



THE MILLENNIUM  
TECHNOLOGY  
PRIZE

*Finland's tribute to life-enhancing technological innovation*

# NOMINATION GUIDE

2004



2006



2008



# GREETINGS



THE WORLD needs scientific and technological breakthroughs. Innovation is crucial in providing drinking water, clean low-cost energy, to reduce the risk of global climate change and assist individuals, families and societies that are exposed to fatal diseases.

The Millennium Technology Prize was created to inspire and recognize innovations that provide answers to the challenges of our time and promote people's quality of life. The Prize at the level of one million euros ranks among the world's most prestigious individual honours for technological innovation.

Your nomination of worthy winner candidates, based on the guidelines presented in this booklet, will be warmly welcomed and highly appreciated.

**Dr. Stig Gustavson**

Chairman

Millennium Prize Foundation

# NOMINATION GUIDELINES

## General Principles

The Millennium Technology Prize is awarded for a specific, groundbreaking innovation in the field of technology. The winning innovation must be shown to promote people's quality of life and sustainable development both now and in the future. The Prize is not intended for cumulative accomplishments over a lifetime career. Citizens of all nations are eligible.

Significant factors in the evaluation process are also the number of people affected by the innovation and the extent of the changes they may experience as a result. Technologies not yet applied in practice are not eligible.

The Prize is also intended to stimulate further cutting-edge research and development in science and technology. Due consideration is also therefore given to each nominee's current activities. Ideally, nominees continue to be engaged in work that further promotes their innovation and its practical applications.

At the one million euro level, the Millennium Technology Prize ranks among the worlds most prestigious awards in its class.



## Selection process

The Prize Winner and the Finalists are selected by the Board of the Millennium Prize Foundation on the basis of recommendations by a distinguished group of experts, the International Selection Committee.

The nomination period begins on 16<sup>th</sup> April 2007 and ends on 1st October 2007.

Nominations received are first reviewed by a pre-selection group consisting of a network of leading Finnish scientists and technologists cooperating with the International Selection Committee. Using this work, the International Selection Committee prepares a list of Finalists for the Board's approval.

This list of Finalists, all of whom must accept their appearance in the list, will be announced in early spring 2008. Following the announcement a press meeting will also be organised in each Finalist's home country. The International Selection Committee will then convene in Helsinki to prepare their recommendation on the Winner to the Board.

Finally, a Millennium Technology Week will be organised in Helsinki starting on 9<sup>th</sup> of June 2008 at which all the Finalists, their research and their innovations will be presented to international media and the general public. The Winner of the Millennium Technology Prize 2008 will be announced, and the Winner and all Finalists will be awarded at the festive Award Ceremony on 11<sup>th</sup> of June.

## Nominees

The prize can be awarded to a research and development team or to a single individual. It can also be

shared between two or three individuals who are shown to have made a critical contribution of essentially equal merit to the success of the innovation.

Where the International Selection Committee judges that the merit for an innovation should be ascribed differently from that proposed in the nomination documents, the Committee may reduce or extend the number of individuals being considered.

Citizens of all nations are eligible.

## Nominators

Any science and engineering academy, university, research institute, industrial enterprise or association may submit a nomination for the Millennium Technology Prize. If the nominating organisation considers more than one innovation to be worthy of the Millennium Technology Prize, more than one nomination may be submitted.

To certify the accuracy of the information provided, each nomination must be undersigned by a member of the governing board or a member of the executive staff of the nominating organisation.

Self-nominations are not accepted.

## Nomination Documents

All nomination material must be presented in English and posted to the Millennium Prize Foundation using conventional mail. A nomination consists of the following documents:

**1. Nomination Form (1 page)**

The nomination form can be found at [www.millenniumprize.fi](http://www.millenniumprize.fi)

It should be printed out and completed.

**2. Nomination Letter (1–5 pages)**

The Nomination Letter and any possible appendices should cover the following topics:

- A Specific details of the cited innovation and the underlying technology change
- B The present and future impact of the innovation on quality of life and sustainable development
- C Identification of each nominee and their role in the innovation process
- D Details of each nominee's current activities
- E Copies of possible media coverage concerning the nominee and the innovation.

**3. Two Supporting Letters (1–3 pages each)**

Letters supporting the nomination written by two distinguished individuals from separate organisations must be included. These letters must explicitly refer to both the nominee and the innovation as presented in the Nomination Letter.

Additional supporting letters may be submitted if they are considered necessary to describe particular aspects of the nominee and the innovation.

**4. Nominee's Curriculum Vitae (1–3 pages)**

This cv should be a concise list that includes the nominee's education, positions held, industrial and academic affiliations, a list of key patents and publications, honours granted and awards received.

A separate cv is required for each nominee.

## Period of Eligibility

All qualifying nominations are valid for one selection round.

## Submission

Nominations for the Millennium Technology Prize 2008 must reach the Millennium Prize Foundation by 1<sup>st</sup> October 2007.

Nominations should be sent by conventional mail **(not by email)** to:

Millennium Prize Foundation  
Fredrikinkatu 25 B 26  
00120 Helsinki, Finland

Enquiries sent by email should be addressed to:  
[info@millenniumprize.fi](mailto:info@millenniumprize.fi)  
Telephone enquiries: please use the number  
+358 9 681 8090

**Information in the nomination documents concerning the selected Finalists may be used to prepare publicity material that describes the Finalists and their innovations.**


## SELECTION COMMITTEE



**Professor Marja Makarow, Chairman of the Committee, Finland** 

Dr. Makarow is Professor of Applied Biochemistry and Molecular Biology, and Vice-Rector for Research and Researcher Training of the University of Helsinki. She served in the Research Council for Health of the Academy of Finland in 1998–2003, and chairs the steering committee of its research programme of systems biology and bioinformatics since 2003. She is President of the European Molecular Biology Conference (EMBC/EMBO) since 2004, and member of the Council of the European Molecular Biology Laboratory since 1999. She is also member of the Life Science panel of the EURYI programme of the European Science Foundation since 2004, and chair in 2007. She was member of the multidisciplinary assessment committee of the Canada Foundation of Innovation in 2006, and is member of the Board of Science Foundation Ireland since 2006.



**Professor Jean-Claude Charpentier, France** 

Dr. Charpentier is the President of the European Federation of Chemical Engineering and Director of Research at the French National Centre for Scientific Research (CNRS). He is former Director of the Lyon School of Chemistry, Physics and Electronic, and Scientific Director of the department of Engineering Sciences of CNRS. His expertise areas are chemical and process engineering, mechanical engineering and more generally engineering sciences and innovative technologies.



**Professor Mikko Hupa, Finland** 


Dr. Hupa is Professor and Dean of the Faculty of Technology at the Åbo Akademi University in Turku. He is the chairman of the National Centre of Excellence in Process Chemistry (PCC) at Åbo Akademi, a cross-disciplinary research centre working with novel processes and products from renewable raw materials. He is also the chairman of the National Graduate School in Chemical Engineering (GSCÉ) and has positions in a number of international organizations including editorial board positions. He is the President of the International Flame Research Foundation (IFRF), a research organization with more than 1 200 members focussing on clean industrial combustion processes. His recent work has dealt with high temperature ceramics for various medical applications, especially bioactive glasses.



**Dr. Bob Iannucci, Finland** 

Dr. Iannucci is Senior Vice President and Head of Nokia Research Center. He holds a Ph.D. in Electrical Engineering and Computer Science from the Massachusetts Institute of Technology, USA. He has extensive experience in running both research and development activities in the fields of computing architectures, human-computer interaction, Internet, handheld computing, wireless technology strategy and networking systems. He is the author and co-author of two books and several academic papers. He has five patents.



**Professor Risto Nieminen, Finland** 

Dr. Nieminen is Academy Professor at Helsinki University of Technology and directs COMP, a National Center for

Excellence in Computational Nanoscience. He is chairman of the National Graduate School in Materials Physics and holds positions in several international scientific organizations and editorships of scientific journals. He is also member of the Science and Technology Policy Council of Finland. His research interests include condensed-matter and materials physics as well computational methods.



**Professor Bengt Nordén, Sweden** 🇸🇪

Dr. Nordén is Professor of Physical Chemistry at Chalmers University of Technology, directing several international and national research programmes. He is also President of the Chemistry Section of the Royal Swedish Academy of Sciences and a member of the Nobel Committee for Chemistry which he chaired in 2000–2003. His current research is on specific interactions of nucleic acids and peptide-membrane systems and he also has expertise in inorganic chemistry and photophysics.



**Professor V. S. Ramamurthy, India** 🇮🇳

Dr. Ramamurthy is a well known Indian nuclear scientist with several research contributions in the areas of nuclear fission and heavy ion reaction mechanisms. After serving as Secretary to Government of India in the Department of Science and Technology for nearly eleven years, Dr. Ramamurthy is presently Homi Bhabha Chair professor at the Inter-University Accelerator Center in New Delhi. He also serves as the chairman of the Board of Governors of the Indian Institute of Technology, New Delhi and Chairman of the Recruitment and Assessment Board of the Council of Scientific and Industrial Research, India. He is also the chairman of the Standing Advisory Group on Nuclear Applications of the International Atomic Energy Agency, Vienna.



**Professor Henry T. Yang, USA** 🇺🇸

Dr. Yang is the Chancellor of the University of California, Santa Barbara. Previously he was the Neil Armstrong Distinguished Professor and Dean of Engineering at Purdue University. At UCSB, Dr. Yang continues to actively teach, guide graduate students, and conduct research in aerospace and mechanical engineering with sponsorship from NSF and NASA. He is a member of the U.S. National Academy of Engineering. He has published a book and 160 journal articles, and has received four honorary doctorates and other awards. Examples of the boards he is serving on include the advisory boards for the Ministries of Education in Taiwan and Singapore, respectively; the steering committee of the Association of Pacific Rim Universities; the executive committee of the Association of American Universities; and the Kavli Foundation Board.



SECRETARY

**Dr. Tapio Alvesalo, Millennium Prize Foundation, Finland** 🇫🇮

Dr. Alvesalo is Secretary General of the Millennium Prize Foundation. He served as Vice President, Corporate Technology, Fortum Oyj in 1999–2004. He has also served on the Boards of several high technology companies and chaired National Energy Research Programs and the Board the European Photovoltaic Industry Association (EPIA). His research interests have included quantum liquids and solids and advanced energy technologies and systems.



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