



Hamid R. Pourianfar

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(Former family name until 2007: **Gordan**)

Personal details:

Date of birth: 14 Aug, 1974
Place of birth: Iran, Mashhad
Marital status: Married, two children
Former family name until 2007: Gordan

Education

PhD in Biotechnology (Virology), Swinburne University of Technology, Melbourne, Australia, graduated in October 17, 2012.

- **Supervision Team:** Principal coordinating supervisor: Dr. Lara Grollo Associate supervisor: Assoc. Prof. Enzo Palombo
- **Thesis Title:** Characterization of Anti-Enteroviral Activity of Heparan Sulphate Mimetic Compounds

Enterovirus 71 (EV71) is a fatal infectious virus for which there is currently no approved vaccine or antiviral drug. In this study, we demonstrated that three heparan sulphate (HS) mimetic compounds, particularly Heparin (Hep) substantially prevented EV71 infection. We extended our findings by investigating the involvement of cell surface HS in the infectivity of four different subtypes or isolates of Human Enteroviruses. Consequently, we showed that HS molecule may play a role as an attachment cell receptor for EV71. The molecular mechanisms of anti-EV71 action of Hep were also studied in neural cells using a genome-wide microarray analysis. It was concluded that HS-like compounds may have potential as therapeutic agents against EV71 infection. Our findings may also suggest directions for further studies on pathogenesis or designing antiviral drugs for EV71.

MSc. in Plant Biotechnology, Ferdowsi University of Mashhad, GPA: 3.44 out of 4.0, Iran, Dec., 2000.

- **Supervision Team:** Principal supervisor: Dr. Mohammad Farsi, Co-supervisor: Assoc. Prof. Mahrokh Falahati Rastegar, Dr. Farajollah Shahriari
- **Thesis Title:** Investigation of possibility of Hybrid Spawn Production in White Button Mushroom [*Agaricus bisporus* (lange) Imbach]

This was the first reported attempt in Iran to start making improvements in the yield of *Agaricus bisporus* through hybrid production. As a result, single spore technique, homokaryon isolation and verification and interstrain hybridization were optimized for the first time in the lab. Finally, two hybrid strains were demonstrated to have the outstanding mycelial growth and yield.

BSc. in Agriculture & Plant Breeding, University of Birjand, GPA: 3.23 out of 4.0, Iran, Sep., 1998.

Research Interests

- Cancer research (in vitro and in vivo assays, development, molecular mechanism of action, and analytical chemistry of anticancer compounds obtained from natural sources particularly mushrooms), virology (virus-host interactions, cell receptors of human viruses, molecular mechanism of action of antiviral drugs), antibacterial potency of naturally occurred compounds (in vitro and in vivo assays, mechanism of action, analytical chemistry), natural antioxidant compounds (in vitro and in vivo assays, analytical chemistry)

Publications

i. Full papers Indexed in ISI (Journal Citation Report)-Thomson Reuters

1. Rezaeian S-H, Attaran S, **Pourianfar HR***. 2016. Time-kill kinetics and antibacterial activity of crude methanolic extract of *Thymus daenensis* Celak. **Biomedical Research**, 27: 489-493.

*the corresponding author.

2. Soltanian H, Rezaeian S-H, Shakeri S, Janpoor J, **Pourianfar HR***. 2016. Antibacterial activity of crude extracts and fractions from Iranian wild-grown and cultivated *Agaricus* spp. **Biomedical Research**, 27: 56-59.

*the corresponding author.

3. Tajalli F, Malekzadeh K, Soltanian H, Janpoor J, Rezaeian S-H, **Pourianfar HR***. 2015. Antioxidant capacity of several Iranian wild and cultivated strains of the button mushroom. **Brazilian Journal of Microbiology**, 46: 769-776.

*the corresponding author.

4. **Pourianfar HR***, Grollo L. 2015. Development of antiviral agents towards enterovirus 71 infection. **Journal of Microbiology, Immunology and Infection**, 48: 1-8.

*the corresponding author

5. **Pourianfar HR***, Palombo E, Grollo L. 2014. Global impact of heparin on gene expression profiles in neural cells infected by enterovirus 71. **Intervirology**, 57: 93-100.

*the corresponding author

6. **Pourianfar HR**, Kirk K, Grollo L. 2014. Initial evidence on differences among Enterovirus 71, Coxsackievirus A16 and Coxsackievirus B4 in binding to cell surface heparan sulphat. **Indian Journal of Virology**, 25: 277-284

*the corresponding author

7. **Pourianfar HR**, Poh CL, Fecondo J, Grollo L. 2012. *In vitro* evaluation of the antiviral activity of heparan sulphate mimetic compounds against Enterovirus 71. **Virus Research**, 169: 22-29.

8. Kirk K, Poh CL, Fecondo J, **Pourianfar HR**, Shaw J, Grollo L. 2012. Cross-reactive neutralizing antibody epitopes against Enterovirus71 identified by an *in-silico* approach. **Vaccine**, 30: 7105-7110.

9. **Pourianfar HR**, Javadi A, Grollo L. 2012. A colorimetric-based accurate method for the determination of Enterovirus 71 titer. **Indian Journal of Virology**, 23: 303-310.

10. Zolala J, Farsi M, **Gordan HR**, Mahmoodnia M. 2007. Producing a high scopolamine hairy root clone in *Hyoscyamus muticus* through transformation by *Agrobacterium rhizogenes*. **Journal of Agricultural Science and Technology (JAST)**, 9: 327-339.

Full papers Indexed in PubMed, or Chemical Abstracts

11. Rezaeian S-H, **Pourianfar HR***. 2016. Antimicrobial properties of the button mushroom, *Agaricus bisporus*: A mini-review. **International Journal of Advanced Research**. 4: 426-429.

*the corresponding author

12. Rezaeian S-H, **Pourianfar HR***. 2016. The potential anticancer compounds from the button mushroom *Agaricus bisporus*. **International Journal of Advanced Research**. 4: 290-293.

*the corresponding author

13. Rezaeian S-H, **Pourianfar HR***, Janpour J. 2016. Collection and identification of Iranian wild mushrooms: towards establishment of a mushroom bio-bank. **International Journal of Advanced Research**. 4: 256-260.

*the corresponding author

14. Masoumi F, **Pourianfar HR.***, Masoumi A, Mostafavi Mendi E. 2015. A study of mycelium characterization of several wild genotypes of the button mushroom from Iran. **International Journal of Advanced Research**, 3: 236-246.

*the corresponding author

15. Ghanbari J, **Pourianfar HR***, Sarmad Nabavi M, Mostafavi Mendi E. 2015. A comparative study of agronomic characteristics in several Iranian wild isolates of the button mushroom, *Agaricus bisporus*. **International Journal of Advanced Research**, 3: 230-235.

*the corresponding author

16. Rezaeian S-H, **Pourianfar HR**, Janpour J. 2015. Antioxidant properties of several medicinal plants growing wild in northeastern Iran. **Asian Journal of Plant Science and Research**, 5: 63-68.

17. Bahrami Teimoori B, **Pourianfar HR***, Jami Moeini M, Janpour J. 2014. Chemically and physically induced mutagenesis in basidiospores of oyster mushroom *Pleurotus ostreatus* var. *florida*. **International Journal of Advanced Research**, 2: 915-921.

*the corresponding author

18. Janpour J, Ghorbani R, **Pourianfar HR**. 2014. Organic Mulche for Weed Managing with Application of Spent Edible Mushroom. **International Journal of Farming and Allied Sciences**, 3: 1137-1139.

19. Karazhian R, Habibi Najafi MB, Yavarmanesh M, Edalatian MR, **Pourianfar HR**. 2016. Evaluation suitable method for DNA extraction *Aspergillus niger* from tomato paste. **The Iranian Journal of "Journal of Food Science and Technology"** with English abstract, ISSN: 2008-8787, 57: 133-143

20. Janpour J, **Pourianfar HR**. 2012. A molecular study of the role of manganase peroxidase gene in degradation of the button mushroom compost. **The Iranian Journal of "Modern Genetics Journal"** with English abstract, ISSN: 2008-4439, No 139112 .

21. Ghorbani P, Farsi M, **Pourianfar HR**, Mahmoodnia M, Zolala J. 2009. Preparation of AFLP mediated-molecular certificate for 12 bred strains of the button mushroom. **The Iranian "Journal of Plant protection"** with English abstract, 23 (1): 58-67.
22. Khatami Rad M, Farsi M, **Pourianfar HR**. 2008. A study of general and specific combining ability in ten homokaryotic isolates of *Agaricus bisporus*. **The Iranian Journal of "Agriculture Science"**, In Persian with English abstract, ISSN: 1680-242X, Vol. 18 (9): 181-191
23. **Gordan HR**, Mahmoodnia-M M, Zolala J, Khatami-Rad M, Farsi M. A study of potential of AFLP markers to genetic fingerprinting of the button mushroom, *Agaricus bisporus*. 2008. **The Iranian Journal of "Agricultural Sciences and Technology"**, In Persian with English abstract, ISSN: 1029-4791. Vol. 22 (1): 27-35
24. **Gordan HR**, Khatami-Rad M, Zolala J, and Farsi M. 2007. Introducing and registering three bred strains of the button mushroom, *Agaricus bisporus*. 2007. **The Iranian Journal of "Agriculture Science"**, In Persian with English abstract, ISSN: 1680-242X, Vol. 17 (2):171-188.
25. Farsi M, Moshtaghi N, Shahriari F, **Gordan HR** and Raeisi M. 2005. Investigation on growth stability and alkaloid content of transformed hairy roots in *Datura stramonium*. **The Iranian Journal of "Agricultural Sciences and Technology"**, In Persian with English abstract, ISSN: 1029-4791, Vol. 19: 48-56.
26. **Gordan HR** and Farsi M. 2004. Selection of pure isolates and multi spore cultures for breeding the white button mushroom. **The Iranian Journal of "Agric. Sci. Natur. Resour.**, In Persian with English abstract, ISSN: 1028-3099, Vol. 11: 65-77.
27. Farsi M and **Gordan HR**. 2002. Producing the high yielding hybrid spawn for *Agaricus bisporus*. **The Iranian Journal of "Agricultural Sciences and Technology"**, In Persian with English abstract, ISSN: 1029-4791, Vol. 16: 125-133.
28. Nikzad Gharehdaghji A, Mohammadi Goltapeh E, Masiha S, **Gordan HR**. 2007. Hybrid production of Oyster mushroom *Pleurotus ostreatus* (Jacq: Fries) Kummer. **Pakistan Journal of Biological Sciences**, 10 (14): 2334-2340.

Books

1. Azizi M, **Pourianfar HR**, Fatemeh O. 2011. Medicinal Mushrooms (Translation from English). **Iranian Academic Centre for Education, Culture and Research (ACECR)- Mashhad Branch Press**, ISBN: 964-324-232-9, 200p.

2. Farsi M and **Gordan HR.** 2011. Mushroom Cultivation and Breeding with Emphasis on the White Button Mushroom (Second edition). **Iranian Academic Centre for Education, Culture and Research (ACECR)- Mashhad Branch Press**, ISBN: 964-324-236-7, 275p.

Presentations

1. **Pourianfar HR***, Rezaeian S-H, Soltanian H, Shakeri A. 2016. Antibacterial potency of Iranian cultivated and wild *Agaricus* spp. mushrooms: towards isolation and identification of antibacterial compounds from *Agaricus bisporus*. The 8th International Congress of Laboratory & Clinic, Iranian Scientific Association of Clinical Laboratory, Tehran, Iran, 8-10 February 2016 (**poster presentation**).
2. Rezaeian S-H, **Pourianfar HR.** 2016. Antioxidant potency of Iranian wild medicinal mushrooms. The 8th International Congress of Laboratory & Clinic, Iranian Scientific Association of Clinical Laboratory, Tehran, Iran, 8-10 February 2016 (**poster presentation**).
3. **Pourianfar HR***, Rezaeian S-H, Janpoor J, Ahmadzadeh H. 2015. In vitro anti-cancer potential and chemical analysis of *Agaricus bisporus*. The first International Congress of Complementary and Alternative Medicine, Mashhad, Iran, 9-7 Oct (Poster presentation), Abstract indexed in **The Avicenna Journal of Phytomedicine** (AJP), Supplemented issue.
4. Janpoor J, **Pourianfar HR.** 2015. Molecular identification of wild species of oyster mushroom (*Pleurotus* sp.) In Khorasan Razavi Province, 1st International and 9th National Biotechnology Congress of Iran, May 24-26, 2015.
5. Masoumi F, **Pourianfar HR.***, Masoumi A, Mostafavi Mendi E. 2015. A study of commercialization of several wild genotypes of the button mushroom from Iran. 2nd National Congress on Agriculture and Sustainable Development. March 2015.
6. Solatnain H, Janpoor J, **Pourianfar HR.** 2014. Determination of antioxidant properties and chemical active agents in Fennel fruits. 3rd National Congress on medicinal Plants, Mashhad, Iran, 14-15 May (**poster presentation**).
7. **Pourianfar HR,** Kirk K, Grollo L. 2013. Initial evidence on role of cellular heparan sulphate in mediating infection of members of human Enterovirus (HEV)-A and -B. The 5th International Congress of Laboratory & Clinic, Iranian Scientific Association of Clinical Laboratory, Tehran, Iran, 15-18 January (**oral and poster presentations**).

8. Kirk K, Fecondo J, **Pourianfar HR**, Grollo L. 2009. Identification of novel epitopes capable of neutralising human Enterovirus71. The 2009 Australasian Society for Immunology Meeting, Conrad Jupiters, Broadbeach, QLD, Australia (**poster presentation**).
9. **Pourianfar HR**, Fecondo J, Poh CL, Grollo L. 2010. *In vitro* evaluation of the antiviral activity of heparan sulfate mimetic compounds against enterovirus 71. The 30th Antiviral Congress, Amsterdam, the Netherlands, 7-9 November (**poster presentation, Abstract is Indexed by Elsevier**).
10. Kirk K, Poh CL, Fecondo J, **Pourianfer HR**, Grollo L. 2011. Anin-silico derived induction of EV71 specific neutralizing antibodies from cross-reactive synthetic peptides of the picornavirus family. Third World Congress of Vaccine, Beijing, China, March (**oral presentation**).
11. Grollo L, **Pourianfar HR**, Kristin K. 2010. Design and development of antiviral drugs and vaccines for the prevention and treatment of Entreovirus71 infection. A Monash University seminar, Melbourne, Australia (**oral presentation**).
12. **Pourianfar HR**. 2012. Initial evidence for a role of heparan sulphate in mediating infection of Enterovirus 71 *in vitro*. Fifth Monthly Interdisciplinarity Seminars, The science and technology research departments, ACECR-Mashhad Branch, June 21, 2012 (**oral presentation**).
13. Janpoor J, **Pourianfar HR**. 2012. A molecular study of the role of manganase peroxidase gene in degradation of the button mushroom compost . 12th Iranian Genetics Congress (**Oral presentation**), Tehran, 21-23 May.
14. Janpoor J, Farsi M, Marashi H, **Pourianfar HR**. 2010. Cloning of manganase peroxidase gene from the button mushroom *Agaricus bisporus* . 11th Iranian Crop Science Congress (**Oral presentation**), Tehran, 24-26 July.
15. Farsi M, Hasan-Janpoor J, **Pourianfar HR**. 2011. Isolation and cloning of manganase peroxidase gene from the white button mushroom. *XVI Congress of European Mycologists* (**Oral presentation**); p. 190, 23 Sep 2011, Halkidiki, Greece
16. Janpoor J, Farsi M, Marashai H, **Pourianfar HR**. 2010. Isolation and cloning of cDNA manganese gene (mnp) from white button mushroom (*Agaricus bisporus*). The 11th Congress of Agriculture and Plan Breeding (Oral), July 23-25.
17. Khatami-R M, Raissian N, Bagherian S, Farsi M, **Gordan HR**. 2007. Determining the minimum inhibitory concentration of ethanol extract of

- Ganoderma lucidium*. The 1st National Iranian Conference of Applied Microbiology, July, Alzahra University, Tehran-Iran.
18. **Gordan HR**, Mahmoodnia-M M, Zolala J, Khatami-R M, Farsi M. 2006. Optimization of AFLP markers in molecular breeding of *Agaricus bisporus*. The 9th Iranian Genetics Congress (**Oral Presentation**), Tehran-Iran, 20-22 May.
 19. Khatami-R M, **Gordan HR**. 2005. Usefulness of intra-species hybridization in the Iranian breeding programs of the white button mushroom. The 1st National Iranian conference on Green-House Production Technology, 31 August-1 September, Rasht-Iran.
 20. **Gordan HR** and Farsi M. 2005. Mushroom breeding program in Iran. 6th International Meeting on Genetics and Cellular Biology of Basidiomycetes, June 3-6, Pamplona, Spain.
 21. **Gordan HR**. 2005. Biology and genetics of the white button mushroom. The First Symposium on Mushrooms Diseases Researches (**oral presentation**), the Plant Pests and Diseases Research Centre, Feb. 2, Tehran-Iran.
 22. Farsi M, Kavousi HR, and **Gordan HR**. 2003. Investigation of morphological markers ability in identification of homokaryons isolates in white button mushroom *Agaricus bisporus*. The 3rd National Congress of Biotechnology, Sep. 9-11, Ferdowsi Univ. of Mashhad- Iran.
 23. Zolala J, Farsi M, **Gordan HR**, Raeisi M, and Khalilifar M. 2003. Producing transformed hairy roots by *Agrobacterium rhizogenes* in *Hyoscyamus muticus* and investigation of the growth stability. The 3rd National Congress of Biotechnology, Sep. 9-11, Ferdowsi Univ. of Mashhad- Iran.
 24. Moshtaghi N, Shahriari FA, Farsi M, **Gordan HR**, and Raeisi M. 2003. producing transformed hairy roots by *Agrobacterium rhizogenes* in *Datura stramonium* and investigation of the growth stability. The 3rd National Congress of Biotechnology, Sep. 9-11, Ferdowsi Univ. of Mashhad- Iran.
 25. **Gordan HR**, and Farsi M. 2002. Developing the breeding programs of the button mushroom in Iran. The 2nd National Congress on Planning & Organization of Mushroom in Iran, Karaj-Iran, 8-10 Jul.
 26. Farsi M, **Gordan HR**, Kavousi HR, and Sheibaii N. 2002. Producing the high yielding hybrid spawn for *Agaricus bisporus*. The 2nd National Congress on Planning & Organization of Mushroom in Iran, Karaj-Iran, 8-10 Jul.
 27. Farsi M, **Gordan HR**. 2001. Use of molecular markers RAPD in identification of homokaryotic hyphae of *Agaricus bisporus*. The 2nd National Congress of Biotechnology, October, Karaj-Iran.

28. **Gordan HR**, Farsi M, Falahati Rastegar M, Shahriari FA. 2001. Genetic improvement of the button mushroom using intra-strain variation and hybridization. The 1st Iranian conference on biotechnology and the future (**Oral presentation**), 16 February, Mashhad-Iran.

Research Experiences

- Co-supervisor for PhD thesis, Faculty of Medicine, Mashhad, Iran, 2012-Present; Title: Design and construction of hepatitis c chimeric viruses via substitution of variable regions of E2 protein of the JFH1 virus by the corresponding areas of HCV genotype 1 and 3.
- Co-supervisor for PhD thesis, Ferdowsi University of Mashhad, Mashhad, Iran, 2012-2015; Title: Comparison quantitative molecular method (Multiplex real time PCR) and Howard Method Count (HMC) in order to define a novel method to make a definition quality control of fungal contamination.
- Supervisor and co-supervisor for a number of master theses, Ferdowsi University of Mashhad, Tabriz University, Zabol University, Azad University (Sabzevar), Payam-e-Noor University of Mashhad, Damghan Azad University, and other universities; Iran, 2002-present;
- Supervisor of one master thesis, Swinburne University of Technology, 2010.
- Collaboration with supervisors (Dr. Lara Grollo, and Prof. Chit Laa Poh) for supervising two master students and one honor student, Swinburne University of Technology, 2009-2011.
- Invited reviewer for several master theses, Iran, Ferdowsi University of Mashhad, 2002-present.
- Referee of peer-reviewed journals, including **Journal of Biomolecular Screening** (ISI: Jan 2016); **Virulence** (ISI: May 2015); **Virology Journal** (ISI: Dec 2014); **Advances in Microbiology** (Nov 2014), **International Journal of Biotechnology and Molecular Biology Research** (Oct, 2015), **African Journal of Microbiology Research** (May, 2016).
- Referee of several peer-reviewed Iranian journals, conference presentations and panels, and books, Iran, 2002-Present.
- Directing or co-directing tens of research projects in the areas of mushroom biotechnology and also a couple of projects in the field of virology, anticancer

compounds. Iranian Academic Centre for Education, Culture and Research (ACECR)-Mashhad Branch, 2001-Present.

- Deputy Assistant Director (Research) for the science and technology research departments, ACECR-Mashhad Branch, Dec 2011-2014.
- Head of the industrial fungi biotechnology department, ACECR-Mashhad Branch, Dec 2011-present.

Awards and Prizes

- Received a letter of acknowledgment from Iranian Academic Centre for Education, Culture and Research (ACECR)-Mashhad Branch due to being selected as the superior researcher for the year 2012, Iran.
- Awarded a tuition fee scholarship from Swinburne University of Technology for PhD studies, Australia, March 2007.
- Awarded a symbol of acknowledgment from the 6th Ferdowsi Festival due to being one of the authors of the book entitled “Mushroom Cultivation and Breeding with Emphasis on the White Button Mushroom, Ferdowsi University of Mashhad, Iran, December 2007.
- Received a letter of acknowledgment from Iranian Academic Centre for Education, Culture and Research (ACECR)-Mashhad Branch due to being selected as the superior employee for the year 2006-2007, Iran.
- Received a letter of acknowledgment from Iranian Academic Centre for Education, Culture and Research (ACECR)-Mashhad Branch's Research Deputy due to being selected as the superior researcher, Iran, 2004.
- Received a letter of acknowledgment from the dean of agricultural faculty of Univ. of Shiraz for the scientific assistance of a workshop on the button mushroom cultivation and breeding, Iran, 2004.
- Awarded a symbol of acknowledgment from the plant pests and diseases research centre due to aiding them in the establishment of their mushroom diseases research lab, Iran, 2005.
- Awarded a symbol of acknowledgment from the 5th Ferdowsi Festival due to working on a research project as a co-worker, entitled “Production of hairy roots and alkaloids in transformed root cultures of *Datura stramonium*”, Ferdowsi University of Mashhad, Iran, December 2005.

Patents

- Pourianfar HR, Grollo L. 2011. Deposition of microarray data in NCBI's Gene Expression Omnibus, accessible through GEO Series accession number GSE34234, (Approved at Dec 10, 2011)
- Registering three hybrid strains of the mushroom *Agaricus bisporus*: IM-002, IM-003 and IM-008, the Iranian national patent number: 37860, Dec 12, 2006.

- Registering the above-mentioned strains of *Agaricus bisporus* in Iranian Biological Resources Center, Aug 8, 2012

Professional Association Memberships

- A member of the Australian Society for Microbiology (ASM) (24/2/2010-2012)

Teaching Experiences

- Teaching in numerous workshops mostly on mushroom genetics and biology, Mashhad-Iran, 2002-2016.
- Teaching Biology course (in the laboratory), 2010 (semester 2), 2011 (semester 1), Environment and Biotechnology Centre, Swinburne University of Technology, 2010.
- Teaching Microbiology (in the laboratory), in 2010 (semester 2) Environment and Biotechnology Centre, Swinburne University of Technology, 2010.

Skills

- Well experienced in PC2 laboratory, human and animal cell cultures, in vitro anticancer, virological, antioxidant assays, and bacteriological assays, mushroom genetics and breeding, plant and fungi cell culture, microbiological and mycological techniques, microarray, well experienced in general and specific softwares related to the field of study such as GraphPad Prism; ACD/ChemSketch; Partek for microarray analysis, EndNote, etc.

Language skills

- Fluent in English

References

- Dr. Lara Grollo¹; E-mail: lara@grollo.com; lgrollo@swin.edu.au; Phone: +61 3 9214 8575
- Associate Prof. Enzo Palombo¹; E-mail: epalombo@swin.edu.au; Phone: +613 92148571
- Dr. Gaurav Kumar²; E-mail: gkumar@bidmc.harvard.edu;
gaurav.neuro@gmail.com; Phone: +1-8572042573

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²Harvard Medical School, 330 Brookline Avenue, Boston, MA 02215, USA.

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