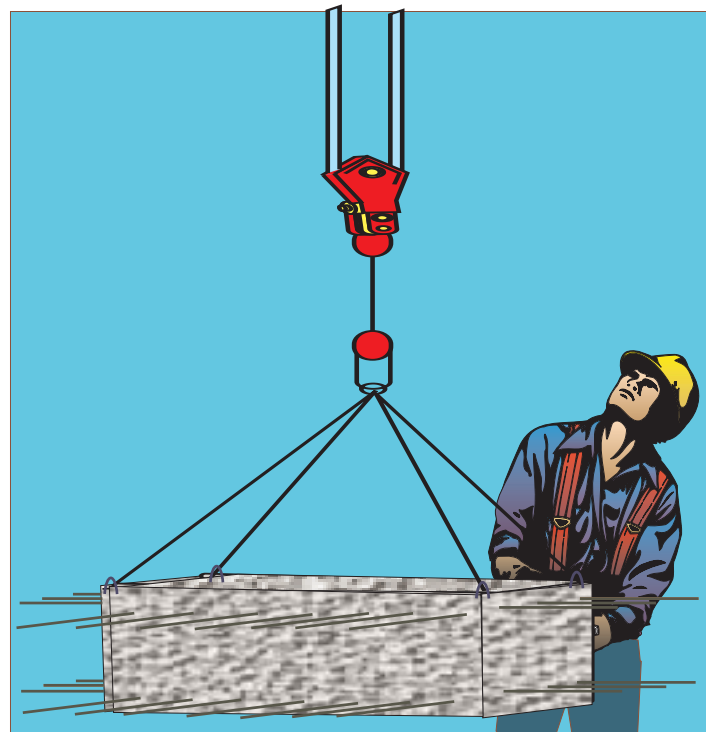# Milutin Milankovic

## 1879 - 1958

For everyone interested in glaciation and climate change, the name of Milutin Milankovic and his astronomical theory is inescapable.
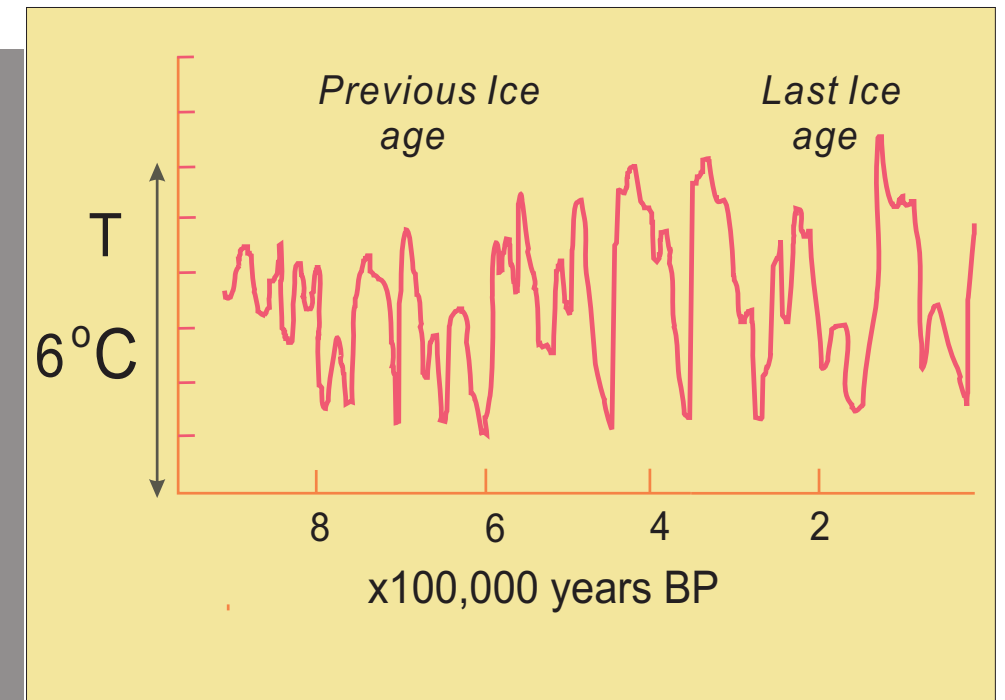
Milankovic was born in Dalj, (in those days part of Austria-Hungary, and today part of Croatia), into an upper middle class Serbian family. Private professors at his home took care of his primary education, and from 1889 to 1896 he finished his secondary education, at a high school in Osijek, as the best student of the class. In the same year, 1896, Milankovic enrolled at the Technical School in Vienna, with a major in Civil Engineering, and finished the university in 1902. Two years later he also earned his Ph.D. in the technical sciences. His career developed with his work in building companies, constructing water systems, and buildings on Austro-Hungarian land.

**In 1905 Milankovic patented a new design for a concrete roof and worked on the theory of reinforced concrete**, a very modern material in those days. All in all he became famous as an engineer.

On the invitation of the Ministry of Education of the Serbian Kingdom in 1909, Milankovic abandoned his career and success in Austria-Hungary, and took the position of professor in the Faculty of Philosophy in Belgrade. There he taught celestial mechanics, theoretical physics, and history of astronomy, for a ten times smaller salary. In this new environment, Milankovic decided to change the field of his scientific interest, and, continuing the studies of Adhemar and Croll, he began to work on the astronomical theory of climate change.



*He explained global temperature change*



*He worked on the theory of reinforced concrete*

World War I interrupted his work in this new field (where he already had a couple of publications), when, during a visit to his home town Dalj, he was captured. Thanks to his good relations with some important people in Austria-Hungary, he succeeded in spending his prison years in the library of the Hungarian Academy of Science in Budapest. There, Milankovic worked on his theory of the climate of Earth, Mars, and Venus. All the results were published after the war, in 1920, in his book *Mathematical theory of the warming effects caused by solar radiation.* Milankovic's goal was: to calculate the flux of solar radiation for different geographical latitudes, starting with the laws of celestial mechanics, taking into account the perturbation of the Moon, and the planets. The result of his calculations is an oscillatory function, with several dominant periods. Milancovic's curve was in good agreement with the geological data, which gave scientific popularity to the theory. As a climax of his work, in the year 1941, he published his book *Canon of the Earth's insolation and its application to the Ice Age problem.*

Beside his professorial duties, Milankovic was chief of the Belgrade Astronomical Observatory, and President of the Yugoslav Astronomical Society. Milutin Milankovic died in Belgrade in 1958.

M.M.