



Babak Latif

Position

- Ph.D. student in Plant Breeding, Tarbiat Modares University, Tehran, Iran.
- Principal Research Member of Synthetic Biology Sub-Group, Biological Engineering Group, Biofuel Research Team (BRTeam) ABRIL, Karaj, Iran.

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Date of Birth

28.11.1983, Tehran, Iran

Academic Career

- 2009 - Present:** Ph.D. student in Plant Breeding, Tarbiat Modares University, Tehran, Iran.
- 2006 – 2009:** M.Sc. in Agricultural Biotechnology, Tarbiat Modares University, Tehran, Iran.
- 2002 – 2006:** B.Sc. in Plant Protection, University of Tehran, Tehran, Iran.

Research Areas

- Plant Biotechnology (Plastid Genome Engineering)
- Recombinant protein production
- Metabolic Engineering through Synthetic Biology approaches
- Bioinformatics

Language

Persian, English

Honors and Awards

- Tarbiat Modares University 1st GPA award in Ph.D. of Plant Breeding (18.84/20), 2011.
- Tarbiat Modares University 1st GPA award in M.Sc. of Agricultural Biotechnology (18.90/20), 2009.
- University of Tehran 1st GPA award in B.Sc. of Plant Protection (18.07/20), 2006.



- Governmental scholarship, Ph.D. program, Sep. 2009 - present.
- Governmental scholarship, M.Sc. program, Sep. 2006 - June 2009.
- Governmental scholarship, B.Sc. program, Sep. 2002 - June 2006.
- Ranked 18th out of 4000 applicants in nationwide entrance examination of universities for postgraduate education, 2006.
- Ranked 17th out of 3500 applicants in nationwide Islamic Azad University entrance exam for postgraduate education, 2006.
- Accepted in the nationwide level of Biology Olympiad, 2000.

Grants and Funding (Collaboration)

- May 2013-present "Biofuel and petrochemical production through genetic manipulation of microorganisms (Synthetic Biology)", Biofuel Research Team and Private Sector.
- Dec. 2012-present "Metabolic engineering of tobacco plant for production of costunolide, an anti-cancer compound, using chloroplast engineering technology", Iran National Science Foundation (INSF).
- Aug. 2012-present "Mass production of cyanobacteria Spirulina for use in food and pharmaceutical industries", Center of Advance Research and Development of Elite Affairs, ETKA organization.
- 2009-2011 "Designing and construction of plastid vector for transformation of beneficial genes to spinach chloroplast", Agricultural Biotechnology Research Institute of Iran (ABRII).
- 2007-2009 "Chloroplast transformation and recombinant protein production in plants", Tarbiat Modares University.

Publications

Full papers in peer reviewed journals

- Shahmoradi, Z. S., Rajabi-Memari, H., Khayyam-Nekoei, M., Nabati-Ahmadi, D, **Latif, B.** and Sharifitabar, M., 2013. Assessment of chloroplast expression factors in Escherichia coli. Jundishapur Journal of Microbiology, 6(2): 117-121.
- **Latif, B.**, Jalali-Javaran, M., Rajabi-Memari, H. and Azhdari, H., 2010. Cloning and transformation of Iranian firefly *Lampyrus turkestanicus* luciferase gene (luc) into tobacco plant. Plant Protection (Scientific Journal of Agriculture), 32(2): 75-87.
- Jalali-Javaran, M., **Latif, B.**, et al., 2010. The success of molecular farming in Iran. Journal of Agricultural Biotechnology, 1(1): 19-48.
- **Latif, B.**, Mohammadi-Najafabadi, R., Jalali-Javaran, J., Rajabi-Memari, H. and Alizadeh, H. 2013. Factors shaping synonymous codon usage patterns in different chloroplast genomes. Australian Journal of Botany (Submitted).
- Jalali-Javaran, M., Soleimanizadeh, M., **Latif, B.**, Razmi, S. and Yarbakht, M. 2013. Mechanisms to increase the production of recombinant proteins in plant chloroplasts. Journal of Agricultural Biotechnology (Submitted).

**International and National Conference Proceedings and Oral Presentations:**

- Rajabi-Memari, H., **Latif, B.** and Azadi, P. Synthetic Biology as a new trend in science and industry. International Conference on Emerging Trends in Scientific Research, Pearl International Hotel, Kuala Lumpur, Malaysia, Mar. 15-16, 2014.
- Enayat-Manesh, E., Nik-Eghbal, L. and **Latif, B.** Recombinant antibodies production in plant cells. The 2nd National Congress on Agricultural Sustainable Development and Healthy Environment, Shahid Mofateh Faculty of Engineering, Hamedan, Iran, Sep. 12, 2013.
- **Latif, B.** and Jalali-Javaran, M. Molecular computing: An introduction to the DNA-nanocomputes. The 1st National Congress and Workshop on Nanoscience and Nanotechnology, Tarbiat Modares University, Tehran, Iran, May 16-17, 2013.
- Enayat-Manesh, E., Masoumian, M., **Latif, B.** and Afshari, H. Study of plant growth hormones' effect on *in-vitro* shooting of potato (*Solanum tuberosum* L.). The 3rd International Student Biotechnology Congress, University of Tehran, Tehran, Iran, May 6-8, 2013. Enayat-Manesh, E., Masoumian, M., **Latif, B.** and Afshari, H. *in-vitro* micro-tuberization of potato (*Solanum tuberosum* L.) in response to different plant growth hormones. The 3rd International Student Biotechnology Congress, University of Tehran, Tehran, Iran, May 6-8, 2013.
- **Latif, B.**, Mohammadi-Najafabadi, R., Jalali-Javaran, J., Alizadeh, H. and Rajabi-Memari, H. Codon usage analysis of chloroplast genomes in different organisms reveals that gene expression level is the major factor shaping codon usage bias. The 3rd International Symposium on Chloroplast Genomics and Genetic Engineering, Rutgers University, N.J., U.S.A., May 8-12, 2013.
- **Latif, B.**, Mohammadi-Najafabadi, R., Jalali-Javaran, J., Rajabi-Memari, H. and Alizadeh, H. Synonymous codon usage analysis of cyanobacter *Synechococcus* sp. The 4th Iranian Conference on Bioinformatics. National Institute of Genetic Engineering and Biotechnology, Tehran, Iran, Nov. 6-7, 2012.
- Mohammadi-Najafabadi, R. and **Latif, B.** Study of the relationship between synonymous codon usage and gene function in *Synechococcus* sp. The 4th Iranian Conference on Bioinformatics. National Institute of Genetic Engineering and Biotechnology, Tehran, Iran, Nov. 6-7, 2012.
- **Latif, B.**, Mohammadi-Najafabadi, R., Jalali-Javaran, J. and Rajabi-Memari, H. Analysis of synonymous codon usage in chloroplast genomes of different organisms. The 11th International Conference on Bioinformatics. Centara Grand at Central Plaza Ladprao, Bangkok, Thailand, Oct. 3-5, 2012.
- **Latif, B.**, Mohammadi-Najafabadi, R., Jalali-Javaran, J., Rajabi-Memari, H. and Alizadeh, H. Analysis of synonymous codon usage in chloroplast genomes of angiosperms. The 17th National and 5th International Iranian Biology Conference. Shahid Bahonar University, Kerman, Iran, Sep. 4-6, 2012.
- Mohammadi-Najafabadi, R. and **Latif, B.** Study of factors affecting codon bias in chloroplast genome of *Triticum aestivum*. The 3rd Iranian Agricultural Biotechnology Congress. Ferdowsi University, Mashad, Iran, Sep. 3-5, 2012.
- Mohammadi-Najafabadi, R. and **Latif, B.** Study of codon functional patterns and definition of optimal codons in chloroplast genome of *Glycine max*. The 3rd Iranian Agricultural Biotechnology Congress. Ferdowsi University, Mashad, Iran. Sep. 3-5, 2012.
- Jalali-Javaran, M., Razmi, S. and **Latif, B.** A glance at past, current and prospect of genetics.



The 12th Iranian Genetics Congress. Shahid Beheshti University, Tehran, Iran, May 21-23, 2012.

- Shahmoradi, Z., Rajabi-Memari, H., Khayyam-Nekoei, M., Nabati-Ahmadi, D., **Latif, B.** and Sharifi-Tabar, M. Assessment of *aadA* gene expression under chloroplast expression factors in *Escherichia coli*. The 7th National Congress of Biotechnology. Niroo Research Institute, Tehran, Iran, Sep. 12-14, 2011.
- Rajabi-Memari, H., **Latif, B.**, Baesi, M., Nabati-Ahmadi, D. and Moazez, Y. Production of oral vaccines in plants and microalgae. The 2nd Congress of Medical Genetics of Iran. Conference Center of Imam Khomeini Hospital, Tehran, Iran, Jun. 20-21, 2011.
- Jalali-Javaran, M., Abdolinasab, M., **Latif, B.**, Alizadeh, H., Honari, H., Mohebodini, M., Razmi, S. and Fabriki, S. Using genetic engineering and chloroplast engineering technologies to meet the biosafety issues. The 3rd Biosafety and Genetic Engineering Congress, Islamic Azad University, Science and Research Branch, Tehran, Iran, Jun. 13-15, 2011.
- Jalali-Javaran, M., Bagheri, K., Saifi-Nabiabad, H., Abdolinasab, M. and **Latif, B.** Molecular farming in Iran. International Conference on Computer, Electrical, Systems, Science and Engineering (ICCESSE), Dubi, UAE, Jan. 25-27, 2011.
- Jalali-Javaran, M., Mahboudi, F., Rasaei, M.J., Rahbarizadeh, F., Foruzandeh-moghadam, Alizadeh, H., M., Rajabi-Memari, H., Esmaeili, A., Masumi-Asl, A., Bagheri, K., **Latif, B.**, Azhdari, H. and Mohebodini, M. Biotechnology and molecular farming. The 11th National Agronomy and Plant Breeding Congress of Iran, Shahid Beheshti University, Tehran, Iran, Jul. 24-26, 2010.
- **Latif, B.**, Jalali-Javaran, M., Rajabi-Memari, H., Hoseinkhani, S. and Azhdari, H. Cloning and transformation of *ff-luc* gene from firefly into tobacco plant. The 11th Iranian Genetics Congress, Shahid Beheshti University, Tehran, Iran, May 22-24, 2010.
- Rajabi-Memari, H., **Latif, B.** and Sharifi-Tabar, M. Chloroplast genome engineering of higher plants and microalgae. The 11th Iranian Genetics Congress, Shahid Beheshti University, Tehran, Iran, May 22-24, 2010.
- **Latif, B.**, Jalali-Javaran, M., Rajabi-Memari, H. and Azhdari, H. Cloning of Iranian firefly *Lampyrus turkestanicus* luciferase gene (*luc*) into plant expression vector pCAMBIA1304. The 6th National Biotechnology Congress of Iran, Milad Tower's Conference Hall, Tehran, Iran, Aug. 13-15, 2009.
- **Latif, B.**, Jalali-Javaran, M., Rajabi-Memari, H. and Azhdari, H. Computing with DNA: "Traveling Salesman Problem" solving and optimization. The 6th National Biotechnology Congress of Iran, Milad Tower's Conference Hall, Tehran, Iran, Aug. 13-15, 2009.
- Razmi, A., Jalali-Javaran, M., Hoseinkhani, S., Azhdari, H. and **Latif, B.** Cloning of *ff-luc* gene with red light radiation into expression vector pCAMBIA1304 for *Agrobacterium*-mediated plant transformation. The 6th National Biotechnology Congress of Iran, Milad Tower's Conference Hall, Tehran, Iran, Aug. 13-15, 2009.
- Azhdari, H., Jalali-Javaran, M., Rajabi-Memari, H., **Latif, B.** and Mohebodini, M. Design and construction of vector containing gamma interferon gene for expression in tobacco plant. The 6th National Biotechnology Congress of Iran, Milad Tower's Conference Hall, Tehran, Iran, Aug. 13-15, 2009.
- Jalali-Javaran, M., Mahboudi, F., Rasaei, M.J., Rahbarizadeh, F., Foruzandeh-Moghadam, M., Rajabi-Memari, H., Esmaeili, A., Masumi-Asl, A., Dimiad, S., **Latif, B.**, Mohebodini, M. and Alizadeh, H. Molecular genetics: The groundwork of genetic engineering experiments. The 10th Iranian Genetics Congress, Razi Conference Halls Center, Iran Medical Science University,



Tehran, Iran, May 20-22, 2008.

- Jalali-Javaran, M., Azhdari, H., **Latif, B.**, Rajabi-Memari, H., Masumi-Asl, A., Mahmoudi-Nodezh, H. and Salimi, M. Plastid genome engineering. The 2nd National Molecular and Cellular Biology Congress of Iran, International Center of High-Science and Technology and Environmental Sciences, Kerman, Iran, Jan. 29-30, 2008.
- Khashei, A., **Latif, B.**, Mahmoudi-Nodezh, H. and Javadi, S. "Hamiltonian Path Problem" optimization using DNA algorithm. The 2nd National Molecular and Cellular Biology Congress of Iran, International Center of High-Science and Technology and Environmental Sciences, Kerman, Iran, Jan. 29-30, 2008.

Teaching Experience

Graduate Courses, Islamic Azad University, 2010 – 2012.

- Genetic Engineering
- Application of Biotechnology in Agronomy and Plant Breeding
- Principles of Agricultural Biotechnology
- Practical Plant Breeding
- Bioinformatics
- English Language
- Research Methodology
- Seminar

Workshop (Instructor)

- Gene Transfer Methods to the Plants, Iranian Biotechnology Society (IBS), Dec. 2008 - Jan. 2009

Memberships

- Biofuel Research Team
- Iranian Bioinformatics Society
- Iranian Biology Society
- Iranian Genetics Society
- Iranian Biotechnology Society