



## Exercise I

### 3D MODELING IN MAYA

*Visualization in Education: Creating Animations*

#### Preparation

Watch the tutorial video

#### **3D Modeling in Maya**

Online: <http://www.youtube.com/user/mitartemis>

Offline: 01\_Maya I\_modeling.mp4 (available from the instructor)

Review files

Beginner: if needed, use the files in folder Tutorial I for this exercise.

#### 3D modeling

##### BEGINNER

Follow the workflow in the tutorial video to create three arrows, two “points” (spheres), and a plane. Start by creating a new Maya project. Create, transform, and position a Cylinder at the origin. Then create a Cone and position it on top of the Cylinder. Group the two objects to define the “arrow” for the torque vector. Define a new Phong material, assign green color to it, and apply it to the arrow. Duplicate the arrow and rotate it. Change the color of the new arrow to blue. (You must create a new Phong material.) Duplicate the arrow again and reposition it for the force vector, then change its color to red. Create a black Sphere for point A, then a second one for point Q. Finally, create a partially transparent Plane. Save the scene and project.

##### INTERMEDIATE

Same as for beginner, but try creating the objects *after* watching the video tutorial. Refer only to the handout for the software options in Maya. Feel free to assign different colors to the objects, to resize them, and to create them in a different order. However, keep the workflow efficient by using duplicate objects where appropriate.

##### ADVANCED

Create your own 3D models and apply materials to them! You can work in other 3D authoring software, if you wish, e.g., 3DS Max.