

More on 3D scene

- Animation
- Interaction
- Complex shape modeling
- Complex material modeling
- More on lights
- More on cameras

# Animation

- Introducing time component
- Types:
  - Environment: phenomena and effects
  - Character: face and body animation
- Approaches:
  - Manual
  - Procedural
    - Phenomenological models
    - Physics simulation

# Animation tools

- Particles
- Meshs: deformation of vertices
  - Blending and morphing (RTR 4.4, 4.5)
- Voxels
- Splines
- Interpolation

# Manual animation

# Procedural animation

- Physics:
  - Fluid simulation
  - Static body and collision
  - Rigid body and collision
  - Kinematics and inverse kinematics
  - Cloth, hair

# Interaction

- HCI

# Complex shape modeling

- Alternative shape representations
- Procedural approaches (noise)
- Scanning, photogrammetry, measuring



# Complex material modeling

- Physically based scattering functions
- PBR textures

# More on lights

- Environment: sun and sky
- Area lights and shadow
- Light distributions

# More on cameras

- DOF and lenses
- Camera effects
- Motion blur
- exposure