

Kambiz Gilany, Ph.D.

Nationality: Danish/Iranian

Avicenna Research Institute (ARI)
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Objective:

Metabolomics, Proteomics, Bioinformatics, Clinical Biochemistry, Cancer, Male Infertility, Stem Cells

Summary of qualifications:

Mass spectrometer: MALDI-TOF/TOF-MS Applied Biosystem 4700, ESI-QTOF-II (Micromass), LCQ-DECA, Q-Trap 4000, GC-MS, NMR

Optical spectroscopy: FT-IR, Raman spectroscopy

Gel electrophoresis: 1D SDS-PAGE, 2DE

HPLC: Micro- and Nano flow rate, Column material: C₄, C₈, C₁₈ reverse phase, SCX strong cation exchanger

Immunology techniques: western blotting, flow cytometry

Bioinformatics: Masslynx, Mascot, ProFound, GPMW, Blastp, DAVID, PANTHER, PIGOK, MATLAB (Beginner), MetaboAnalyst, R language

Computer skills: Proficient in the use of MS office, Windows XP and internet

Education:

June 2003- Nov. 2008: **Ph. D.** In Science, Biomedicine. University of Antwerp, Antwerp, Belgium. Thesis: "Application of mass spectrometry-based proteomics techniques for protein characterization and study of hypoxia".

Sep. 2000-June 2003: **M. Sc.** In Applied Mathematics and Molecular and Cell Biology. University of Southern Denmark, Odense, Denmark. Thesis: "Proteome analysis of Bleomycin induced pulmonary fibrosis in mice".

Sep. 1996- Dec. 1999: **B. Sc.** In Molecular and Cell Biology, University of Southern Denmark, Odense, Denmark. Thesis: "A mathematical model for pellet growth of aspergillus oryzae based on steady state respiration rates measured in the mono-phase oxystat".

Sep. 1993- June. 1996: **Diploma** (HF) VUC-Odense-Denmark

Current position:

2016- Present: Associate Professor

2012- 2016: Assistant Professor

May 2009-2012: Research Associate

Publications:

1. Cancer Metabolism: anno 2020. **Kambiz Gilany**. Manuscript in preparation.
 2. Untargeted metabolomic profiling of the blood Serum for women with endometriosis by GC-MS: a non-invasive early identification for diagnosis of endometriosis. **Kambiz Gilany**, Ahmad Mani-Varnsfaderani, Arash Minai-Tehrani, Mehdi Amini, Babak Arjmand. Manuscript in preparation.
 3. Looking at Mesenchymal Stem Cells time-dependent differentiation by secreted metabolites using MALDI-TOF-MS. **Kambiz Gilany**, Babak Arjmand. Manuscript in preparations
 4. A catalogue of human seminal plasma metabolites: a metabolome mapping. **Kambiz Gilany**, Arash Minai-Tehrani, Babak Arjmand, Mehdi Amini. Under preparation.
 5. Metabolomics Analysis of Mesenchymal Stem Cells. Parisa Goodarzi, Sepideh Alavi-Moghadam, Moloud Payab, Bagher Larijani, Fakher Rahim, **Kambiz Gilany**, Nikoo Bana, Akram Tayanloo-Beik, Najmeh Foroughi Heravani, Mahdieh Hadavandkhani, Babak Arjmand. Int J Mol Cell Med 2019, 8(2 And Suppl 1).
 6. Metabolomics and Cell Therapy in Diabetes Mellitus. Bagher Larijani , Parisa Goodarzi, Moloud Payab, Sepideh Alavi-Moghadam, Fakher Rahim Dr, Nikoo Bana, Mina Abedi, Maryam Arabi, Hossein Adibi, **Kambiz Gilany**, Babak Arjmand. Int J Mol Cell Med 2019, 8(2 And Suppl 1).
 7. Metabolic profiling of the Mesenchymal Stem Cells' Secretome. **Kambiz Gilany**, Mohammad Javad Masroor, Arash Minai-Tehrani, Ahmad Mani-Varnsfaderani, Babak Arjmand. Book Chapter
 8. Metabolomics application in exercise metabolism research: a review study. Kayvan Khoramipour, **Kambiz Gilany**, Abbas Ali Gaeini. Accepted.
 9. Metabolomics of male infertility: a new tool for diagnostic tests. Bahareh Mehrparvar, Arash Minai-Tehrani, Babak Arjmand, **Kambiz Gilany**. JRI. Accepted.
 10. Metabolomics analysis of the saliva in patients with chronic hepatitis B using NMR: A pilot study. **Kambiz Gilany**, Ashraf Mohamadkhani, Saeed Chashmniyam, Parisa Shahnazari, Mehdi Amini, Babak Arjmand, B. Reza Malekzadeh, Fatemeh Nobakht M. Gh. Accepted.
 11. Polyol pathway shed light on non-obstructive azoospermia testicular sperm extraction (TESE) negative ROS imbalance. **Kambiz Gilany**. Glob J Reprod Med. 2018. 5(5): 555675.
 12. Oncometabolites as biomarkers in thyroid cancer: a systematic review. Fatemeh Khatami, Moloud Payab, Masoumeh Sarvari, **Kambiz Gilany**, Bagher Larijani, Babak Arjmand, Seyed Mohammad Tavangar. Accepted.
 13. Reactive oxygen species-induced alterations in H19-Igf2 methylation patterns, seminal plasma metabolites, and semen quality. Darbandi M, Darbandi S, Agarwal A, Baskaran S, Dutta S, Sengupta P, Khorram Khorshid HR, Esteves S, **Gilany K**, Hedayati M, Nobakht F, Akhondi MM, Lakpour N, Sadeghi MR. J Assist Reprod Genet. 2018. Accepted
 14. Male infertility, Precision medicine and Systems proteomics: Mini-review. Niloofar Agharezaee, Mehrdad Hashemi, Minoo Shahani, **Kambiz Gilany**. JRI 2018 accepted.
 15. Adipose Tissue-Derived Stromal Cells for Wound Healing. Adv Exp Med Biol. 2018. Epub ahead of print. Goodarzi P, Alavi-Moghadam S, Sarvari M, Tayanloo Beik A, Falahzadeh K, Aghayan H, Payab M, Larijani B, **Gilany K**, Rahim F, Adibi H, Arjmand B.
 16. Metabolic fingerprinting of seminal plasma from non-obstructive azoospermia patients: positive TESE versus negative TESE. J Reprod Infertil . 2018. 19(2): 109-114. **Kambiz Gilany**, Naser Jafarzadeh , Ahmad Mani-
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Varnsfaderani, Arash Minai-Tehrani, Mohammad Reza Sadeghi , Mahsa Darbandi , Sara Darbandi , Mehdi Amini, Babak Arjmand, Zhamak Pahlevanzadeh.

17. Metabolomics: a bird's eye view of infertile men. Tehran University Medical Journal TUMS Publications (Persian). 2018. 75 (12): 860-868. Niloofar Agharezaee, Rezvan Marzbani, Hassan Rezadoost, Saeideh Zamani Koukhaloo, Babak Arjmand, **Kambiz Gilany**.
 18. The molecular cues for the biological effects of ionizing radiation dose and post-irradiation time on human breast cancer SKBR3 cell line: A Raman spectroscopy study. J Photochem Photobiol B. 2018. 180:1-8. Jafarzadeh N, Mani-Varnosfaderani A, **Kambiz Gilany**, Eynali S, Ghaznavi H, Shakeri-Zadeh A.
 19. The challenge of human sperm proteome: a systematic review. J Reprod Infertil. 2017. 18(3):267-279. **Kambiz Gilany**, Arash Minai Tehrani, Mehdi Amini, Niloofar Agharezaee. Babak Arjmand.
 20. Untargeted metabolomic profiling of seminal plasma of non-obstructive azoospermia men: a non-invasive detection of spermatogenesis. Biomedical chromatography 2017. 31(8). **Kambiz Gilany**, Ahmad Mani-Varnosfaderani, Arash Minai-Tehrani , Fateme Mirzajani, Alireza Ghassempour, Mohammed Reza Sadeghi, Mehdi Amini.
 21. Estimating complicated baselines in analytical signals using the iterative training of Bayesian regularized artificial neural networks. Anal Chim Acta. 2016 Oct 12;940:56-64. Ahmad Mani-Varnosfaderani, Atefeh Kanginejad **Kambiz Gilany** Abolfazl Valadkhani.
 22. Two-Way Gene Interaction From Microarray Data Based on Correlation Methods. Iran Red Crescent Med J. 2016 May 30;18(6):e24373. Hamid Alavi Majd, Atefeh Talebi, **Kambiz Gilany**, and Nasibeh Khayyer.
 23. Existence of Microchimerism in Pregnant Women Carrying a Boy! J Reprod Infertil. 2016 Jan-Mar;17(1):64-5. Arash Minai Tehrani, Mehdi Amini, **Kambiz Gilany**.
 24. Metabolomics: a state-of-the-art technology for better understanding of male infertility. Arash Minai Tehrani, Naser Jafarzadeh, **Kambiz Gilany**. Andrologia. 2016 Aug;48(6):609-16.
 25. Exploring the human seminal plasma proteome: an unexplored gold mine of biomarker for male infertility and male reproduction disorder. J Reprod Infertil, 16(2): 61-71, Apr-Jun 2015. **Kambiz Gilany**, Arash Minai Tehrani, Elham Savadi-Shiraz, Hassan Rezadoost, Niknam Lakpour.
 26. Metabolomics fingerprinting of the human seminal plasma of unexplained infertile men: a need for a novel diagnostic biomarkers. Mol Reprod Dev., 82(3): 150, Mar 2015. Naser Jafarzadeh, Ahmad Mani-Varnosfaderani, Arash Minai-Tehrani, Elham Savadi-Shiraz, Mohamad Reza Sadeghi, **Kambiz Gilany**.
 27. Nonparametric correlation coefficient methods in gene interactions form microarray data. IJAPBS, 4(1): 38-46, Jan. 2015. Hamid Alavi Majd, Atefeh Talebi, **Kambiz Gilany**, Nasibeh Khayyer.
 28. Nonparametric correlation coefficient methods to constructing Three-way gene interactions in microarray data. IJAPBS, 4(1): 65-70, Jan 2015. Hamid Alavi Majd, Atefeh Talebi, **Kambiz Gilany**, Seyyed-Mohammad Tabatabaei.
 29. Proteomics and Traditional Medicine: New Aspect in Explanation of Temperaments. Forsch Komplementmed, 21(4): 250-3, 2014. Mohieddin Jafari, Hassan Rezadoost, Mehrdad Karimid, Mehdi Mirzaie, Mostafa Rezaie-Tavirani, Mahvash Khodabandeh, Gholamreza Kordafsharid, Nafiseh Abbasian, Payman Nickchi, **Kambiz Gilany**, Alireza Ghassempour.
 30. Fourier Transform Infrared Spectroscopy, a potential technique for noninvasive detection of spermatogenesis? Avicenna J Med Biotechnol 6(1): 47-52, January-March 2014. **Kambiz Gilany**, Roudabeh Sadat Moazeni Pouracil, Mohammad Reza Sadeghi.
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31. Metabolomics fingerprinting of the human seminal plasma of asthenozoospermic patients. *Mol Reprod Dev.* 81(1):84-6, Jan 2014. **Kambiz Gilany**, Roudabeh Sadat Moazeni Pouracil, Naser Jafarzadeh, Elham Savadi-Shiraz.
 32. Proteomics a Key Tool for a Better Understanding of Endometriosis. *Journal of Paramedical Science* 2(3): 51-58, Fall 2011. Bi bi Fatemeh Nobakht Motlagh Ghochani, **Kambiz Gilany**
 33. The profile of human sperm proteome: a minireview. *Journal of Reproduction and Infertility.* 12(3): 193-199, Fall 2011. **Kambiz Gilany**, Niknam Lakpour, Mohtaram Vafakhah, Mohammad Reza Sadeghi.
 34. Proteome analysis of mouse brain exposed to chronic hypoxia. *Cell Journal* 12(4): 503-510, Winter 2011. **Kambiz Gilany**, Maarten Aerts, Sylvia Dewilde, Bart Devreese, Luc Moens, Mohtaram Vafakhah.
 35. Hypoxia: a review. *Journal of Paramedical Science* 1(2): 40-58, 2009. **Kambiz Gilany**, Mohtaram Vafakhah.
 36. Mass spectrometry-based proteomics in the life sciences: review. *Journal of Paramedical Science.* 1(1):33-59, 2009. **Kambiz Gilany**, Luc Moens, Sylvia Dewilde.
 37. Effects of selenite and tellurite on growth, physiology and proteome of a moderately halophilic bacterium. *J Proteome Res.* 2009 Jun;8(6):3098-108.. Mahboobeh Kabiri, Mohammad Amoozegar, Mohammadsharif Tabebordbar, **Kambiz Gilany** and Ghasem Hosseini Salekdeh.
 38. A comparative proteome approach to decipher the mechanism of rice adaptation to phosphorous deficiency. *Proteomics* 2009, 9, 159–170. Sepideh Torabi, Matthias Wissuwa, Manzar Heidari, Mohammad-Reza Naghavi, **Kambiz Gilany**, Mohammad-Reza Hajirezaei, Mansoor Omid, Bahman Yazdi-Samadi, Abdelbagi M. Ismail, Ghasem Hosseini Salekdeh.
 39. The hemoglobins of the trematodes *Fasciola hepatica* and *Paramphistomum epiclitum*: a molecular biological, physico-chemical, kinetic, and vaccination study. *Protein Sci.* 2008 Oct;17(10):1653-62. Dewilde S, Ioanitescu AI, Kiger L, **Gilany K**, Marden MC, Van Doorslaer S, Vercruyse J, Pesce A, Nardini M, Bolognesi M, Moens L.
 40. The proteome of the human neuroblastoma cell line SH-SY5Y: An enlarged proteome. *Biochim Biophys Acta-protein & proteomics.* 1784 (2008): 983-985. **Kambiz Gilany**, Roos Van Elzen, Kim Mous, Edmond Coen, Walter Van Dongen, Stefaan Van Damme, Kris Gevaert, Evy Timmerman, Joel Vandekerckhove, Sylvia Dewilde, Xaveer Van Ostade and Luc Moens.
 41. The role of the S1 binding site of carboxypeptidase M in substrate specificity and turn-over. *Biochim Biophys Acta.* 2007 Feb;1774(2):267-77. Deiteren K, Surpateanu G, **Gilany K**, Willemse JL, Hendriks DF, Augustyns K, Laroche Y, Scharpe S, Lambeir AM.
 42. The nerve hemoglobin of the bivalve mollusc *Spisula solidissima*: molecular cloning, ligand binding studies, and phylogenetic analysis. *J Biol Chem.* 2006 Mar 3;281(9):5364-72. Dewilde S, Ebner B, Vinck E, **Gilany K**, Hankeln T, Burmester T, Kreiling J, Reinisch C, Vanfleteren JR, Kiger L, Marden MC, Hundahl C, Fago A, Van Doorslaer S, Moens L.
 43. Regulation of ompA mRNA stability: the role of a small regulatory RNA in growth phase-dependent control. *Mol Microbiol.* 2005 Dec;58(5):1421-9. Rasmussen AA, Eriksen M, **Gilany K**, Udesen C, Franch T, Petersen C, Valentin-Hansen P.
 44. P2Y(12) receptor signalling towards PKB proceeds through IGF-I receptor cross-talk and requires activation of Src, Pyk2 and Rap1. *Cell Signal.* 2006 Aug;18(8):1169-81. Van Kolen K, **Gilany K**, Moens L, Esmans EL, Slegers H.
 45. Allosteric Regulation and Temperature Dependence of Oxygen Binding in Human Neuroglobin and Cytochrome b5. *J Biol Chem.* 2004 Oct 22;279(43):44417-26. Angela Fago, Christian Hundahl, Sylvia Dewilde, **Kambiz Gilany**, Luc Moens, and Roy E. Weber.
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46. Kinetic investigation of human dipeptidyl peptidase II (DPPII)-mediated hydrolysis of dipeptide derivatives and its identification as quiescent cell proline dipeptidase (QPP)/dipeptidyl peptidase 7 (DPP7). *Biochem. J.* (2005) 386 (315–324). Marie-Berthe Maes, Anne-Marie Lambeir, **Kambiz Gilany**, Kristel Senten, Pieter Van Der Veken, Barbara Leiting, Koen Augustyns, Simon Scharpe and Ingrid De Meester.

Ongoing Project:

Metabolomics profiling of the blood Serum for women with endometriosis by GC-MS: a non-invasive early identification for diagnosis of endometriosis.

Effects of Antioxidant Supplementation (Vitamin E+ Folic Acid+ Selenium) on Sperm Parameters, Sperm DNA Fragmentation, TAC and Seminal Plasma Metabolome in Asthenospermic Patients.

Proteome and metabolome analysis of adult Acute lymphoblastic leukemia compared to normal subjects for the identification of tumor-associated biomarkers.

Evaluation of genomics & metabolomics profiles of euploid and aneuploid embryos at Preimplantation genetic screening (PGS) program.

Analysis of morphokinetics, metabolomics and common chromosome aneuploidy in human embryos following splitting at cleavage stage.

Metabolome profiling of diabetes patients type I before and after treatment by stem cell therapy.

Targeted transcriptomics, proteomics, metabolomics analysis of antioxidant therapy (Vit E, Selenium, Folic Acid and Q10) of teratozoospermia patient and the results in fertility outcome

Award:

Best researcher of the Avicenna Research Institute of the year 2016.

National Winner of the “Royan 18th International Research Award” of the year 2017.

Best Writer Award of Journal of Reproduction and Infertility of the year 2018.

Teaching experience:

Mass spectrometry-based Proteomics for Ph.D. students at Shahid Beheshti University, Tehran, Iran.

Proteomics for beginner for Ph.D. students at Iran University of Medical Sciences, Tehran, Iran.

Biochemistry II for BSc. Students at Islamic Azad University, Tehran Medical Branch, Tehran, Iran.

Advanced Biochemistry for MSc. and BSc. at Islamic Azad University, Tehran Medical Branch, Tehran, Iran.

Immunoproteomics and Immunometabolomics for PhD students at Tehran University of Medical Sciences, Tehran, Iran

Oral Presentation:

Royan International Twin Congress, 18th Congress on Reproductive Biomedicine and 13th Congress on Stem Cell Biology and Technology on August 30-September 1, 2017. Title of talk: "Metabolomics and male infertility".

8th International Conference and Exhibition on Metabolomics & Systems Biology. Singapore, May 08-10, 2017. Title of talk: "Metabolomics study of human seminal plasma of infertile male".

Sharif University of Technology, Department of chemistry, 7/11/2016. Title of talk: "Metabolomics- Money, Fertility and Oil! What is the common factor?".

University of Isfahan, Department of chemistry, 5/12/2012. Title of talk: "Show me the money: System Biology".

The Second congress of Medical Proteomics of Iran, 27-28/10/2010. Title of talk: "The proteome of the human neuroblastoma cell line SH-SY5Y: An enlarged proteome".

The Second Iranian Proteomics Congress, 23-24/4/2009. Title of talk: "Application of MS-based proteomics for protein characterization and the study of hypoxia".

The First congress of Medical Proteomics of Iran, 20/2/2006. Title of talk: "The proteome of a human neuronal cell type obtained by different approaches".

References *anno* 2019:

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Head of Integrative Oncology Department
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Hassan Rezadoost, PhD
Head of Department of Phytochemistry, Medicinal Plants and Drugs Research
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Languages:

Danish, Persian, English

Hobbies:

Sport, Travel, Movie, Music, Reading book (as much as possible)
