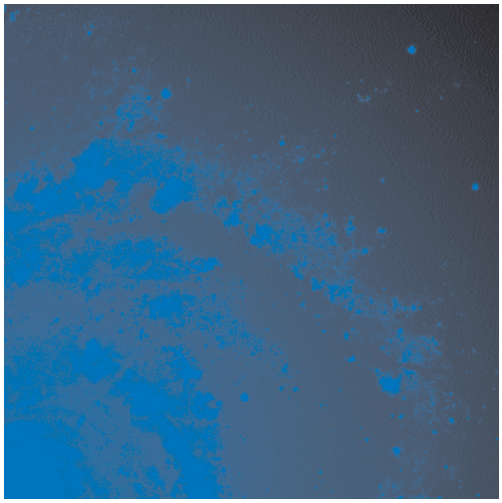
A CHRONICLE

Prof. Charles H. Townes
2005 Templeton Prize Laureate



TEMPLETON PRIZE

For Progress Toward Research or Discoveries About Spiritual Realities

including research in love, creativity, purpose, infinity, intelligence, thanksgiving and prayer.

Templeton Prize Press Conference | New York City | March 9, 2005
Templeton Prize Luncheon Media Briefing | London | May 3, 2005
Buckingham Palace Prize Presentation | London | May 4, 2005

TABLE OF CONTENTS

Cover image: Whirlpool Galaxy (M51) courtesy of UCO/Lick Observatory

STATEMENT BY

John M. Templeton, Jr., M.D.

AT THE TEMPLETON PRIZE PRESS CONFERENCE, NEW YORK CITY, MARCH 9, 2005

Good morning. As President of the John Templeton Foundation, it is my privilege and pleasure to welcome all of you to the annual news conference for the announcement of the 2005 Templeton Prize.

Please let me take the opportunity to thank each and every one of you for attending this morning. I would also like to express a very special welcome to the 2005 Templeton Prize Laureate, Professor Charles Townes of the University of California at Berkeley. It is a great honor for us to have Dr. Townes with us this morning to share some comments and to answer your questions. Our format this morning is as follows: First, I shall share with you some of the perspectives of my Father, Sir John Templeton, when he established the Templeton Prize Program and when he spoke with us here two years ago. Because my Father is now 92 years old, he finds that the rigors of international travel, including long waiting lines at the airports, are overly taxing on him. He sends his sincerest apologies, therefore, for his not being able to be with us this year, but he also wants to express his joy in the wisdom of the judges in selecting Professor Charles Townes as the 2005 Templeton Prize Laureate.

After a few comments about the vision of the Prize program, I shall present some of the accomplishments of Dr. Townes, which clearly guided the judges in their selection of him as the winner of this year's award. After this introduction, Dr. Townes will share with us some of the perspectives of his life-long work in the growing field of Science and Religion. Then, after his remarks, we shall open the floor to questions.

The Templeton Prize continues to be the world's largest annual prize given to an individual. This year's award is in the amount of £795,000 Sterling, which as of yesterday's market close equals more than $1.4 million.

You may recall that a few years ago the name of the Prize, which is now in its thirty-third year, was changed to the Templeton Prize for Progress Toward Research or Discoveries About Spiritual Realities. In fact, for many years we have been looking for ways to draw greater and greater attention to the idea that progress in spiritual information and spiritual discoveries is just as feasible as progress in medicine, science and cosmology. In fact, spiritual progress may be more important than all of these other areas. Therefore, the name of the Prize was changed to inspire greater attention to research or discoveries of a spiritual nature. Spiritual realities refer to matters of the soul that are universal and apply in all cultures and to all peoples. Examples would include subjects like love, purpose, infinity, prayer, and thanksgiving. These realities are non-material, transcendent or metaphysical areas about which many people have intuitive perceptions.

The Prize is given each year in honor of a living person who represents through his or her work a remarkable spirit of inquiry to understand not only the nature of these realities, but also the nature of the divinity which gives life to these spiritual realities. The inquiry can come in many forms, including scientific research or other methods of discovery by which knowledge might compliment ancient scriptures and traditions in opening our eyes more fully to our growing understanding about God's nature and purpose. This spirit of inquiry may involve a lifetime of scholarly commitment to the growing field of Science and Religion as demonstrated by the life's work of Dr. Charles Townes.

Two years ago, my Father shared with us some of his perspectives that crystallize the meaning of this Prize program. He said, "Let me go back to some examples. Until three centuries ago, spiritual information and scientific information were regarded as one unit. But then a divergence took place. Science began to advance strongly into experimental science research, and as a result, we have witnessed the most glorious race ahead.

"Let's take medicine: We know at least a hundred times as much about your body as we knew just one century ago. Unfortunately, this has not happened in regard to spiritual information or spiritual realities.

"Or take any one of the other sciences: There is no major science that has not just raced ahead. So we live in the most glorious, rapidly improving time in all of the world's history – except in our knowledge of divinity.

"Why is such a vision of progress not true in spiritual matters? It's because of an unintentional attitude. Nobody planned it; nobody even realizes it's there. But it is the idea that, when you are trying to do research of a spiritual nature, you must look back hundreds if not thousands of years ago, and not into current discoveries.

"So why can we not get all of the world's people to be enthusiastic rather than resistant to new concepts in the field of spiritual information and discoveries about spiritual realities?"

In his comments two years ago, my Father went on to say: "I think I can convince almost anybody that there has never been a human being who knew even one percent of what might be known about God. Almost everybody in the Western world believes there is a God but the amount of high quality scientific research done on the aspects of divinity is tiny."

Therefore, what we are trying to do through this Prize program and many of our other programs for the John Templeton Foundation, is to change that attitude so that everybody, including theologians, becomes as enthusiastic for new discoveries just as people are in chemistry or medicine or physics or anything else.

If we can do that, the benefits are likely to be even greater. If we can get the world to spend even ten percent as much on spiritual research as the world does in scientific research, more will be discovered. With such an investment, it is possible that by the end of this century, humans will know perhaps one hundredfold more about the nature of divinity, and the nature of creativity, than anybody ever knew before. The benefits, therefore, are likely to be even greater than the benefits that have come from medicine or chemistry or physics.

John M. Templeton, Jr. at the Templeton Prize Press Conference.

Cosmology, for example, is a field that holds great promise in regard to this vision of discovery. It is useful to reflect on the fact that discoveries in all of the sciences, including cosmology, have contributed to our understanding of how large is God, thereby suggesting what we can learn about God. As noted, some fields like cosmology can especially contribute to helping humanity understand aspects of divinity. In highlighting this vision, my Father said: "All of this points toward tremendous blessings for humanity and that is what I am devoting my life to. My challenge to you is that if you want to be happy, if you want to be of benefit to humanity, you will not come up with anything more beneficial than new discoveries about spiritual realities including the nature of God and His purposes for us."

...what we are trying to do through this Prize program and many of our other programs for the John Templeton Foundation is to change that attitude so that everybody, including theologians, becomes as enthusiastic for new discoveries just as people are in chemistry or medicine...

That line of thinking explains why we are here today. Years ago my Father looked at the work of Alfred Nobel and discovered that by giving five Prizes in Chemistry, Physics, Medicine and so forth, he had persuaded the most brilliant people on earth to devote a huge amount of attention to discovery – discoveries in physics, medicine and so forth. Brilliant people who might not otherwise have made these discoveries were inspired by the fact that other people had discovered something important and were recognized by winning one of his distinguished Prizes.

Nevertheless, My Father, Sir John, felt that Alfred Nobel had a blind spot when it came to spiritual discovery. He said: "I, therefore, established this Prize program to encourage an attitude of progress in the domain of religion and also a spirit, even an enthusiasm, for a quest for discovery regarding spiritual realities. I feel that this quest will have the most powerful and beneficial impact in the whole realm of research and discoveries – an impact that will advance the well being of each individual and the world as a whole."

As I explained, my Father regrets very much that he is not able to be with us today to share in our recognition of this year's winner, Professor Charles Townes of the University of California at Berkeley. In my Father's absence, I would like to briefly share with you some of the extraordinary background and lifetime work of Dr. Charlie Townes. His is a career of remarkable accomplishments, which clearly guided the judges in their selection of him as this year's winner.

Many of the details of his accomplishments are highlighted in the press package which you have received. Let me take a few moments, however, to highlight some of his remarkable life's work.

Charles Hard Townes was born in Greenville, South Carolina in 1915 in a strongly committed Baptist household that embraced an open-minded approach to biblical interpretation. Dr. Townes received a B.A. in Modern Languages and a B.S. in Physics, *summa cum laude*, from Furman University when he was 19 years old. Two years later, he received an M.A. in Physics from Duke and in 1939, a Ph.D. in Physics from the California Institute of Technology with a thesis on Isotope Separation and Nuclear Spins.

His career in Science has proven to be a remarkable trajectory of innovation, discovery and a lifetime of cutting-edge research. First as a member of the technical staff at Bell Laboratories, he then went on to develop radar systems during World War II that effectively performed in the humid conditions of the Pacific Theater.

After the war he became Associate Professor of Physics at Columbia, where he began to collaborate in the new field of Microwave Spectroscopy, including designing masers and later lasers in the 1950s.

Dr. Townes often cites his discovery of the principles of the maser – an insight that suddenly occurred to him as he sat on a park bench in Washington, D.C. in 1951 – as a "revelation" – as real as any revelation described in the scriptures.

Dr. David Shi, President of Furman University, pointed out that Professor Townes, "has reached out to both the faith and scientific communities to explain the similarities and method, mission, and purpose between the two ways of perceiving the world...

Subsequently, Dr. Townes served as Chairman of Columbia University's Physics Department and wrote, with Dr. Arthur Schawlow, an important new book entitled *Microwave Spectroscopy*. Subsequently, their collaboration led to discoveries which we now know as the laser – a discovery for which Dr. Townes shared in the Nobel Prize in Physics in 1964.

After serving as Provost and Professor at MIT, Dr. Townes was appointed as University Professor of Physics at the University of California at Berkeley in 1967. Through a long and productive career in Astrophysics Research, including the use of radio and infrared techniques for studying atoms and molecules, Dr. Townes made a number of important discoveries in science continuing up until his present involvement in research on the search for extraterrestrial intelligence.

Because of his extraordinary career in Science, Dr. Townes, who became an Officer of the French Legion of Honor in 1990, is also the recipient of the Niels Bohr International Gold Medal plus nearly 100 other honors and awards. He also holds honorary degrees from more than 25 universities and has served on several presidential commissions relating to Behavioral and Social Sciences and the prevention of nuclear war.

Amidst his extraordinarily productive career in science, Professor Townes also began a parallel career of spiritual inquiry guided by his early Christian upbringing. This spiritual quest increasingly began to intersect with his calling as a scientist. Beginning in the 1950s, Professor Townes insisted that religion and science were not antithetical. In 1964, at New York's Riverside Church, he spoke on the convergence of these two realms. His speech was printed in IBM's *THINK* magazine and the MIT *Technology Review*. This speech was translated and published in *Pravda* and also translated into Chinese and Japanese. So rare was his viewpoint at the time that Dr. Townes admitted in the paper that his position would be considered by many in both camps to be "extreme."

From this auspicious and even daring exploration followed a number of important and provocative papers, speeches and book projects including a paper entitled, "How And Why Did It All Begin?" Then followed publications entitled, "Science, Values and Beyond" and "On Science, And What It May Suggest About You." More recently, his publications include, "Convergences On Science and Religion," "Testing Faith, Wrestling With Mystery," and "Logic and Uncertainties in Science and Religion."

In nominating Dr. Townes for this year's Templeton Prize, Dr. David Shi, President of Furman University, pointed out that Professor Townes, "has reached out to both the faith and scientific communities to explain the similarities and method, mission, and purpose between the two ways of perceiving the world. …Science tries to understand the order and structure of the universe; religion seeks to determine the purpose or meaning of life. Science focuses on how; religion asks why. …While science may be more empirical than religion, Dr. Townes argues that some assumptions about faith, like the efficacy of prayer, can be subjected to meaningful tests. In addition, Dr. Townes points out that both scientists and theologians seek truth that transcends current human understanding. Because both are human perspectives trying to explain and define meaning in the universe, both are fraught with uncertainty."

Dr. Shi also emphasized Professor Townes' lifelong engagement with theological concepts derived from insights and images gleaned from physics. "Dr. Townes' emphasis on similarities between Science and Religion has made the dialogue between people of faith and people of science less confrontational and more sensitive to their shared concern – that is, answering fundamental questions about ultimate reality. Dr. Townes has demonstrated conclusively that faith is as crucial for science as reason is for religion. In this lifelong quest for truth in two intersecting domains, Charles Townes serves as a model of rationality informed by faith. He invites others to share in his sophisticated commitment to the search for spiritual knowledge grounded in science."

Dr. Shi concludes by commending Dr. Townes' awe-inspiring energy. "He still directs post-doctoral students, still speaks and writes with verve, passion, and humility about religious faith and scientific research, and still inspires others with his goodness and Godliness. He has made a profound contribution to the progress of exploring, discovering and embracing the awe and wonder of God's creation."

It is from this framework of Dr. Townes' lifelong commitment to the intersecting of a quest for truth, both in Science and Religion and in his serving as a model of rationality informed by faith, that I would like now to ask Dr. Charles Townes, the 2005 Templeton Prizewinner, to come forward and share some remarks with us.

STATEMENT BY

Prof. Charles H. Townes

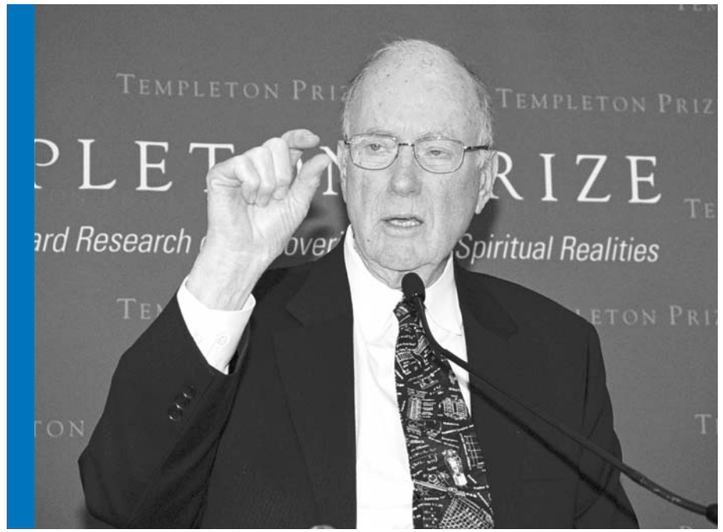
AT THE TEMPLETON PRIZE PRESS CONFERENCE, NEW YORK CITY, MARCH 9, 2005

I feel very humble at being thought to have contributed to such critically important fields as spirituality and the purpose of life. I am enormously honored by this award, and deeply thank the John Templeton Foundation.

I want to thank even more Sir John Templeton for his work and emphasis on better understanding spirituality and religion, and towards bringing science and religion into productive interactions. His efforts have in recent years indeed produced an atmosphere of open and helpful discussions between scientists and theologians. I believe there is no long-range question more important than the purpose and meaning of our lives and our universe, and Sir John has very much stimulated its thoughtful consideration, particularly encouraging open and useful discussion of spirituality and the meaning of life by scientists.

Science and religion have had a long history of interesting interaction. But when I was younger, that interaction did not seem like a very healthy one. For example, when I was a graduate student at the California Institute of Technology, even my professor who was directing my research jumped on me for being religiously oriented. I myself have always thought that science and religion are not unrelated, and should be honestly and openly interacting. Later, in the early 1960s, I was at Columbia University and the men's group of Riverside Church, near Columbia, asked if I would talk to them about my views, since I was one of few scientists they knew who attended church. Surprisingly, a week after my talk someone telephoned to ask if he could publish my talk he had heard on the relation between science and religion. Of all things, he wanted to publish it in *THINK* magazine of IBM, of which he was editor. Shortly after that, the editor of the MIT *Technology Review* read it and also wanted to publish it in his journal, and did. But a prominent MIT alumnus wrote him that if he ever published anything like it again on religion, he would never have anything more to do with MIT. This of course only encouraged me to provide many other talks and articles on the subject as I was invited, but it reflected a common view at the time among many scientists that one could not be a scientist and religiously oriented. There was an antipathy towards discussion of spirituality.

Not long afterwards, Templeton began his creative and constructive emphasis on the better understanding of religion and by now I believe he has made a major change in the openness of the public and of scientists to such discussions.



Charles Townes at the Templeton Prize Press Conference.

My own view is that, while science and religion may seem different, they have many similarities, and should interact and enlighten each other. They certainly can appear quite different, but basically I believe are closely related. Science tries to understand what our universe is like and how it works, including us humans. Religion is aimed at understanding the purpose and meaning of our universe, including our own lives. If the universe has a purpose or meaning, this must be reflected in its structure and functioning, and hence in science. In addition, to best understand either science or religion, we must use all of our human resources – logic, evidence (observations or experiment), carefully chosen assumptions, intuition, and faith. A former scientist-philosopher, when asked to define the "scientific method," said, "It's to work like the devil to get the answer, with no holds barred." I believe the same is true for our understanding of spirituality.

Many people don't realize that science basically involves assumptions and faith...We must make the best assumptions we can envisage, and have faith. And wonderful things in both science and religion come from our efforts based on observations, thoughtful assumptions, faith, and logic.

Many people don't realize that science basically involves assumptions and faith. But nothing is absolutely proved. For example, the mathematician Gödel showed logically that to prove something, there must be an overall set of assumptions, but that we can never prove that the assumptions are even self-consistent. We must make the best assumptions we can envisage, and have faith. And wonderful things in both science and religion come from our efforts based on observations, thoughtful assumptions, faith, and logic.

There are many mysteries in science. We seem to know only about five percent of the matter in our universe – this is such a small fraction, and what is the remainder? We are convinced the other matter is there, but it's not stars, light, or gas. What is it? It's clearly there according to cosmological behavior, but we don't know what in the world it is.

We assume the laws of physics are constant, and have faith in that, but could they suddenly change? And if not, why not?

Quantum mechanics and general relativity are wonderful, and tell us a lot. But it appears they are not consistent with each other. What is it we are missing?

Science is so successful that we are enthralled and believe it, but there are profound mysteries. Another mystery facing us in human life is free will. According to present science, we individuals really can have no freedom of choice, yet we think we do. And there is the question as to what really is consciousness, or a conscious being. Intuitively we think we can make some free choices, and know what consciousness is, but our present science and logic simply do not fit our ideas very well. Are there completely new phenomena and laws of science to be discovered, or can we never understand fully?

Recently, scientists have become more and more aware of the special nature of our universe, a special nature which allows us to exist, and we are wondering more and more about why. If relations between electromagnetic and nuclear forces were not very close to what they actually are, then the wealth of chemical elements, including carbon, oxygen, and nitrogen which humans depend on so much could not exist. If the gravitational and nuclear forces were not very close to what they are, the generation of heat by stars and our long-lasting and steady solar source of energy could not be.

As we progress, I'm hopeful that new understandings will deepen our perceptions. And they may well change our views, but I believe present understandings will still be important.

Why did the laws of physics turn out to be so special that we can be here? We can assume it was just accidental, but that seems extremely unlikely. Another possibility is that there are an almost infinite number of universes, each with different laws and ours turned out to be just the right one. But we can't test this assumption, and even if there are a multitude of universes we do not know why the laws of physics would vary in such a way from one universe to another.

Increasingly, science is showing how special our universe and we are, which has raised questions about whether it was indeed planned or influenced – one of many examples where science and religion naturally interact. The British physicist, Fred Hoyle, who was skeptical that there was any creation of the universe, nevertheless wrote, after he discovered how remarkable nuclear properties produced important chemical elements, "Would you not say to yourself, 'some super-calculating intellect must have designed the properties of the carbon atom?' Of course you would. A common sense interpretation of the facts suggests that some super intellect has monkeyed with physics – and there are no blind forces worth speaking about in nature."

We must continuously pay deep attention to such basic questions – the meaning of our universe, of life, and how to fulfill it. And we need to be open minded. I believe our present views have an important reality. But they may be modified, just as classical or Newtonian physics was radically modified in principle by the advent of quantum mechanics. And yet,

John M. Templeton, Jr. congratulates Charles Townes at the Templeton Prize Press Conference.

classical physics is still remarkably close to many realities, and we rely on it in many ways. As we progress, I'm hopeful that new understandings will deepen our perceptions. And they may well change our views, but I believe present understandings will still be important.

The Templeton Foundation has been creative and importantly helpful in stimulating new thoughts, efforts, and insights towards our understanding, in particular towards open and useful discussion between science and spirituality, which I deeply appreciate. And I am hopeful we will in time understand much more.

CLOSING STATEMENT BY

John M. Templeton, Jr., M.D.

AT THE TEMPLETON PRIZE PRESS CONFERENCE, NEW YORK CITY, MARCH 9, 2005

Again, I would like to warmly thank each and every one of you for attending this news conference this morning and for sharing your thoughts and questions.

I would also like to close with a special request from my Father. Specifically, he would, first, like to suggest that anyone here, or anyone who learns about the Prize and this year's winner, Dr. Townes, please contact us with any ideas or suggestions you might have for improving the Prize program and, in particular, its outreach and impact.

Secondly, my Father would like to urge you or anyone you know to submit new nominations of individuals who have made singular accomplishments in the broad area of research and discoveries about spiritual realities. You can learn more about the Templeton Prize program and the criteria for applications by going to our Website, www.templetonprize.org.

On that note, please join me in giving one more round of applause and our expression of gratitude to our 2005 Templeton Prize Laureate, Professor Charles Townes.

We look forward to seeing you here in New York City for our next Templeton Prize Press Conference in 2006. Thank you very much.

PRESENTATION OF THE

2005 Templeton Prize

AT BUCKINGHAM PALACE, LONDON, MAY 4, 2005

The Duke of Edinburgh with Charles Townes and his family and friends at the Buckingham Palace ceremony.

Charles Townes, his wife Frances Townes, and The Duke of Edinburgh at Buckingham Palace.

STATEMENT BY

Prof. Charles H. Townes

AT THE TEMPLETON PRIZE LUNCHEON MEDIA BRIEFING, LONDON, MAY 3, 2005

I am very deeply honored by this wonderful award and by its importance. I also want to thank the John Templeton Foundation for encouraging people to think carefully about some of the most important human questions. It is doing a creative and important job in that respect, and the Foundation and Templeton family are much appreciated.

To provide a picture of some of my own views, I will first give a few introductory comments which paint a broad picture of my general outlook.

I believe that science and religion have much in common and should interact strongly. If we look back in history, I think it arguable that the growth of modern science owes much to the Jewish and Christian religions. Monotheism indicated a consistent and reliable universe and the creation an interesting one that should be examined. These were viewpoints out of which Western science could grow. On the other hand, particularly in Europe, as determinism became a basic conclusion of science and evolution was recognized, it generated a split and even antagonism between science and religion. That's not been true of the Eastern religions, which generally have felt that science and religion go together and have much in common, so a split never occurred as it did in the Western world.

I believe that now science and religion are beginning to come back together again, and in the long run must necessarily do so.

What is science? Science is an attempt to understand how our universe works, including humans. What is religion? It's an attempt to understand the purpose, or meaning of this universe, including human life. Well, if there is purpose and meaning then the purpose and meaning must have a great deal to do with the structure of our universe and how it works. Thus, studying either one should teach us something about the other. They must be closely related and my view is that in the long run they will converge more and more. And I think they are beginning to. The John Templeton Foundation has helped. But this is also happening because of the progress of modern science and the increased openness of religious views.

Science and religion are more closely related than most people recognize. There certainly are quantitative differences between the two, but qualitatively they are rather similar. They use the same techniques and human resources.

Science and religion are more closely related than most people recognize. There certainly are quantitative differences between the two, but qualitatively they are rather similar. They use the same techniques and human resources. I'm reminded of a famous scientist and philosopher who was asked, "Would you tell us what is the scientific method?" "Oh, that's to work like the devil to get the answer with no holds barred." That means we use all of our human abilities to try to understand, which is the case for both science and religion. And what are those abilities? Faith? Yes, science has faith, science makes postulates. We call them postulates, not faith. Religion has experiments. Oh really? Yes, we observe how people behave. We also think about our feelings, how we react, how does society work. These are experiments, or observations. There's also revelation. Where does a new idea in science come from? One of my good ideas came about when I was sitting on a park bench worrying over why I had not found a solution to an important problem. Suddenly I recognized a solution. I'm reminded of some of the religious revelations that we know about. Religion uses logic and thoughtfulness. It uses instincts and intuition. So does science.

Let me now mention some of the modern developments in science that I think are giving us new depths of insight. There have been a number of very interesting recent discoveries. One is the initiation of our universe. Einstein felt that our universe had to have always been the same. It was instinctive, or a kind of faith he had, that the universe had always been the same and it was ridiculous to think that there could be a beginning. And many scientists agreed with him. But, not so long ago (and I'm very proud to say it's one of my former students who helped make this discovery) the Big Bang was discovered. There is evidence that there was a beginning to this universe about 13 billion years ago. From a tiny little point, it exploded, expanded, and developed. There was a unique moment in the past.

This discovery shook up the scientific community. Fred Hoyle, a very famous British physicist and a wonderful scientist, fought this discovery. He tried to provide different theories to show that the Big Bang didn't really happen. But he finally had to give up, was convinced, and recognized yes, there was a unique moment in the past.

Still more recently we've discovered that we know about only a very small fraction of our universe. The things that we know and see are only about five percent of the total mass of the universe – all the stars and the gasses in the universe, all the things we know are only about five percent of the total matter in our universe. We know something is out there because we can see its effect on gravity and stellar motions. This something we call dark matter, and there's also dark energy. Dark energy has been very recently discovered. It's something that's pushing the universe apart. But this dark matter and dark energy, about 95 percent of our universe, is

Stephen Pincock of the Financial Times with Charles Townes at the Templeton Prize Luncheon Media Briefing.

something we don't see and we don't know what it is. We're trying hard to find out what in the world this is, but we can't yet detect it. That's waked us up to a new mystery.

There are still other mysteries in science, which I think many people don't realize. Quantum mechanics, a very famous aspect of science, is inconsistent with general relativity, another famous aspect of science. They both work very well within their own bailiwicks. We trust them, we believe in them, but we can see there's a point where they are inconsistent with each other. We don't know what that means, but physicists accept this mystery, and they believe in both. And that's what we have to do in life, we have to recognize inconsistencies we don't understand, accept the mysteries, and proceed.

Still more recently we've discovered that we know about only a very small fraction of our universe. The things that we know and see are only about five percent of the total mass of the universe – all the stars and the gasses in the universe...

Physics is the most basic of sciences and I think that's one reason that physicists have to face these mysteries most directly and immediately. Biology is now also becoming more fundamental and will be turning out interesting new things. Here are a couple of obvious problems which I don't think people talk about as much as we should. One is free will. Where does free will come from? Our present science says we can't have any free will. That doesn't mean things are determined. Quantum mechanics says there is indeterminacy, we can't predict things precisely, but science allows no way that we can have free will and determine what to do. Yet every individual, including every scientist that I know, thinks he or she can make some choices. This mystery is inconsistent with our present knowledge of science. We just have to accept it, and proceed with making choices.

Another mystery is consciousness. We don't understand consciousness, and people even have trouble defining it. At present there is no good definition of consciousness.

Francis Crick tried to define consciousness. He thought he understood it and talked to me about it and later wrote a book on it. Francis Crick said that a conscious being is one that can sense the outside world, it has purpose as to the things it wants to do, and then it can put these together and take action. That seems very reasonable, but I said to myself, it seems to me then that a mousetrap has consciousness. A mousetrap has a purpose, it senses something outside, and it takes an action. I don't think a mousetrap really has consciousness.

What is consciousness? And where and just what is this individual, this thing that has freedom of will? Somewhere up in the brain? What is the individual and why is it?

So there are mysterious phenomena and forces in our universe and we must be open-minded about them. I think science illustrates that openness is important. As in science we must be ready to accept changes, but also realize that changes are not necessarily disastrous. Some religious people may feel, "I know exactly what's just right, and I can't change because that would shake my beliefs."

When quantum mechanics came along, it completely revolutionized Newtonian physics. Newtonian physics said everything was completely predictable, and from the laws of physics, everything was deterministic. Quantum mechanics came along and showed that no, things are not deterministic. One can never measure precisely the position of something and its velocity at the same time so we can't tell exactly where it's going. Einstein didn't want to believe that and insisted there had to be a force that determines everything. We now know, and can prove it experimentally, that there is nothing which can completely determine everything. Einstein's instinct was not correct.

Quantum mechanics philosophically revolutionized Newtonian mechanics and Newtonian physics. On the other hand, we still teach Newtonian mechanics in our universities. Why? Because it's a very good approximation for large objects. And so our ideas can change, they may be revolutionized, but at the same time the older ideas have a good value and approximate reality. We should not worry about changes, but look forward to them and try to understand more and more deeply.

Thank you, I just wanted to give you my general point of view. I'll be happy to have some questions, even though I may not be able to answer them.

John M. Templeton, Jr., Martin Redfern of the BBC World Service, and Charles Townes at the Templeton Prize Luncheon Media Briefing.

QUESTION AND ANSWER WITH

Prof. Charles H. Townes

AT THE TEMPLETON PRIZE LUNCHEON MEDIA BRIEFING, LONDON, MAY 3, 2005

Q: You were sharing with us where you think some of the more immediate unknowns are in physics and where some of them might have some spiritual implications. You're interested in the potential for extraterrestrial intelligence, is that right?

A: Yes, I am and if we find life outside the Earth that could have a very big impact on our thinking. Some religious people may be afraid of that but I don't see why. Many scientists are working on it. I personally think life is highly improbable, but my guess is that there is indeed other life in our universe, maybe a long distance from us. However, we don't know. There may be some life on Mars, microscopic life, it would be very interesting to explore it.

We are presently trying to communicate, listening for signals coming from planets way out there. A lot of my friends are doing that with radio antennas, some are doing it with optical telescopes, seeing if maybe they are sending us laser beams. Wow! That would be exciting to get some signals!

We appreciate nature, its beauty, and value. Humans have recognized this for a long time. But now scientists are looking at the details at how nature works, and we're ever more amazed at its special nature and beauty.

Maybe there's life out there that is more advanced than we are. They can teach us some things. That would be fantastic, and we could learn a lot from them. Maybe there are other forms of life completely different from ours, and that also would be fantastic.

Let me comment on another aspect of modern science that I think is pertinent to our philosophical views. We recognize more and more that this is a fantastic universe, very special. And the laws of physics have to be almost exactly the way they are for us to be here at all. If the physical constants were different by only a small amount, we couldn't be here. Now again, I mention Fred Hoyle who was something of a skeptic. Hoyle discovered how carbon and oxygen could both occur due to nuclear reactions and he wrote that it's fantastic how this can happen and somehow, some superior intellect must have designed it. He couldn't think of any other solution except that some superior intellect must have monkeyed with the laws of physics.

The laws and constants of physics are particular and they have to be this way for us to be here at all. We have come to realize that this is a very special universe. Some intelligence made this special universe so we could be here. What escape is there for people who don't want to believe that? One can assume that there are an infinite number of universes, all of them different, with different laws of physics. And this is just one that happened to turn out right, so that's why we're here. The laws of physics vary from one universe to another, but this one happened to turn out right so that's why we're here. Well, that's a pretty funny hypothesis. If individuals want to have that faith that's OK. But they also don't explain why the laws of physics vary from one universe to another. We don't know what makes the laws of physics what they are, or if they can vary. So, judge for yourself whether an infinite number of universes with varying physical laws are reasonable. I expect to see us

recognizing more and more how specially designed this universe must be. We appreciate nature, its beauty, and value. Humans have recognized this for a long time. But now scientists are looking at the details, at how nature works, and we're ever more amazed at its special nature and beauty.

Q: Do you have much optimism regarding finding a unified theory?

A: I'm generally optimistic and I think we'll probably find it someday. How much that will change what we presently think we know is another question. We may find it. In addition I hope we'll find this unobserved matter. People are looking very hard for it, and that's one of the things that could change our view very much. I'm very hopeful. We have to keep working at it, but how soon we'll understand, we don't know. But I'm looking forward to it and I think we can.

Q: In the context of your references to probability and free will and predestination and coincidence, you have an unusual story of how your research assistant became your brother-in-law and ended up winning a Nobel Prize.

A: Yes, you're referring to Arthur Schawlow, who came to me to work as a postdoc. He was a young man looking for an interesting place to work. He was an excellent guy and did a lot of good work, and together we did some good scientific papers at Columbia University where I was teaching at the time. Frances, my wife, introduced him to my kid sister, who was a musician. He liked music, popular music especially, and they got together very quickly and were married.

I was at the time chairman of the department and I would have liked to have had him on the faculty but I couldn't appoint my brother-in-law to the department, so he had to go work at Bell Telephone Laboratories. Shortly after that Bell Labs asked me to consult with them, just go around and talk with their scientists. They thought that could be useful and would pay me for it.

Of course, one of the people I went to talk to was my brother-in-law Art Schawlow and when I had the laser idea, I talked to him. And he said, yes I've been wondering about that, that's interesting. Could we work together on it? I said sure, that would be great, and he provided the relatively simple but important idea of two parallel mirrors so a laser beam could go back and forth and be amplified. So we published a paper on the laser. Art, unfortunately, didn't get the Nobel Prize with me but he went on and did some very interesting additional scientific work with the laser and got the Nobel Prize for that work some years later.

John M. Templeton, Jr., Charles Townes, David Shi of Furman University, and Frances Townes, at the Templeton Prize Luncheon Media Briefing.

Q: Do you see some things on the horizon in physics that might have practical and financial implications?

A: Again, new things are things we don't know now. So predicting what is there is difficult. I can guess at some things, but let me point out an example of the difficulty in prediction of new discoveries. The field out of which lasers came was called microwave spectroscopy. It involved using microwaves to study atoms and molecules. During the war, when radar came along, a lot of scientists were busy with radar. I was at Bell Telephone Laboratories and I recognized that it had an application for studying atoms and molecules. The field began in several industrial laboratories in the United States, but administrators of all the industrial laboratories said, that's not useful for us, it doesn't have any commercial applications, so we'll have to shut it down. So most of industries shut it down. Work in the field went to the universities and I myself went to a university.

That's the problem with basic research... If they don't see any pay-off, they don't support it. But on the other hand, suddenly things come through. We must explore and be open-minded, and support exploration in science. Only after discovery is industry or anyone else likely to see the possibilities very well.

As a result, the laser and the maser ideas came out of universities, and from people trained in the field of microwave spectroscopy. Actually the idea occurred in three different places independently: myself, the Russians, Basov and Prokhorov, and another person at the University of Maryland who had a somewhat more rudimentary idea. All of them were working in this field, but were unaware of each other at the time. Almost no one else was interested until the maser got going. Once the maser was built, getting microwave radiation from molecules, suddenly industry got interested.

That's the problem with basic research, which is exploration, and industry has difficulty supporting it because they don't know when and if it's going to pay off. If they don't see any pay-off, they don't support it. But on the other hand, suddenly things come through. We must explore and be open-minded, and support exploration in science. Only after discovery is industry or anyone else likely to see the possibilities very well.

Q: You've mentioned purpose several times and so I'm reminded of the comment by Stephen Weinberg, who has said, "The more the universe seems comprehensible the more it seems pointless." I know there are physicists who don't agree with that. Do you feel that you have any evidence or reason about purpose?

A: I have to tell you that Steve Weinberg wrote me a note congratulating me on this prize. He said he didn't agree with me completely, but he wanted to congratulate me nonetheless.

We have to make decisions based on judgment, of course. But we do have some evidence. I think, for example, the recognition that this universe is so specially designed is one of the things that says, yes, there must be a purpose in it. This is a very special universe, and there must have been a purpose.

Also, if you examine human life and how we react and what makes a good life, then you see a sense of purpose and spirituality. It makes a difference in the success of human life, if you have an appropriate purpose.

So there is some experimental evidence, but we need more. There is indeed other pertinent evidence, such as the effects of prayer. And the answer, at least in some experiments, is yes, it looks like prayer has positive effects. But nevertheless we have to look at it all with what we presently understand and make conclusions as best as we can. Steve Weinberg has made one kind of judgment that is easy and simple to make. He has said it's all accidental and purposeless. I would make a different kind of judgment.

Q: You've talked about the revolution in physics that's happening over a number of years where all the rules we thought we had are being essentially discarded, or, at least, superceded. Can you see something similar happening in religion?

If you look at religions broadly, many of them have very similar general principles, even though they have different details. I believe there is more and more appreciation across religious bounds, and hope that will continue.

A: Yes, I can, and I think we have to expect that. We must expect some changes. They probably won't come fast, but I think there will be changes. I believe more and more that religions are recognizing other religions as of value. If you look at religions broadly, many of them have very similar general principles, even though they have different details. I believe there is more and more appreciation across religious bounds, and hope that will continue.

I'm on the Pontifical Academy of Sciences, which advises the pope, and they select as members people of all religions, including atheists. We advise the pope on things of scientific orientation that affect human behavior. So I've seen something of the Catholic Church and it's changing, though slowly. The pope made a very specific change in doctrine partly as a result of our recommendation – an official change in the position of the church. It was a question of population. We pointed out the problem of overpopulation of the world and the importance of controlling population growth. The Catholic Church's official position prior to this had been that population growth is not a problem. God loves everybody, of course, so don't worry about it. But he changed that official policy and said population growth is a problem and we must work on it. One of the things he noted, in part because of our recommendation, was that the education of women has a very big impact on population growth. But the official change in policy was that population growth is a problem and we have to try to control it.

Q: To what extent are scientists changing their views, or might they do so?

A: I think the attitude of scientists is changing somewhat, particularly among physicists. Physics is the most basic of sciences. I think biologists have been less responsive than physicists have. Why? Because physicists are getting down to basics more and they see the inconsistencies of their ideas. They've had to revolutionize their basic ideas. Einstein as I mentioned, said the universe has always been here of course. We can't have a creation of a universe. But now we know the universe had a unique moment which can be recognized as a creation. And there is also the discovery of the fact that we only see about five percent of the matter in the universe. So physicists are facing these tough problems more and more. They tend to be open-minded and recognize where we don't understand things.

There are fundamentalists in religion and fundamentalists in science, both narrow-minded in my view. They think they know exactly what is right and nothing else can be right. That's an unfortunate point of view, and I believe science is growing out of it.

Biology is becoming more fundamental now and my guess is that as biology proceeds it will similarly run into and face basic mysteries and recognize them.

There are fundamentalists in religion and fundamentalists in science, both narrow-minded in my view. They think they know exactly what is right and nothing else can be right. That's an unfortunate point of view, and I believe science is growing out of it.

Biologists, for example, are examining more and more the nervous system and mental properties and how did life begin. One friend of mine has written a paper on the quantum mechanics of the nervous system and the brain, pointing out that quantum mechanics is very important in the transmission of information. But how does he describe it? He has to always assume that there is something present beyond the physics, something in the brain that's examining things. Quantum mechanics is important in the nervous system but there's something else there. He has to face that. How do we get ideas? Just as a human makes an experiment in quantum mechanics to see whether there's an electron here or there, there's something there that has asked a question of the nervous system. I think biology will be facing more fundamental problems and probably go in that direction, as science in general will. Basically we want to learn as much as we can, understand as much as we can, and face and touch on the fundamental questions.

Q: I apologize for bringing up this subject, but the discussion has led in this direction. A big area where science and religion come into conflict, particularly in the U.S., is in education, particularly evolution. What are your thoughts on that?

A: I think for religious people or politicians to oppose the teaching of evolution is absolutely wrong and stupid. Evolution occurs, certainly, though that's not necessarily the whole story. Also I see no problem, no conflict between evolution and religion. Our universe is developing and what is evolving is fantastic. Why does it develop this way, what controls it and how was it created? God can have a plan and he can be omnipresent. I see no problem with evolution being important to us and continuing to be important. Why not? It's hard for me to imagine that it's any problem at all, although some religiously-oriented people, fundamentalists in particular, object to it. I think that's a bad mistake. We must be open-minded, it's very important. We have to learn things, understand things, and be open-minded.

Q: This sort of discussion always reminds me of the story of a Scottish cleric, who, when he heard of evolution, said, "Lord, let it not be true, but if it be true, let it not be well known." In terms of your personal account of your discovery of the masers and lasers, as you look back on that, was that revelation or calculation?

A: I think that basic discovery is as much revelation as anything is. Where do new ideas come from? I'd been worrying for several years, trying to figure out how to produce shorter wavelengths. I got up early in the morning, thinking, why haven't we found an answer? I went outside in the park, it was a beautiful day, flowers were there and all of sudden, hey wait a minute, it can be done, this is it. Where did the idea come from? Revelation? I think of Moses, worrying about the people of Israel, what to do, and suddenly, in front of a burning bush, hey, this is the thing to do! I think there's substantial similarity.

Kekule, the famous chemist, discovered the structure of benzene. That's another story that sounds very much like a classical revelation. How can the benzene molecule exist? He had a dream of a snake that coiled around and grabbed its tail in its mouth, making a circle. Oh that's it, six molecules around in a circle! That's it, a sudden discovery. Is that a revelation? I don't see why not. There are other things that might not seem so clearly a revelation, but brand new ideas are revelations in my view.

Q: At least in the western world, relativism is the dominant cultural mindset. Would you say that scientists feel that they are on the quest of truth and that there is truth yet to be discovered and perhaps might the same thing be true in religion?

A: Certainly scientists feel that and I hope religious people feel that too. Why should we think we know everything now? That's so self-centered. We're not perfect yet, why do we think we're perfect, that we know everything now, and that it is the right answer. We know something, we hope, but we need to discover more. I think religious people can and should have that attitude as well as scientists.

We're not perfect yet, why do we think we're perfect, that we know everything now, and that it is the right answer. We know something, we hope, but we need to discover more. I think religious people can and should have that attitude as well as scientists.

Now sometimes scientists are also locked into their ideas. Many new ideas, including my own, on the maser and the laser, were doubted by important scientists. Niels Bohr, you've all heard of. I was walking on the street with him and said, "This maser is what I'm doing," and he said, "Oh, that's not possible. That can't be right." I said, "Yes, we have it working actually." Eventually he said, "Oh, maybe you're right." But I didn't get the idea that he really agreed.

John von Newmann, the excellent mathematical physicist, when I told him we had the maser working said, "Oh no, that's not possible. You must misunderstand. It can't be." I was at a party with him, and he went off to get another drink. Fifteen minutes later he came back and said, "Hey, you're right!"

New ideas are new and we have to accept and recognize that. This is important, both in science and religion.

Q: Do you have experiences in your life that giving is more satisfying, inspiring, and enriching, than taking? This is a basic premise of most religions.

A: Yes, I agree with you completely and that is a view of many religions. The question is, what new is there in religion? Many of us feel this is an integrated universe and God is part of it everywhere. What is the nature of this relationship, what is the human spirit? There are very important things still to be discovered. What is God? Some religions think it's an old guy with white hair up there, but that's pretty narrow-minded. Most of us recognize that, but there are many mysteries that we still have to discover. I hope we can understand more and religion will advance. There are certainly many good things that religion has found and discovered. Some religions say it more strongly than others, and we need to understand those better. But we also need new revolutions in our understanding.

I went into astronomy and astrophysics because I felt that there are molecules up there in space. People didn't realize it, but I felt there's no reason why they shouldn't be there and I should look.

Q: Most people understandably associate your career with the laser and optics, but the general public is unaware that you've made a major shift toward astrophysics. Your involvement with the Apollo program generated still another example of leading scientists being skeptical of a project that ended up being successful in the face of that skepticism. Can you talk a little bit about what prompted you to shift to astrophysics and maybe conclude with the Apollo example?

A: You raise something that I really do like to emphasize. When a field becomes popular, scientists say, "let's all work together, this is the most exciting thing." Scientists dive into it, but when it becomes popular like that, I say, "They don't need me anymore." I always try then to do something that I think people are overlooking, that people are missing. So I move into a field and people tell me, "Oh, don't do that, that's stupid." But we have to be prepared to be different and choose our own views and be willing to differ with other people. My parents taught me as a religious person to decide what you think is right and best and do that. Don't follow the crowd, and that's important in science too.

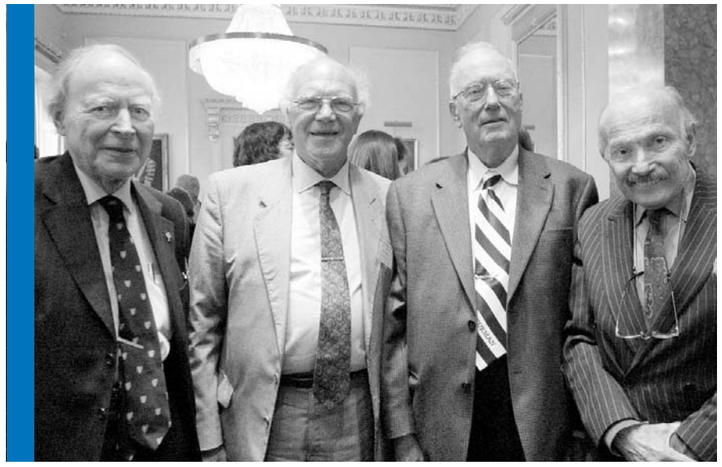
And willingness to be different is important. I've shifted fields a number of times. When a field becomes popular I go and do something else that I think is being missed. I went into astronomy and astrophysics because I felt that there are molecules up there in space. People didn't realize it, but I felt there's no reason why they shouldn't be there and I should look. I went to Berkeley to look with microwaves to see if there are molecules up there. There were some good antennas at Berkeley and I could use them, but the chairman of the department of astronomy said, "They can't be there, I can prove that molecules can't be there. You're crazy, you're just wasting time." Well, we looked, and one of my students doing his thesis found molecules. We looked for ammonia first, we found it, and then we found water. And there are masers and lasers up there. They've been there for billions of years and people didn't know it. Molecular astronomy is very important and this guy that told me it can't work has now written a book, where he says, "I've learned never to advise an experimental scientist."

The Apollo program is another one. It was proposed to President Kennedy primarily by German rocket scientists who had been brought over to the United States, and they sold him on the idea. It was also a way to prove that we were at least as good technically as the Soviet Union, a way to get ahead in worldwide recognition. It had been proposed by German scientists and not by American scientists and engineers. Maybe that was part of the problem, and why most of the important scientists and engineers in the United States were against it. Vannevar Bush, a very important scientist and a very important figure in scientific policy, came out publicly against it, and the head of the Andrew Carnegie Foundation in Washington came out against it. Many very important scientists were against it.

A friend of mine, an engineer, happened to be in charge of the Apollo program. I ran into him on the street and he commented that these people are saying some things that aren't right. One of the important things they were saying was that it couldn't be done with anything like the money and the time that was being proposed. Kennedy wanted it done within a decade. They were saying it can't be done that fast at all. It's going to take five times longer than that at least, and a lot more money. I told my friend you ought to get together with them, and if they have good points maybe you'll understand them and if they don't, maybe they'll understand you. A week later he called me up and said the head of NASA thinks that's a great idea and we'd like you to form a committee and chair it.

I thought there was something in it and we ought to look at it carefully. I put together a committee of scientists, many of whom were doubters. But later many of these people became convinced. Apollo came in slightly under-budget, and for a government project to come in under-budget is fantastic – under-budget and on time. Of course it had a very big impact on the world. So that was another case where people doubted, and it turned out to be real. That doesn't mean we're always realistic, we have to be careful. I thought it was worth supporting, and I was glad to work on it. I remember being at the Texas NASA Center when the landing occurred, and that was a great moment.

I thought it was worth supporting, and I was glad to work on it. I remember being at the Texas NASA Center when the [Apollo] landing occurred, and that was a great moment.



Templeton Prize Laureates at the May 4th reception in London (from left to right): Rev. Canon Dr. Arthur Peacocke (2001), Rev. Michael Bourdeaux (1985), Prof. Charles Townes (2005), and Sir Sigmund Sternberg (1998).

Q: You have taught us that discovery is a powerful factor in science and hopefully will be in religion as well. I gathered from your life that you became excited about discovery as a young man and that led you to science. But now we have in Britain and in the United States relatively few young people going into science. Do we need to address some kind of new spirit of discovery in young people so that they want to go into the field?

A: I think it's very important. The excitement of science is important and having good people go into science is very important. There was a time when going into science was popular and financially it seemed to pay off reasonably, so there were many people going into science, but now that's not so true. Sciences are suffering from lack of public interest and attention.

When I first went into physics, I did it because I thought it was interesting. I really like to understand how things work. At the time, physics was practically unheard of. My friends said, "What are you going to do?" and I said, "I'm going into physics." And they said "What is physics? Is that something like civics?" Now people have heard of physics, especially after World War II, but presently their interest is beginning to fade again. We badly need to get some of the brightest young people into science. Fortunately biology is attracting a lot of people now. It's very important, very fundamental, and in time it's going to contribute a lot. We need women in science, too, and increasingly there are more women in science. Overall, our society needs to emphasize exploration and new ideas in science as well as in religion. We need to be open-minded and encourage people to think of new ideas, work on them, and be ready for them. That approach will pay off.

We need to be open-minded and encourage people to think of new ideas, work on them, and be ready for them. That approach will pay off.

Principals

Sir John Templeton, Chairman
John M. Templeton, Jr., M.D., President

Mrs. Barbara Small, Executive Director

2005 Judges

Baruch S. Blumberg, M.D., Ph.D.
Ramanath Cowsik, Ph.D.
Mary Ann Glendon, J.D., L.L.M.
Bruno Guiderdoni, Ph.D.
Sir John Houghton, CBE
Bishop Kallistos of Diokleia
Rajiv Mehrotra
Rev. Dr. John C. Polkinghorne, KBE, FRS
Archbishop Józef Życiński

Templeton Prize Laureates

2005 ***Prof. Charles H. Townes,*** physicist, Berkeley, California, USA
2004 ***Prof. George F. R. Ellis,*** cosmologist, Cape Town, South Africa
2003 ***Prof. Holmes Rolston, III,*** philosopher, Colorado Springs, Colorado, USA
2002 ***The Rev. Dr. John C. Polkinghorne,*** scientist and theologian, Cambridge, England
2001 ***The Rev. Canon Dr. Arthur Peacocke,*** scientist and theologian, Oxford, England
2000 ***Prof. Freeman Dyson,*** scientist, Princeton, New Jersey, USA
1999 ***Prof. Ian Barbour,*** scientist and theologian, Northfield, Minnesota, USA
1998 ***Sir Sigmund Sternberg,*** businessman, London, England
1997 ***Sri Pandurang Shastri Athavale,*** founder of the *Swadhyaya* movement, Bombay, India
1996 ***Dr. William R. Bright,*** evangelist, Orlando, Florida, USA
1995 ***Prof. Paul Davies,*** scientist, Adelaide, South Australia
1994 ***Michael Novak,*** philosopher and theologian, Washington, DC, USA
1993 ***Charles W. Colson,*** founder of Prison Fellowship, Washington, DC, USA
1992 ***The Rev. Dr. Kyung-Chik Han,*** Presbyterian pastor, Seoul, Korea
1991 ***The Rt. Hon. The Lord Jakobovits,*** former Chief Rabbi of Great Britain and the Commonwealth, London, England
1990 Awarded jointly to:
Baba Amte, of the Anandwan community, India
Prof. Charles Birch, biologist, Sydney, Australia
1989 Awarded jointly to:
The Very Rev. The Lord MacLeod, of the Iona Community, Scotland
Prof. Carl Friedrich von Weizsäcker, physicist, Starnberg, Germany
1988 ***Dr. Inamullah Khan,*** former Secretary-General, World Muslim Congress, Karachi, Pakistan
1987 ***The Rev. Prof. Stanley L. Jaki, OSB,*** astrophysicist, South Orange, New Jersey, USA
1986 ***The Rev. Dr. James I. McCord,*** former Chancellor of the Center of Theological Inquiry, Princeton, New Jersey, USA
1985 ***Sir Alister Hardy,*** founder of the Sir Alister Hardy Research Centre at Oxford, England
1984 ***The Rev. Michael Bourdeaux,*** founder of Keston College, Oxford, England
1983 ***Aleksandr Solzhenitsyn,*** author, Russia
1982 ***The Rev. Dr. Billy Graham,*** founder of the Billy Graham Evangelistic Association, USA
1981 ***Dame Cicely Saunders,*** founder of the modern hospice movement, London, England
1980 ***Prof. Ralph Wendell Burhoe,*** founder and former editor of the journal *Zygon*, Chicago, Illinois, USA
1979 ***The Rev. Nikkyo Niwano,*** founder of Rissho Kosei-Kai and World Conference on Religion and Peace, Japan
1978 ***The Very Rev. Prof. Thomas F. Torrance,*** former Moderator of the Church of Scotland
1977 ***Chiara Lubich,*** founder of the Focolare Movement, Italy
1976 ***H.E. Leon Joseph Cardinal Suenens,*** former Archbishop of Malines-Brussels
1975 ***Sir Sarvepalli Radhakrishnan,*** former President of India and Oxford Professor of Eastern Religions and Ethics
1974 ***Brother Roger,*** founder and Prior of the Taizé Community in France
1973 ***Mother Teresa*** of Calcutta, founder of the Missionaries of Charity

We welcome new nominations for the Templeton Prize for Progress Toward Research or Discoveries About Spiritual Realities.

Information forms may be obtained by contacting:

Templeton Prize
Canyon Institute for Advanced Studies
3300 West Camelback Road
Phoenix, Arizona 85017 USA
Tel 602.589.2541 Fax 602.589.2897

info@templetonprize.org
www.templetonprize.org

Templeton Prize

Canyon Institute for Advanced Studies
3300 West Camelback Road
Phoenix, Arizona 85017 USA
Tel 602.589.2541 Fax 602.589.2897

info@templetonprize.org
www.templetonprize.org