**Position: Programmer**

**Unit: MTA-ELTE Lendület Combinatorial Geometry (CoGe) Research Group**

**Place:** 1117 Budapest, Pázmány Péter sétány 1/C

**Main tasks and responsibilities:**

* The primary task of the trainee will be to write computer codes for problems in combinatorial geometry.

**Working hours: 20 hours/week**

**Requirements**:

* English A1
* Erasmus+ scholarship

**Advantage:**

* Degree in Mathematics or Informatics

**Skills and Competences:**

* Mathematical knowledge
* Programming skills
* Problem solving skills

**Knowledge**, **skills and competences to be acquired by the end of the traineeship (expected Learning Outcomes):**

* Team work
* Programming experience
* Mathematical research experience

**Deadline for application:** Continuous application

**Planned starting date:** By arrangement

**Planned closing date (end of the traineeship):** By arrangement

**Duration of the traineeship:** By arrangement

**Application:** CV and a short cover letter is requested to be sent to intern@dep.elte.hu

Subject line: **Programmer (MTA-ELTE Lendület Combinatorial Geometry (CoGe) Research Group)**

**About the organisation/unit:**

Coloring geometric hypergraphs is the main topic of our research, with several projects running currently with different students. An interesting recent result is that the Delaunay-graph defined by one pseudo-disk family on another pseudo-disk family is always planar. The other main topic of the group is to determine the chromatic number of the plane, known as the Hadwiger–Nelson problem. Related to this, we have improved the best bound for the number of unit distances from 8n^(4/3) to 2,1n^(4/3). We also proved results related to the intersection number of two polygons; areas of triangles determined by n lines; context-free languages; Berge–Ramsey problems; Gallai colorings of graphs.

**More information about the organization/unit:**

http://coge.elte.hu/