

# COLLOQUIUM LECTURE

**MARCH 21**

Thursday at **17:00**, at Eötvös University,

**Prof. András SZÜCS**, Eötvös University:

**Soups and hedgehogs**

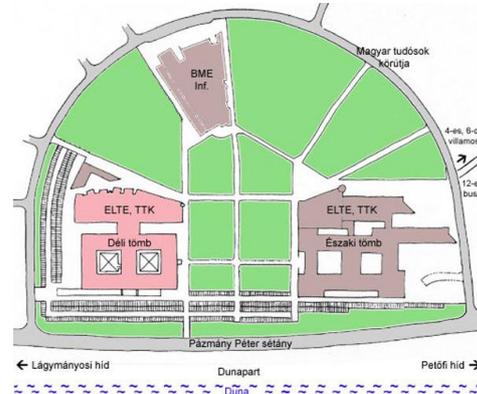
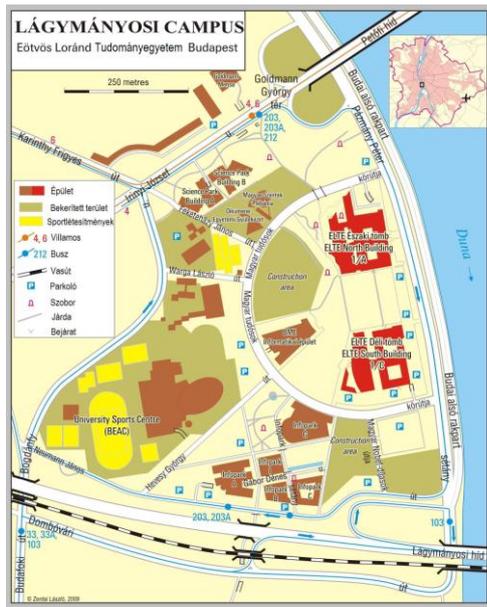
**Abstract:** "It is a mystery why mathematics is such an efficient tool in the hands of scientists in understanding the world" - wrote a Hungarian-American Nobel prize winner physicist, Eugene Wigner. Probably the clue to this mystery is that mathematical abstraction helps us to discover the same essence behind many, seemingly different phenomena. The talk will show examples demonstrating this statement:

1. "The soup cannot be mixed properly, i.e. there always will be a particle which returns to its original position.
2. "A hedgehog cannot be combed. In mathematical terms: there is no nowhere vanishing, continuous, tangent vector field on the 2-dimensional sphere.
3. "The Fundamental Theorem of Algebra, i.e. any polynomial (of degree at least 1 over the complex field) has a root.

It turns out that all these statements (and many more) can be proved using the same elementary notion, the so called rotation number of a (nonzero) vector field on the circle.

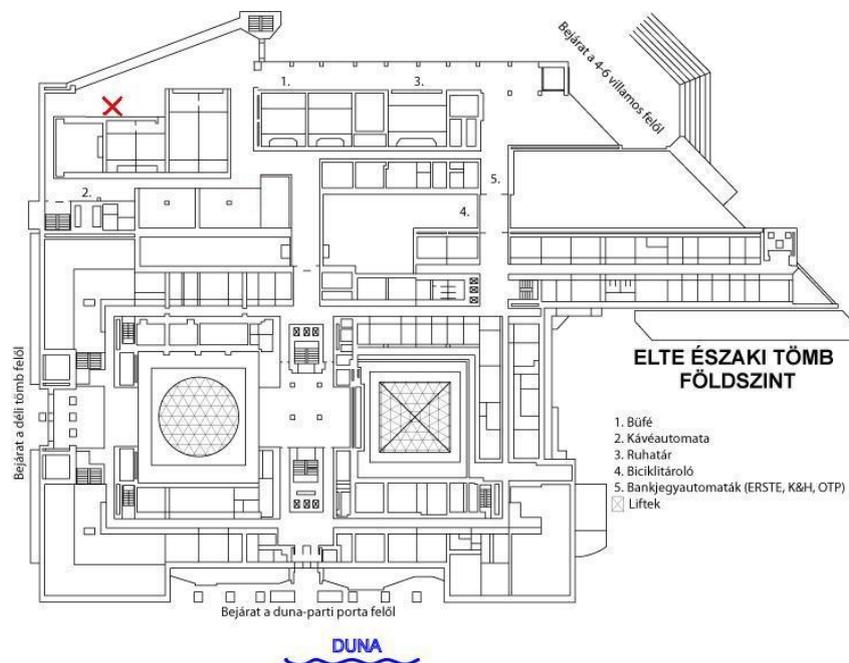
*Before the talk there will be chance to learn the English language MSc program of the Institute of Mathematics of Eotvos University and tea given as well*

**Venue:** Pázmány Péter sétány 1/A - north building,  
"Északi tömb" – Room 1.71



You find the Eötvös University campus by taking trams 4 or 6 southbound from Blaha Lujza, go with them across the Danube and leave the trams immediately on the Buda side. Walk along the Danube southbound until you reach the first of the two huge buildings of the Faculty of Sciences (North building)

### *How to find room 1.71 within the building?*



The room is on the first floor. On the plan of the building above the red cross shows the location of the room. You need to find an elevator (X) or staircase to go one floor up.