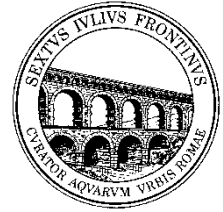


Frontinus-Gesellschaft e.V.

Internationale Gesellschaft für die Geschichte
der Wasser-, Energie- und Rohrleitungstechnik



Cordial Invitation
to the Online Lecture (ZOOM) on 09.10.2025, 6:00 pm (CET)

Richard OLSSON (SWE)
The Missing Lead Pipes in the Streets of Pompeii
(Lecture in English)

Richard Olsson is a Doctor Candidate at the Department of Archaeology and Ancient History at Lund University. He got his Licentiate Degree on a dissertation on *The water-supply system in Roman Pompeii*. He is a retired business manager with a Master of Science in Electrical Engineering, a Master of Business Administration and has studied the Senior Managers Programme at Harvard Business School.

Richard Olsson about his lecture:

It is generally agreed among scholars that aqueduct water was distributed in lead pipes to all public and private users in the city. It is also well-known that only a few lead pipe fragments have been found in the streets in archaeological excavations. Lead pipes in the streets of Pompeii are missing.

Almost 3000 m of lead pipes were installed in the first phase to create interconnections from the distribution building to top containers. Another about 5000 m of lead pipes were laid in the pavements of the streets to connect public and private water users to the top containers.

Lead pipes when found in the streets were generally removed. The absence of lead pipes in the streets of Pompeii creates a need to complement archaeological evidence with hydraulic engineering analysis to be able to understand and explain the water distribution system in the city.

First the route of the water system was investigated based on the water levels in the top containers and on the technical principle for gravity flow. These levels have not been discussed before. The water distribution system was working based on the principle that water could flow from a top container of a water tower to the next provided that this was located at a lower level. The levels of the summit of the top containers of the water towers were determined enabling a new interpretation of the routes of the main water pipelines to be presented. The size and orientation of the grooves in the water towers were also investigated and three not yet excavated but possible water towers were indicated.

Then it was discussed how balance in the system could have been achieved, that is when the sum of all outgoing flows from a top container are equal to the supplied incoming flow. The interplay between water flow and pipe dimension has not been discussed before. The balance was achieved in the system using smaller and smaller dimensions of the main water pipelines down the system. The investigation had to be made on a hypothetical level because so few facts on lead water pipes were available. The large pipe fragment found in the pavement close to water tower no. 1 has been the starting-point. All water quantities in every part of the three main water pipelines have been calculated based on possible dimensions of the water pipes.

Finally the ability to supply water to all water users was shown but only if the pipe dimensions were small enough. Larger pipes would have emptied the system.

The access data for the online meeting (ZOOM) are as follows:

<https://us02web.zoom.us/j/87933930044?pwd=dlk4REZ4S0NnL3k2RGN2TVdtZTdTd3Zz09>

Meeting-ID: 879 3393 0044, Kenncode: 631844

Prof. Dr.-Ing. Hans Mehlhorn
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Head of the Scientific Board of the Frontinus Society