

# SAMARQAND VILOYATI ULUG‘BEK RASADXONASI

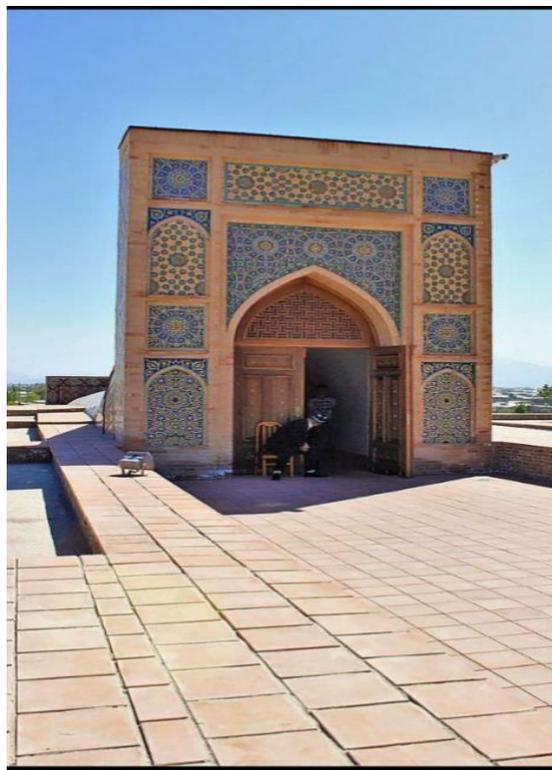
*Sa‘dullayeva Nigora Bahrom qizi<sup>1</sup>*

*Saidova Nozima<sup>2</sup>*

*Narzullayeva Sevinch<sup>3</sup>*

**Annotatsiya:** Ushbu maqolada Ulug‘bek rasadxonasining tarixiy ahamiyati, Rasadxonaning rekonstruksiya qilinishi hamda rekonstruksiyasiga qatnashgan rekonstruktor va restovratorlarning faoliyati bo‘yicha ma‘lumotlar keltirilgan.

**Kalit so‘zlar:** Ulug‘bek rasadxonasi, rasadxona arxitekturasi, Ulug‘bek farmoyishi, ravoq, peshtoq, tarixiy yodgorlik, madaniy meros obyekti.



**Mirzo Ulug‘bek rasadxonasi.**

**Ulug‘bek Rasadxonasi** - Samarqanddagi XV asr me‘morchiligining nodir namunalaridan biri, ko‘hna astronomik kuzatuv muassasasi. 1420-yillarda temuriylar davri astronomi Ulug‘bek tomonidan barpo etilgan. Rasadxona 1449-yilda vayron qilingan va 1908-yilda qayta kashf etilgan. Rasadxona bunyodkori Muhammad Tarag‘ay Ulug‘bekning nevarasidir. Ilmiy izlanishlar olib boriladigan imoratlar tarkibiga rasadxonalar, dor ul funun, dor ul hikma, kutubxonalar kirib, ular asosan ark – qal‘alar tarkibidagi saroylar, yoki shahriston, hududida rasadxona uchun esa osmon jismlari yaxshi

<sup>1</sup> Samarqand Davlat Arxitektura Qurilish Unversiteti - “Ma‘daniy meros ob‘ektlarini asrash” kafedrası o‘qituvchisi nigorasadullayeva21@gmail.com

<sup>2</sup> Samarqand Davlat Arxitektura Qurilish Unversiteti talabasi

<sup>3</sup> Samarqand Davlat Arxitektura Qurilish Unversiteti talabasi



ko‘rinadigan baland va mustahkam joy tanlangani hammamizga ma‘lum. Rasadxona bir necha qavatdan iborat aylana shaklidagi imorat bo‘lsa, dor ul- funun va dor ul- hikmalar bir yoki ikki qavatlik qilib qurilgan. Rasadxonaning ilmiy dasturi kamida 30 yilga mo‘ljallangan. Davlat ishlari Ulug‘bekning rasadxonada uzoq vaqt faoliyat olib borishga imkon bermadi. Rasadxonaga 60 dan ortiq matematik va astronom taklif qilingan. Rasadxona tashkil etilgandan keyin unga o‘n yil davomida Jamshid al-Koshiy rahbarlik qilgan. Uning vafotidan keyin bu lavozimni yetmish yoshli Qozizoda Rumiyy egalladi. Ammo oradan olti oy o‘tib, 1436-yilda Rumiyy ham vafot etadi. Shundan so‘ng rasadxona boshqaruvi Ali Qushchi qo‘liga o‘tadi. Rasadxona binosi Ulug‘bek vafotidan so‘ng, uzoq yillar qad rostlab turgan, astronomik tadqiqotlar Samarqandda yana 75 yil davom etgan. XVI asr oxirida Samarqand aholisi rasadxona g‘ishtlarini ko‘chirib olganlar. Rasadxona Mirzo Ulug‘bek farmoyishi bilan 1424-1429 yillarda bunyod qilingan. Rasadxona doira shaklida, diametric 46,40 m, balandligi 30.9 m, uch qavatli bo‘lgan.

Ilmiy ishlar jarayonida sekstant, gorizontaal doira, azimutal kvadrant kabi asboblardan foydalanilgan. Astronomiya kuzatuvlar natijasida Ulug‘bek “Ziji Jadidi Ko‘ragoniy” asarini yaratdi. Tarixiy manbalar asosida rasadxona XVI asr oxiri-XVII asr boshlariga kelib buzib tashlangan deb xulosa chiqarish mumkin. Rasadxona xarobalari Arxeolog V.L. Vyatkin tomonidan 1908-yilda topilgan.



### **Ulug‘bek rasadxonasining restavratsiya jarayoni.**

Rasadxona uch qavatdan iborat bo‘lib, birinchi qavatda xodimlar yashagan. Barcha kuzatuvlarni ko‘zdan kechirish ikkinchi va uchinchi qavatlardan olib borilgan. Rasadxonaning tomi tekis bo‘lib, asboblarni binoning tomi ustida ham ishlatish mumkin edi. So‘nggi yillarda rasadxonaning kirish qismi bir necha bor o‘zgartirilgan.





2008-yildagi holati.



2012-yildagi holati.

**Arxitekturasi:** Ulug‘bek rasadxonasi me‘morchiligi o‘sha davrda qurilgan boshqa binolardan farq qilgan. Ulug‘bek unga yordam beradigan mohir me‘morga muhtoj bo‘lib, Qozizoda



Rumiy bilan maslahatlashib, undan tajribali va mohir me'mor topishni so'raydi. Mirzo Ulug'bekning "Zij" asari Yevropaga tarqalishi bilan uning rasadxonasiga bo'lgan qiziqish ham ortdi. Samarqandni ko'zdan kechirgan sayyohlar rasadxona o'rnini topishga harakat qilganlar. Rasadxonaning bosh asbobi Faxriy yoyi xususida 2 xil fikr mavjud. Ko'pchilik uni sekstant ya'ni aylananing oltidan bir qismi 60\* li yoy tarzida bo'lgan deb hisoblasa, ba'zi bir tadqiqotchilar bino balandligidan kelib chiqib, uni kvadrant, ya'ni 90\* yoy shaklida bo'lgan deb hisoblaydi. Rasadxonada o'ndan ortiq turli astronomik qurilma va asboblari bo'lgan. Ulardan eng aosiysi radiusi 40,2 m li qo'shaloq yoydan iborat kvadrant (yoki sekstantga yaqin) qurilma hisoblanadi. Kvadrantning jami qismi yer ostida, qolgan qismi shimoliy tomonda yer sathidan 30 m cha balandda joylashgan. Asbob aylanasida bir gradus yoy 11,53 mm ga to'g'ri keladi. Rasadxona o'rta asrlarda asbob uskunasi jihatdan ham beqiyos bo'lgan. Asbob astronomiyaning asosiy doimiyliklari ekvator va ekliptika orasidagi burchakni o'lchash, yillik pretsessiya doimiysini, tropik yil davomiylig-larini aniqlashga imkon bergan. Rasadxonada kichik o'lchamli asboblari: armillyar sfera, 2, 4 va 7 halqadan iborat o'lchov asboblari, triangula, quyosh hamda yulduz soatlari, usturlob va boshqalar bo'lgan. Rasadxona kutubxona ham bo'lgan. Ichki devorda osmon tasviri, yulduzlar xaritasi, tog', dengiz; mamlakatlar belgilangan yer shari tasviri ishlangan. 1964-yilda Ulug'bek rasadxonasi yonida Ulug'bek muzeyi ochilgan.



Ulug'bek rasadxonasining ichki ko'rinishi.

#### Foydalangan adabiyotlar ro'yxati:

1. Marjona, K., & Nigora, S. (2023). BASIC PRINCIPLES ADAPTATION OF ARCHITECTURAL MONUMENTS OF UZBEKISTAN. *Science and Innovation*, 2(11), 68-70.
2. Nigora, S. (2023). STUDY AND SCIENTIFIC ANALYSIS OF CONSTRUCTIVE SOLUTION OF ARCHITECTURAL ELEMENTS USED IN CULTURAL HERITAGE OBJECTS IN UZBEKISTAN. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 602-605.
3. Nigora, S., & Marjona, K. (2023). OZBEKISTON HUDUDIDAGI MADANIY MEROS OBYEKTLARIDA QOLLANILGAN ARHITEKTURAVIY ELEMENTI: SHARAF VA MUQARNASNING QOLLANILISH VA YASALISH BOSQICHLARI. *Miasto Przyszłości*, 42, 128-132.



4. Nayimovna, F. N., & Nigora, S. (2023). Researching Ways to Reconstruct the Areas of Historical Objects of Old Cities in Uzbekistan. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 2(2), 95-98.
5. Salimov, O. M., Gayratovna, I. D., & Nigora, S. (2022). Use of Local Building Materials in the Natural Climate of Central Asia. *Texas Journal of Engineering and Technology*, 8, 129-130.
6. Gayratovna, I. D., & Nigora, S. (2022). USE OF LOCAL RAW MATERIALS IN THE REPAIR OF PATTERNS AND DECORATIONS OF CENTRAL ASIAN ARCHITECTURAL MONUMENTS. *Galaxy International Interdisciplinary Research Journal*, 10(2), 679-683.
7. Ruxshona, A., & Muxlisa, N. (2024). RECONSTRUCTION AND RESTORATION WORK CARRIED OUT AT THE IMAM AL-BUKHARI COMPLEX. *Excellencia: International Multi-disciplinary Journal of Education (2994-9521)*, 2(4), 89-97.
8. Azizbek, T., & Damirjon, A. (2024). Ancient Monument in our Country "Ishratxona". *Best Journal of Innovation in Science, Research and Development*, 3(3), 994-999.
9. Sa'dullayeva Nigora, X. S. (2024). Stages of Formation and Application of "Gothic" Architectural Style. *Best Journal of Innovation in Science, Research and Development*, 3(2), 1004-1008.
10. Qaxramonovich, A. K. (2024). XONBANDI TO'G'ONI. *Miasto Przyszłości*, 45, 606-611.
11. Oybekovna, I. S. QASHQADARYO VILOYATI KO'K GUMBAZ MASJIDI.
12. Dilrabo, K. (2023). PROBLEMS IN THE RECONSTRUCTION OF DECOR ELEMENTS OF ARCHITECTURAL MONUMENTS OF UZBEKISTAN. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 633-637.
13. Jurayeva, E., & Kholdorova, D. (2023). Amir Temur And The Architectural Decorations Of The Timurid Era Of Central Asia And Their Characteristics. *American Journal of Engineering, Mechanics and Architecture (2993-2637)*, 1(9), 121-125.
14. Jurayeva, E., & Kholdorova, D. (2023). ESTABLISHING AN EXEMPLARY CULTURAL AND RECREATION PARK COMPLEX. *FAN, TA'LIM, MADANIYAT VA INNOVATSIYA JURNALI | JOURNAL OF SCIENCE, EDUCATION, CULTURE AND INNOVATION*, 2(11), 50-54.
15. Yuldasheva, M. K., & Kamilova, M. E. (2023). ANALYSIS OF FOREIGN AND DOMESTIC EXPERIENCE IN DESIGNING HISTORICAL LOW-RISE RESIDENTIAL BUILDINGS. *Galaxy International Interdisciplinary Research Journal*, 11(3), 147-152.
16. Ulugbek, T., & Marjona, K. (2024). Revitalizing Old Facades: Innovations in Facade System Installation and Preservation. *Indonesian Journal of Innovation Studies*, 25(1), 10-21070.
17. Marjona, K., & Iroda, S. I. (2023). THE ESSENCE OF THE IMAM AL-BUKHARI COMPLEX IN OUR CULTURAL HERITAGE AND ITS SIGNIFICANCE TODAY. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 662-665.
18. Тошев, И. И., & Ураков, О. Х. (2017). Трёхмерная графика. Журнал "Интернаука", (3 (7)), 25.
19. Жураев, Т. Х., Хамраев, Н. Ш., Ураков, О. Х., Абдуманнонов, М., & Саидова, Г. К. (2020). РЕШЕНИЕ КРАЕВОЙ ЗАДАЧИ ПОСТРОЕНИЯ ПЛОСКИХ СОПРЯЖЕНИЙ ГЕОМЕТРИЧЕСКИМ МОДЕЛИРОВАНИЕМ ДЛЯ НАПРАВЛЯЮЩИХ ПОВЕРХНОСТЕЙ РАБОЧИХ ОРГАНОВ. In *Эффективность применения инновационных технологий и техники в сельском и водном хозяйстве* (pp. 346-348).
20. Тошев, И. И., & Ураков, О. Х. (2017). Резьба по дереву в Узбекистане. *Интернаука*, (2-1), 11-13.



21. Khayitboevich, U. O., & Gulnoza, U. (2023). THE HISTORY OF CERAMIC DECORATIONS APPLIED TO CULTURAL HERITAGE OBJECTS. *American Journal of Engineering, Mechanics and Architecture* (2993-2637), 1(10), 210-215.
22. Khayitboyevich, U. O., & Dilshoda, B. (2023). ENGINEERING CONSERVATION OF CULTURAL HERITAGE OBJECTS. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 517-520.
23. Xayitboyevich, U. O. (2023). NUROTA VOHASINING TURAR JOYLARNING KOMPOZITSION VA REJAVIY-TARXIY YECHIMI. *JOURNAL OF ENGINEERING, MECHANICS AND MODERN ARCHITECTURE*, 171-174.
24. Khayitboevich, U. O. (2023). Repair Works Carried Out In The Architectural Monuments Of The City Of Nurota. *CENTRAL ASIAN JOURNAL OF ARTS AND DESIGN*, 4(11), 56-61.
25. Khaitboevich, U. O. (2021). Ancient nurata karizs. *ACADEMICIA: An International Multidisciplinary Research Journal*, 11(8), 115-120.
26. Жураев, Т. Х., Волошинов, Д. В., & Ураков, О. Х. (2020). ИСПОЛЬЗОВАНИЕ ВОЗМОЖНОСТЕЙ ЛАБОРАТОРИИ ГЕОМЕТРИЧЕСКОГО МОДЕЛИРОВАНИЯ В РАЗРАБОТКЕ РАБОЧИХ ОРГАНОВ СЕЛЬСКОХОЗЯЙСТВЕННОЙ ТЕХНИКИ. In *Эффективность применения инновационных технологий и техники в сельском и водном хозяйстве* (pp. 95-97).
27. Berdiyev, M. X., Jumaqulov, F. U., & Jalilov, Z. F. O. (2023, June). ИШЛАБ ЧИҚАРИШ ФАОЛИЯТИ АСОСИДА САНОАТ ЗОНАЛАРИНИ МОДЕЛЛАШТИРИШ. In *International Conference on Multidimensional Research and Innovative Technological Analyses* (pp. 186-188).
28. UZOKOVICH, D. F. (2022). Features of Central Asian square-shaped building construction. "Development of Science and Technology: A Mechanism for Selecting and Implementing Priorities", 24-28.
29. Fozil Uzokovich, D. (2023). Finding a New Method of Geometric Harmonization Based on the Scientific Results of Scientists.
30. Abduazizovich, R. L. The Mausoleum of Humayun. *International Journal of Scientific and Technology Research*, 5, 7.
31. Abduazizovich, R. L. Babur's Creativity From Central Asia To India.
32. Abduazizovich, R. L., & Kilichevich, L. D. (2022, November). DEVELOPMENT OF ISLAMIC ARCHITECTURE AND ITS IMPACT ON INDIAN ARCHITECTURE. In *INTERDISCIPLINE INNOVATION AND SCIENTIFIC RESEARCH CONFERENCE* (Vol. 1, No. 3, pp. 1-5).
33. Abduazizovich, R. L. (2022). ANALYZING THE TOMB OF BABUR IN KABUL. *American Journal of Applied Science and Technology*, 2(11), 01-05.
34. Rahimov Laziz Abduazizovich PhD, & Uralov Axtam Sindarovich. (2023). BABUR - THE PRINCE OF GARDENS. *Proceedings of International Conference on Educational Discoveries and Humanities*, 2(10), 1-8. Retrieved from
35. Abduazizovich, R. L. (2022). ANALYSIS OF HUMAYUN'S QILA-I-KUHNA MOSQUE. *European International Journal of Multidisciplinary Research and Management Studies*, 2(10), 269-275.
36. Abduazizovich, R. L. (2021). Din-panah The City Of Humayun. *European Scholar Journal*, 2(10), 52-54.
37. Rahimov, L. A. (2018). MOSQUES OF BABUR. In *Сборник конференций* (pp. 202-206).
38. Abduazizovich, R. L. (2021). THE ROLE OF BABUR IN ARCHITECTURE IN INDIA AND THE PRINCIPLES OF THE DEVELOPMENT OF THE ARCHITECTURE OF THE BABURIDS. *World Bulletin of Social Sciences*, 3(10), 1-3.

