

## Request for Proposals

# Randomness and Divine Providence

Supported by the John Templeton Foundation

Submission deadline: October 1, 2012

Many scientists have come to see randomness as pervasive in the physical world, notably in quantum mechanics, chaos theory, complexity studies, and evolutionary biology. However, randomness has been problematic both for those secular scientists who see the physical universe as governed by deterministic natural laws and for those theists who see it as governed by an omniscient, sovereign deity. Nevertheless, in recent years, a growing number of scientists and theologians have suggested that randomness is an instrument of divine purpose and may enrich our understanding of the creator. This initiative seeks proposals from scientists, philosophers, theologians, and interdisciplinary teams of scholars who are interested in exploring the relationship between randomness and divine providence. Some possible questions they might pursue are:

- How might God work providentially through indeterminate processes? Can recent advances in understanding the nature of randomness offered by algorithmic information theory, physics, biology, and other sciences provide insight into this question?
- Can we bring clarity to the concept of "randomness"? Philosophers and scientists have tried on occasion to give precise definitions of when a process is random, but more work needs to be done on the question. How do (or should) conceptions of randomness vary across academic disciplines?
- What are some possible implications of randomness for hiding or unfolding divine creativity and purpose in the world? Could God use randomness to (1) generate creativity, (2) hide divine actions, or (3) unfold information? Why might God do so?
- How might we identify and come to understand a significant collection of nondeterministic processes in which agents could intentionally employ randomness to bring about purposeful results?
- How might we mathematically and physically model random processes in ways that help us understand how divine providence could be exercised in a "chance-governed" world?
- How do "laws and orders" in nature interplay with "chance and randomness" in bringing about results that can be interpreted as aspects of divine providence?

- Might randomness be evidence of limitations in human knowledge but nothing more? Or might it be evidence of ontological indeterminism? Might this be tested?
- What implications does randomness have for aspects of God's relationship with the physical world such as God's relationship to time and God's role in causation? How might randomness be reconciled with God's foreknowledge?
- How might an understanding of providence based on an extended Molinism and/or open theology incorporate randomness? For example, could an extended Molinism provide a plausible account of the relationship between quantum mechanics and divine providence?
- What are some theodical implications of randomness, particularly for the issue of natural evil?
- How have the theological traditions of Augustine, Maimonides, Aquinas, Luther, and Calvin addressed chance and fortune? In what ways might they incorporate ontological randomness?
- How do or could religions other than the Judeo/Christian tradition understand and incorporate randomness?
- How is the concept of randomness understood by advocates of secularism, naturalism, and new atheism? What are the strengths and weaknesses of these usages?
- How might an understanding of randomness in the world alter our conceptions of divinity, especially our understanding of divine providence?

Proposals are sought from scholars who will commit a significant portion of their time for one to two years to investigate one or more of the above questions or other comparable questions. Eight to ten grants in amounts up to \$200,000 will be awarded to individuals or interdisciplinary teams; two of the awards will be reserved for scholars who have either not yet received their doctorate or are no more than five years past completion. Awarded funds may be used in any way that would facilitate the investigation; for example, the funds could be used to buy out time during an academic year, to provide summer support, and to purchase books and materials; up to 10% of the award may be used for travel expenses; up to 15% is allowed for institutional overhead. Grant recipients are expected to produce one or more original manuscripts publishable in a suitable journal and to participate in an opening workshop in June of 2013 and a closing conference in June of 2015. Furthermore, grant recipients who successfully publish a popular article on their results will be eligible to receive a popular dissemination bonus award of \$3000.

Proposals will be evaluated on the basis of (1) how well the specific proposal comports with the spirit of the list of bulleted items above and (2) the likelihood of a significant scholarly contribution to the study of randomness and providence. The latter will be assessed primarily

on the basis of either previous scholarship or (in the case of young scholars) recommendations by established scholars.

Letters of intent should be submitted in pdf, doc, or docx format by October 1, 2012 to Sharon Gould, Mathematics Department, Calvin College, [seg5@calvin.edu](mailto:seg5@calvin.edu). A letter of intent is a short description of the project an applicant has in mind. It should consist of:

- a clear, brief, statement of the question(s) the applicant(s) wish(es) to address,
- a narrative not to exceed 500 words in length explaining the significance of the questions(s) and providing enough context that a reader can assess their relevance to the broader issue of randomness and divine providence,
- a description of the methodology that will be used to address the question(s),
- CVs for each applicant,
- an estimated budget and brief explanation of each anticipated expenditure,
- a bibliography of each applicant's previous scholarly work relevant to the topic; each item should be accompanied by an abstract.

Based on the letters of intent, some applicants will be invited to submit a full proposal which will explain the project in greater detail. Full proposal invitations will be issued on or about October 31, 2012.

Further information including a project timeline, expanded project description, and a randomness lexicon that applicants are asked to use can be found on the project website, [www.calvin.edu/academic/math/randomnessproject](http://www.calvin.edu/academic/math/randomnessproject). Questions may be directed to James Bradley, Project Coordinator, Department of Mathematics, Calvin College, [braj@calvin.edu](mailto:braj@calvin.edu).