



## Module Physics & Divine Action

Science Module for existing university or seminary level courses.

Drop in to a course syllabus (with modifications) in

Religious Studies

Physics

Metaphysics

Systematic Theology: Creation

1 week's assignment for 3 hours of class meeting

### PHYSICS AND THE LITTLE WORLD THAT'S EVERYWHERE

As classical physics becomes supplemented with quantum physics, the deterministic causal nexus of Isaac Newton becomes supplemented with the indeterminate possibilities of the quantum domain. Because atoms are everywhere, this could signal an openness and indeterminateness in the physical world that theologians recognize as God's creation.

This module gives special attention to God's action in nature's world at the subatomic level. Robert John Russell calls it NIODA, non-interventionist objective, divine action.

What is NIODA? Here's the background. From 1987 through 2002 at the invitation of Pope John Paul II, the Vatican Observatory (VO) in cooperation with the Center for Theology and the Natural Sciences (CTNS) at the Graduate

Theological Union in Berkeley, California, addressed these and many other questions in theology, philosophy, and science. International panels selected by the VO-CTNS research project drew from a global pool of leading natural scientists, philosophers, theologians, and ethicists. Occasionally the discussion oriented itself around the pros and cons of one central hypothesis: Non-Interventionist Objective Divine Action (NIODA) which claimed that God acts objectively at the sub-atomic level--and because atoms are everywhere so also is divine action everywhere--without breaking any laws of nature. This accounts for both general and special providence in a manner that makes theology and physics consonant. By debating this hypothesis, a large number of issues raised in the dialogue shared by Science and Theology come to the fore.

### DLO (Desired Learning Outcomes)

Added to the set of DLOs for the entire course. The student should also demonstrate...

1. knowledge of the contrast between classical mechanics and quantum mechanics;
2. ability to describe issues at stake;
3. grasp of the proposal for NIODA..

### REQUIRED READING

CAO *Creation from Alpha to Omega*. Robert John Russell. Minneapolis: Fortress Press, 2008.  
ISBN 978-0-8006-6273-8 (pbk). Chapters 4,5,6.

### RECOMMENDED READING

Peters, Ted, and Carl Peterson, "The Higgs Boson" in *Theology and Science*.  
<http://www.tandfonline.com/doi/pdf/10.1080/14746700.2013.809948#.UpVWD-7TkII>

Russell, Robert John, Nancey Murphy, William R. Stoeger, S.J., eds., *Scientific Perspectives on Divine Action: Twenty Years of Challenge and Progress*. Vatican City State and Berkeley: Vatican Observatory and CTNS, 2008.  
ISBN 978-88-209-7961-4 (pbk).

OHRs *The Oxford Handbook of Religion and Science*, ed. by Philip Clayton and Zachary Simpson. Oxford and New York: Oxford University Press, 2006.  
ISBN 0-19-9279278-6. Hardbound 2006 or Paperback 2008 okay.

**This comprehensive volume is valuable for almost all modules.**

OHRs 34 Russell, "Quantum Physics..."

OHRs 10 Wegter-McNelly; "Fundamental Physics and Religion"

OHRs 44 Ellis, "Physics, Complexity, and the Science-Religion Debate"

OHRs 35 Thomas Tracy, "Theologies of divine action"

OHRs 9 Bernard Carr, "Cosmology and Religion"