

THE
HUMBLE
APPROACH
INITIATIVE



RELATIONAL ONTOLOGY IN SCIENCE AND THEOLOGY

A SYMPOSIUM SPONSORED BY THE JOHN TEMPLETON FOUNDATION

14, 15, 16, AND 17 OCTOBER 2005

THE ACADEMY OF ATHENS GREECE

Purpose

Contact: Mary Ann Meyers, Ph.D., Senior Fellow

$$R_{ab} - 1/2 g_{ab} R + \Lambda g_{ab} = 8\pi G T_{ab}$$

Einstein's field equations of general relativity relate the properties of space and time to the distribution of matter/energy to form a single integrated theory.

Artwork above: The traditional image of *The Old Testament Trinity* was painted in tempera on wood, c. 1410, by the Russian monk and iconographer Andrei Rublev.

[Read more...](#)

The first in a series of symposia on "Relational Ontology in Science and Theology," the conversation taking place at The Academy of Athens will focus on the scientific domains of physics and mathematics. Its purpose is to begin a process of exploring the potentially wide-scale significance of developing relationality as an ontological concept. The long-term aim of the overall project is to stimulate progress in several areas of scientific research, as well as in theological research, by focusing intently on the task of generating new ideas for modeling reality with rigorous, nuanced, nonreductive descriptions of ways in which objects exist in their relations to or, indeed, in "communion" with one another. In our view, intellectual journeys must be undertaken in a number of discrete areas in any attempt to gain knowledge of the intrinsically paradoxical, "deep" aspects of reality in which rigorous description takes seriously the dynamics of relation, relativity/invariance, and entanglement. Within the domain of physics and mathematics, they include but are not necessarily limited to:

- Understanding quantum collective "emergent" phenomena;
- Probing the deep mystery of the physical nature of time;
- Advancing the quest for unification in physics, especially in quantum gravity/cosmology;
- Evaluating Machian-relational theories of gravity and inertia;
- Grasping the logic of the relativistic invariance structure of events in space and time;
- Understanding non-local quantum reality, especially entanglement; and
- Exploring complexity theory and the behavior of holistic systems.

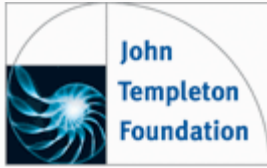
In theology, two *locus classici* for efforts to develop lessons from relational ontology involve:

- Conceptualizing the relation of God and the world, including how that relationship may be articulated within the framework of "panentheism" in

which the world is described as being emergent within the ground of being of the Divine Reality; and

- Articulating a theology of the Trinity in which God is described as a community of love unified in interrelation.

Under the aegis of the John Templeton Foundation in partnership with The Academy of Athens, twelve scholars and scientists have come together in Greece to wrestle with the need of both acknowledging the substantial degree of relationality and interconnectedness in the conceptual world of modern physics while at the same time doing justice to our everyday experience of a significant degree of separability between objects in the macroscopic universe. As in theology, the challenge is to find some way of combining unity with difference since it is only to the extent that one can recognize a distinction between entities that one can also speak of their being in communion.



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The traditional image of *The Old Testament Trinity* was painted in tempera on wood, c. 1410, by the Russian monk and iconographer Andrei Rublev. He created the icon in memory of Sergius of Radonezh, founder of the Monastery of the Trinity at Zagorsk, and it originally hung above St. Sergius's tomb. Now badly damaged, this masterpiece of Russian icon-painting resides in the Tretyakov Gallery in Moscow. It depicts as angels the three mysterious visitors to Abraham and Sarah at the Oaks of Mamre (Gen. 18:2), who symbolically represent the Holy Trinity according to Orthodox tradition. Their faces are essentially identical, portraying the equality of the three Persons in the view of some scholars who continue to debate who is who but agree that Rublev's portrayal highlights their non-amalgamation and inseparability—the mystery at the heart of Christian faith. The geometric properties of the composition have fascinated artists and art historians. Painter Alexander Voloshinov points out that the rectangle of the *Trinity* "raises a succession of circumferences related to each other by the golden proportion" of Euclid ("*The Old Testament Trinity* of Andrey Rublyov: Geometry and Philosophy," *LEONARDO*, vol. 32, no. 2, p. 105). It is a constant ratio, a standard of beauty derived during the 5th century B.C., and used in the design of the Parthenon. At the center of the circle of angels is a chalice-like bowl containing the food Abraham prepared for his guests and symbolizing the Eucharist—the continuing renewal of the new covenant between God and us.

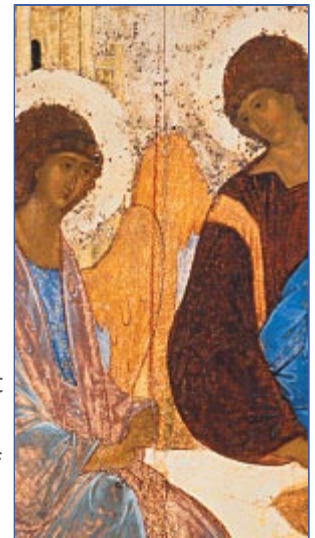
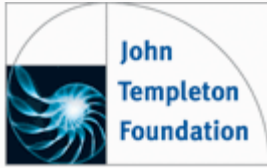


Photo: © Scala/Art Resource, NY.



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"The cup of blessing which we
bless: is it not the communion of
the blood of Christ? The bread
which we break: is it not the
communion of the body of Christ?
For we, being many, are one bread
and one body, for we are all
partakers of that one Bread."

I Corinthians 10:16-17 (KJ21)



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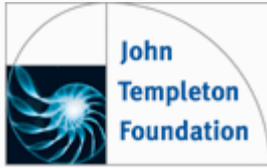
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Approach

The symposium is part of the Templeton Foundation's *Humble Approach Initiative*. The goal of the initiative is to bring about the discovery of new spiritual information by furthering high-quality scientific research. The "humble approach" is inherently interdisciplinary, sensitive to nuance, and biased in favor of building linkages and connections. It assumes an openness to new ideas and a willingness to experiment. Placing high value upon patience and perseverance, it retains a sense of wondering expectation because it recognizes, in Loren Eiseley's haunting phrase, "a constant emergent novelty in nature that does not lie totally behind us, or we would not be where we are." A fundamental principle of the Foundation, in the words of its founder, is that "humility is a gateway to greater understanding and open[s] the doors to progress" in all endeavors. Sir John Templeton believes that in their quest to comprehend foundational realities, scientists, philosophers, and theologians have much to learn about and from one another. The humble approach is intended as a corrective to parochialism. It encourages discovery and seeks to accelerate its pace.



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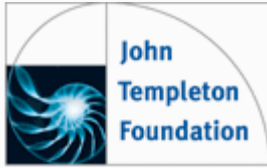
John Charlton Polkinghorne
John D. Zizioulas

Co-Chairs

The distinguished particle physicist and author **John Charlton Polkinghorne**, the winner of the 2002 Templeton Prize for Progress Toward Research or Discoveries About Spiritual Realities, has been a leading figure in the dialogue of science and religion for more than two decades. His most recent work explores links between Trinitarian theology and the developing and relational universe that his earlier work helped us to better understand. Ordained a priest in the Church of England in 1982, Dr. Polkinghorne took up his new vocation in mid-life after playing a role in the discovery of the *quark*, the smallest elementary particle of matter. A graduate of Cambridge University, where he was a fellow of Trinity College and earned a Ph.D. in theoretical physics in 1955, he was forty-eight years old when he resigned his Cambridge professorship of mathematical physics to begin studies at Westcott House, an Anglican seminary in Cambridge. He went on to serve as a curate in a working-class parish in South Bristol and as vicar of Blean, a village outside of Canterbury. In 1986, he accepted a call to return to Cambridge as dean of the chapel at Trinity Hall, and in 1989, he was named president of Queens' College, a position he held until his retirement in 1996. A Fellow of the Royal Society and a member of the Society of Ordained Scientists, Dr. Polkinghorne was granted the senior Sc.D. degree by Cambridge in 1974 in recognition of his contributions to research and has received honorary degrees from the universities of Kent, Exeter, Leicester, and Durham in the United Kingdom, as well as Marquette University in the United States. He was knighted by Queen Elizabeth II in 1997 and is currently a fellow of Queens'. He also serves on the board of advisors of the John Templeton Foundation. In addition to an extensive body of writing on theoretical elementary particle physics, including most recently *Quantum Theory: A Very Short Introduction* (2002), he is the editor or co-editor of four books, the co-author (with Michael Welker) of *Faith in the Living God: A Dialogue* (2001), which has been translated into Korean and Chinese, and the author of fourteen other books on the interrelationship of science and theology in which he explores questions about God's action in

creation. Among them are: *Belief in God in an Age of Science* (1998), a volume composed of his Terry Lectures at Yale University; *Science and Theology* (1998); *Faith, Science and Understanding* (2000); *Traffic in Truth: Exchanges between Theology and Science* (2001); *The God of Hope and the End of the World* (2002); and *Living with Hope* (2003). His latest study, *Science and the Trinity: The Christian Encounter with Reality* (Yale University Press, 2004), is based on his Warfield Lectures at Princeton Theological Seminary and represents a new stage in the science and religion conversation in which the author deeply engages a specifically Christian subject. Allowing theological concerns to shape the argument, Dr. Polkinghorne addresses the nature of God—and suggests that divine perfection lies in God's ever appropriate relationship to changing creation.

John D. Zizioulas is a Greek Orthodox bishop and theologian whose book, *Being as Communion* (1985), has been highly influential among Western scholars seeking to recover a view of Christian community as more than a conglomeration of individuals. His work is often considered a paradigmatic example of relational anthropology in theology. At the heart of his theology is ecclesiology, but his ecclesiology rests primarily on an ontology of the person, which is derived from his deep reflection on the nature of the Trinity. In addition to his scholarly writing, he has long been active in ecumenical affairs. As Metropolitan of Pergamon, he represents the Ecumenical Patriarchate of Constantinople on international church bodies and has led theological dialogue with the Roman Catholic Church and the Anglican Communion. His commitment to ecumenism preceded his ordination as an Orthodox priest and bishop in 1986 and arises from his image of the Church's catholicity, a unity based on the presence, above all in the Eucharist, of the person of Christ. He also has played a major role in promoting Orthodox involvement in environmental issues. Metropolitan John is a graduate of the University of Athens, where he received a doctorate in theology in 1965. He studied patristics at the Harvard Divinity School, earning a master's degree in sacred theology, and was a fellow at Dumbarton Oaks Center for Byzantine Studies. For several years, he served as secretary of the Commission of Faith and Order of the World Council of Churches in Geneva. He was professor of systematic theology at the University of Glasgow for fourteen years and, subsequently, at King's College, University of London, and the University of Thessaloniki until his recent retirement. Metropolitan John has been a visiting professor at the University of Geneva and at the Gregorian University in Rome. He served as honorary director of the Ecumenical Institute of the Society for Ecumenical Studies and Inter-Orthodoxy Relations at the University of Thessaloniki. In addition to numerous articles published in theological journals and *Being as Communion*, he is the author of *Eucharist, Bishop, Church* (1965 and 1990), which was published in English by Holy Cross Orthodox Press in 2001.



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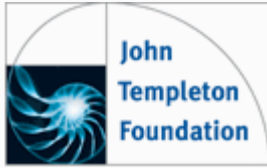
Bishop Kallistos of Diokleia (Timothy Ware)

Michael Welker

Wesley J. Wildman

Anton Zeilinger

Lewis Ayres is an associate professor of historical theology at the Candler School of Theology and in the Graduate Division of Religion at Emory University. The focus of his work is patristics and the development of Trinitarian theology. A graduate of St. Andrew's University, he went on to study at Merton College, Oxford University, and took a D.Phil. in theology at Oxford in 1994. After three years of teaching in the United Kingdom and four years at Trinity College, Dublin, Dr. Ayres joined the faculty of Duke University Divinity School as an assistant professor of theology in 1999. Two years later, he moved to Emory, where he was appointed to his present position in 2004. He has been the St. Francis Xavier Visiting Fellow in Theology at Liverpool Hope University College, University of Liverpool, and a visiting fellow at the Center for Early Christian Studies at Catholic University of America. A member of the editorial boards of the *Journal of Early Christian Studies* and of *Modern Theology*, he is the author of some thirty articles in scholarly journals and chapters in volumes of collected works. He serves as co-editor of the Blackwell Publishers series *Challenges in Modern Theology*. He is also the co-editor of four books, including (with Andrew Louth and Frances Young) *The Cambridge History of Early Christian Literature* (2004) and (with Vincent Twomey) *The Mystery of the Trinity in the Fathers of the Church*, which will be published next year by Four Courts Press. Dr. Ayres is the author of *Nicaea and its Legacy: An Approach to Fourth Century Trinitarian Theology* (Oxford University Press, 2004), which offers a subtle new reading of the common themes among eastern and western Trinitarian theologies in the late fourth and early fifth centuries, including the "Cappadocians" and Augustine. With Michel René Barnes, he is the co-author of *The Spirit of His Mouth: Pneumatology from the Bible to Augustine* (in press), and he is presently editing a volume entitled *The Trinity Reader for Blackwell* and writing two other books, *Augustine's Trinitarian Theology* and *Early Christianity: An Introduction*, both for Cambridge University Press.



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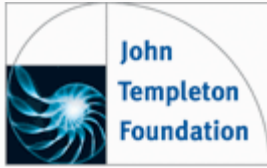
Wesley J. Wildman

Anton Zeilinger

A philosopher of physics with a special interest in the conceptual foundations of quantum theory and in quantum logic, **Jeffrey Bub** is a professor of philosophy at the University of Maryland and an adjunct professor of philosophy at The Johns Hopkins University. He is also an associate of the Center for Philosophy at the University of Pittsburgh and a permanent associate of the Center for the Philosophy of the Natural and Social Sciences (CPNSS) at the London School of Economics. A graduate of the University of Cape Town, where he took his bachelor's degree with distinction in pure mathematics and physics and earned first-class honors in applied mathematics, he received his Ph.D. in mathematical physics from the University of London in 1966. After three years at the University of Minnesota, where he was first a research specialist in the chemistry department and then a research associate in the Center for Philosophy of Science, he was appointed an assistant professor of physics at Yale University. He joined the faculty of the University of Western Ontario as an associate professor of philosophy in 1971 and was named a full professor four years later. Dr. Bub accepted his present position at Maryland in 1986. He has been a visiting professor at Princeton, Yale, the University of California at Irvine, the CPNSS at the London School of Economics, and the University of California at San Diego. His research has been supported by the National Science Foundation, the Canada Council, the Social Sciences and Humanities Research Council of Canada, the Engineering and National Sciences Research Council of Canada, and the University of Maryland. A former member of the governing board of the Philosophy of Science Association, he serves on the editorial boards of the *Western Ontario Series in Philosophy of Science*, *Foundations of Physics Letters*, *Studies in the History and Philosophy of Modern Physics*, and the *Philosophy of Science*. He has published some ninety articles in scientific and scholarly journals and is the author of two books: *The Interpretation of Quantum Mechanics* (1974) and *Interpreting the Quantum World*, winner of the Lakatos Award, which was published by Cambridge University Press in 1997 (revised paperback 1999).

and hailed for providing a unified reconstruction and systematic assessment of quantum mechanics. Dr. Bub's current research is focused on understanding quantum information, and he recently won the University of Maryland's Kirwan Faculty Research and Scholarship Prize for papers published in this general area.

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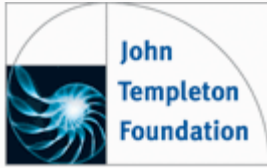
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Michael Heller is a professor of philosophy at the Pontifical Academy of Theology in Cracow, Poland, and an adjunct member of the staff of the Vatican Observatory. A Roman Catholic priest, Dr. Heller was ordained in 1959. He was graduated from the Catholic University of Lublin, where he earned a master's degree in philosophy and a Ph.D. in cosmology in 1966. After beginning his teaching career at the Theological Institute in Tarnow, he joined the faculty of the Pontifical Academy of Theology in 1972 and was appointed to a full professorship in 1985. The recipient of an honorary degree from the Cracow University of Technology, he has been a visiting professor at the Catholic University of Louvain in Belgium and a visiting scientist at Belgium's Licge University, Oxford University, Leicester University, Ruhr University in Germany, The Catholic University of America, and the University of Arizona. Dr. Heller is a member of the Pontifical Academy of Sciences and a founding member of the International Society for Science and Religion, as well as a member of the board of advisors of the John Templeton Foundation. His current research is concerned with the singularity problem in relativistic cosmology and the use of noncommutative geometry in seeking the unification of general relativity and quantum mechanics. He has published some 200 scientific papers, not only in general relativity and relativistic cosmology but also in philosophy and the history of science and science and theology, and is the author of more than twenty books, including *Is Physics an Art?* (1998). In his most recent volume, *Creative Tension* (Templeton Foundation Press, 2003), he explores the encounter of theology and science when theology reflects upon creation and science tries to decipher the structure of the universe.



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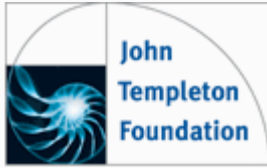
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Professor emeritus of electrical engineering and computer science at the University of Maryland, **Panos A. Ligomenides** is a life member of The Academy of Athens and serves as director of its Office of Research in Informatics and Electronics. His current research is focused on medical image processing for early cancer diagnosis, as well as applied artificial intelligence, cybernetics, cognitive engineering, and applications of artificial neural networks. After graduating from the University of Athens, where he received a bachelor's degree in physics summa cum laude and a master's degree in radio engineering, Dr. Ligomenides went on to Stanford University, where he earned a master of science degree in electrical engineering and took a Ph.D. in electrical engineering and physics in 1958. He subsequently worked as a research scientist at IBM laboratories in Poughkeepsie, New York, and San Jose, California, for six years and also taught at San Jose and Santa Clara universities. He joined the engineering faculty at the University of California at Los Angeles in 1964 and, five years later, the engineering faculty at Stanford, while continuing his association with IBM as a consultant. In 1971, Dr. Ligomenides accepted a visiting position as a Distinguished Professor of Electrical Engineering at the University of Maryland. The next year, he was appointed to a tenured position as professor of electrical engineering and director of Maryland's Cybernetics Research Laboratory, posts he held until his retirement in 1993. Elected that year to The Academy of Athens, he returned to Greece, and for the next four years, he served in an invited position as professor of informatics at University of Patras. While teaching in the United States, Dr. Ligomenides served for a number of years as vice president of the Caelum Research Corporation and as president of the Computer Engineering Consultants Company. He was also an adjunct professor on the computer engineering faculty of the Polytechnic University of Madrid. Throughout his career, he has been a technical advisor to private companies and public agencies in the United States and in Greece. In 1973, he was named an Outstanding Educator in America by the Organization of Deans of American

Universities. He has been a Fulbright Professor, a Ford Foundation fellow, a fellow of the Organization for Economic Cooperation and Development, and a fellow of the Salzburg Center for American Studies. Dr. Ligomenides is the author of more than 200 articles published in scientific journals and reviewed proceedings and of seven technical books. In 2002, *The Apricot's Peel*, his book on the ontological and metaphysical implications of recent discoveries in physics and information theory, was published in Greek.

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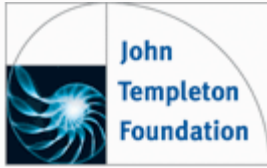
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David Martin, a sociologist of religion known especially for his critique of secularization as a theory of social process and his pioneering work on Pentecostalism in Latin America, is a professor emeritus of sociology at the London School of Economics and Political Science (LSE) and honorary professor of the sociology of religion at Lancaster University. He is also an ordained priest in the Church of England attached as a non-stipendiary assistant to Guildford Cathedral. After completing his national service as a conscientious objector in the late 1940s, Dr. Martin attended the Westminster College of Education and served for seven years as a primary school teacher in London. During that time, he began evening courses in sociology at the University of London and received a first-class honors degree. He was awarded a scholarship to the LSE and took his Ph.D. in sociology in 1964. Two years earlier, after serving a year as an assistant lecturer at Sheffield University, he had been appointed to the LSE sociology faculty as a lecturer. He was promoted to reader in 1967 and named a professor in 1971, a post he held until his retirement in 1988. He had become Elizabeth Scurlock Professor of Human Values at Southern Methodist University in Dallas, Texas, in 1986 and continued to teach there until 1990. Dr. Martin has been a visiting professor at King's College, London, Lancaster University, Boston University, and Princeton Theological Seminary, as well as a visiting fellow of the Japan Society for the Promotion of Science. He has delivered invited lectures in Britain, Canada, the United States, Australia, New Zealand, Israel, Lebanon, and Finland and was awarded the Visiting Scholar's Medal and an honorary doctorate in theology from Helsinki University. A past president of the Science and Religion Forum, the Religion Section of the British Sociological Association, the International Conference for the Sociology of Religion, and the United Kingdom Committee for University Autonomy, he has been a member of the boards of directors of CORAT (Christian Organizations Research and Advisory Trust), St. Catharine's Royal Foundation, Culham College, the Higher Education Foundation, and the International Council for the Future of the University. He formerly served on the editorial advisory committee of the Encyclopedia Britannica and as editor

for the religious studies section of the New International Encyclopedia of the Social Sciences. The author of numerous articles in scholarly journals, Dr. Martin is an editor or co-editor of eleven books and the author of seventeen others, including *Pacifism: An Historical and Sociological Study* (1965), *A General Theory of Secularization* (1979), *Tongues of Fire: Conservative Protestantism in Latin America* (1990), *Does Christianity Cause War?* (1997), *Pentecostalism: The World Their Parish* (2002), and, most recently, *On Secularization: Notes Towards a Revised General Theory*, which was published in 2005 by Ashgate. His latest work, co-authored with his wife Bernice Martin, is *Betterment from on High: Evangelical Lives in Chile and Brazil* and will be published in 2006 by Oxford University Press.

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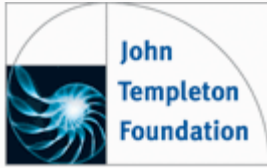
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An associate professor of theoretical physics at the University of Thessaloniki, **Argyris Nicolaidis** conducts research in the areas of quantum chronodynamics, phenomenology of electroweak forces, neutrino astrophysics, cosmic rays, extra dimensions of space, and string and black hole dynamics. He earned his undergraduate degree with distinction from Thessaloniki and was awarded an Alexander McFee Scholarship and a National Research Council of Canada Scholarship for graduate study at McGill University, where he took a Ph.D. in theoretical physics in 1978. After post-doctoral work at the Collège de France, he joined the physics faculty at Thessaloniki and was appointed to his present position in 1987. Dr. Nicolaidis has held a Fulbright Scholarship, as well as a France-Quebec Scholarship, an IN2P3 Scholarship awarded by the Collège de France, and a Joliot-Curie Scholarship awarded by École Polytechnique in Paris. He is the recipient of the Empirikion Prize for the Natural Sciences. A member of the scientific councils of NESTOR (Institute of Deep Sea Research, Technology, and Astroparticle Neutrino Physics) and of EUSO (Extreme Universe Space Observatory), he is also a member of the board of advisors of the John Templeton Foundation. Dr. Nicolaidis has been the co-organizer of international conferences on science, philosophy, and religion and was co-organizer of the 2002-2004 "Cosmos in Science and Religion" project at Thessaloniki. A member of the editorial advisory board of the *European Journal of Science and Theology*, he is the author or co-author of more than fifty scientific papers and the author of a book on elementary particles published in Greek.



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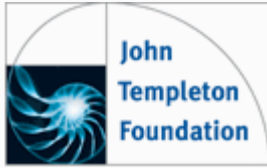
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A systematic theologian, **Michael Welker** works through the biblical traditions and through philosophical and sociological theories to address questions of contemporary culture. Warning against a reductionist systematics that can block, as well as guide, thought, he has focused on the interplay among religious, legal, moral, scientific, and other cultural codes that shape the ethos of the postmodern world. His work is exceptionally wide-ranging, and he has recently considered problems of pluralism in societies, cultures, and canonic traditions, as well as exploring notions of human personhood in pre-modern, modern, and contemporary periods. In *God the Spirit* (1992 and 1994), he articulates a broad spectrum of experiences of the Spirit, searches and quests for the Spirit, and skepticism toward the Spirit informing contemporary theological reflection. His interweaving of diverse testimonies and accounts of God and God's action among human beings illuminates how different people and different groups of people throughout history have served as bearers of God's revelation. Professor and chair of systematic theology in the Theological Faculty of the University of Heidelberg, he has been director of the university's *Internationales Wissenschaftsforum* since 1996. Dr. Welker is a graduate of the University of Tübingen where he studied with Jürgen Moltmann and earned a doctorate in theology in 1973. Ordained in the *Evangelische Kirche der Pfalz*, he received a Ph.D. from Heidelberg in 1978. He was professor of systematic theology in the Theological Faculty of the University of Tübingen from 1983 to 1987 and, for the next four years, professor and chair of Reformed theology in the Theological Faculty of the University of Münster. He has held an honorary research fellowship at the Institute for the Advanced Study of Religion of the University of Chicago Divinity School and has been a visiting professor at McMaster University in Hamilton, Ontario, Canada, and the Princeton Theological Seminary as well as a guest professor at the Harvard Divinity School. Dr. Welker serves on the board of advisors of the John Templeton Foundation. A member of the Consultation on Science and Religion of Princeton's Center for Theological Inquiry since 1993, he is a member of the

editorial boards of *Dialog: A Journal of Theology*, *Evangelische Theologie*, *Jahrbuch für Biblische Theologie*, *Journal of Law and Religion*, *Process Studies*, *Soundings: An Interdisciplinary Journal*, *Verkündigung und Forschung*, and *Word and World*. He has published some 200 articles in scholarly journals and written or edited more than twenty books. In addition to four recent works in German, including *Kirche im Pluralismus* (2000), his latest studies are: *What Happens in Holy Communion* (2000), which has been published in six languages; (edited with John Polkinghorne) *The End of the World and the Ends of God: Science and Theology on Eschatology* (2000), which has been translated into Korean; (with John Polkinghorne) *Faith in the Living God: A Dialogue* (2001), which has been translated into Korean and Chinese; (edited with Ted Peters and Robert John Russell) *Resurrection: Theological and Scientific Assessments* (2002); and (with Wallace M. Alston) *Reformed Theology: Identity and Ecumenicity*, which was published in 2003 by Wm. B. Eerdmans. He is currently editing a volume on Pneumatology for Eerdmans, which will be published next year as *Exploring the Work of the Holy Spirit*.



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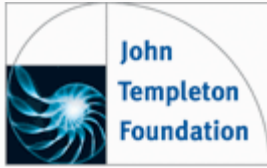
14, 15, 16, AND 17 OCTOBER 2005

THE ACADEMY OF ATHENS GREECE

Participants

Lewis Ayres
Jeffrey Bub
Michael Heller
Panos A. Ligomenides
David Martin
Argyris Nicolaidis
Bishop Kallistos of Diokleia (Timothy Ware)
Michael Welker
Wesley J. Wildman
Anton Zeilinger

Wesley J. Wildman is an associate professor of theology and ethics at the Boston University School of Theology, where he chairs the philosophy, theology, and ethics department and the core faculty group in science, philosophy, and religion, which hosts an interdisciplinary doctoral program. His writing has focused on comparative and constructive theology, and his reflections on a variety of philosophical and ethical topics draw from disciplines in the natural and social sciences. After taking a first-class honors degree in mathematics at Flinders University in Australia, he earned a bachelor of divinity degree at the University of Sydney, where he was a fellow and resident mathematics tutor of Wesley College. Dr. Wildman was ordained a minister in the Uniting Church of Australia in 1986 and served for two years as a minister of the Parramatta Uniting Church in Sydney. He continued his studies at the Graduate Theological Union in Berkeley, while serving as associate pastor of Piedmont Community Church in Piedmont, California, and received his Ph.D. in theology in 1993. He taught at Stanford University as an acting assistant professor of religious studies before joining the Boston University theological faculty. He was named to his present position in 1999. Dr. Wildman is the recipient of two John Templeton Foundation Course Program grants and a teaching grant from the Association of Theological Schools. In addition to nearly fifty articles published in scholarly journals and chapters in volumes of collected works, he is the co-editor (with W. Mark Richardson) of *Religion and Science: History, Method, Dialogue* (1996), which was recently translated into Russian, and (with Niels Gregersen and Nancy Howell under chief editor Wentzel van Huyssteen) of the two-volume *Encyclopedia of Science and Religion* (2003). His book, *Fidelity with Plausibility: Modest Christologies in the Twentieth Century*, which was published by SUNY Press in 1998, argues that the contemporary sciences set plausibility conditions for theological interpretations of Jesus Christ that should be taken with great seriousness.



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One of the world's leading researchers in the field of quantum physics, **Anton Zeilinger** is professor of physics and director of the Experimental Physics Institute at the University of Vienna and co-director of the Institute of Quantum Optics and Quantum Information of the Austrian Academy of Sciences. His work received international attention in 1997 when he and his colleagues at the University of Innsbruck, where he was then directing the Institute of Experimental Physics, confirmed the possibility of quantum teleportation by demonstrating, through the use of pairs of entangled photons, that the properties of one particle can be instantly transferred to another over an arbitrary distance. More recently, Dr. Zeilinger's quantum interference experiments with "buckyballs" (molecules whose shapes resemble the geodesic domes designed by R. Buckminster Fuller), so far the largest objects to have demonstrated quantum behavior, have attracted the notice of the scientific community. By proving that clusters of more than one hundred atoms obey quantum-mechanical rules, he has extended the quantum domain further than ever before. Dr. Zeilinger studied at the University of Vienna and earned a Ph.D. in physics and in mathematics in 1971. After a lectureship at the Technical University of Vienna, a Fulbright fellowship at the Neutron Diffraction Laboratory of the Massachusetts Institute of Technology, and professorships at MIT, the Technical University of Vienna, and the University of Innsbruck, he accepted his present position in 1999. Dr. Zeilinger has been a visiting professor at the University of Melbourne, the Technical University of Munich, and the Collège of France, as well as an adjunct professor at Hampshire College in Amherst, Massachusetts, and a visiting research fellow at Merton College, Oxford University. The former president of the Austrian Physical Society, he was named Austrian Scientist of the Year in 1996. His long list of honors include the Senior Humboldt Fellow Prize, Germany's Order pour le Mérite, the 2000 Science Prize of the City of Vienna, and the 2005 King Faisal Prize. Dr. Zeilinger is a fellow of the American Physical Society, an honorary member of the Slovak Academy of Sciences, an honorary professor of the

University of Science and Technology of China, and a member of the board of advisors of the John Templeton Foundation. The author of more than 300 papers published in major scientific journals, he is co-editor (with Dirk Bouwmeester and Artur Ekert) of *The Physics of Quantum Information* (2000) and (with Chiara Macchiavello and G. Massimo Palma) of *Quantum Computation and Quantum Information Theory*, which was published in 2001 by World Scientific. His most recent book, *Einstein's Schleier (Einstein's Veil)* was published by C. H. Beck Verlag in 2003, and following its success, the publisher will bring out his new work, tentatively entitled *Einstein's Spuk*, later this year. Mindful of the practical applications of his research for the processing and transmission of information, including quantum teleportation, quantum cryptography, and quantum computing, Dr. Zeilinger is also intrigued by the epistemological implications of quantum physics. He has met with spiritual leaders, including the Dalai Lama and the late Cardinal Franz Koenig, to discuss epistemological and conceptual issues and has challenged his scientific colleagues to consider which notions appearing distinct and even opposed today will turn out to be so for future generations.