

## Maryam Kamali

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### Professional Appointments

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- January 2018- Present    Assistant Professor, Department of Medical Entomology and Parasitology, Tarbiat Modares University, Tehran, Iran.
- 2014- 2015                Postdoctoral Researcher. Department of Entomology, Virginia Polytechnic Institute and State University, Blacksburg, VA.

### Education

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- 2008-2013                Ph.D. Department of Entomology, Virginia Polytechnic Institute and State University, Blacksburg, VA.
- 2004-2007                M.S. Department of Medical Entomology, Tehran University of Medical Sciences, School of Public Health. Tehran, Iran.
- 1999-2003                B.S. Department of Biology, Shahid Beheshti University, Tehran, Iran.

### Teaching Certificates

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Future Professoriate Graduate Certificate. Virginia Tech, 2012.

### Publications

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- Yurchenko, A. A., Naumenko, A. N., Artemov, G. N., Karagodin, D. A., . . . , **Kamali, M.**, et al. (2023). Phylogenomics revealed migration routes and adaptive radiation timing of Holarctic malaria mosquito species of the Maculipennis Group. *BMC biology*, 21(1), 63.
- Clarkson, C. S., Miles, A., Harding, N. J., Lucas, E. R., Battey, C. J., . . . , **Kamali, M.**, et al. & Anopheles gambiae 1000 Genomes Consortium. (2020). Genome variation and population structure among 1142 mosquitoes of the African malaria vector species *Anopheles gambiae* and *Anopheles coluzzii*. *Genome research*, 30(10), 1533-1546.
- Waterhouse, R. M., Aganezov, S., Anselmetti, Y., Lee, J., Ruzzante, L., Reijnders, M. J., . . . **Kamali, M.**, et al. (2020). Evolutionary superscaffolding and chromosome anchoring to improve *Anopheles* genome assemblies. *BMC biology*, 18(1), 1-20.
- Neafsey, D. E., Waterhouse, R. M., Abai, M. R., Aganezov, S. S., Alekseyev, M. A., Allen, J. E., . . . **Kamali, M.**, et al. (2015). Highly evolvable malaria vectors: the genomes of 16 *Anopheles* mosquitoes. *Science*, 347(6217).
- **Kamali, M.**, Marek, P. E., Peery, A., Antonio-Nkondjio, C., Ndo, C., Tu, Z., . . . & Sharakhov, I. V. (2014). Multigene phylogenetics reveals temporal diversification of major African malaria vectors. *PloS one*, 9(4), e93580.

- **Kamali, M.,** Xia, A., Tu, Z., & Sharakhov, I. V. (2012). A new chromosomal phylogeny supports the repeated origin of vectorial capacity in malaria mosquitoes of the *Anopheles gambiae* complex. *PLoS pathogens*, 8(10), e1002960. (News highlights: [Science Daily](#)).
- **Kamali, M.,** Sharakhova, M. V., Baricheva, E., Karagodin, D., Tu, Z., & Sharakhov, I. V. (2011). An integrated chromosome map of microsatellite markers and inversion breakpoints for an Asian malaria mosquito, *Anopheles stephensi*. *Journal of Heredity*, 102(6), 719-726.

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### Protocol

Xia, A., A. Peery, **M. Kamali**, J. Liang, M.V. Sharakhova and I. V. Sharakhov (2013). Fluorescence *in situ* Hybridization to the Polytene Chromosomes of *Anopheles* Mosquitoes. *Bio-protocol.org*. Vol 3, Iss 16.

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### Papers Presented at Scientific Meetings

- **Kamali, M.,** H. Kharazmi and E. Akbari. A Novel Educational Method for Prevention and Control of Vector-Borne Diseases in the Villages of Bardsir, Kerman Province, Iran. XXVI International Congress of Entomology, Helsinki, Finland, July 17-22, 2022.
- Gordani, T., **M. Kamali**, G. Noori, and R. Farhangi. New Record of Parasitic Stigmaeid Mite (Acari: Stigmaeidae) of *Phlebotomus papatasi* (Diptera: Psychodidae) from Ilam Province, Western Iran. The 3<sup>rd</sup> Iranian International Congress of Entomology, University of Tabriz, Tabriz, Iran, August 17-19, 2019.
- **Kamali, M.,** and M. A. Ghias. A Simple and Fast Microfluidic System for Separation and Concentration of Sperm and Hemocytes in Sandfly (*Phlebotomous papatasi*). Eight International Symposium on Molecular Insect Science, Sitges, nr Barcelona, Spain, July 7-10, 2019.
- **Kamali, M.,** A. Xia, Z. Tu and I. V. Sharakhov. Chromosomal and Molecular Phylogeny Elucidate the Evolutionary History of *An. gambiae* Complex. Graduate Student Assembly (GSA) 29th Annual Research Symposium. March-27, Virginia Tech, 2013.
- **Kamali, M** and I. V. Sharakhov. Molecular Phylogenies of Inversion Breakpoints in the *Anopheles gambiae* Complex. The 3<sup>rd</sup> Virginia Tech Symposium on Vector-Borne Disease Research. "Parasitology, Vector Biology, Vaccine and Drug Delivery". Blacksburg, Virginia, March 8-9, 2013.
- **Kamali, M.,** A. Xia, Z. Tu and I. V. Sharakhov. A New Chromosomal Phylogeny Revealed the Ancestral Karyotype in the Complex of African Malaria Vectors. The 2nd Virginia Tech Symposium on Vector-Borne Disease Research. "Parasitology, Vector Biology, Vaccine and Drug Discovery". Blacksburg, Virginia, March 9-10, 2012.
- **Kamali, M.,** A. Xia, Z. Tu and I. V. Sharakhov. Ancestral Chromosomal Arrangement and Revised Phylogeny of the *Anopheles gambiae* Complex. In proceeding of the 60th American Society of Tropical Medicine and Hygiene, Philadelphia, PA, Dec 4-8, 2011.
- **Kamali, M.,** A. Xia, Z. Tu and I. V. Sharakhov. Cloning of the Breakpoints of Fixed 2Ro and 2Rp Inversions in the *Anopheles gambiae* Complex. In proceeding of the 59th American Society of Tropical Medicine and Hygiene, Atlanta, GA. Nov, 3-7, 2010.
- **Kamali, M.,** M. Sharakhova, Z. Tu and I.V. Sharakhov. Microsatellite Physical Map of *Anopheles stephensi* Polytene Chromosomes. In proceeding of the 59th American Society of Tropical Medicine and Hygiene, Atlanta, GA. Nov. 3-7, 2010.
- Basseri, H. R., **M. Kamali**, J. Rafinejad, and M. Aboulhasani. Agglutination activities in four soft tick species, *Ornithodoros tholozani*, *O. lahorensis*, *O. canestini* and *Argas persicus*. In proceedings of the 4th African Acarology symposium, Hammamet, Tunisia, Oct. 22- 26, 2007.
- **Kamali, M.,** H. R. Basseri, J. Rafinejad, and M. Abdoulhassani. Carbohydrate Inhibitory Effect of Lectins of *Ornithodoros lahorensis*. Presented in proceeding of the 28th Nordic Baltic Congress of Entomology. Uppsala, Sweden, July 29- August 4, 2007.
- **Kamali, M.,** K. Jafari, J. Rafinejad, and H. R. Basseri. Edaphic Prostigmatic Mites (Acari: Prostigmata) from Northern Tehran, Iran. Presentation in Proceedings of 12th International Congress of Acarology, Amsterdam, the Netherlands, August 21-26, 2006.
- **Kamali, M.,** K. Jafari, and J. Rafinejad. Some Beetle Mites (Acari: Oribatida) from Northern Tehran. In Proceeding of 2nd Iranian Congress of Medical Entomology and Vector control. Tehran, Iran, May 16-18, 2006.

- **Kamali, M.**, K. Kamali, K.Jafari, and E. Uchermann. Edaphic Mites of Order Mesostigmata Collected from Shahid Beheshti University Campus. In Proceedings of 16th Congress of Plant Protection. Tabriz, Iran, August 24- September 1, 2004.

### **Invited Talks**

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- Cytogenetic Studies in Mosquitoes: Approaches and Applications. The 3<sup>rd</sup> Iranian International Congress of Entomology, University of Tabriz, Tabriz, Iran, August 17, 2019.

### **Skills and Techniques**

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- Fluorescent *In Situ* Hybridization.
- Confocal and fluorescent microscopy.
- Preparation of polytene chromosome slides from ovarian nurse cells in *Anopheles* species.
- Rearing *Anopheles* species in insectary.
- Cytogenetic Mapping.
- Practical experience of standard molecular biology techniques; PCR, gel electrophoresis, isolation of genomic DNA.
- Microsatellite probe preparation.
- Genomic library screening.
- Bioinformatics: DNA sequence and transposable elements analysis; BLAST, ClastalW, TEfam, Vectorbase.
- Molecular phylogeny using MEGA and Geneious programs.

### **Additional Training**

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- NIH Vectorbase workshop, Bethesda, MD, 2013.
- Issues in Bioethics, NIH Responsible Conduct of Research training requirements. Virginia Tech, Blacksburg, VA, 2012.
- Training in Human Subjects Protection, Virginia Tech, Blacksburg, VA, 2012.
- Summer Institute in Statistical Genetics Course: Molecular Genetics and Genomics, Seattle, WA, 2010.
- Basic Science Pre-Meeting Course, 59th American Society of Tropical Medicine and Hygiene, Recent Advances in the Biology of Invertebrate Vectors and Implications for the Control of Tropical Diseases, Atlanta, GA, 2010.

### **Teaching Experience**

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- Arbovirology (Graduate Course), Tarbiat Modares University, Fall semesters.
- Insect Systematics (Graduate Course), Tarbiat Modares University, Fall semesters.
- Advanced Leishmaniasis (Graduate Course), Tarbiat Modares University, Fall semesters.
- General Leishmaniasis (Graduate Course), Tarbiat Modares University, Fall semesters.
- Molecular Entomology (Graduate Course), Tarbiat Modares University, Spring semesters.
- Advanced Malariology (Lab) (Graduate Course), Tarbiat Modares University, Spring semesters.
- Teaching Assistant for Insect and Human Society class (Grading Assistant), Virginia Tech, Fall 2012.
- Teaching assistant for Medical and Veterinary Entomology Lab (Lab Instructor), Virginia Tech, Spring 2012.
- Teaching Assistant for Insect and Human Society class, (Grading Assistant), Virginia Tech, Spring 2011.

### **Honors and Awards**

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- Winner of Dr. Kazemi Ashtiani Award from Iran's National Elites Foundation, Tehran, Iran, 2018.
- Member of Iran's National Elites Foundation, Tehran, Iran, 2018.

- First Place Presentation Award, Graduate Student Assembly (GSA) 29th Annual Research Symposium, March-27, Virginia Tech, 2013.
- First Place Poster Presentation Award in Vector Biology, 3rd Virginia Tech Symposium on Vector-borne Disease Research. "Parasitology, Vector Biology, Vaccine and Drug Delivery", March 8-9, Virginia Tech, 2013.
- First Place Poster Presentation Award, Iranian showcase of research competition, August-27. Virginia Tech, 2012.
- Department of Entomology Kosztarab Scholarship Award, for distinguished achievement in systematic Entomology, Virginia Tech, 2012.
- Graduate Student Assembly (GSA) Graduate Research Development Program Award, Virginia Tech, 2012.
- Young Investigator Award Honorable Mention, 60th American Society of Tropical Medicine and Hygiene, Philadelphia, PA, 2011.
- Graduate Student Assembly (GSA) Travel Grant Award, Virginia Tech, 2011.
- Cyrus McCormick scholarship, College of Agriculture and Life Sciences. Virginia Tech, September 2011.
- Graduate Student Assembly (GSA) Travel Grant Award, Virginia Tech, 2010.
- Scholarship to participate in a course "Molecular Genetics and Genomics" of the 15th Summer Institute in Statistical Genetics, University of Washington, Seattle, June 14 - 16, 2010.
- Fralin Life Sciences Institute Fellowship, 2008-2009.
- Two grants from the Palms Foundation (Sweden) and Tehran University of Medical Sciences to attend and present thesis research at 28th Nordic-Baltic Congress of Entomology in Uppsala, Sweden, July 2007.

### **M.S Student Graduated**

- Hanieh Kharazmi, Department of Medical Entomology, M.S. thesis "Investigating Novel Methods in Prevention and Control of Vector-Borne Diseases (Ticks, Mosquitoes, Lice, Bed bugs, and Fleas) in the Villages of Bardsir, Kerman Province" 2022.
- Maryam Pourivahab, Department of Medical Entomology, M.S. thesis "A Comparative Chromosomal Map of Three Biological Forms of *Anopheles stephensi* in Iran" 2023.
- Farshad Gohardehi, Department of Medical Entomology, M.S. thesis "Investigating a link between Malaria and Covid-19 diseases by bioinformatics approaches" 2023.