untitled program in development on termites. Oxford Scientific Films.

Consulted for Museum of Natural History, Vienna, Austria, on structure of termite mounds.

Consulted for the National Geographic Society series Wildlife Detectives

Consulted for Paramount Pictures *A Soldiers Story*.

Consulted for *The Machinery of Life*. Sea Studio Foundation, Monterey California.

Consulted for children's book on savanna ecology by Ms Laurie Toupin.

Consulted for the BBC Documentary *Life in the Undergrowth*, BBC Natural History Unit.

Consulted for a forthcoming documentary on termites. Burning Gold Productions. Bristol, UK.

Expert witness for National Waste Service, Toronto, Canada

Interviewed for *Conservation* magazine.

Interviewed for *Material World* (BBC4 radio series)

Interviewed for *Insect Soundings* (BBC4 radio)

Interviewed for *Living on Earth* (WGBH Boston)

Featured on *Literary Café*. (American Freedom Alliance. Los Angeles).

Consulted for special Mother's Day broadcast, "The Termite Queen" for the NPR program *The Kitchen Sisters*. 2011

Advisory service

Served on Science Advisory Board, Cheetah Conservation Fund, Namibia

Served on Science Advisory Board, Nidiant Corporation, USA

Served on Advisory Panel to the European Science Foundation Panel on The Future of the Extended Phenotype, Copenhagen, Denmark

Served on Advisory Panel to the Army Research Office, Division of Cognitive Neuroscience, on Basic Neurosciences Research

Reviewing service (Books)

Harvard University Press
 University of California Press
 Benjamin Cummins Publishers
 University of Chicago Press

Reviewing service (Journals)

Applied Physics Letters
Behavioral Ecology & Sociobiology
Biology and Philosophy
Bulletin of Mathematical Biology
Comparative Biochemistry & Physiology
Die Naturwissenschaften
Functional Ecology
Journal of Comparative Physiology
Journal of Experimental Biology
Journal of Functional Ecology
Journal of Thermal Biology
Nature
Physical Review Letters
Physiological and Biochemical Zoology
Proceedings of the Royal Society of London. Biological Sciences
Quarterly Review of Biology
The Ibis
The Ostrich

Reviewing service (Funding agencies)

John C Templeton Foundation USA
 Natural Environment Research Council (UK)
 National Research Foundation (South Africa)
 National Science Foundation
 Earthwatch Fellowship Program
 Israel Science Foundation
 Environmental Protection Agency (STAR Fellowship Program)
 PMI2 Connect Collaborative Research Awards (UK)
 The MacArthur Foundation

Representative Invited Presentations (since 2000)

Evolution as cognition. Invited presentation to the Department of Zoology and Entomology, University of Pretoria. 25 May 2017.

http://prezi.com/w5rt7sftwhg5/?utm_campaign=share&utm_medium=copy

Insect-built structures and swarm cognition. Invited presentation to the International Congress of Entomology Symposium on Excavation and Construction by Social Insects. 29 September 2016.

Animal cities. Invited presentation to the workshop on Nature-inspired urbanism, University College London Centre for Nature-Inspired Design. 14 December 2016.

https://prezi.com/8ei9to24v6zj/?utm_campaign=share&utm_medium=copy&rc=ex0share

Homeostasis, adaptation and the problem of biological design. Invited presentation to the workshop on Architecture and Collective Behavior. Arizona State University, Tempe, Arizona. 5-7 October 2016.

http://prezi.com/jtgioetfxnum/?utm_campaign=share&utm_medium=copy

What's so inspiring about life? Physiomimetics, adaptation and persistence in harsh environments. Invited presentation to NASA Biomimicry Summit and

- Education Forum 2016, Ohio Aerospace Institute, Cleveland, Ohio. 2-4 August 2016.
http://prezi.com/atoldci6gty/?utm_campaign=share&utm_medium=copy
- Homeostasis and the physiological dimension of niche construction.** Invited presentation to the conference on Niche Construction. Santa Fe Institute, Santa Fe, New Mexico.
http://prezi.com/qqonwqjmuynp/?utm_campaign=share&utm_medium=copy&rc=ex0share
- Swarm cognition and swarm construction. Lessons from a social insect master builder.** Invited presentation to the workshop on Complexity, Cognition, Urban Planning and Design. Technical University of Delft (Netherlands). April 2014.
http://prezi.com/t0nnxrvuu0ex/?utm_campaign=share&utm_medium=copy
- Novel concepts in biologically-inspired climate management.** Invited presentation to Georgia Tech Engineering, Atlanta, Georgia. September 2013.
http://prezi.com/awx49kt4d05c/?utm_campaign=share&utm_medium=copy&rc=ex0share
- Novel concepts in biologically-inspired climate management.** Invited presentation. Yahoo! Workshop: Exploring Innovation in Data Centers through Biomimicry. Lockport, New York. April 2013.
<http://prezi.com/56m6x6mu- sg/lockport-presentation/>
- Design in Nature.** Featured speaker at the Ben Gurion University SIDEER graduate student symposium on Design in Nature, Sede Boqer Campus. Gave two presentations and led two workshops. March 2013.
http://www.bgu.ac.il/BIDR/conf/sideergrads/SIDEER_symposium/homepage.html
<http://prezi.com/iuiome7my5af/problem/>
http://prezi.com/9fug9dzqxfty/dynamic_form/
<http://prezi.com/atexgee49iqj/muddle/>
- Biomimetics: What, precisely, should be inspirational about living nature?** Keynote speaker at Vienna Biocentre PhD Symposium Biomimetics: Inspired by Nature. November 2012.
<http://www.vbc-phd-symposium.at/>
- Swarm intelligence and swarm cognition in mound-building termites.** Invited speaker. IUSSI-NAS Symposium on Social Insects and the Emergence of Novelty: From Local Rules to Global Behavior. Entomological Society of America 2012 meeting, Knoxville, Tennessee. November 2012.
- How, precisely, should we be inspired by living nature?** Invited speaker at AmeriMech 2012. Mechanics in Biology. Virginia Tech. December 2012.
<http://amerimech.esm.vt.edu/>
- A Multiplicity of Memory. Toward a Coherent Theory of Adaptation.** Biological Information—New Perspectives. Cornell University. June 2011.
- Biology's Second Law. Evolution, Purpose and Desire.** Invited speaker. NASA Ames Research Center, Moffett Field, California. February 2011.
<http://vimeo.com/user9528361/microbes-mind-forum>
- Fungal symbionts as mediators of water balance in *Macrotermes* colonies.** Entomological Society of America Annual Meeting. San Diego, California. December 2010.
- Emergent architecture in *Macrotermes* mounds.** Wyss Institute, Harvard University. Cambridge, Massachusetts. October 2010. About 30 in attendance.
- New Concepts in Termite-Inspired Design.** Wyss Institute, Harvard University. Cambridge, Massachusetts. October 2010. About 100 in attendance.

- New Concepts in Termite-Inspired Design.** Center for Biologically Inspired Design, Georgia Tech University, and Perkins + Will Architects, Atlanta, Georgia. August 2010.
- What is Life?** Invited presentation to the Plenary session of International Board of Advisors meeting, John C Templeton Foundation. New York City. 8 June 2010. About 150 people in attendance.
- Water, soils and architecture in *Macrotermes* colonies.** Department of Zoology, Cambridge University. 27 May 2010. About 20 people in attendance.
- New Concepts in Termite-Inspired Design.** Social Biomimicry Conference. Arizona State University. 18-21 February 2010. About 200 people in attendance.
- The Water Economy of *Macrotermes* colonies.** University of Groningen. Groningen, The Netherlands. 11 September 2009. About 50 people in attendance.
- Termite Mounds as Models of Swarm Cognition. Lessons for Realizing the Living Building.** In symposium on From Insect Nests to Human Architecture. Venice, Italy. 23 September 2009. About 50 people in attendance.
- The Termite Cube (exhibition).** *Pestival. The Art of Being an Insect.* Royal Festival Hall. Southbank Centre, London, UK. <http://pestival.org/> 5-8 September 2009. Attendance about 100,000.
- Numerous informal presentations at *Pestival. The Art of Being an Insect.*** Royal Festival Hall. Southbank Centre, London, UK. <http://pestival.org/> 5-8 September 2009. Typically 30 people at any event.
- The Air Conditioned Termite Nest Revisited.** Presentation at *Forum on Insect-Inspired Architecture. Pestival. The Art of Being an Insect.* Royal Festival Hall. Southbank Centre, London, UK. <http://pestival.org/> 5 September 2009. About 200 people in attendance.
- Do Cheaters Prosper? Sordid Society and Public Good in Termite Colonies.** SUNY Conversations in the Disciplines. Cornell University. 16 October 2009. About 50 people in attendance.
- The Air-Conditioned Termite Nest Revisited.** *Pestival. A Celebration of Insects in Art and Design.* Southbank Center. London, England. September 2009.
- The Water Economy of *Macrotermes* Colonies.** Department of Biology, University of Groningen. Groningen, The Netherlands. September 2009.
- Do Cheaters Ever Prosper? Sordid Features of Sociality in Termite Colonies.** Cooperation. Self Interest and Mutual Interest. SUNY Conversations in the Disciplines. Cornell University. Ithaca, New York. October 2009.
- The Intentional Brain.** Program in Neuroscience. Michigan State University, East Lansing. October 2009.
- Beyond biomimicry: What termites can tell us about realizing the living building.** The First International Congress on Industrialized, Integrated and Intelligent Construction (I3CON). Loughborough University, Loughborough, UK. May 2008.
- Agents of Biological Design.** EOS program. Binghamton University. 2007
- Agents of Biological Design. Why are living things well-crafted for the things they do?** 30th Anniversary Retrospective Symposium on the Wistar Conference on Mathematical Challenges to the Neodarwinian Interpretation of Evolution. Boston, Massachusetts. 2007.

- The Air Conditioned Termite Mound Revisited.** Würzburg University (Germany). 2007
- Termites, Water and Soils.** Annual meeting of the Agricultural Scientific Society of Namibia. Windhoek, Namibia. 2006.
- Emergent Homeostasis in Termite Mounds. A Template for Living Structures.** 1st Annual Symposium on Biologically-Inspired Design. Council for Biologically Inspired Design. Georgia Institute of Technology (Georgia Tech), Atlanta, Georgia. 2006.
- Gaia in Microcosm. Social insects as a metaphor for a homeostatic world.** Symposium on *The Gaia Theory. Model & Metaphor for the 21st Century*, Northern Virginia Parks Board Authority. George Mason University, Arlington, Virginia. 2006.
- Homeostasis, Intentionality and the Problem of Design in Biology.** University of Massachusetts, Amherst. Biology Department Seminar. 2005.
- Stigmergy and homeostasis in *Macrotermes* colonies. What's the connection?** Cornell University, Ithaca. Jugatae Club Seminar. 2005.
- Why do termites build mounds?** Windhoek Wildlife Society. Windhoek, Namibia. 2005.
- Extended physiology of an insect-built structure.** Symposium on Arthropod Biomechanics. Annual meeting of the Entomological Society of America, Salt Lake City. 2004.
- Extended organisms, emergent physiology and the evolutionary biology of *Gaia*.** Darwin Festival, Salem College, Salem, Massachusetts. 2003.
- Landscapes as extended organisms.** Distinguished Research Lecture, Sigma Xi (Syracuse Chapter). Department of Geography. Syracuse University. 2003
- Beyond Biomimicry.** Center of Excellence in Environmental Systems. Syracuse, New York. 2003
- Extended phenotypes, extended organisms. A physiological perspective on evolution, natural selection and adaptation.** Retrospective on the 25th Anniversary of *The Extended Phenotype*. Annual meeting of the International Society for the History and Philosophy of Biology. Vienna, Austria. 2003.
- Termites as mediators of the water economy of arid savanna ecosystems.** American Geophysical Union Spring Annual Meeting, Washington, DC. 2002.
- Melding colony-level physiology with self-organizing behavior in termite colonies.** Fondation des Treilles Conference on Self-Organization in Biological Systems, Les Treilles, France. 2002.
- Superorganism of just a big pile of bugs? Emergent homeostasis in colonies of *Macrotermes michaelseni*.** Department of Biology, University of Würzburg, Würzburg, Germany. 2002.
- Emergent homeostasis and symbiosis in colonies of *Macrotermes michaelseni*.** Department of Biology, University of Würzburg, Würzburg, Germany. 2002
- Emergent Homeostasis in a Symbiotic Assemblage. The colonies of *Macrotermes michaelseni* and their fungal symbiont *Termitomyces*.** American Geophysical Union Chapman Conference, Gaia 2000. Valencia, Spain. 2000.

Publications

Books

J S Turner. 2017. *Purpose and Desire. What Makes Something “Alive” and Why Modern Darwinism Fails to Explain It.* HarperOne. San Francisco.

J S Turner. 2007. *The Tinkerer’s Accomplice. How Design Emerges from Life Itself.* Harvard University Press. 282 pp.
<http://www.esf.edu/efb/turner/tinkerersaccomplice.html>

J S Turner. 2000. *The Extended Organism. The Physiology of Animal-Built Structures.* Harvard University Press, Cambridge, MA. 234 pp.
<http://www.esf.edu/efb/turner/extendedorganism.html>

J S Turner. 2007. (Japanese language edition) *The Extended Organism. The Physiology of Animal-Built Structures.* (Seibutsu ga tsukuru taigai kozo: encho sareta hyogengata no seirigaku, 生物がつくる〈体外〉構造：延長された表現型の生理学 I). Misuzu Shobo. Translated by Y Shiga and T Fukatsu. 333 pp

J S Turner. 2009. (Japanese language edition) *The Tinkerer’s Accomplice. How Design Emerges from Life Itself.* 自己デザインする生命：目次 - 「ユリイカ」. Seidosha.. 312 pp.

Popular articles, book reviews etc.

J S Turner. 2014. People. Interview with Scott Turner. *Zygote Quarterly* 8. Winter 2013/2014. pp. 60-71.

J S Turner. 2014. Book review: *Comparative Biomechanics: Life’s Physical World*, 2nd edition. Steven Vogel. *American Journal of Physics* 82(3): 531-532.

J S Turner. 2012. The thermodynamics of life. Book review. *Work Meets Life . The Integrative Study of Work in Living Systems.* Robert Levin, Simon Laughlin, Christina de la Rocha and Alan Blackwell (eds). 2011. *Metascience* 21 (2): 371-373.

J S Turner. 2010. Dirt lungs. *Natural History*. 19 (2): 248.

J S Turner. 2008. Signs of design. *The Best American Spiritual Writing of 2008.* Jimmy Carter and Philip Zaleski (ed). Houghton-Mifflin, New York.

J S Turner. 2008. *Termites. Friend or Foe?* Pamphlet for the series *Spotlight on Agriculture.* Ministry of Agriculture. Republic of Namibia. In press.

J S Turner. 2008. *Nature’s awful beauty.* Book review. *Built by Animals. The Natural History of Animal Architecture.* Mike Hansell. *American Scientist*. 96(2): 158-159.

J S Turner. 2007. Signs of design. *The Christian Century*. June 12, 2007. Vol 124 No 12. 18-22.

J S Turner. 2007. Science by committee? *Focus on Microbiology Education* Spring 2007 (<http://www.microbelibrary.org/about/index.asp?bid=1079>).

- J S Turner.** 2007. Why can't we talk about intelligent design? *Chronicle of Higher Education* Volume LIII: Number 20. 19 January 2007. *The Chronicle Review*, Section B: B20
- J S Turner.** 2007. Book review. *Design and Nature III: Comparing Design in Nature with Science and Engineering*. C A Brebbia (ed). *Quarterly Review of Biology*. 82: 265-266.
- J S Turner.** 2006. Book review. *Animal Architecture*. Mike Hansell. *Quarterly Review of Biology*. 81: 183-184.
- J S Turner.** 2005. What are the termite mounds pointing at? *Roan News*. 2005 (1): 25-27.
- J S Turner.** 2004. Book review. *Comparative Biomechanics: Life's Physical World*. Steven Vogel. *Quarterly Review of Biology* 79: 297.
- J S Turner.** 2002. A superorganism's fuzzy boundary. *Natural History* 111 (6). July-August 2002: 62-67.
- J S Turner.** 2002. Saving Darwinism from itself. *The World & I* 17 (7). July 2002: 136-145.
- J S Turner.** 2002. Book review. *Wild Solutions. How Biodiversity is Money in the Bank*. A Beattie and P R Ehrlich. *Quarterly Review of Biology* 77: 85-86.
- J S Turner.** 2002. The termites' dilemma. *Earthwatch Journal*. October 2002: 3.
- J S Turner.** 2001. My publishing adventure. *ESF Today*. Summer 2001: 3.
- J S Turner.** 2000. Termites and other natural teachers. *Chronicle of Higher Education* 3 November 2000: B24.
- J S Turner.** 1996. Does the white ant have a soul? *EarthWatch*. March-April 1996: 34-41.

Review articles

- J S Turner.** 2017. Swarm cognition and swarm construction. Lessons from a social insect master builder. In: J Portugali and E Stolk (eds.) *Complexity, Cognition, Urban Planning and Design*. Springer-Heidelberg.
- J S Turner.** 2016. Semiotics of a superorganism. *Biosemitotics* (in press).
- J S Turner.** 2016. Homeostasis and the physiological dimension of niche construction theory in ecology and evolution. *Evolutionary Ecology*. 30 (2), 203-219.
- J S Turner** and B Pinshow. 2015. Transient-state mechanisms of wind-induced burrow ventilation. *Journal of Experimental Biology* 218 (2): 170-175.
- J S Turner.** 2013. Homeostasis and the forgotten vitalist roots of adaptation. Ch 11 in: *Vitalism and the Scientific Image in Post-Enlightenment Life Science 1800-2010*. . S. Normandin and C. T. Wolfe (eds). Heidelberg, Springer. pp. 271-291.
- J S Turner.** 2013. Superorganisms and superindividuality. The emergence of individuality in a social insect assemblage. In: Frédéric Bouchard and Philippe Huneman (eds). *From Groups to Individuals. Perspectives on Biological Associations*

and Emerging Individuality. The Vienna Series in Theoretical Biology. MIT Press. pp 219-241

J S Turner. 2013. Biology's second law. Homeostasis, purpose and desire. In: B. G. Henning and A. Scarfe. (eds). *Beyond Mechanism. Putting Life Back into Biology*. Lexington Books/Rowman & Littlefield. pp 183-203

J S Turner. 2012. Evolutionary architecture? Some perspectives from biological design. *Architectural Design* 82(2): 28-33.

Odling-Smee, J and **J S Turner**. 2012. Niche construction theory and human architecture. *Biological Theory* 6 (3): 283-289. DOI 10.1007/s13752-012-0029-3

J S Turner. 2011. Termites as models of swarm cognition. *Swarm Intelligence*. 5(1): 19-43

J S Turner and R C Soar. 2010. Beyond biomimicry. What termites can tell us about realizing the living building. Chapter 15 in: *Industrialised, Integrated, Intelligent sustainable Construction*. ISBN 978-0-86022-698-7. Ian Wallis, Lesya Bilan, Mike Smith & Abdul Samad Kazi (eds). I3CON/BSRIA. London.. pp 233-248.

J S Turner. In press. Termite mounds as models of swarm cognition: Lessons for realizing the living building. Proceedings of the Conference *From Insect Nests to Human Architecture*. European Centre for Living Technology. Venice. 23-26 September 2009.

J S Turner and R C Soar. 2008. Beyond biomimicry. What termites can tell us about realizing the living building. *Proceedings of the First International Conference on Industrialized, Integrated, Intelligent Construction*. Loughborough University, 14-16 May 2008.

J S Turner. 2008. Homeostasis, complexity, and the problem of biological design. *Emergence: Complexity and Organization*. 10(2).
http://emergence.org/ECO_site/web-content/ECO_10_2.html.

J S Turner. 2007. Homeostasis, complexity, and the problem of biological design. In: Explorations in Complexity Thinking: Pre-Proceedings of the 3rd International Workshop on Complexity and Philosophy. Kurt A Richardson and Paul Cilliers (eds). Stellenbosch, February 2007. ISCE Publishing, Mansfield, MA. Pp 131-147.

J S Turner, E Marais, M Vinte, A Mudengi, W L Park. 2006. Termites, water and soils. *Agricola* 16: 40-45.

J S Turner. 2006. Termites as mediators of the water economy of arid savanna ecosystems. In: *Dryland Ecohydrology*, Amilcare Porporato and Paolo d'Odorico (eds). Kluwer. Pp. 303-313.

J S Turner. 2005. Extended physiology of an insect-built structure. *American Entomologist* 51(1): 36-38.

J S Turner. 2004. Gaia, the extended organism and emergent homeostasis. Chapter 5 in *Scientists Debate Gaia: The Next Century*. Stephen H Schneider, James R Miller, Eileen Crist and Penelope J Boston (eds). MIT Press. Cambridge, Massachusetts. pp

57-70. (Contribution to the American Geophysical Union Chapman Conference on Gaia 2000, Valencia, Spain, June 2000.)

J S Turner. 2004. Extended phenotypes and extended organisms. *Biology and Philosophy* 19(3): 327-352. (a special issue on the 20th anniversary of the publication of Richard Dawkins' *The Extended Phenotype*.)

J S Turner. 2003. Trace fossils and extended organisms: A physiological perspective. *New Interpretations of Complex Trace Fossils: A special volume of Palaeogeography, Palaeoclimatology, Palaeoecology* 192: 15-31.

J S Turner. 2002. Maintenance of egg temperature. In: *Avian Incubation: Behaviour, Environment And Evolution*, D C Deeming (ed). Oxford University Press, Oxford. pp 118-142.

J S Turner. 1994. Time and energy in the intermittent incubation of birds' eggs. *Israel Journal of Zoology* 40: 519-540.

J S Turner. 1991. The thermal energetics of incubated birds' eggs. **In:** D C Deeming and M W J Ferguson, eds., *Egg Incubation: Its Effects on Embryonic Development in Birds and Reptiles*. Cambridge University Press, Cambridge. pp. 117-145.

B T Firth, **J S Turner** and C L Ralph. 1989. Thermoregulatory behaviour in two species of iguanid lizards (*Crotaphytus collaris* and *Sauromalus obesus*): Diel variation and the effect of pinealectomy. *Journal of Comparative Physiology* 159B: 13-20.

J S Turner. 1987. The cardiovascular control of heat exchange: Consequences of body size. *American Zoologist* 27: 69-79.

Tracy, C R and **J S Turner.** 1982. What is physiological ecology? *Bulletin of the Ecological Society of America* 63: 340-341.

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Media

I have produced an extensive library of media for various classes, research projects and other purposes. Many are featured on YouTube and iTunesU. Nearly all are accessible on the web from various platforms. I am in the process of migrating to a new video streaming platform, so some of the links below may become inactive.

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Animal Physiology Online (in dev): <http://www.esf.edu/efb/turner/APOnline/testEmbed.html>

My YouTube channel. From youtube.com, search on the term "macrotermiteman" .

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