

# God's Action in Nature: Science And Theology From An Islamic Perspective

Institution: Sharif University of Technology (SUT), Department of Philosophy of Science, Tehran-Iran

Instructor: Pirooz Fatoorchi

## COURSE DESCRIPTION

This course is an introduction to the main issues in the field of “Science and Theology” from an Islamic perspective.

The characteristic of this course is that it concentrates on the topic of “Divine action” which implicitly or explicitly, permeates much of current discussions in the field of “Science and Theology”, and allows a variety of particular theological and philosophical issues to be pursued under a general title. While references will be made to the contemporary Christian approaches to understanding God’s action in nature, the primary focus will be on various models of Divine action based on three major schools of Islamic thought. This will include *Kalam* (classical theology), *Hikmah* (Philosophy) and *Irfan* (Mysticism) points of view.

A range of scientific topics will be dealt with (sections 7-16). Each of these sections has three main parts: **a)** an introduction to a particular field of natural science. This includes: an overview of related theoretical and conceptual developments and a brief note on the topics which have significant theological/ philosophical implications. **b)** a consideration of challenges and implications raised by the given field for the notion of Divine action referring to the current literature on “Science and Theology”. **c)** an examination of various models for Divine action in the light of scientific perspectives. Although, a special attention will be paid to schools of Islamic thought, some prominent Christian approaches and models will be explored. Here the comparative and inter-theological study plays a key role.

## COURSE OBJECTIVES

- To introduce the interdisciplinary field of “Science and Theology” to Iranian students and scholars through focusing on a governing theme of the current “Science and theology” debates, i.e., Divine action, and to help them develop an ability to critically reflect on the primary issues in this field.
- To show how the topic: “God’s Action in Nature” is a foundational theme in “Science and Theology” debates and how it has significant theological and philosophical dimensions.
- To provide some grounds for deliberated and appropriate involvement of Islamic theology, philosophy and mysticism in the current “Science and Theology” debates and to illustrate that it could help enrich the field. Also, the course will aim to provide the students and other participants with an appreciation and

- intellectual skill for the use of Islamic relevant sources in “Science and Theology” debates particularly in issues concerned with “God’s action in nature”.
- To articulate some commonalities and points of divergence between Christian theology and major schools of Islamic thought in understanding and interpreting Divine action specially within the field of “Science and Theology”. This would hopefully play a key role in constructive dialogue and mutual enrichment between Christian and Islamic theologians in this growing field.

This course is intended to provide graduate level students in department of philosophy of science at SUT and other participants with an understanding of the major themes and debates in the growing field of “Science and Theology” and to facilitate formation of relevant literature within Islamic culture.

The proposed course is a 2-credit course and will be offered in Fall-2000. The course meets once a week and contains 17 sections: 16 main sections and one section for final examination. Each main section includes 1.5-hour lecture and discussions (30 minutes) sessions. About 15-20 students are expected to enroll.

Because it would be of great help to have a scientist involved with such discourse, two guest lectures (sections 7, 8) will be given by Professor Mehdi Golshani. He is a distinguished professor of physics at Sharif University of Technology and head of department of Basic Sciences of the “Iranian Academy of Sciences” and director of “Institute for Humanities and Cultural Studies (IHCS)”, Tehran-Iran. Prof. Golshani is one of the judges of the “Templeton Prize for Progress in Religion” and he was a faculty member of SSQ conference (CTNS-1998).

## **STUDENT EVALUATION**

- **Participation**  
At the end of each lecture, students will be asked to participate in a discussion about the given lecture. The participation receives up to 16% of the grade. Grading on this portion of the course will be based on the instructor’s evaluation of participation.
- **Home questions**  
Every week, students will be required to write their answers to the questions (5 questions per week) designed by the instructor. These questions will be addressed at the end of each session, and will cover the main theses of the course. This portion of the course will count in total 16% of the grade.
- **Four short papers**  
Each student will write four short papers (3-5 pp) on relevant areas of the course. These papers should be based on sources which are presented in Required readings. Specific guidelines will be given at the beginning of the course. These are due two weeks to 20 days after completion of the course. The four short papers will count collectively for 28% of the grade.
- **Readings**  
Each of the 16 main sections of the course has a specific “Required Reading” list.

In addition, there are “Recommended Reading” list. They are given so as to help students pursue particular topics of special interest in more depth. Copies of all required readings and a number of recommended readings will be on reserve in the SUT library.

- **Final examination**

In order to assess specific understanding of the total course content in depth, finally a written examination will be conducted (section 17 of the course). The final exam will count 40% of the grade.

## **COURSE OUTLINE**

Sections 1-3: Introduction

Section 4: Current Christian Approaches to Divine Action.

Sections 5-6: Islamic Approaches to God’s Action in Nature

Sections 7, 8: Quantum Theory and Divine Providence.

Sections 9, 10: Modern Cosmology and the Problem of the Beginning of the Universe

Sections 11, 12: Evolutionary Biology and Continuous Creation

Sections 13, 14: Chaos Theory and God’s Action in Nature

Sections 15, 16: Theological Implications of Scientific Approaches to Mind and Consciousness

Section 17. Final Examination

### ***Sections 1-3: Introduction***

#### **Content of lectures:**

What is “Science and Theology” field? (Some preliminary notes on important features of contemporary ‘Science and Theology’ debates).

Recent typologies of the relationships between science and theology, the topics include:

- “Four-theses” approach of Ian Barbour
- “Eight-Fold” typology of Ted Peters
- Arthur Peacocke’s eight conceivable relationships between science and theology
- “Nine-fold” classification of Willem Drees

(Approaches of John Haught, Philip Hefner and complementarity thesis may be indicated if time permits)

Divine action as a central theme for the field of “Science and Theology”.

#### **Required Reading:**

God’s Action in Nature: A Central Topic for “Science and Theology” Debates (handout).  
Barbour, Ian. 1997. *Religion and Science: Historical and Contemporary Issues*. Harper Collins. Chs. 1-3 (selections); ch. 4.

- Fatoorchi, Pirooz. 1997/98. Some Grounds for Using Islamic Philosophy in ‘science and Religion’ Debates, in: “*Science and Religion Bulletin*. vol 1. pp. 17-25. (in Persian language).
- Peters, Ted. “Science and Theology: Toward Consonance”, in: Peters. 1998, pp. 11-43.
- Drees, Willem. 1996. *Religion, Science and Naturalism*. Open Court, pp. 39-49.
- Peacocke, Arthur. 1993. *Theology for a Scientific Age*. pp. 19-23.
- Wildman, Wesley J. “The Quest for Harmony: An Interpretation of Contemporary Theology and Science,” in: Richardson and Wildman, 1996, pp. 41-60.

#### ***Section 4: Current Christian Approaches to Divine Action***

##### **Content of Lecture:**

Some historical notes on Christian approaches to Divine action.

Brief note on current Christian theological approaches to Divine action particularly in the context of “Science and Theology” field. (Neo-Thomism, Process theology, Uniform action, Personal agent, Assessment).

##### **Required Reading:**

- Alston, William. “How to Think about Divine Agency” in: Hebblethwaite and Henderson. eds. 1990, pp. 35-51.
- Brooke, John. H. “Religious Apologetics and Transmutation of Knowledge”, in: Vander Meer. 1996, pp. 215-229.
- Russell, Robert J. “Introduction”, in: Russell. 1995, pp. 1-13.
- Thomas, Owen. C. “Introduction”, in: Thomas 1983, pp. 1-14.
- \_\_\_\_\_. “Recent Thought on Divine Agency”, in: Hebblethwaite and Henderson. 1990. pp. 35-51.

#### ***Sections 5, 6: Islamic Approaches to God’s Action in Nature***

##### **Content of Lectures:**

These lectures center on “Divine action” from major schools of Islamic classical Theology (*Kalam*), Philosophy (*Hikmah*) and Mysticism (*Irfan*). Topics include:

- A historical introduction to Islamic interpretations of God’s action in nature.
- Divine action from *Kalam* point of view (Ash’arites, Mu’tazilites, Imamites).
- God’s action in nature from *Hikmah* point of view (Peripatetic, Illuminationist, Transcendent Hikmah).
- Divine action from Mysticism (*Irfan*) perspective.

##### **Required Reading:**

- Avicenna (Ibn Sina). 1984. *Kitab al-Shifa: al-Ilahiyyat* (Metaphysics). Qum, pp. 373-381; 393-402, 414-422.
- al-Allamah al-Helli, Ibn al-Mutahhar. 1986. *Kashf al-murad*. Qum, pp. 308-313.
- Ibn Turkah, Ali. 1982. *Tamhid al-qaw'id* (The Disposition of Principles). Tehran, pp. 34-48; 114- 118.
- Jami, 'Abd al-Rahman. 1977. *Naqd al-nusus*. Tehran, pp. 44-49, 65-76.
- Sabzawari, Mulla Hadi. 1992. *Sharh al-Manzumah*. vol 2. Qum, pp. 617-628.
- al-Sayuri al-Helli, Jamal, Jamal al-Din Meqdad. 1984. *Irshad al-Talebin ila Nahj al-Mostarshedin*. Qum, pp. 182-194.
- Sadra [Shirazi, Sadr al-Din]. 1981. *Al-Hikmat al-Muta'aliyah fi'l-asfar al-aqliyyat al-arba'ah*. vol 2. Beyrout, Pp. 286-318.
- Suhrawardi, Shihab al-Din. 1952. *Hikmat al-Ishraq*. Tehran, pp. 169-181, 235-240.
- TabaTaba'I, Mahammad Husayn. 1983. *Nihayat al-hikmah*. Qum, pp. 296-306; 310-315.

### **Sections 7, 8: Quantum Theory and Divine Providence**

#### **Content of Lectures:**

A short introduction to Quantum Theory. (Part of a guest lecture by Prof. Golshani).

A brief survey of Quantum Mechanics interpretations: Copenhagen interpretation, many-universes interpretation and some other interpretations if time permits. (Part of a guest lecture by Prof. Golshani).

Philosophical trends and backgrounds in interpreting Quantum Mechanics.

Indeterminism, uncertainty, chance and the nature of reality in relevant interpretations of Quantum Mechanics.

Divine providence and quantum possibilities. (Is God active in quantum events?).

#### **Required Reading:**

- Barbour, Ian. 1997. *Religion and Science: Historical and Contemporary Issues*. Harper Collins. Ch.7 (Selections).
- Davies, Paul and Brown, J.R. "The Strange World of the Quantum", in: Davies and Brown eds. 1993, pp. 1-39.
- Golshani, Mehdi.1995. *Physics and Philosophy: Critique of Contemporary Physicists' Philosophy of Physics*. Tehran. (selections)
- Hodgson, Peter E. 2000. "God's Action in the World: The Relevance of Quantum Mechanics", in: *Zygon: Journal of Religion and Science*, vol.35. No.3. pp. 505-517.
- Russell, Robert J. "Does the 'God who acts', Really Act in Nature?" in: Peters, ed 1998, pp. 77-103.
- Worthing, Mark W. 1996. *God, Creation and Contemporary Physics*. Fortress Press, pp. 130-146.

## ***Sections 9, 10: Modern Cosmology and the Problem of the Beginning of the Universe***

### **Content of Lectures:**

The problem of the Beginning in the context of cosmological models and theories: Steady-State theory, Big Bang theory, oscillating, universe hypothesis, Quantum Cosmology, Inflationary models.

Some examples of philosophical trends among eminent cosmologists, e.g., Hoyle, Weinberg and Hawking.

A classification of philosophical/ theological responses to and implications of relevant cosmological models and theories in the field of Science and Theology. (With attention to Christian models of cosmological creation).

Creation and the problem of the Beginning of the universe in the context of Islamic Theology (*Kalam*) and Philosophy (*Hikmah*) in the context of recent “Science and Theology” debates.

### **Required Reading:**

Fatoorchi, Pirooz. 1999. An Introduction to the Problem of the Beginning from Modern Cosmology and “Transcendent Hikmah” Perspective, in: *Science and Religion Bulletin*. vol2. No2. / vol3, No.1. pp. 3-35 (in Persian language)

Lightman, Alan and Brower, Roberto. “An Introduction to Modern Cosmology”, in: Lightman and Brower, eds. 1990, pp. 1-49.

Russell, Robert. J. “t=0, Is It Theologically Significant?” in: Richardson and Wildman. 1996, pp. 201-224.

Stoeger, William R. “Contemporary Cosmology and Its Implications for the Science-Religion Dialogue”, in: Russell, Stoeger and Coyne. 1988, pp. 219-247.

## ***Sections 11, 12: Evolutionary Biology and Continuous Creation***

### **Content of Lectures**

The evolution of evolutionary theories in Biology (Some brief historical perspectives).

Ways of relating Divine action and Evolution (A classification of theses).

Evolution and continuous creation.

### **Required Reading:**

Ayala, Francisco J. “Darwin’s Devolution: Design without Designer”, in: Russell, Stoeger and Ayala eds. 1998, pp. 101-116.

- Barbour, Ian. "Five Models of God and Evolution", in: Russell, Stoeger and Ayala eds. 1998, pp. 419-442.
- Depew, David J. and Weber, Bruce. H. 1995. *Darwinism Evolving: Systems, Dynamics and the Genealogy of Natural Selection*. MIT Press, pp. 1-31.
- Durant, John. "A Critical-Historical Perspective on the Argument about Evolution and Creation," in: Anderson and Peacocke eds. 1987, pp. 11-27.
- Wildman, Wesley J. "Evaluating the Theological Argument for Divine Action", in: Russell, Stoeger and Ayala, eds. 1998, pp. 117-150.

### ***Sections 13, 14: Chaos Theory and God's Action in Nature***

#### **Content of Lectures:**

A scientific introduction to Chaos Theory.

Some philosophical/ theological reflections on Chaos: unpredictability, randomness and determinism.

The relevance of Chaos theory for Divine action.

#### **Required Reading:**

- Gleick, James. 1987/93. *Chaos*. Abacus. (selections from pp.1-81).
- Happel, Stephen. "Divine Providence and Instrumentality: Metaphors for Time," in: Russell, Murphy and Peacocke eds. 1995, pp. 177-203.
- Polkinghorne, John. "*Chaos Theory and Divine Action*", in: Richardson and Wildman. 1996, pp. 243-252.
- Prigogine Ilya and Stenger Isabelle. 1984. *Order out of Chaos: Man's New Dialogue with Nature*. Bantam Books (selections).
- Russell, Robert J. and Wildman Wesley J. "*Chaos: A Mathematical Introduction with Philosophical Reflections*", in: Russell, Murphy and Peacocke eds. 1995, pp. 49-90 (selections).

### ***Sections 15, 16: Theological Implications of Scientific Approaches to Mind and Consciousness***

#### **Content of Lectures**

A brief review of contemporary perspectives on mind-brain (body) problem.

An outline of recent scientific approaches to mind and consciousness.

Theological significance of consciousness, and mind-brain problem in light of scientific attitudes and some concluding remarks on Divine action in the human realm (with particular attention to *Transcendent Hikmah*).

## Required Reading:

- Brown, Warren S. 1999. "A Neurocognitive Perspective on Free Will", in: *CTNS Bulletin*. vol. 19, No.1; pp. 22-29.
- Fatoorchi, Pirooz. 1998. "An Introduction to Cognitive Science and Its Philosophical/Theological Implications", in: *Science and Religion Bulletin*. vol.2, No.1, pp. 17-44 (in Persian language).
- \_\_\_\_\_. Mind-Brain Problem and Its Relevance to the "Science and Theology" Field. (Forthcoming Essay).
- Guzeldere, Guven. *The Many Faces of Consciousness: A Field Guide*. In: Block, Flanagan and Guzeldere eds. 1997. pp. 1-69.
- Kim, Jaegwon. 1998. *Mind in a Physical World: An Essay on the Mind-Body Problem and Mental Causation*. MIT press. ch. 1 (The Mind-Body problem: where we now are).

## Section 17. Final Examination

### Recommended Reading and Bibliography

#### Arabic/Persian:

- Avicenna (Ibn Sina).1984 a.Kitab al-Shifa: al-Ilahi yyat (Metaphysics). Qum.
- al-Allamah al-Helli, Ibn al-Mutahhar. 1986. Kashf al-Murad. Qum.
- Fatoorchi, Pirooz.1997. The problem of the Beginning from the Modern Cosmology and Transcendent Hikmah Points of View. Tehran.
- Golshani, Mahdi.1995.Physics and Philosophy: Critique of Contemporary Physicists' Philosophy of Physics. Tehran.
- Sabzawari, Mulla Hadi. 1992. Sharh al-Manzumah. vol 2. Qum.
- al-Sayuri al-Helli, Jamal al-Din Meqdad. 1984. Irshad al-Talebin ila Nahj al-Mostarshedin. Qum.
- Sadra [Shirazi, Sadr al-Din].1981 a .al-Hikmat al-Muta aliyah fi'l-asfar al-aqliyyat al-arba ah.vol.2. Beyrout.
- \_\_\_\_\_.1981.al-Shawahid al-rububiyah fi'l-manahij al-sulukiyyah. Tehran.
- Suhrawardi, Shihab al-Din.1952.Hikmat al-Ishraq. Tehran.
- Tusi, Nasir al-Din.1983.Commentary on Avicenna's Kitab al-Isharat. Tehran.
- \_\_\_\_\_.1980.Naqd al-muhassal. Tehran.

#### English:

- Anderson, Svend and Peacocke, Arthur, eds. 1987. *Evolution and Creation: A European Perspective*. Aarhus University Press.
- Barbour, Ian. 1977. *Religion and Science: Historical and Contemporary Issues*. Revised Edition Harper Collins.
- Block, Ned, Flanagan, Owen and Guzeldere Guven, eds. 1997. *The Nature of Consciousness: Philosophical Debates*. MIT Press.



- Brooke, John Hedley. 1991. *Science and Religion: Some Historical Perspectives*. Cambridge Univ.
- Clayton, Philip. 1989. *Explanation from Physics to Theology*. Yale Univ.
- \_\_\_\_\_. 1997. *God and Contemporary Science*. Edinburgh University and Eerdmans.
- Davies, P.C.W. 1983. *God and the New Physics*. Dent.
- \_\_\_\_\_. and J.R. Brown eds. 1993. *The Ghost in the Atom*. Cambridge University Press.
- Depew, David J. and Weber, Bruce. H. 1995. *Darwinism Evolving: Systems, Dynamics and the Genealogy of Natural Selection*. MIT Press
- Drees, Willem B. 1991. *Beyond the Big Bang*. Open Court.
- \_\_\_\_\_. 1996. *Religion, Science and Naturalism*. Open Court
- Durant, John, ed. 1986. *Darwinism and Divinity*. Blackwell.
- Ellis, George F.R. and Peter H. Collins. 1993. *Before the Beginning: Cosmology Explained*. Marion Boyars.
- Gilkey, Langdon. 1994. *Nature, Reality and the Sacred*. Fortress.
- Gleick, James. 1987/93. *Chaos*. Abacus.
- Haught, John F. 1995. *Science and Religion: From Conflict to Conversation*. Paulist.
- Hebblethwaite, Brian and Henderson, Edward. 1990. *Divine Action: Studies Inspired by the Philosophical Theology of Austin Farrer*. T & T Clark.
- Huchingson, James E. 1997. *Religion and the Natural Sciences: The Range of Engagement*. Hbj College.
- Kim, Jaegwon. 1998. *Mind in a physical world: An Essay on the Mind-Body Problem and Mental Causation*. MIT press
- Lightman, Alan and Brower, Roberto, eds. 1990. *Origins: The Lives and Works of Modern Cosmologists*. Harvard University Press.
- McGrath, Alister E. 1999. *Science and Religion: An Introduction*. Blackwell.
- McMullin, Ernan, ed. 1986. *Evolution and Creation*. University of Notre Dame Press.
- Murphy, Nancey. 1990. *Theology in the Age of Scientific Reasoning*. Cornell University Press.
- Nicolis, Gregoire and Prigogine Ilya. 1989. *Exploring Complexity: An Introduction*.
- Peacocke, Arthur. 1993. *Theology for a Scientific Age: Being and Becoming - Natural, Divine and Human*. Fortress.
- Peters, Ted, ed. 1989. *Cosmos as Creation: Theology and Science in Consonance*. Abingdon.
- \_\_\_\_\_. 1998. *Science and Theology: The New Consonance*. Westview.
- Polkinghorne, John. 1989. *Science and Providence: God's Interaction with the World*. Soc. For: Promoting Christian Knowledge.
- \_\_\_\_\_. 1998. *Belief in God in an Age of Science*. Yale University Press.
- Prigogine Ilya and Stenger Isabelle. 1984. *Order out of Chaos: Man's New Dialogue with Nature*. Bantam Books
- Richardson, W. Mark, and Wildman, Wesley J., eds. 1996. *Religion and Science: History, Method, and Dialogue*. Routledge.
- Rolston, Holmes, III. 1987. *Science and Religion: A Critical Survey*. Temple Univ.
- Russell, Robert John, William R. Stoeger and George V. Coyne, eds. 1988. *Physics, Philosophy and Theology*. Univ. of Notre Dame.
- \_\_\_\_\_, Nancey Murphy and C.J. Isham, eds. 1993. *Quantum Cosmology and the Laws of Nature: Scientific Perspectives on Divine Action*. Univ. of Notre Dame.

- \_\_\_\_\_, Nancey Murphy and Arthur Peacocke, eds. 1995. *Chaos and Complexity: Scientific Perspectives on Divine Action*. Univ. of Notre Dame.
- \_\_\_\_\_, Stoeger, William S.J., and Ayala, Francisco, eds. 1998. *Evolution and Molecular Biology: Scientific Perspectives on Divine Action*. Vatican Observatory and CTNS.
- \_\_\_\_\_, Nancey Murphy, Theo Meyering and Michael Arbib, eds. 1999. *Neuroscience and the Person: Scientific Perspectives on Divine Action*. Vatican Observatory and CTNS.
- Thomas, Owen, ed. 1983. *God's Activity in the World: The Contemporary Problem*. American Academy of Religion.
- Tracy, Thomas F. 1994. *The God Who Acts*. Pennsylvania State University.
- Vander Meer, Jitse M. 1996. *Facets of Faith and Science (vol. 4): Interpreting God's Action in the World*. University Press of America.
- Wiles, Maurice. 1989. *God's Activity in the World*. Trinity.
- Worthing, Mark W. 1996. *God, Creation, and Contemporary Physics*. Fortress.