

Ali Negin and the Negin Mathematics Village

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Ali Negin, Leelavati Prize 2018

Citation

Ali Nesin has been awarded with the Leelavati Prize 2018 in recognition of his outstanding contributions and great achievements towards increasing public awareness of mathematics in Turkey, especially because of his tireless work in creating and developing the “Mathematics Village” as an exceptional, peaceful place for education, research and the exploration of mathematics for a wide range of people.

Short Scientific CV (Research)

Hüseyin Ali Nesin

1957 born in Istanbul, Turkish citizen

1977 - 1981: study of mathematics at University Paris VII in France

1985: PhD at Yale University

1985 - 1991: Positions at Universities at Berkeley, Notre Dame and Irvine

1991 - 1996: Associate Professor at University of California at Irvine

1996 - today: Professor, Chair of Math Department at Bilgi University Istanbul

Research Area: Mathematical Logic (Model Theory) and Algebra (Group Theory)

Return to Turkey

- Ali Nesin's career took a significant turn on the death of his father, Aziz Nesin, a legendary Turkish writer of over 100 humorous and satirical books, in 1995.
- Nesin gave up an academic career in the US and returned to Turkey, to ensure the continuation of the charitable Nesin foundation, established by his father from the earnings of the rights in his published works.
- He changed his life in order to realize his vision: the enhancement of understanding of mathematics among the youth as an essential force for the economic, social, and cultural development of his country.



Ali Nesin working with elementary school students

Nesin's Outreach Program

- He **founded, staffed, and chaired the Department of Mathematics** at the newly established Bilgi university in Istanbul.
 - He was Editor in Chief (2003 - 2013) of **Matematik Dünyası** ("The World of Mathematics"), a wide-ranging monthly magazine for the popularisation of mathematics. On e.g. foundations of mathematics, theory of limits, derivative, graph theory, group theory, and p-adic numbers (each issue sold ~ 20.000).
 - **Own publishing house**, publishing popular mathematical texts, including nine of his own works as well as curriculum texts from the Mathematics Village.
 - He prepared **Open source courseware** material in Turkish available on-line via Turkish Mathematical Society.
 - He is the author of many **popular mathematical articles** in Turkish in periodicals aimed at a national audience.
 - He **developed and taught a supplementary mathematical instruction program** for undergraduates outside the regular school term. It was designed to bring the students quickly to a competitive international level; nucleus for Math Village.
 - **Approx. 7000 videos have been posted to YouTube**, relating to the activities of the Mathematics Village, e.g. lectures by Ali Nesin to students participating in the Mathematics Village. In total several million views.
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- In 2010 he received a prize from the Turkish Mathematical Society for expository excellence for his open source courseware.
 - He received further prizes for his textbooks.

The Mathematics Village



Mathematics Village, south of Izmir near the village of Sirince

It is fully devoted to the enhancement of understanding of mathematics of gifted students at all levels in the inspiring environment and stimulating atmosphere of a summer camp.

What makes the work of Nesin unique and goes beyond all envisaged activities for the Leelavati Prize, is his creation, organization and development of the Nesin Mathematics Village.

Construction of the Village

The supplementary mathematical instruction program for undergraduates needed a permanent place.

In 2007 Ali Nesin, together with the self-educated architect (also a prominent Turkish linguist) Sevan Nisanyan, started the construction of the Village.



The Sevan Nisanyan Library, today

Many practical and architectural challenges to transform the site into an inspiring environment in the spirit of a new way of conveying mathematical understanding.

The bureaucratic and political difficulties to create the Village were, however, even greater.

Bureaucratic difficulties

- The authorities refused official building permit on flimsy grounds: „because the land has no officially registered street”.
- Ali tried very hard to register the already existing path into an official street spending a lot of money, but he failed. The building permit was never denied, but it was also not granted.
- After some time, he gave up the idea of getting the permission to build and started the construction.
- He was accused of having founded an illegal educational institution and „teaching without permission“ contrary to freedom of teaching of sciences guaranteed by Turkish constitution.
- The Mathematics Village is not an educational institution. Young people come there only for a week or two. There are no exams or grades, no diplomas or transcripts of any kind are issued.
- Nevertheless, the Mathematics Village was raided by Gendarmes and sealed. Fortunately the case was dropped and Ali was saved from prison, and the Village was reopened.
- Part of the resistance to the Mathematics Village stemmed from the antipathy to the name Nesin: Ali's father was a well-known leftist and an avowed atheist, very controversial in the religious-conservative part of Turkish society.
- In 2014, Sevan Nisanyan (also a prominent atheist) was imprisoned on politically motivated made-up charges. He fled the prison in 2017 and lives now in Greece.
- Ali just promotes sharing and learning of mathematics, all his actions are non-ideological. But the difficulties still continue!

Support for the Village

Ali received support from his colleagues and students not only within Turkey but within the international community.

Lectures were given initially in the so-called “Langlands Shed,” named in honor of Robert Langlands, who donated a significant portion of his Shaw Prize (and recently of his Abel Prize).



The Langlands Shed, 2007

The continuing support of the international mathematics community in giving advanced lectures on a voluntary basis played an important role in the success of the project.

The operation of the Mathematics Village is now self-sustaining, with public donations used only for the purpose of expansion and development.

Developing the Village

- In the first year only about 100 students participated in the summer program at the undergraduate and graduate level (taught by Ali and a few enthusiastic mathematicians).
- The building complex expanded and more and more students could be admitted. Turkish graduate students also volunteered to give courses. Moreover, the Village has become an important venue for international conferences.
- In addition to university students, high school children from the age of fourteen were also admitted to the two-week camps during summer holidays. The fees for the high school program are \$25 per day, reduced or waived whenever there are financial difficulties.



Ali's enthusiasm during open-air lectures is contagious

- The project enjoyed such a good reputation that it was considered an honor to be admitted. Many of the lectures are now viewable as videos on YouTube.
- While normal high school education in Turkey is focused on university admission, with typical memorizing, the focus in the Mathematics Village is on communicating, understanding and independent thinking.

Teaching and Learning



Lectures in the Village

- The two-week cycles begin and end on Sundays with the departure and arrival of hundreds of students.
- The university level courses are organized according to topics. The range of subjects is large: Lie algebras, Fourier analysis, measure theory, representation theory of groups.
- But also interdisciplinary topics between mathematics, philosophy, physics and computer science. E.g. in 2018 a High School Philosophy Summer School and an International Aegean School of Human Rights.
- All teaching in the Village is voluntary and unpaid, in return the accommodation and meals for the lecturers are free. Most of the courses are in Turkish, but some are also in English.
- The Village attracts the best Turkish teachers and promoters of mathematics, as well as mathematicians from all over the world. Many lecturers are former students of previous Summer Programs in the Village.

A few numbers

- The Village comprises now more than 35.000 square meters, approximately half of it consists of olive groves.
- The complex of buildings consists at the moment of
 - 16 bedrooms, 2 amphitheatres, 4 closed and 4 open-air lecture halls,
 - 2 Turkish baths, 29 single or double rooms, a fully functional kitchen,
 - a cafeteria, a small shop and a wonderful two-story library.



Library conference hall



Joint dining area

- The Village has the capacity to accommodate 150 people, with the option of pitching tents if more capacity is needed. Sometimes the place is overflowed with about 400 students.
- In 2017 there were 10.379 visits by children at the age 13 or older as part of organized groups.

Basic Principles

- In 2014 Ali Nesin had expressed his ideas to expand the Mathematics Village by constructing adjacent Philosophy and Art Villages with the words: **“The whole valley should be dedicated to education, not a standard one but a ‘pirate’ one”**.
- This idea has been put into action. An independent Theatre School has been established on an adjacent site, also with the assistance of Sevan Nisanyan.
- The Nesin Mathematics Village is now a cultural magnet, and even a tourist attraction.
- The governing aim is: access to knowledge, education, and freedom, based on the principles of **safety — independence — responsibility**.
- Quoting Ali: **“It is not possible to have a proper education in an environment without freedom. You can give an average education in an environment with restricted freedom, but not a proper one.”**



Sign my math book please!

Conclusion



Lecture in an open-air theater

According to the statutes of the Leelavati Prize, the prize is awarded to a person

“in recognition of outstanding contributions for increasing public awareness of mathematics as an intellectual discipline and the crucial role it plays in diverse human endeavors.”

It is hard to imagine that someone else has earned this award more than Ali Nesin.