# Thomas Robert Cech
# Peter Wolfram Michor

**MASARYK**
**UNIVERSITY**
DOCTOR
HONORIS
CAUSA

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# MASARYK UNIVERSITY DOCTOR HONORIS CAUSA AWARD CEREMONY 2024

THURSDAY 25 APRIL 2024 FROM 10AM
DURATION OF THE CEREMONY
APPROX. 90 MINUTES

KAREL ENGLIŠ GREAT HALL
FACULTY OF LAW
VEVEŘÍ 70

# PROGRAMME OF THE CEREMONY

To the accompaniment of a fanfare, the following academic
dignitaries will take their places in the auditorium in order:
members of MU scientific councils
MU Vice-Deans
MU deans and their representatives
MU Vice-rectors
Rectors and other representatives of universities
moderating Vice-Rector Jiří Hanuš
promoter Ctirad Hofr
promoter Jan Slovák
Tomáš Kašparovský for Faculty of Science MU
Thomas R. Cech, doctor honoris causa in spe
Peter W. Michor, doctor honoris causa in spe
Rector Martin Bareš

The anthems of the Czech Republic, the European Union, the United States
of America, and the Republic of Austria will be played.
Jiří Hanuš will take over the opening ceremony.
Tomáš Kašparovský will introduce Thomas R. Cech and then Peter W. Michor.
Jiří Hanuš will ask Rector´s approval for graduation.
Rector Bareš's speech and his approval of the graduation.
Reading the graduation vows.
The graduation of Thomas R. Cech.
Speech of the new Honorary Doctor of MU.
Peter W. Michor's graduation.
Speech of the new Honorary Doctor of MU.

A musical performance by a cello trio called Osamělé palačinky.

Jiří Hanuš will close the ceremony.
The academic dignitaries leave the auditorium to a fanfare.

# Thomas Robert Cech

## DOCTOR HONORIS CAUSA IN THE BIOLOGICAL SCIENCES

# THOMAS ROBERT CECH

Born December 8, 1947, Chicago, Illinois, USA.

## RESEARCH FOCUS

Biochemistry; molecular biophysics; structural biology; RNA catalysis –
first to show that an RNA molecule can catalyse a chemical reaction;
telomeres and telomerase – functions in the preservation of genetic
information, chromosome stability, longevity, or carcinogenesis of cells;
biological roles of non-coding RNAs; RNA-based molecular therapies.

## EDUCATION

| | |
|---|---|
| 1975 | University of California, Berkeley (Ph.D.) |
| 1970 | Grinnel College, Grinnell, Iowa (B.A.) |

## WORK FUNCTION (SELECTION)

| | |
|---|---|
| Since 2011 | Interdisciplinary Quantitative Biology PhD Program, Director |
| 2009–2020 | University of Colorado BioFrontiers Institute (formerly Colorado Initiative in Molecular Biotechnology), Boulder, USA, Director |
| 2000–2009 | Howard Hughes Medical Institute, Chevy Chase, Maryland, USA, President |
| Since 1990 | University of Colorado, Boulder, USA, Professor Emeritus |
| Since 1987 | American Cancer Society, University of Colorado Boulder, USA, Professor |

## AWARDS WON (SELECTION)

| | |
|---|---|
| 2021 | Manfred Eigen Award, Max Planck Institute, Gottingen, Germany |
| 2009 | Lifetime Achievement Award, RNA Society, Bethesda, USA |
| 2002 | Gregor Mendel Medal, Czech Academy of Sciences, Prague, Czech Republic |
| 1995 | National Medal of Science, presented by the President of the United States of America Bill Clinton on the recommendation of the National Science & Technology Medal Foundation, Washington DC, United States of America. |
| 1989 | Nobel Prize in Chemistry, Royal Swedish Academy, Stockholm, Sweden |

## SCIENTIFIC ACTIVITIES (SELECTION)

| | |
|---|---|
| From 2022 | Science Philanthropy Alliance, External Science Advisor |
| As of 2022 | SomaLogic, Inc., S.A.B. |
| From 2020 | Eikon Therapeutics, S.A.B. |
| As of 2017 | Storm Therapeutics, Advisory Board |

| 2014 | Keystone Symposium on Long Non-coding RNAs (organizer) |
| 2012 | University of Colorado First Annual BioFrontiers Symposium (co-organizer) |
| 1999 | Academia Europaea (elected foreign member) |
| 1993 | The RNA Society (co-founder and president) |

## MEMBERSHIP OF EDITORIAL BOARDS (SELECTION)

| Since 1987 | Genes and Development, member |
| 1990–1999 | Science, member |
| 1986–1987 | Cell, member |

## LATEST PUBLICATIONS (SELECTION)

Song, J.; Gooding, A. R.; Hemphill, W. O.; Love, B. D.; Robertson, A.; Yao, L.; Zon, L. I.; North, T. E.; Kasinath, V.; Cech, T. R. 2023. Structural basis for inactivation of PRC2 by G-quadruplex RNA. SCIENCE. Volume: 381, Issue: 6664, Pages: 1331–1337.

Zaug, A. J.; Goodrich, K. J.; Song, J. J.; Sullivan, A. E.; Cech, T. R. 2022. Reconstitution of a telomeric replicon organized by CST. NATURE. Volume: 608, Issue: 7924, Pages: 819–825.

Lim, C. J.; Barbour, A. T.; Zaug, A. J.; Goodrich, K. J.; McKay, A. E.; Wuttke, D. S.; Cech, T. R. 2020. The structure of human CST reveals a decameric assembly bound to telomeric DNA. SCIENCE. Volume: 368, Issue: 6495, Pages: 1081–1085.

Schmidt, J. C.; Zaug, A. J.; Cech, T. R. 2016. Live cell imaging reveals dynamic interactions that drive telomerase recruitment to telomeres. CELL. Volume: 166, Issue: 5, Pages: 1188–1197.

Cech, T.R.; Steitz, J.A. 2014. The noncoding RNA revolution – Trashing old rules to forge new ones. CELL. Volume: 157, Issue: 1, Pages: 77–94.

Davidovich, C.; Zheng, L.; Goodrich, K.J.; Cech, T.R. 2013. Promiscuous RNA binding by Polycomb repressive complex 2. NATURE STRUCTURAL & MOLECULAR BIOLOGY. Volume: 20, Issue: 11, Pages:1250–1257.

Schwartz, J.C.; Wang, X.; Podell, E. R.; Cech, T.R. 2013. RNA seeds higher-order assembly of FUS protein. CELL REPORTS. Volume: 5, Issue: 4, Pages: 918–925.

Nandakumar, J.; Bell, C.F.; Weidenfeld, I.; Zaug, A.J.; Leinwand, L.A.; Cech, T.R. 2012. The TEL patch of telomere protein TPP1 mediates telomerase recruitment and processivity. NATURE. Volume: 492, Issue: 7428, Pages: 285–289.

Lei, M.; Podell, E. R.; Cech, T. R. 2004. Structure of Human POT1 Bound to Telomeric Single-stranded DNA provides a model for chromosome end-protection. NATURE STRUC. MOL. BIOL. Volume: 11, Issue: 12, Pages: 1223–1229.

Zappulla, D. C.; Cech, T. R. 2004. Yeast Telomerase RNA: A Flexible Scaffold for Protein Subunits. PROC. NATL. ACAD. SCI. USA. Volume: 101, Issue: 27, Pages: 10024–10029.

# LAUDATIO
**Tomáš Kašparovský**

Ladies and Gentlemen,

Let me introduce Professor Thomas Robert Cech, a world-leading experimental biochemist and biophysicist.

Thomas R. Cech was born in 1947 in Illinois, USA. After successful completion of his Doctorate in Chemistry from the esteemed University of California, Berkeley, and conducting postdoctoral research at the prestigious Massachusetts Institute of Technology in Cambridge, he joined the University of Colorado Boulder in 1978, where he spent most of his professional life.

It was at the University of Colorado Boulder in 1982 that Dr. Cech and his research group discovered that an RNA molecule from a unicellular pond organism – Tetrahymena, catalyses – speeds up chemical reactions in the complete absence of proteins. The discovery of RNA self-splicing represented the first exception to the long-held belief that biological reactions are always catalysed by proteins. Subsequently, a new probable scenario for the origin of life on Earth was announced. As RNA can be both an information-carrying molecule and a catalyst, RNA may represent the first self-replicating molecular system. The discovery of the catalytic function of ribonucleic acids was so revolutionary that in 1989, Thomas Cech received the Nobel Prize in Chemistry, along with Sidney Altman, who independently made the same discovery.

Thomas Cech told the Washington Post of his discovery: "We were too steeped in the dogma of all the biology textbooks... It took more than a year to convince ourselves that what was happening was true. „The Royal Swedish Academy of Sciences wrote about Cech's work: "Many chapters in our textbooks have to be revised."

Professor Cech, with his team and many collaborators in the most prestigious research laboratories worldwide, continues to develop the field of research he founded – studying the mechanism of RNA catalysis and the function of ribonucleic acids and their complexes. The activities of his research group primarily focus on studying the structure and function of telomeres, the end parts of chromosomes. Prof. Cech and his team intensively investigate the enzyme extending telomeric DNA – telomerase, which contains RNA subunit. Understanding the mechanism of telomere extension contributes to understanding the molecular mechanism of life extension at the cellular level and the diagnosis and innovative approaches to treat cancer.

In 1988, Dr. Cech became a researcher at the Howard Hughes Medical Institute; in 1990 a distinguished professor of chemistry and biochemistry. From 2000-2009, he even served as the president of the Howard Hughes Medical Institute, the largest private biomedical research organization in the USA, where he successfully developed the organization's focus on scientific education. He then returned to full-time research and teaching at the University of Colorado in Boulder. Thomas Cech became the first executive director of the BioFrontiers Institute and held this position until 2020. He also

showed interest in discovering everything new to the youngest colleagues, teaching general chemistry to first-year students with contagious enthusiasm.

Professor Cech is among the foremost scientists of today, as evidenced by the many honours he has received. In addition to the Nobel Prize in Chemistry in 1989, there are many other national and international awards and recognitions. For example, Pfizer Award for Enzyme Chemistry (1985), American Cancer Society Lifetime Research Professor (1988), Heineken Prize of the Royal Netherlands Academy of Sciences (1988), Albert Lasker Award for Basic Medical Research (1988), National Medal of Science presented by US President Bill Clinton (1995). Prof. Cech was elected a member of the National Academy of Sciences USA (1987) and the National Medical Academy (2000) and a lifetime American Cancer Society professor. The Academy of Sciences of the Czech Republic honoured Thomas Cech in 2002 with the Gregor Mendel Medal.

Thomas Cech approaches any collaboration very kindly and generously and has been long supporting the advancement of expertise in science and research at our university. He was the keynote speaker at the Mendel 200 conference organized by Masaryk University in 2022. Prof. Cech also happily contributes to popularizing science in our country. He appeared in the Hyde Park Civilization program, where he humorously and, with the overview of a real expert and experienced populariser, brought the most modern scientific approaches closer to the public.

The program's dramaturgical team considers his performance the most entertaining and comparable only to the Dalai Lama's appearance. He demonstrated his perspective, humility, and humour when asked where he keeps his medal: "I used to keep The Medal under my mattress, but it made it lumpy and hard to sleep on, so I had to move it!"

By awarding its highest honour, an Honorary Doctorate, Masaryk University expresses the most significant recognition of Professor Cech for his lifelong work as a scientist, educator, and populariser and appreciates a personality who has not only significantly contributed to the development of life sciences at the Faculty of Science of Masaryk University, but who continually develops scientific culture and excellence and spreads the good name of Masaryk University worldwide.

# SOLEMN OATH

Distinguished sir, before I confer upon you this title
in appreciation of your extraordinary scientific merits
and exceptional competences, we must observe
the ancient custom which requires those about
to be presented with this academic title to take
a solemn oath.

Distinguished sir because you have contributed
to the development of our university and provided
others with an example worthy of following,
I hereby ask you to swear:

First, that you shall forever maintain your
allegiance to this university, which bears the illustrious
name of Masaryk, forever keep your friendship
and continue to support it with all your strength.

Moreover, that you shall continue to cultivate the
development of human knowledge so that its light
shines ever brighter. And finally, that you shall
remain in the future as you are now, unchanging.

Do you swear and promise
to do so to the best of your knowledge and belief?

I SWEAR AND I PROMISE.

Now that I have gratefully received your solemn oath,
I, the duly constituted promoter, by the authority
bestowed upon me, proclaim you,

THOMAS ROBERT CECH,
HONORARY DOCTOR
IN THE FIELD OF BIOLOGICAL SCIENCES.

I hereby publicly declare your appointment and grant
you the rights and privileges associated with this title.
As proof, I present you with this diploma, bearing the
seal of Masaryk University, and confer upon you the
Gold Medal of this university.

# S P E E C H
**Thomas R. Cech**

My maternal grandfather Josef Červeny immigrated from Bohemia to the U.S. in 1913 and set up the Cerveny shoemaker shop in Chicago. Earlier, my great grandfather Čech also had the haček deleted from his surname by a thoughtless immigration officer on Ellis Island, causing great confusion about my name whenever I visit the land of my ancestors. When I was born in Chicago in 1947, Czech was still spoken in the neighbourhoods along Cermak Road and kolaches and other traditional pastries were displayed in every bakery window. Even after my family moved to Iowa City, Iowa, my mother still cooked traditional foods of the old country, including roast pork with caraway seeds, svickova, knedlicky, and – at Christmas – vanocka, which we called houska. One of my daughters still bakes this braided houska at the holidays and distributes it to family and neighbours, much to their delight. It is this Czech heritage that warms my heart when I visit your country, making me especially grateful for this honorary degree from Masaryk University.

Iowa City, the home of the University of Iowa, was filled with opportunities for a boy with inborn scientific curiosity. I overcame my innate shyness and introduced myself to geology professors at the University, who seemed to enjoy sharing their knowledge with an inquisitive middle school kid. I discovered a dumping ground behind the Geology Building, where they discarded rocks and minerals that they no longer needed, and some of their discards were treasures to me, ending up in my growing rock collection. My scientific passion was encouraged by my father, a physician who loved reading about physics, and my own interests expanded from geology to astronomy, physics and then chemistry. After majoring in chemistry at Grinnell College, my wife Carol and I entered the PhD program at the University of California Berkeley. There we were both drawn to biophysical chemistry. My life changed when I found Professor John Hearst, who was applying physical chemical principles to DNA and chromosomes.

After graduate school, we moved to Cambridge for postdoctoral studies; Carol worked at Harvard and I at M.I.T. just a mile down Mass. Ave. I had a great two years in Mary Lou Pardue's lab, and I also reached out to Joe Gall at Yale and Jan Engberg in Copenhagen to learn about the extrachromosomal ribosomal RNA genes of Tetrahymena. I decided to study this creature when I set up my own lab at the University of Colorado Boulder in 1978.

Fortune smiled on me in Colorado – first, because I hired Art Zaug, whose research talents were astounding, and second, because the Tetrahymena ribosomal RNA genes turned out to harbour the self-splicing intron that would become famous as the first example of catalytic RNA. Of course, we did not know this at the time, and we chased false models and were rather confused for about two years before we showed what the RNA was doing and were ready to announce it to the world in 1982. We named this RNA a "ribozyme" – ribonucleic acid with enzymatic activity – before we knew if there would be other examples, but soon it was joined by Sidney Altman's Ribonuclease P, multiple

self-splicing introns from diverse organisms, and self-cleaving RNAs residing in plant infectious agents and in hepatitis delta virus. Arguably the most important ribozyme, the large subunit ribosomal RNA that catalyses peptide bond formation, emerged from the pioneering work of Harry Noller and the crystal structures of Tom Steitz.

One community particularly excited by ribozymes was the origins-of-life group. They had been pondering the chicken-and-egg problem of prebiotic evolution – which came first, the informational molecule (e.g., DNA) or the catalyst that could replicate that information (e.g., protein) -- and it seemed difficult to imagine both arising by random chemistry in the same place at the same time. Now that RNA was revealed as having enzymatic activity in addition to its well-known informational capacity, one could envision an ancient RNA World in which RNA replicated itself. This intriguing possibility probably contributed to the Royal Swedish Academy of Sciences awarding the Nobel Prize in Chemistry to Altman and me just a few years later in 1989.

Building on the ribozyme discovery, my laboratory moved in two directions – we investigated the chemical mechanism of RNA catalysis, research that involved systematically replacing nucleotides and even individual atoms in the macromolecule and measuring reaction rates, and we determined crystal structures of ribozyme domains and eventually the entire active ribozyme to understand structure-function relationships.

I enjoyed this detailed chemical-level analysis, but I wanted to supplement it with something more biological. It turned out that Tetrahymena and other ciliated protozoa had another gift to science beyond RNA catalysis, which involved chromosome ends (telomeres) and the machinery that replicated them (telomerase). Telomerase was discovered in Tetrahymena by Liz Blackburn and Carol Greider, and early insights pointing to its existence and function came from Jack Szostak. Greider and Blackburn also discovered that telomerase was a ribonucleoprotein enzyme, and they identified its RNA subunit. My lab – in particular, Joachim Lingner – followed up by discovering telomerase's catalytic protein subunit, which we named TERT (Telomerase Reverse Transcriptase). In addition to its essential role in embryonic development and stem cells, TERT is reactivated in 90% of human cancers, and a mutation in the gene's promoter is one of the top three most common oncogenic mutations in all of cancer.

In closing, I wish to acknowledge the students, postdoctoral fellows, and staff scientists whose creativity and hard work have driven the Cech Lab's discoveries. The pleasure we have shared is not just about scientific progress; guiding trainees as they learn, question current models, and mature as independent scientists is a major joy of being a professor. It is on behalf of them that I accept this honorary degree from Masaryk University.

# Peter Wolfram Michor

# PETER WOLFRAM MICHOR

Born on 20 May 1949 in Villach, Austria.

## RESEARCH FOCUS

Mathematics – functional analysis; global analysis; differential geometry; shape analysis; history.

## EDUCATION

1977       University of Vienna (Habilitation)
1969–1973  University of Vienna (Mathematik und Logik, Dr. Phil., June 1973)

## WORK FUNCTION (SELECTION)

Since 2010  University of Vienna, Vienna, Austria, Professor Emeritus
1990–2010  University of Vienna, Vienna, Austria, adjunct professor
1992–2003  Erwin Schrödinger International Institute for Mathematics
           and Physics (ESI), Vienna, Austria, Director
1977–1990  University of Vienna, Vienna, Austria, Associate Professor
1972–1977  University of Vienna Vienna, Austria, assistant professor

## AWARDS WON (SELECTION)

2023       Goldenes Doktordiplom [Golden Doctoral Diploma], Faculty
           of Mathematics, University of Vienna, Vienna, Austria

## SCIENTIFIC ACTIVITIES (SELECTION)

1999–2006  Chairman of the Committee for electronic information and
           communication (CEIC), established by the International
           Mathematical Union (IMU, www.mathunion.org), Berlin, Germany
1995–1998  Secretary General of the European Mathematical
           Society (EMS, euromathsoc.org), Chairman of the EMS
           Electronic Publications Committee, Helsinki, Finland

## MEMBERSHIP OF EDITORIAL BOARDS (SELECTION)

Geometric Mechanics (World Scientific), since 2024, member
Revista Matemática Complutense (Springer), since 2000, member
Acta Mathematica Universitatis Comenianae (UK, Bratislava),
since 1992, member
Journal of Geometric Mechanics (American Inst. of Math. Sci.),
2009-2022, member
Monatshefte für Mathematik (Springer), 2001-2016, member

Annals of Global Analysis and Geometry (Kluwer), 1993-2016, member
Archivum Mathematicum (MU, Brno), 1991-2016, member
Journal of Lie Theory (Heldermann), 2009-2015, member
Czechoslovak Mathematical Journal (MU CAV), 1997-2011, member
Differential Geometry and its Applications (Springer), 1991-2008, member

## LATEST PUBLICATIONS (SELECTION)

Wolfgang A. F. Ruppert, Peter W. Michor: Mathematik in Österreich und die NS-Zeit. 176 Kurzbiographien. Serie: Mathematik im Kontext. 2023. Springer-Verlag, Heidelberg. xxi + 772 pp. https://doi.org/10.1007/978-3-662-67100-9.

Philipp Harms, Peter W. Michor, Xavier Pennec, Stefan Sommer. Geometry of sample spaces. Differential Geometry and its Applications, Volume 90, October 2023, 102029. https://doi.org/10.1016/j.difgeo.2023.102029

Martin Bauers, Philipp Harms, Peter W. Michor: Fractional Sobolev metrics on spaces of immersions. Calculus of Variations and Partial Differential Equations 59, 62 (2020). 27 pages. https://doi.org/10.1007/s00526-020-1719-5

Piotr T. Chrusciel, Erwann Delay, Paul Klinger, Andreas Kriegl, Peter Michor, Armin Rainer: Non-singular spacetimes with a negative cosmological constant: V. Boson stars. Letters in Mathematical Physics 108, 9 (September 2018), 2009–2030. https://doi.org/10.1007/s11005-018-1062-3.

Martin Bauer, Martins Bruveris, Philipp Harms, Peter W. Michor: Soliton solutions for the elastic metric on spaces of curves. Discrete and Continuous Dynamical Systems 38, 3 (March 2018), 1161-1185. https://doi.org/10.3934/dcds.2018049

Martin Bauer, Martins Bruveris, Peter W. Michor: Uniqueness of the Fisher-Rao metric on the space of smooth densities. Bulletin of the London Mathematical Society. 48, 3 (2016), 499–506. https://doi.org/10.1112/blms/bdw020.

Martin Bauer, Martins Bruveris, Peter W. Michor: Overview of the Geometries of Shape Spaces and Diffeomorphism Groups. Journal of Mathematical Imaging and Vision, 50, 1–2, 60–97, 2014. https://doi.org/10.1007/s10851-013-0490-z

Peter W. Michor: Topics in Differential Geometry. Graduate Studies in Mathematics, Vol. 93 American Mathematical Society, Providence, 2008.

Andreas Kriegl, Peter W. Michor: The Convenient Setting of Global Analysis. Mathematical Surveys and Monographs, Volume: 53, American Mathematical Society, Providence, 1997. 618 pages.

Ivan Kolář, Jan Slovák, Peter W. Michor: Natural operations in differential geometry. Springer-Verlag, Berlin, Heidelberg, New York, (1993), vi+434 pp. (Také v ruském překladu: Estestvenye operatii v diferencial'noy geometrii. Russian Translation. Seriya monografii „Metody matematicheskogo modelirovaniya", Vol. 10, TIMPANI, Kiev-Moskva, 2001, 447 pp.)

# LAUDATIO
**Tomáš Kašparovský**

Your Magnificence, Mr. Rector, Honorabiles, Spectabiles, distinguished members of the scientific councils, distinguished guests, ladies, and gentlemen,

Let me introduce you to Professor Peter Wolfram Michor, a world-leading expert in mathematics and its applications.

He was born on 20 May 1949 in Villach, graduated from the University of Vienna in 1973 under the supervision of Johann Cigler in functional analysis, received his habilitation from the same university in 1977 and has been an adjunct professor there since 1990, retired since 2010.

Around Peter W. Michor, important scientific schools were established in the fields of functional analysis, differential geometry, and geometric analysis, and in several directions of applications of mathematics. He has 17 Ph.D. graduates and has 77 followers recorded in the Mathematical Genealogy Database. Several of his students have become leaders in diverse fields, e.g. Josef Teichmann is Professor at ETH Zurich in Mathematical Economics, Martin Bauer is Professor at Florida State University in Information Geometry and Deep Learning, Andreas Cap is Professor of Mathematics at Universität Wien.

In his research, he always systematically aimed at a natural and complete understanding of the nature of the mathematical objects and connections being built. In mathematics it is usual that the way to solve a problem is to generalize it as much as possible. He thus succeeded in extending the classical methods of mathematical analysis, in a fully geometric approach, to an infinite-dimensional form far beyond Hilbert, Banach, Frechette and other spaces. He summarized this theory, together with Andreas Kriegl, in the groundbreaking monograph The convenient setting of global analysis, published by the American Mathematical Society (AMS) in the late 1990 s. He then used this theory, especially in collaboration with David Mumford, one of the world's best-known living mathematicians, for a broad class of applications in shape recognition that are now part of imaging techniques, artificial intelligence for image recognition, and the game industry. Recently, Peter W. Michor, together with W. Ruppert, has also published a comprehensive historical monograph with Springer, charting the fate of Jewish mathematicians in Central Europe in the last century.

Peter W. Michor's organizational activities have had an extraordinary impact. Together with W. Thirring, a very prominent physicist from Vienna, he founded the Internationales Erwin Schrödinger Institut für Mathematik und Physik in Vienna in 1992, which he then led for 11 years, making it a springboard for the extraordinary development of mathematics and mathematical physics in the Central European region. He was Secretary of the European Mathematical Society from 1995-1998 and chaired the Committee on electronic information and communication, organized by the International Mathematical Union (IMU), from 1999-2006. During that time, he was very instrumental in bringing a rational approach to the general problems of quality and availability of publications to most of the mathematical community.

Peter W. Michor's direct influence on mathematics at Masaryk University dates to the 1980 s. Since 1985 he has collaborated with mathematicians in Brno on a modern revision of the foundations of differential geometry and its transfer to applications. To this end, he acquired a diplomatic passport so that he could organize, together with Ivan Kolář, the so-called Central European Seminar in Brno once a month. This research platform has been active since 1986, initially once a month, but now continues two to three times every semester under the leadership of A. Capo from Vienna and J. Slovák from Brno. The most visible result of the work of this seminar is the monograph Natural Operations in Differential Geometry (with I. Kolář and J. Slovák), published by Springer in 1993, translated into Russian shortly afterwards. It is a work of mathematicians and physicists that is still extremely often cited today.

Peter W. Michor's extraordinary diligence and extremely broad scope and outlook were undoubtedly the key impulses for Brno's development in several mathematical directions based on the geometrical approach and for the very worthy position of Masaryk University in these areas on a global scale today.

# SOLEMN OATH

Distinguished sir, before I confer upon you this title
in appreciation of your extraordinary scientific merits
and exceptional competences, we must observe
the ancient custom which requires those about
to be presented with this academic title to take
a solemn oath.

Distinguished sir because you have contributed
to the development of our university and provided
others with an example worthy of following,
I hereby ask you to swear:

First, that you shall forever maintain your
allegiance to this university, which bears the illustrious
name of Masaryk, forever keep your friendship
and continue to support it with all your strength.

Moreover, that you shall continue to cultivate the
development of human knowledge so that its light
shines ever brighter. And finally, that you shall
remain in the future as you are now, unchanging.

Do you swear and promise
to do so to the best of your knowledge and belief?

I SWEAR AND I PROMISE.

Now that I have gratefully received your solemn oath,
I, the duly constituted promoter, by the authority
bestowed upon me, proclaim you,

PETER WOLFRAM MICHOR,
HONORARY DOCTOR
IN THE FIELD OF MATHEMATICS.

I hereby publicly declare your appointment and grant
you the rights and privileges associated with this title.
As proof, I present you with this diploma, bearing the
seal of Masaryk University, and confer upon you the
Gold Medal of this university.

# S P E E C H
## Peter W. Michor

(Magnifizenz, Spectabiles, verehrte Mitglieder des wisseschaftlichen Rates, verehrte Gäste, meine Damen und Herren)

It is with sincere gratitude that I would like to express my sincere thanks to Masaryk University for considering me for the honorary degree of doctor honoris causa.

I feel a deep connection with the mathematical community of Masaryk University, which goes back to July 1984, when the category conference was held at Lake Murten in Switzerland. There, Professor Jiří Rosický attended my lecture on product functors in the category of smooth polyhedra. He subsequently informed Professor Ivan Kolar about my work, which led to an invitation to Brno. It was obvious that we both had a deep interest in categorical thinking in differential geometry. We founded the Central European Seminar on Differential Geometry (CES), whose regular participants were Jan Slovák, Jiří Vanžura and Josef Janyška, and which met once a month on Fridays. I am also honoured to count Jan Slovák among my PhD students.

It is still active and regularly attended by about 30 people, currently organized by Jan Slovák, Andreas Cap from Vienna and Vladimír Souček from Prague. Over time, I have become a regular participant in the annual Winter School of Geometry and Physics in Srní, the triennial conference "Differential Geometry and its Applications", and various other schools and conferences. The contacts established through these activities eventually contributed to the founding of the Erwin Schrödinger International Institute for Mathematical Physics (ESI) in Vienna.

The book I. Kolář, P. W. Michor, J. Slovák: Natural Operations in Differential Geometry was published at this seminar. Springer-Verlag, Berlin, Heidelberg, New York, (1993), 434 p., among other publications.

My mathematical interests went from the question of naturalness in functional analysis, through differential geometry and the question of naturalness (the CES topic at the beginning), to the analysis of infinite-dimensional spaces and infinite-dimensional differential geometry.

One of the results is the book A. Kriegl, P.W. Michor. Math. Surveys and Monographs 53, Amer. Math. Soc. 1997. 618 pp.

The founding of ESI (together with Walter Thirring) led to my activities for European mathematics. Society and Internat. Math. Union. There I encountered David Mumford, one of the world's most famous mathematicians, who won me over to the application of infinite-dimensional differential geometry to pattern recognition, shape analysis, and computational anatomy. I became Mumford's most frequent co-author. A good description of the results is in the survey paper by M. Bauer, M. Bruveris, and P. W. Michor: Overview of the Geometries of Shape Spaces and Diffeomorphism Groups. Journal of Mathematical Imaging and Vision, 50, 1-2, 60-97, 2014.

The original impetus for these activities is also rooted in my contacts with the mathematical community of Masaryk University.

The Central European Seminar on Differential Geometry stimulated a collaboration between my PhD and Andreas Cap, Jan Slovák and Vladimír Souček,

which led to the creation of a new field of differential geometry called parabolic geometry and the publication of A. Cap, J. Slovák, V. Bernstein-Gelfand sequences, Ann. 154, no. 1 (2001) 97-113, in probably the most prestigious mathematical journal in the world, and the book by A. Cap, J. Slovák: Parabolic geometries I: Mathematical Surveys and Monographs 154, Amer. Math. Soc. 2009, 628 pp.

Currently, there is an important and influential academic community focused on parabolic geometry, which is characterized by numerous publications by PhD students A. Capa, J. Slovák, V. Soucek and many other mathematicians from all over the world. "Parabolic geometry" has emerged as a distinct mathematical discipline, originating not from one of the traditional leading mathematical centres such as the East or West coast of the USA, Oxford, Cambridge, Paris, or Moscow, but rather from the interconnected triangle of Brno, Prague, and Vienna. This development has undeniably placed Masaryk University on the mathematical map.

I am proud to have contributed, at least in part, to the initial impetus for the creation of this field.

Finally, I would like to thank Masaryk University in Brno with deep gratitude for awarding me the title of doctor honoris causa. This esteemed recognition is a great honour for me, which I accept with deep appreciation and humility.

In accepting this honorary degree, I pledge to continue my commitment to scholarship, innovation, and the advancement of mathematics. I am deeply grateful for this recognition and look forward to continuing my collaboration with Masaryk University.

# MUSICAL PERFORMANCE
# OSAMĚLÉ PALAČINKY

Three boys, three cellos. We know each other from our studies at the conservatory. The formation of our trio dates to the beginning of the 2017 holidays, when the main idea was to visit different European capitals. All we had to do was to write out some well-known melodies in our instrumentation, rehearse them and go. After the holidays were over, we got so used to each other and agreed that it would be a shame to leave it for the rest of the year. As time went on, our repertoire expanded and so did the opportunities to perform elsewhere than as street performers.

**Daniel Dobšík**
He graduated from high school in Brno, then entered the Brno Conservatory in the class of Professor Břetislav Vybiral. Currently he works as a teacher at the ZUŠ (elementary art school).

**Petr Osička**
He was the only one who was brought up with a love for music and the cello itself at an early age, so the conservatory was an obvious choice for him. Miroslav Zicha educated him both at the conservatory and at JAMU. Member of the Moravian Philharmonic Orchestra Olomouc.
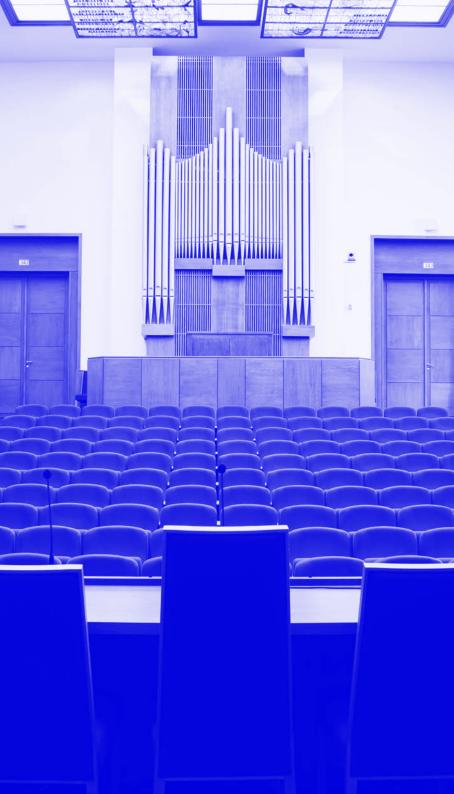
**Ladislav Lekavý**
He graduated from high school at the Wine School in Valtice, then entered the Brno Conservatory in the class of Professor Miroslav Zicha, later with Professor Václav Horák. He works at the Municipal Theatre Brno and teaches at the ZUŠ Veselí nad Moravou.

FEATURED SONGS:

Perfect – Ed Sheeran
Libertango – Astor Piazzola
Moon River – Henry Mancini
Nothing Else Matters – Metallica

# A FEW WORDS ABOUT THE AUDITORIUM MAXIMUM
## Karel Engliš Great Hall

The ceremonies of Masaryk University are nowadays inseparably linked with the auditorium of the Faculty of Law, which serves as a university-wide auditorium.

In its early days, in the 1930s, it was the venue for most of the university's ceremonial moments, which included the inauguration of lecturers and the lavish graduations of honorary doctors. However, the space was considered a temporary makeshift for such ceremonies and was to serve as such only until the construction of the extensive university campus. For this reason, the auditorium was originally austere in character, almost devoid of artistic decoration. The only exception was the ceiling with stained glass windows by František Kysela.

The idea of building a large Academic Quarter with a monumental new hall was gradually abandoned and only the building of the Faculty of Law was realized from the original plan. It was therefore decided to create a more dignified framework for the festivities by decorating the original large blank wall in the front of the auditorium maxima.

The large-scale composition of Prometheus bringing fire to humankind, measuring 7.5 x 13 metres, is divided into three horizontal strips by Antonín Procházka. In the upper one is the god Helios announcing a new day to humankind, accompanied by the goddess of time Hora. In the middle strip are allegorical figures of all the sciences that were represented at the university - from left to right they are law, medicine, philosophy, art, pedagogy, and natural sciences. The centre of the painting is dominated by the figure of Prometheus with a burning torch. In the lower band, the work depicts humankind in its daily activities - building, seafaring, and agriculture. The figure of Prometheus is linked in meaning to a group of figures craving the fire of knowledge. The grand opening of Procházka's monumental work took place in the atmosphere of post-Monarchist Czechoslovakia on 16 December 1938. The composition had a turbulent fate during the war period. It was insensitively cut out of the frame by order of the Brno Gestapo, but thanks to the courage of Czech workers it was hidden in the cellar of the building. Three years after the war, the painter's companion completed the restoration of the work, Linka Procházková.

As part of the celebration of the 104th anniversary of the founding of the university in January this year, the auditorium was named after the first rector of the university and one of the greatest personalities of his time, Karel Engliš.

Karel Engliš was not only the co-author and co-sponsor of the bill on the establishment of the "second Czech university", but later also its first rector, who in cooperation with the then president T. G. Masaryk managed to procure the basis of the university insignia - the rector's chain.

"It is important to remember the past because without it there would be no present. We can be rightly proud of our past because it was shaped by extraordinary personalities whose legacy should be regularly recalled so that it never disappears from our memory," said Martin Bareš, Rector of Masaryk University, during the unveiling of the name of the Karel Engliš Great Hall.