

In Memory of the Founders and Honorees of the Razi Vaccine and Serum Research Institute

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Abstract

On the occasion of the centennial anniversary of the Razi Vaccine and Serum Research Institute, this article pays tribute to the vision, dedication, and tireless efforts of the institute's pioneers and founders. Through their invaluable and enduring contributions, they laid the groundwork for safeguarding the health of both human and animal populations across Iran and the broader region. In this review, we present concise biographical sketches of these trailblazers to introduce them to newer generations and to honor their lasting legacy.

Established in 1925 amid a period of widespread and devastating livestock epidemics, the Razi Institute emerged as a cornerstone of Iran's national strategy to combat infectious diseases. From its inception, the institute has been at the forefront of efforts to protect agricultural sustainability and public health. Over the past century, it has grown into a renowned center of excellence, celebrated for its innovative

۲۴ contributions to vaccine development, serological research, and biomedical science — both nationally
۲۵ and internationally.

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۲۷ The institute's early contributors played a pivotal role in shaping its trajectory through their
۲۸ perseverance and scientific foresight. Their groundbreaking work led to the development of vaccines
۲۹ against critical animal diseases such as rinderpest and anthrax, and later, to the introduction of essential
۳۰ human vaccines, including those for polio and measles. These advances have significantly influenced
۳۱ the control and, in some cases, the eradication of infectious diseases within the region.

۳۲ Beyond its scientific achievements, the Razi Institute has served as a platform for national and
۳۳ international collaboration, advancing biomedical research and fostering a culture of knowledge-sharing.
۳۴ As the institute enters its second century, it remains committed to its mission — engaging in cutting-
۳۵ edge research, developing vaccines, and supporting public health through education and innovation.

۳۶ This article not only reflects on a century of progress but also looks ahead, reaffirming the importance of
۳۷ preserving this rich legacy. By documenting the lives and achievements of its founders, we hope to
۳۸ inspire future generations of scientists, researchers, and public health professionals to continue this
۳۹ essential work for the benefit of society.

۴۰ **Keywords:**

۴۱ Vaccine Development, Infectious Disease Control, Public Health

۴۲ **Founders of the Razi Vaccine and Serum Research Institute**

۴۳ Recurring outbreaks of Rinderpest caused heavy losses. Additionally, the Health Committee of the
۴۴ League of Nations required countries to establish veterinary administrations to combat animal diseases.
۴۵ These factors made the establishment of a specialized scientific center in Iran increasingly urgent.
۴۶ Accordingly, with the devoted efforts of Engineer Mostafa Gholi Bayat (then Deputy Minister of
۴۷ Agriculture), a bill titled “Establishment of the Institute for Animal Pest Control and Serum Production”
۴۸ was prepared in October 1924 (Mehr 1303) and submitted to the Fifth National Consultative Assembly
۴۹ (Majles) by the Ministry of Agriculture.
۵۰ During the review of this bill, Abdolhossein Teymourtash (then Minister of Agriculture) played a

decisive role through his active presence and firm defense, emphasizing the importance of this institution. Ultimately, with his persistence and the support of Parliament members, the law permitting the establishment of the Serum Production Institute was passed at noon on Tuesday, January 6, 1925 (16 Dey 1303).

This was the first parliamentary legislation in the field of veterinary medicine and animal health in Iran. The combined vision of Abdolhossein Teymourtash and Mostafa Gholi Bayat established an institution that for a century, has safeguarded human and animal health across Iran and beyond.



Figure 1. Mostafa Gholi Bayat



Figure 2. Abdolhossein Teymourtash

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Figure 3. Permission for the Establishment of the Institute for Animal Pest Control and Serum Production.

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Dr. Abdollah Hamedî (1882–1943)

Born in 1882 in Tehran, Dr. Hamedî completed his primary education at the Tadayon School and Dar al-Fonoon. In 1923, he entered the School of Medicine in Tehran; however, due to work commitments, he received his degree in 1932. Initially, he worked at the Pasteur Institute of Tehran. In 1925, following the approval of the law establishing the Institute, he was appointed as its first director. In that same year, through his relentless efforts, the anti-rinderpest serum was produced—the first biological product in the field of veterinary medicine in Iran—bringing new hope to livestock owners.

In 1926, he traveled to France to study veterinary medicine under Dr. Gaston Ramon, specializing in serum production, and received his diploma from the Alfort Veterinary School. He returned to Iran in 1931 and joined the Ministry of Agriculture.

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Main responsibilities during his career:					
-Head	of	Veterinary	Administration	of	Azerbaijan (1931–1935)
-Director	General	of	National	Veterinary	Services (1935–1937)
-	Dean	of	the	Faculty	of Veterinary Medicine, Tehran (1937–1943)

- ۹۵ - Deputy Minister of Agriculture and Head of Livestock Affairs (1941–1943)
۹۶ - Founder and editor of the Veterinary Journal

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۹۸ Through scientific visits to Europe, he helped attract foreign experts and transferred modern veterinary
۹۹ knowledge to Iran.

۱۰۰ He passed away in 1943 at the age of 41 due to typhus in Tehran.

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۱۰۳ **Figure 4.**Dr. Abdollah Hamed

۱۰۴ **Dr. Morteza Golsorkhi (1881–1945)**

۱۰۵ Between 1926 and 1928, during Dr. Hamed's studies in France, Dr. Morteza Golsorkhi served as
۱۰۶ director of the Institute. Born in 1881 in Tehran, he first studied medicine at Dar al-Fonoon, then
۱۰۷ pursued veterinary medicine in Hungary, Russia, and France. After returning to Iran, he joined the
۱۰۸ Ministry of Agriculture.

۱۰۹ He was the first head of slaughterhouse hygiene and the first national meat inspector in Iran.

۱۱۰ Main responsibilities:

- ۱۱۱ - Professor and Head of the Faculty of Agriculture, Karaj
- ۱۱۲ - Publisher of Iran's first veterinary medicine and animal diseases journal, Baytari Journal (1915)
- ۱۱۳ - Editor and writer of the journal Agriculture (from 1929)
- ۱۱۴ - Director of Public Relations, Ministry of Agriculture

۱۱۵ Books authored include:

- ۱۱۶ - Meat Inspection

- ۱۱۷ - Women's and Girls' Health
- ۱۱۸ - Horse Treatment
- ۱۱۹ - Bird Treatment
- ۱۲۰ - Dog Training
- ۱۲۱ - Two-volume work on Agriculture
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- ۱۲۳ He passed away in 1945 at age 64 due to cancer.

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۱۲۶ **Figure 5.**Dr. Morteza Golsorkhi

۱۲۷ **Dr. Louis Pierre Delpy (1899–1974)**

۱۲۸ Following the temporary subsidence of Rinderpest, the Institute's activities were briefly suspended. Due
 ۱۲۹ to renewed needs for controlling animal diseases, Engineer Mostafa Gholi Bayat invited Dr. Louis Pierre
 ۱۳۰ Delpy, a prominent French veterinarian, to lead the Institute.
 ۱۳۱ Born on June 26, 1899, in Limoux, France, he had gained experience with contagious animal diseases,
 ۱۳۲ particularly rinderpest, in French colonies in Africa. He defended his doctoral thesis in 1931 on the
 ۱۳۳ epidemiology of rinderpest in Africa and specialized in parasitology.
 ۱۳۴ Dr. Delpy quickly led the Hesarek Serum Production Unit, collaborating with Dr. Morteza Kaveh, and
 ۱۳۵ expanded staff and vaccine production. By establishing production units and training staff, he elevated
 ۱۳۶ the Institute's reputation through innovation and output.
 ۱۳۷ In 1937, he contracted anthrax in the laboratory, causing paralysis in his right arm and requiring months
 ۱۳۸ of treatment. He later returned to France, settling in Caen, and served as Inspector General of the French
 ۱۳۹ Colonial Ministry. He passed away in 1974.



Figure 6. Dr. Louis Pierre Delpy

Dr. Reza Rastegar (1908–2000)

For one year, due to Dr. Delpy's return to France for treatment and military service, the management of the Razi Institute was entrusted to his distinguished and hardworking colleague, Dr. Reza Rastegar. He was born in 1908 in Isfahan. After completing his primary and secondary education, in 1926, he traveled to France with Dr. Hamedî to study veterinary medicine at the University of Toulouse. He graduated in 1934 with a doctorate in veterinary medicine, specializing in microbiology and contagious diseases.

In 1935, with the arrival of Dr. Legroux (Professor of Microbiology from the Pasteur Institute of Paris) in Iran, Dr. Rastegar collaborated with him to prepare glanders antiserum. In 1936, upon Legroux's recommendation, he officially joined the Razi Institute.

He successfully produced:

- Symptomatic anthrax vaccine (1936)

- Bovine pasteurellosis vaccine (1937)

- Diphtheria and tetanus antitoxin (1938), for the first time in Iran, based on Gaston Ramon's method.

Due to Dr. Delpy's absence, Rastegar managed the Institute from December 20, 1938, until October 1939, and continued as its director until March 1940. Later, he became Deputy Minister of Agriculture and Head of Livestock Affairs.

He also served as Director General of National Veterinary Services (1941–1946). He was three times Dean of the Faculty of Veterinary Medicine, Tehran, and Deputy Minister of Agriculture (1959–1965).

۱۶۴ His works include textbooks such as Microbiology, General Parasitology, and Contagious Animal
۱۶۵ Diseases (co-authored with Dr. Morteza Kaveh and Dr. Ahmad Shimi), as well as dozens of scientific
۱۶۶ articles.

۱۶۷ He was awarded the title of honorary professor at Hanover University in 1963. He passed away in
۱۶۸ London on January 23, 2000, due to a heart attack.

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۱۷۱ **Figure 7. Dr. Reza Rastegar**

۱۷۲ **Dr. Aziz Rafiei (1910–1986)**

۱۷۳ As mentioned earlier, after Dr. Rastegar's one-year leadership, Dr. Delpy returned to Iran and resumed
۱۷۴ responsibility until 1949. In that year, the presidency of the Razi Institute was assigned to Dr. Aziz
۱۷۵ Rafiei.

۱۷۶ He was born on January 21, 1910, in the Sheshgelan district of Tabriz. He completed his primary
۱۷۷ education at Hekmat School and the American Memorial School. Afterward, he traveled to France at his
۱۷۸ own expense to study veterinary medicine.

۱۷۹ In 1932, he obtained his veterinary diploma from the University of Toulouse, and in 1933, he earned a
۱۸۰ diploma in tropical diseases from the Alfort Veterinary School in Paris. After two years of training at the
۱۸۱ Pasteur Institute of Paris and its branches in Tunisia and Morocco, in 1935, he received a doctoral
۱۸۲ degree in microbiology with a specialization in parasitology.

۱۸۳ Upon his return to Iran, he joined the Razi Institute in 1935 as a daily employee. He also taught at the
۱۸۴ Higher School of Agriculture in Karaj. In 1942, he was appointed Deputy Director of the Razi Institute,
۱۸۵ a position he held until 1949.

۱۸۶ From October 8, 1949, Dr. Rafiei became Director of the Razi Institute and remained in this position
۱۸۷ with great competence until 1964.

۱۸۸ His achievements included:

۱۸۹ -Approval of the Razi Institute's organizational law in 1958.

۱۹۰ - Receiving the Légion d'honneur from France and the Taj and Homayoun medals of Iran in 1954–1955.

۱۹۱ Dr. Rafiei was a renowned parasitologist and professor at the Faculty of Veterinary Medicine, Tehran.
۱۹۲ He was also recognized as an expert by FAO and WHO. He identified and registered *Spirochaeta*
۱۹۳ *persica*, a causative agent of tick-borne relapsing fever.

۱۹۴ From 1959 to 1974, he served as Iran's permanent representative to the OIE. Between 1964 and 1966,
۱۹۵ he was Vice President, and from 1966 to 1968, President of the World Assembly of OIE.

۱۹۶ He authored seven textbooks, including Protozoology and Arthropods, Rickettsia and Its Related
۱۹۷ Diseases, and published 21 Persian and 72 international articles.

۱۹۸ After his retirement, he played a pivotal role in founding the Faculty of Veterinary Medicine at Urmia
۱۹۹ University in 1975.

۲۰۰ This distinguished and hardworking scientist passed away on November 11, 1986, at the age of 76,
۲۰۱ leaving behind a lasting scientific and managerial legacy that continues to inspire Iranian researchers
۲۰۲ and veterinarians.

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Figure 8. Dr. Aziz Rafiei

۲۰۶ **Dr. Seyyed Hossein Mirshamsi (1918–2008)**

۲۰۷ During Dr. Rafiei's presidency, while he was abroad, Dr. Seyyed Hossein Mirshamsi temporarily
۲۰۸ managed the Razi Institute.

٢٠٩ He was born in early spring 1918 in Isfahan. After completing primary education, he moved to Tehran.
٢١٠ Initially, he studied mathematics and physics at the Teachers' College, but due to his interest in
٢١١ veterinary medicine, he switched fields and entered the Faculty of Veterinary Medicine, Tehran, on
٢١٢ October 23, 1935.

٢١٣ In 1941, he started working at the Razi Institute as a technical employee. In 1942, through his relentless
٢١٤ efforts, he successfully produced diphtheria antiserum, paving the way for the development of medical
٢١٥ biological products in Iran.

٢١٦ His academic and professional achievements included:

٢١٧ -Diploma in Microbiology and Immunology from the Pasteur Institute of France (1951).

٢١٨ -Doctorate in Veterinary Medicine from the Alfort Veterinary School, University of Paris (1952).

٢١٩ -Training and research in the USA and UK in bacterial vaccine production and virology.

٢٢٠ -WHO research fellowship in 1967 for measles vaccine studies at Baylor University and in Tokyo and
٢٢١ Chiba Institutes.

٢٢٢ At the Razi Institute, he was responsible for:

٢٢٣ -Head of Bacterial Vaccine and Therapeutic Serum Production.

٢٢٤ - Deputy Director of Biological Products for Medical Use (1965–2001).

٢٢٥ Major scientific achievements of Dr. Mirshamsi:

٢٢٦ -Completion of diphtheria antiserum production (1942).

٢٢٧ -Production of vaccines: anthrax, DTP-smallpox (1958), measles (1969), polio (1972), mumps (1986),
٢٢٨ rubella (1987).

٢٢٩ -First production of human vaccines at the Razi Institute, which earned him the title Father of Medical
٢٣٠ Vaccines in Iran.

٢٣١ Publications:

٢٣٢ - General Virology (1969)

- ۲۳۳ - Principles of Immunology (1973)
- ۲۳۴ - Prevention and Treatment with Vaccines and Serum
- ۲۳۵ Honors and awards:
- ۲۳۶ -Multiple national prizes, including First-Class Research Award, Khwarizmi Festival Award, and
۲۳۷ recognition for 50 years of research service.
- ۲۳۸ - Membership in the Academy of Sciences of the Islamic Republic of Iran, the Academy of Medical
۲۳۹ Sciences, and the Third World Academy of Sciences.
- ۲۴۰ -Recognized as a National Scientific Figure in the 2003 “Eternal Figures of Iran” ceremony.
- ۲۴۱ This eminent scientist passed away on December 14, 2008, at the age of 90. His scientific and
۲۴۲ managerial contributions remain a source of inspiration for the Razi Institute and beyond.



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۲۴۴ **Figure 9.**Dr. Seyyed Hossein Mirshamsi

۲۴۵ **Dr. Morteza Kaveh Kojoui (1906–1987)**

۲۴۶ After the management and valuable services of Dr. Aziz Rafiei, Dr. Morteza Kaveh Kojoui, who was
۲۴۷ among the first employees of the Razi Institute, assumed the important responsibility of the presidency
۲۴۸ of the Institute.

۲۴۹ He was born on September 23, 1906, in Isfahan. In 1925, as the top student, he graduated from the first
۲۵۰ class of the Faculty of Agriculture in Karaj and immediately began working in the Ministry of
۲۵۱ Agriculture.

۲۰۲ With the outbreak of rinderpest, Dr. Kaveh was transferred to the Institute for Animal Pest Control and
۲۰۳ Serum Production. In the early years of his service, he worked in serum production in Gilan,
۲۰۴ Mazandaran, and Gogan provinces.

۲۰۵ In 1928, after Dr. Morteza Golsorkhi was appointed head of the Institute. However, due to the
۲۰۶ suspension of serum production caused by the locust invasion of Iranian farmlands, he was appointed
۲۰۷ head of the Anti-Locust Service in western Iran, Tehran and its suburbs, and Kerman and Baluchistan.

۲۰۸ After the reopening of the Razi Institute in 1933, Dr. Kaveh became Deputy Director of the Institute's
۲۰۹ laboratory, a position he held until 1942. Following Dr. Delpy's recommendation, he enrolled in the
۲۱۰ Faculty of Veterinary Medicine in Karaj and, on July 2, 1940, received his veterinary diploma.

۲۱۱ His thesis, titled Brucellosis in Iran and Determining the Types of Brucella in Iran, was supervised by
۲۱۲ Dr. Reza Rastegar and was awarded first-class honors.

۲۱۳ In 1942, the Razi Institute sent him to France to specialize in microbiology. In 1949, he obtained a
۲۱۴ diploma in microbiology from the Pasteur Institute of Paris.

۲۱۵ After returning to Iran, in addition to continuing his service at the Razi Institute, in 1947, he began
۲۱۶ teaching microbiology and contagious animal diseases at the Faculty of Agriculture, Karaj. From 1951,
۲۱۷ he became a part-time faculty member at the Faculty of Veterinary Medicine, Tehran, where he rose to
۲۱۸ the rank of professor.

۲۱۹ Between 1951 and 1964, Dr. Kaveh served as Technical Deputy of the Razi Institute. From late 1960 to
۲۲۰ 1963, he also served as Director General of National Veterinary Services. From 1964 until October
۲۲۱ 1977, he was President of the Razi Institute.

۲۲۲ In 1971, he was also appointed Deputy Minister of Agriculture while retaining his presidency at the
۲۲۳ Institute. In 1977, he became Deputy Minister of Livestock Affairs in the Ministry of Agriculture, a
۲۲۴ position he held until 1979.

۲۲۵ On April 21, 1979, he retired with honor.

۲۲۶ The period of Dr. Kaveh's leadership was one of expansion and prosperity for the Razi Institute, further
۲۲۷ elevating its global reputation.

۲۷۸ Beyond his managerial services, he was elected President of the Iranian Veterinary Society for three
۲۷۹ terms and authored important textbooks such as Microbiology and Contagious Animal Diseases.

۲۸۰ This distinguished scientist and administrator passed away on December 12, 1987, at the age of 81. His
۲۸۱ scientific and managerial legacy continues to inspire the Razi Institute and the veterinary community of
۲۸۲ Iran.

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۲۸۵ Iran.



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۲۸۷ **Figure 10.Dr. Morteza Kaveh**

۲۸۸ **Conclusion**

۲۸۹ The Razi Vaccine and Serum Research Institute is a leading scientific center in Iran and a major
۲۹۰ contributor to veterinary sciences, microbiology, virology, and the production of biological products for
۲۹۱ humans and animals.

۲۹۲ The continuous dedication of its scientists and directors, from Dr. Hamedī to the present, demonstrates
۲۹۳ commitment, expertise, and devotion to society. Its research, vaccine and serum production, and national
۲۹۴ and international advisory roles have made it a symbol of quality and trust in health and medicine.
۲۹۵ Today, the Razi Institute is both a legacy of its distinguished founders and a symbol of the intersection
۲۹۶ of science, politics, and social responsibility in Iran, a priceless trust , that must be preserved and passed
۲۹۷ on to future generations.

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۳۰۲ interpretation of data: H. J, M. Z. Drafting of the manuscript: H. J. Critical revision of the manuscript for
۳۰۳ important intellectual content: S. S, K. T.

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۳۰۶ all ethical standards have been respected in preparation of the submitted article.

۳۰۷ **Conflict of Interest**

۳۰۸ The authors declare that they have no conflict of interest.

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۳۱۲ **Data Availability**

۳۱۳ The data that support the findings of this study are available upon request from the corresponding
۳۱۴ author.

۳۱۵ **References**

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- ۳۱۷ 1. Tadayon K, Mostafavi E, Hajizadeh A, Ghaderi R, Tadayon P. A very French connection, a brief
۳۱۸ discourse in commemoration of life and services of the late Louis Pierre Joseph Delpy on his 120th
۳۱۹ birthday anniversary. Vet Res. 2019;10(4):271-275.
- ۳۲۰ 2. Hajizadeh A, Noufali M, Tadayon K. A review of the history of Razi Institute from its beginning to
۳۲۱ the present. J Vaccine Dis Prev Vet Med. 2021;1(1):4-13.

۳۲۲ 3. Hajizadeh A. Razi institute in passing time. Razi Vaccine and Serum Research Institute; 2015. p. 1-
۳۲۳ 384.

۳۲۴ 4. Soleimani S, Motamed N, Hajizadeh A, Tadayon K. A hundred years of honor in Iranian health. Arch
۳۲۵ Razi Inst. 2025;80(Special Issue):1.

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