



Pavol Cekan, PhD

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Wikipedia: https://sk.wikipedia.org/wiki/Pavol_Čekan

Education

<u>Institution</u>	<u>Degree</u>	<u>Period</u>
University of Iceland	Ph.D. (Chemistry)	09/2003-01/2009
University of Iceland	B.Sc. (Biochemistry)	09/2000-10/2003

Employment history

<u>Institution</u>	<u>Position</u>	<u>Period</u>
MultiplexDX	CEO/Co-founder/Chief Scientist	12/2015-present
National Cancer Institute/NIH	Research Fellow	06/2014-01/2016
National Cancer Institute/NIH	Visiting Fellow	06/2013-06/2014
Rockefeller University	Postdoctoral Associate	10/2009-06/2013
University of Iceland	Postdoctoral Research Fellow	01/2009-09/2009
University of Iceland	PhD student/Research Assistant	09/2003-01/2009
University of Iceland	Teaching Assistant	09/2003-06/2009
University of Washington	Research Assistant	01/2004-08/2004
University of Iceland	Research Assistant	11/2000-06/2003
The Catholic School in Reykjavik	Teacher of Chemistry and Physics (8 th , 9 th and 10 th grade)	09/2002-08/2003

Personal Statement

Dr. Cekan is an innovative leader with over 15 years of experience at the top research and government institutions. He received his doctorate in chemistry from the University of Iceland. As a Postdoctoral Associate in Tuschl lab at Rockefeller University, Dr. Cekan developed methodology and diagnostic application for the innovative and patented miRNA/mRNA/ncRNA fluorescence in situ hybridization, immunohistochemistry (IHC), immunofluorescence (IF) and qPCR in paraffin-embedded tissues. During his time as an FTE Research Fellow at the National Cancer Institute, Dr. Cekan was part of a research team working on RCC1 and Ran involvement in cell cycle return of normal/cancer cells after DNA damage by triggering ATM signaling and 53BP1 repair and/or terminating ATR/Chk1 DNA damage response (DDR).

Recently, Dr. Cekan founded a new company for novel cancer diagnostic technologies and applications called MultiplexDX (please, see <http://multiplexdx.com/>). Please, see our corporate video introducing MultiplexDX personalized diagnostics ([link](#)). Representing MultiplexDX, I won prestigious 2016's StartUp Awards becoming the Science category winner and overall winner ([link](#)). MultiplexDX was recently chosen as one of the top 100 innovative companies in Slovakia ([link](#)) and The 2017 New Europe 100 Challenger ([link](#)). MultiplexDX won CES Awards 2018' "Best Social Impact Startup" in the CEE Region ([link](#)) and received a prestigious Seal of Excellence from European Commission ([link](#)). MultiplexDX is the first company from the entire CEE region to become an honorable member of the Oslo Cancer Cluster since



January 2019 ([link](#)). Dr. Cekan was also been chosen the 2018 JCI Creative Young Entrepreneur in Slovakia ([link](#)). For MultiplexDX, he led fundraising for €400k Seed A and €1.2 mil. Seed B investments ([link](#)) and was awarded, as a Principal Investigator, €3,3M in grants combined from the Ministry of Labour, Social Affairs and Family of the Slovak Republic ([link](#)) and the Ministry of Health of the Slovak Republic ([link](#)), The Slovak Research and Development Agency ([link](#)) including the most prestigious EIC Accelerator grant from European Commission ([link](#)). In COVID-19 pandemic Dr. Cekan led development of 11 RT-PCR and LAMP tests for detection of SARS-CoV-2, which were registered, validated, certified, sold, gifted and/or provided as a humanitarian aid in 26 countries worldwide ([link](#)).

Relevant skills and accomplishments

Applied Research

- Synthesized fluorescent nucleotides to identify each DNA bases by fluorescence spectroscopy.
- Synthesized bifunctional spectroscopic probe Ç to study structure and function of nucleic acids by Electron Paramagnetic Resonance (EPR) and Fluorescence Spectroscopy.
- Synthesized spin-labeled nucleotide to identify single-base mismatches in duplex DNA.
- Successfully developed a state-of-the-art miRNA fluorescence *in situ* hybridization (FISH) method to differentiate histologically similar tumors.
- Established multicolor miRNA FISH on FFPE tissue sections.
- Developed multicolor quantitative mRNA FISH on FFPE tissue sections.
- Established a method enabling simultaneous visualization of endogenous GFP or any protein by IF and RNAs and DNAs by RNA FISH and DNA FISH, respectively.
- Discover that Ran GTPase activates DNA damage response and cell cycle resumption, driving the evasion of cell senescence in normal and cancer cells.
- Developed, for the first time, 8-color RNA FISH.
- Developed a novel breast cancer diagnostic method, Multiplex8+.
- Developed miR-375-based diagnostics for neuroendocrine tumors.
- Developed IVD-certified vDetect COVID-19 RT-qPCR kit for detection of SARS-CoV-2
- Developed the first room temperature stable and IVD-certified rTEST COVID-19 RT-qPCR kit for detection of SARS-CoV-2 (singleplex, multiplex and allplex).
- Developed IVD-certified RT-qPCR test for co-detection of SARS-CoV-2, Influenza A and Influenza B a thus, differentiation of COVID-19 and seasonal flu.
- Developed novel LAMP test for COVID-19.

Innovation/Exploration

- Discovered a new fixative containing 1-ethyl-3-[3-dimethylaminopropyl] carbodiimide (EDC) that crosslinks the 5' phosphate of the miRNA to surrounding protein molecules, essential for miRNA retention during miRNA FISH.
- Developed and enhanced antibody-based fluorescence signal amplification through the use of long linkers between the hapten and probe, eliminating tissue permeabilization.
- Prevented mishybridization through the use of short LNA-modified DNA (LNA/DNA) probes that are designed to avoid matches to abundant RNAs, such as rRNA, snRNAs, mitochondrial rRNA, etc.



- Established use of directly labeled fluorescent rRNA and poly(A) probes for assessing RNA retention and normalizing specific miRNA signals.
- Developed 3D staining and visualization of paraffin-embedded tissues.
- Developed cost- and time-effective fluorescent labeling of short LNA/DNA probes targeting abundant RNAs such as rRNA, poly(A), mitochondrial rRNA, snRNAs (U1, U2, U6) scRNAs (hy3, 7SL), snoRNAs (U3), tRNAs and less abundant mRNAs (e.g. ERBB2).
- Established probe validation system using paraffin-embedded cell pellets.
- Enabled cell type discrimination by measuring ratios between total protein and abundant RNAs.
- Developed a protocol for automated RNA FISH using Ventana Discovery XT tissue processor.
- Developed a new in-house made reagents and assays for Ventana Discovery XT tissue processor.
- Developed a novel RNA FISH combined circular chromosome conformation capture (4C) method.
- Developed a novel triple staining approach to study simultaneously oxidative stress (CellRox) and cell cycle (EdU, click chemistry) of normal and cancer cells by flow cytometry.
- Developed triple DNA FISH staining for study of U1 region/X1 and its importance in cell life.
- Developed an approach to process genome 3D organization approaches on glass coverslips.
- Developed cost- and time-effective chemical synthesis of pre-adenylated adapters for miRNA seq.
- Developed automated miRNA library preparation protocol with chemically modified adapters that don't form dimer and thus, eliminate biases in miRNA sequencing analysis.
- Developed fluorescently labeled pre-adenylated 3'-sequencing adapter which circumvent use of radiolabeled adapters in miRNA library preparation for miRNA sequencing.
- Developed Multiplex+™ technologies.
- Developed RT-qPCR and LAMP technologies for COVID-19 and Influenza tests.
- Developed innovative and novel LAMP method for mobile testing of COVID-19.
- Use of LNA modifications and double probe approach for more sensitive and specific RT-PCR tests for COVID-19 diagnostics.

Language Skills

- Proficiency in English, Slovak, Icelandic, Czech and Polish.

Management/Leadership

- CEO of MultiplexDX, a biotech start-up - executive leadership responsibilities
- Leading a team consisting of marketers, designers, scientists, managers, corporate identity specialist, web designers and business developers
- Responsible for company PR
- Responsible for company budget, finance and fundraising
- Responsible for tech-transfer
- Principal in project management
- Leading product development, product validation and production processes
- Leading grant and patent application writing
- Responsible for team building and conflict resolution
- Leading company sales and project management

Honors and awards

For more honors and awards, please, see: https://sk.wikipedia.org/wiki/Pavol_Čekan

Award of the Governor of the Presov Self-Governing Region link	Apr 2022
Superperson Award, Superbrands program link	Oct 2021
Gold Medal, Slovak Chemical Society link	Sept 2021
Gold Plaque, Ministry of Foreign and European Affairs link	Sept 2021
Crystal Wing Award in category Medicine and Science link	June 2021
Order of Ludovit Stur II., President of the Slovak Republic link	June 2021
Honorary Citizen in Bratislava - the Old Town link	May 2021
Founder of the Year in the CEE region link	Sept 2018
Creative Young Entrepreneur Award 2018 link	Sept 2018
JCI Creative Young Entrepreneur Award 2018 link	June 2018
Mindshare Class 2017, Today's Mavericks, Tomorrow's Millionaires link	Dec 2017
The 2017 New Europe 100 Challenger link	Nov 2017
2017 Mayor's Award – Presov, Slovakia link	June 2017
Robime to inak (award for top 100 innovative companies in Slovakia) link	Jan 2017
Overall winner in 2016's StartUp Awards link	Dec 2016
Science category winner in 2016's StartUp Awards link	Dec 2016
Visiting Fellow Award, National Cancer Institute/NIH, Bethesda, USA	2013-2014
Doctoral fellowship from EIMSKIP, University of Iceland	2006-2008

Memberships

Oslo Cancer Cluster link	2019-
Mindshare link	2017-
The American Society for Cell Biology	2013-2016
The New York Academy of Sciences	2009-2013

Patents

1. Tuschl, T., **Cekan, P.**, Renwick, N. (June 6, 2016) Methods for Fixing and Detecting RNA. US 9,359,636.
2. Tuschl, T., Pena, J., **Cekan, P.**, Sohn, Ch., Rouhanifard, S.H., Ludwig, J. (April 14, 2015) Methods to fix and detect nucleic acids. US 9,005,893.
3. Tuschl, T., Pena, J., Sohn, Ch., Hakim, S., Ludwig, J., **Cekan, P.** (March 12, 2013) Methods to fix and detect nucleic acids. US 8,394,588.
4. **Cekan, P.**, Paul, ED. (April 9, 2020) Method for diagnosing diseases using multiplex fluorescence and sequencing. WO/2020/070325.
 - a. European patent office (February 17, 2021). EP3775277.
 - b. United States patent office (January 6, 2022). US20220002812.
5. **Cekan, P.**, Radvanszka, M., Hajdu, R. Paul, ED. (November 11, 2021) Means and Methods for detecting novel coronavirus (SARS-CoV-2). WO/2021/224269.
6. **Cekan, P.**, Paul, ED., Szobi, A., Vojtassakova, N., Buranovska, K. (May 19, 2022) Loop mediated isothermal nucleic acid amplification (LAMP) using lna-modified primers and a metal-based colorimetric method for detecting an amplification product. WO/2022/101259.



Deal table (fundraising and sales)

1. I have secured € 400k in Seed A investment from Neulogy VC (2016/17) and angel investors.
2. I have secured € 1,2 mil. in Seed B investment from Crowdberry Slovakia, Ron Cook and other angel investors (2018) ([link](#)).
3. Hit € 9,45 mil. revenue cap in 2021.

Reviewer

Peer reviewer for Scientific Reports journal (impact factor: 4.996)	2017 – present
Reviewer for Marie Skłodowska-Curie actions research fellowship	2017 – present
Reviewer for European Commission (Horizon2020-CELAC)	2018 – present

Research Support

1. National Institutes of Health

NIH-NIGMS - 1 RO1 CA159227 - Tuschl (PI) 04/2011-03/2016
Title: Development of quantitative multiplex RNA in situ hybridization
This project describes new approaches to better measure and visualize gene expression at the RNA level in normal and diseased tissues.
Role: Senior/Key Person
Total cost: \$1,454,525

2. The Rockefeller University Center for Clinical and Translational Science

5 UL1 RR024143 - CCTS Pilot Project - Collier (PI) 11/2011-11/2013
Title: Development of multicolor fluorescence RNA in situ-hybridization assays for breast cancer diagnosis and prognosis
This project describes development of new breast cancer markers using RNA fluorescence in situ hybridization.
Role: Pilot Project Awardee (Co-PI)
Total cost: \$86,120

4. The Rockefeller University Center for Clinical and Translational Science

5 UL1 RR024143 - CCTS Pilot Project - Collier (PI) 12/2011-12/2013
Title: Urine miRNA in autosomal dominant polycystic kidney disease
The aim of this pilot project is to assess the potential of urine miRNAs as biomarkers in autosomal dominant polycystic kidney disease (ADPKD).
Role: Pilot Project Awardee (Co-PI)
Total cost: \$98,705

5. Simons Foundation

SFARI Award #: 240233 - Tuschl (PI) 07/2012-06/2015
Title: Fragile-X target gene pathway analysis and its contribution to Autism



The project also aims to discover classifactory RNA biomarkers and develop RNA-based diagnostics for Autism Spectrum Disorder and Fragile X-Syndrome.

Role: Senior/Key Person

Total cost: \$750,000

6. Ministry of Labour, Social Affairs and Family of the Slovak Republic

ITMS code 312011M267

09/2018 - 11/2019

Title: Education in modern trends in cancer diagnostics

Aim: The aim of the project is to provide specialized competences by acquiring the necessary theoretical knowledge and practical skills in the field of modern and personalized cancer diagnostics.

Role: Principal Investigator

Total cost: €186 038

7. Ministry of Health of the Slovak Republic

ITMS code ONKO-MultiplexDX

12/2019 - 12/2022

Title: Education in modern trends in cancer diagnostics

Aim: The aim of the project is to provide specialized competences by acquiring the necessary theoretical knowledge and practical skills in the field of modern and personalized cancer diagnostics.

Role: Principal Investigator

Total cost: €250 000

8. European Commission

ITMS code EIC Accelerator-MultiplexDX

04/2020 - 06/2023

Title: Education in modern trends in cancer diagnostics

Aim: The aim of the project is to provide specialized competences by acquiring the necessary theoretical knowledge and practical skills in the field of modern and personalized cancer diagnostics.

Role: Principal Investigator

Total cost: €2 459 000

9. The Slovak Research and Development Agency

ITMS code PP-COVID-20-0116

09/2020 - 12/2022

Title: Developing a high-throughput, sensitive RT-qPCR test and rapid, point-of-care RT-LAMP test for the differentiation of SARS-CoV-2 and influenza (CoV-INFect)

Aim: The aim is to develop RT-qPCR and RT-LAMP tests for influenza A and B that can be used in conjunction with the SARS-CoV-2 test to improve Slovakia's comprehensive testing plan by enabling screening/surveillance of the population by central labs, rapid identification of infected individuals at PoC locations, and differentiation of SARS-CoV-2 from the common flu.

Total cost: €396 273

10. MIRRIMinistry of Investments, Regional Development and Informatization of the Slovak Republic

Code: SRIN 06/2021 contract No. 1583/2021

01/2022-03/2022

Title: Creating a knowledge platform to fight the COVID-19 pandemic and better preparedness for future pandemics

Aim: The main aim of the project is to strengthen the existing cooperation and establish further partnerships to develop a functional molecular test for faster, cheaper and robust detection of the state of T cell mediated cellular immunity to SARS-CoV-2 virus.

Total cost: 94 059,24 €

11. European Commission

Project No: 101087124

implementation starts 01/2023

Call: HORIZON-WIDERA-2022-ACCESS-04-01

Title: Alzheimer's Disease Diagnostics Innovation and Translation to Clinical Practice in Central Europe (ADDIT-CE)

Aim: The aim of ADDIT-CE is to interlink two ecosystems in Brno and Bratislava region, embracing the full quadruple helix of innovation driving actors. The joined ecosystems will unite R&I activities focusing on new diagnostic methods for Alzheimer disease (AD) and their applications and further interlink academia and business spheres by creating a pilot industrial PhD programme. ADDIT-CE will generate a joint cross-border strategy covering basic and applied research activities aiming on accelerating the development of new tools for preclinical AD diagnostics and lifestyle/pharmacological intervention monitoring.

Total cost: 4 939 299,50 € (MDX budget 716 202,50 €)

Research publications (40 articles (25 chosen below), 1647 citations, h-index: 21; top publications are marked with asterisk)

1. Szobi, A., Buranovska, K., Vojtassakova, N., Lovisek, D., et. al. (2022) Vivid COVID-19 LAMP: an ultrasensitive, quadruplexed test using LNA-modified primers and a novel zinc ion and 5-Br-PAPS colorimetric detection system. *Nature Comm.*, in press.
(Cekan, P. is corresponding author)
2. Birknerova, N., Mancikova, V., Paul, D. E., Matyasovsky, J., **Cekan, P.**, Palicka, V., and Parova, H. (2022) Circulating Cell-Free DNA-Based Methylation Pattern in Saliva for Early Diagnosis of Head and Neck Cancer. *Cancers*, 14(19), 4882.
3. Radvanska, M., Paul, D. E., Hajdu R., Borsova, K., Kovacova, V., Putaj, P., et. al. (2022) Sequential development of several RT-qPCR tests using LNA nucleotides and dual probe technology to differentiate SARS-CoV-2 from influenza A and B. *Microb. Biotechnol.*, 15 (7), 1995-2021.
(Cekan, P. is corresponding author)
4. Borsova, K., Paul, D. E., Kovacova, V., Radvanska, M., et al. (2021) Surveillance of SARS-CoV-2 lineage B.1.1.7 in Slovakia using a novel, multiplexed RT-qPCR assay. *Sci. Rep.*, 11, 20494.
(Cekan, P. is corresponding author)
5. Brejova, B., Borsova, K., Hodorova, V., Cabanova, V., et al. (2021) A SARS-CoV-2 mutant from B.1.258 lineage with Δ H69/ Δ V70 deletion in the Spike protein circulating in Central Europe in the fall 2020. *Virus Genes*, 57(6), 556-560.

6. Grytz, C.M., Kazemi, S., Marko, A., **Cekan, P.**, Guntert, P., Sigurdsson, S.T., and Prisner, T.F. (2017) Determination of helix orientations in a flexible DNA by multi-frequency EPR spectroscopy. *Phys. Chem. Chem. Phys.*, 19, 29801-29811.
7. ***Cekan, P.**, Hasegawa, K., Pan, Y., Tubman, E., Odde, D., Chen, J.-Q., Herrmann, M.A., Kumar, S., and Kalab, P. (2016) RCC1-dependent activation of Ran accelerates cell cycle and DNA repair, inhibiting DNA damage-induced cell senescence. *Mol. Biol. Cell*, 27 (8), 1346-1357.
8. Grytz, C.M., Marko, A., **Cekan, P.**, Sigurdsson, S.T., and Prisner, T.F. (2016) Flexibility and conformation of the cocaine aptamer studied by PELDOR. *Phys. Chem. Chem. Phys.*, 18, 2993-3002.
9. *Renwick N., **Cekan, P.**, Bognani, C.I., and Tuschl T. (2014) Multiplexed miRNA fluorescence in situ hybridization for formalin-fixed paraffin-embedded tissues. *Methods in Molecular Biology*, 4th edition, Vol. 1211.
 (Cekan, P. and Renwick, N. have both first author status)
10. Hoell, J.I., Hafner, M., Landthaler, M., Ascano, M., Farazi, T.A., Wardle, G., Nusbaum, J., **Cekan, P.**, Khorshid, M., Burger, L., Zavolan, M., and Tuschl, T. (2014) Transcriptome-wide identification of protein-binding sites on RNA by PAR-CLIP (Photoactivatable-ribonucleoside-analog-enhanced cross-linking and immunoprecipitation). *Book of RNA Biochemistry*, 2nd Edition, published DOI: 10.1002/9783527647064.ch39.
11. Farazi, T.A., Leonhardt, C.S., Mukherjee, N., Mihailovic, A., Li, S., Max, K., Meyer, C., Yamaji, M., **Cekan, P.**, ..., Larsson, E., Ohler, U., and Tuschl, T. (2014) Identification of the RNA recognition element of the RBPMS family of RNA-binding proteins and their transcriptome-wide mRNA targets. *RNA*, 20, 1090-1102.
12. *Renwick N., **Cekan P.**, Masry P.A., McGearry S.E., Miller J.B., Hafner M., Mihailovic A., Morozov P., Brown M., Gogakos T., Mobin M.B., Snorrason E.S., Feilotter H.E., Zhang X., Perlis C., Wu H., Suarez-Farinas M., Feng H., ShudaHandbo M., Moore P.S., Tron V.A., Chang Y., and Tuschl T. (2013) Multicolor miRNA fluorescence in situ hybridization for tumor differential diagnosis. *J. Clin. Invest.*, 123, 2694-2702.
 (Cekan, P. and Renwick, N. have both first author status)
13. **Cekan, P.**, and Sigurdsson, S.T. (2012) Conformation and dynamics of nucleotides in bulges and symmetric internal loops in duplex DNA studied by EPR and fluorescence spectroscopies. *Biochem. Bioph. Res. Co.*, 420, 656-661.
14. Ascano, M., Hafner, M., **Cekan, P.**, Gerstberger, S., and Tuschl, T. (2011) Identification of RNA-protein interaction networks using PAR-CLIP. *WIREs RNA*, 3, 159-177.
15. Marko, A., Denysenkov, V., Margraf, D., **Cekan, P.**, Schiemann, O., Sigurdsson, S.T., and Prisner, T. (2011) Conformational flexibility of DNA. *J. Am. Chem. Soc.*, 133, 13375-13379.
16. Edwards, T.E., **Cekan, P.**, Reginsson, G.W., Shelke, S.A., Ferre-D'Amare, A.R., Shiemann, O., and Sigurdsson, S.T. (2011) Crystal structure of a DNA containing planar, phenoxazine-derived bi-functional spectroscopic probe. *Nucleic Acids Res.*, 39, 4419-4426.
 (Cekan, P. was the first student author)

17. Marko, A., Margraf, D., **Cekan, P.**, Sigurdsson, S.T., Schiemann, O., and Prisner, T.F. (2010) Analytical method to determine the orientation of rigid spin labels in DNA. *Phys. Rev. E*, 81, Part 1.
18. Zhang, X., **Cekan, P.**, Sigurdsson, S.T., Qin, P.Z. (2009) Studying RNA using site-directed spin-labeling and continuous-wave Electron Paramagnetic Resonance spectroscopy. *Methods Enzymol.*, 469, 303-328.
19. ***Cekan, P.**, and Sigurdsson, S.T. (2009) Identification of single-base mismatches in duplex DNA by EPR spectroscopy. *J. Am. Chem. Soc.*, 131, 18054-18056.
20. **Cekan, P.**, Margraf, D., Sigurdsson, S.T., Schiemann, O. (2009) Ferro- and antiferromagnetic exchange coupling constants in PELDOR spectra. *Phys. Chem. Chem. Phys.*, 11, 6708-6714. (Margraf, D. and Cekan, P. have both first author status)
21. ***Cekan, P.**, Jonsson, E.O., and Sigurdsson, S.T. (2009) Folding of the cocaine aptamer studied by EPR and fluorescence spectroscopies using the bifunctional spectroscopic probe Ç. *Nucleic Acids Res.*, 37, 3990-3995.
22. *Schiemann, O., **Cekan, P.**, Margraf, D., Prisner, T.F., Sigurdsson, S.T. (2009) Relative orientation of rigid nitroxides by PELDOR: Beyond distance measurements in nucleic acids. *Angew. Chem. Int. Edit.*, 48, 3292-3295.
 (Cekan, P. was the first student author)
23. Smith, A.L., **Cekan, P.**, Brewood, G.P., Okonogi, T.M., Alemayehu, S., Hustedt, E.J., Benight, A.S., Sigurdsson, S.T., and Robinson, B.H. (2008) Conformational equilibria of bulged sites in duplex DNA studied by EPR spectroscopy. *J. Phys. Chem. B*, 113, 2664-2675.
24. ***Cekan, P.**, Barhate, N.B., Smith, A.L., Robinson, B.H., and Sigurdsson, S.T. (2008) Rigid spin-labeled nucleoside Ç: A nonperturbing probe of nucleic acid conformation. *Nucleic Acids Res.*, 36, 5946-5954.
25. Smith, A.L., **Cekan, P.**, Rangel, D.P., Sigurdsson, S.T., Mailer, C., and Robinson, B.H. (2008) Theory for spin-lattice relaxation of spin probes on weakly deformable DNA. *J. Phys. Chem. B*, 112, 9219-9236.
26. **Cekan, P.**, and Sigurdsson, S.T. (2008) Single base interrogation by a fluorescent nucleotide: Each of the four DNA bases identified by fluorescence spectroscopy. *Chem. Commun.*, 29, 3393-3395.
27. Barhate, N.B., Barhate, R.N., **Cekan, P.**, Drobny, G., and Sigurdsson, S.T. (2008) A nonafluoro nucleoside as a sensitive ¹⁹F NMR probe of nucleic acid conformation. *Org. Lett.*, 10, 2745-2747.
28. *Barhate, N.B., **Cekan, P.**, Massey, A.P., and Sigurdsson, S.T. (2007) A nucleoside that contains a rigid nitroxide spin label: A fluorophore in disguise. *Angew. Chem. Int. Edit.*, 46, 2655-2658.
29. Asgeirsson, B., and **Cekan, P.** (2006) Microscopic rate-constants for substrate binding and acylation in cold-adaptation of trypsin I from Atlantic cod. *FEBS Letters*, 580, 4639-4644.
 (Asgeirsson, B. was principal investigator therefore, Cekan, P. was the first student author)
30. **Cekan, P.**, and Sigurdsson, S.T. (2005) Spin-labeled nucleic acids for EPR spectroscopic study of DNA and RNA structure and function. *XIIIth Symposium on Chemistry of Nucleic Acid Components*, 7, 225-228.

Invited oral presentations (please, also see: <https://www.multiplexdx.com/news#press>)

1. Invited Speaker, Grape PR, “VIZIOTECH 2022: Slovakia as a biotech leader?” Bratislava, Slovakia, October 20th 2022 ([link](#))
2. Invited Plenary Speaker, CometX – Come & Meet Expats, Zurich, Switzerland, September 9th, 2022 ([link](#))
3. Invited Speaker, Science to Buiness Camp, INOVATO, Smolenice, Slovakia, August 18th 2022 ([link](#))
4. Invited Speaker, Profesia Days, the biggest event focused on work and educational opportunities in the country, Bratislava, Slovakia, May 19th, 2022 ([link](#))
5. Invited Guest, The Commission's Representation of the Slovak Republic, “We can go back to normal, thanks to vaccines”, Bratislava, Slovakia, March 15th 2021 ([link](#))
6. Invited Speaker, Cooperation Innovation Technology Transfer, “Entrepreurship in academic environment”, Bratislava, Slovakia, October 20th, 2020 ([link](#))
7. Invited Speaker, Info Den – Slovensko, “How can the EU and the Enterprise Europe Network help you with access to funding”, Bratislava, Slovakia, October 15th, 2020 ([link](#))
8. Invited Speaker, TEDx, “Theme: Beyond The Horizon”, Bratislava, Slovakia, April 26th 2019 ([link](#))
9. Invited speaker, Startup Grind in Bratislava, “Revolution in Healthcare industry”, Bratislava, Slovakia, April 4th, 2019 ([link](#)).
10. Invited speaker, 0100 Conference in Vienna, Vienna, Austria, March 14th, 2019 ([link](#)).
11. Invited speaker, 4th Annual Meeting of the European Scientific Diasporas in North America, Embassy of Vienna, Washington DC, USA, December 7th, 2018 ([link](#)).
12. Invited speaker, Life Science Innovation Day, Deutsch-Slowakische Industrie- und Handelskamme, Science Park of Comenius University, Bratislava, Slovakia, May 30th, 2018 ([link](#)).
13. Invited lecturer, Lecture series, Science Park of Comenius University, Bratislava, Slovakia, March 16th, 2018.
14. Invited lecturer, Lecture series, Department of Chemical Engineering, Biotechnology and Environmental Technology, Southern Denmark University, Denmark, February 21st, 2018.
15. Invited speaker at the workshop “Health of the population and medical technologies, the future of biomedical research and development in Slovak Republic” held by Ministry of Health and Comenius University, Martin, Slovakia, November 16th, 2017.
16. Invited speaker at the conference “The future of healthcare in the age of digitalisation” held by Antall Jozsef Knowledge Centre, Brussel, Belgium, November 8th, 2017.
17. Invited speaker at XXVIII. Izakovičov memoriál, Nitra, Slovakia, October 20th, 2017.
18. Invited speaker for lecture series at Laboratory of Molecular Biology and Immunology, National Institute on Aging, NIH, Baltimore, Maryland, USA, October 6th, 2016.
19. Guest speaker for Core Facilities Open House, CCR/NCI, Bethesda, Maryland, USA, May 23rd, 2016.