



HAUPTSEMINAR CGV SS2016

KickOff-Meeting

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ORGANISATION

- Literaturrecherche zum State of the Art des gewählten Themengebiets
- Präsentation im Umfang von 20 Minuten + 10 Minuten Diskussion (Mitte/Ende Juni)
- Verfassen einer schriftlichen Arbeit im Umfang von 6-8 Seiten in dem vorgegebenen Template bis Ende Vorlesungszeit



THEMEN

Fabrication

Photo-Realistic Rendering

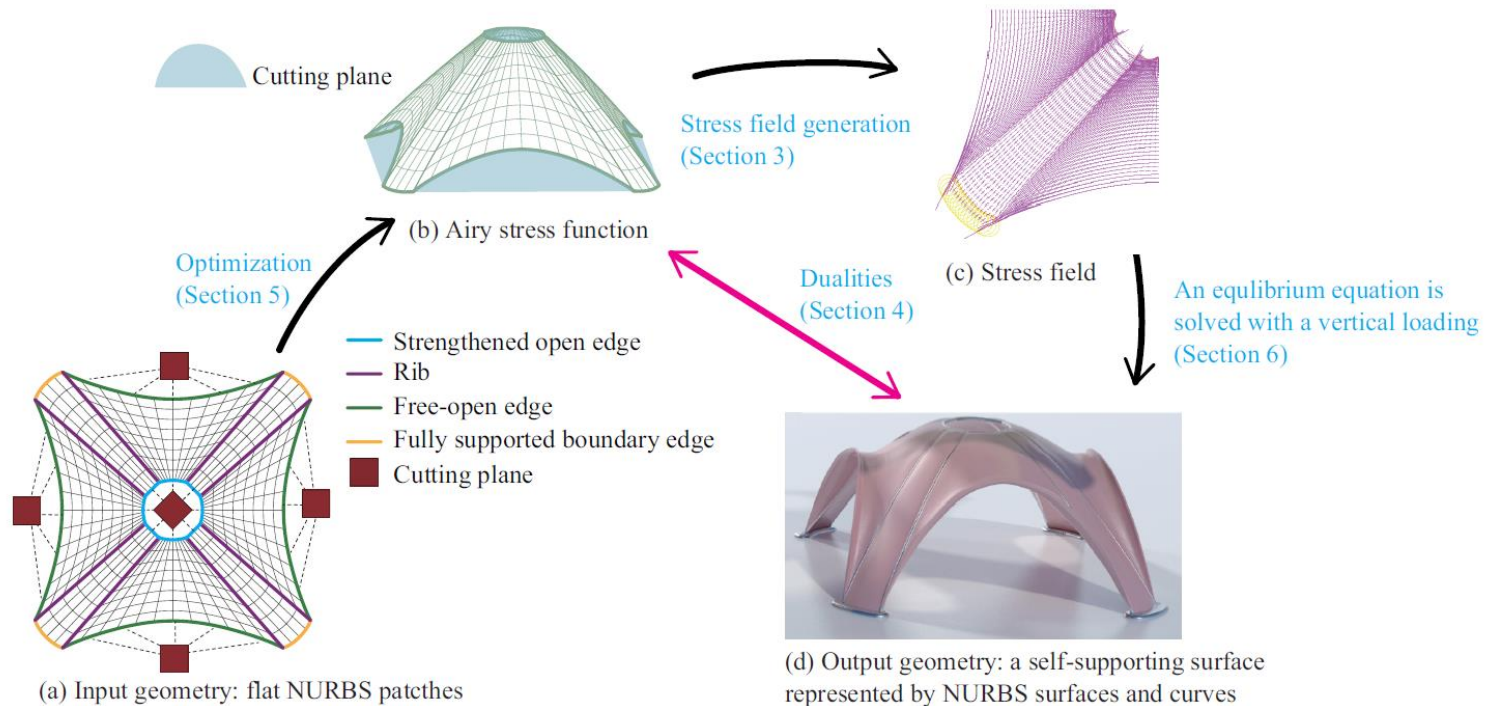
Animation

Shape Processing



SELF-SUPPORTING SURFACES

Parametric Self-Supporting Surfaces via Direct Computation of Airy Stress Functions, SIGGRAPH 2015





ARTISTIC FABRICATION

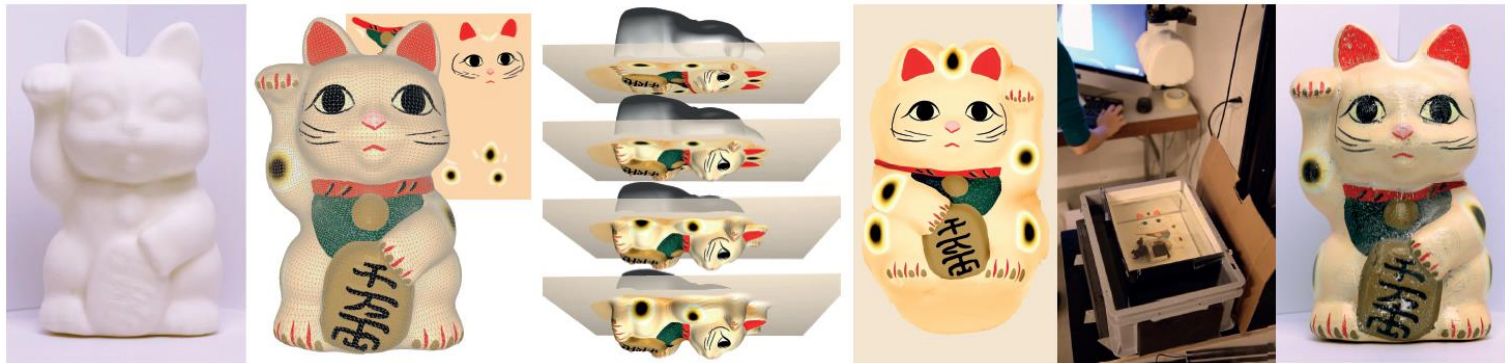
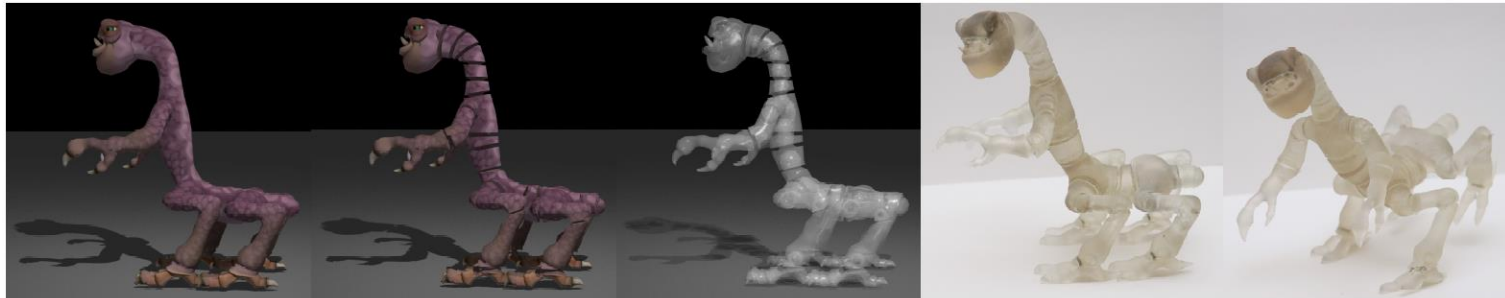
High-Contrast Computational Caustic Design, SIGGRAPH 2014





3D PRINTING

Fabricating Articulated Characters From Skinned Meshes, SIGGRAPH 2012
Texture Mapping Real-World Objects with Hydrographics, SGP 2015

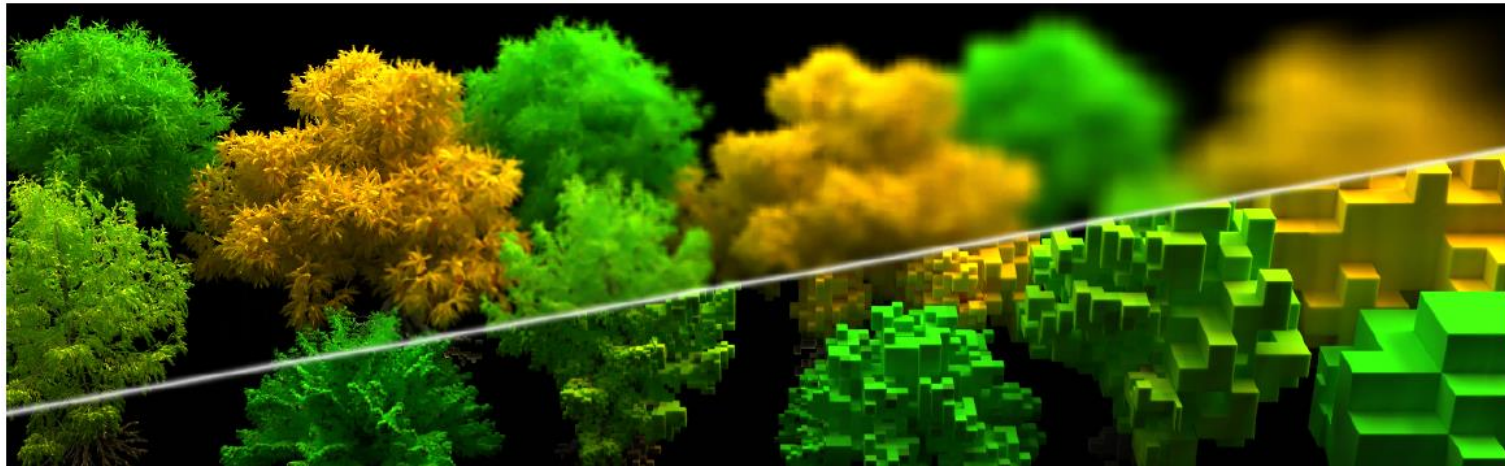




HIGH-DETAIL RENDERING

The SGGX Microflake Distribution, SIGGRAPH 2015

Multi-Scale Modeling and Rendering of Granular Materials, SIGGRAPH 2015



$f = 0.63$

85% 10% 5%

50 / 789 hrs (4.9e-6)

628 / 1736 hrs (4.8e-6)

Equal time

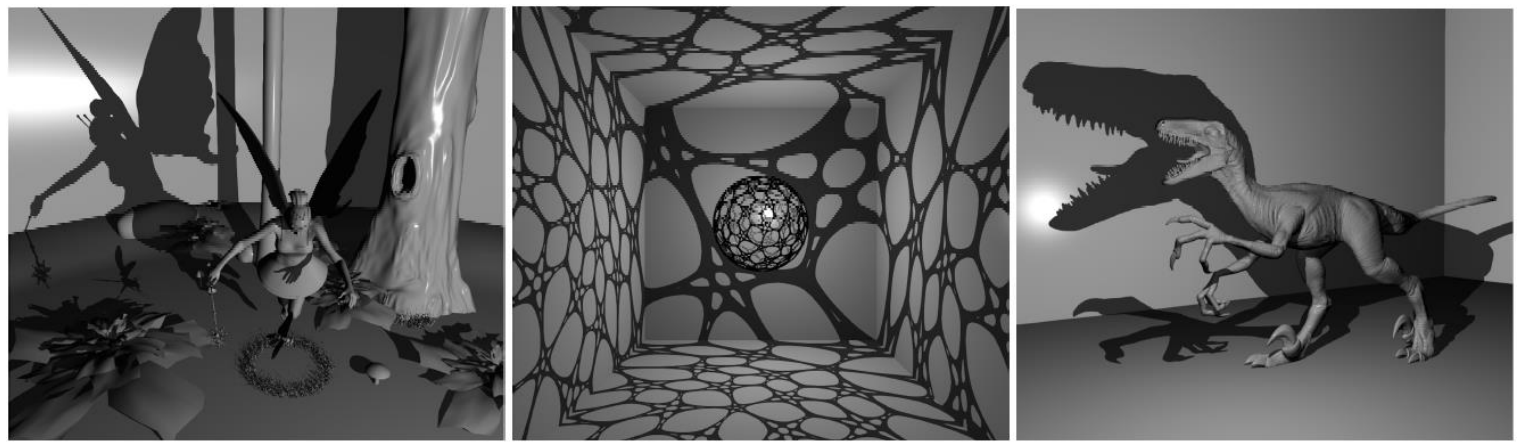
Equal variance

Method	Time (hrs)	EPT
Ours	28/77	(1.1e-4)
Ours	5/78	(4.8e-5)
EPT	56/155	(5.5e-5)



SHADOWS

Partitioned Shadow Volumes, SIGGRAPH 2015





FUR RENDERING

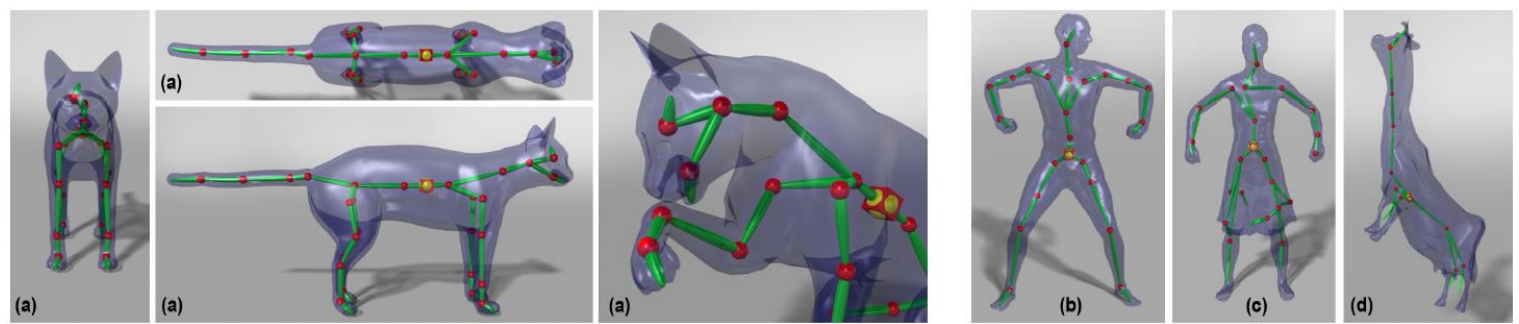
Physically Accurate Fur Reflectance: Modeling, Measurement and Rendering, SIGGRAPH Asia 2015





RIGGING

Robust and Accurate Skeletal Rigging from Mesh Sequences, SIGGRAPH 2014





A Reduced Model for Interactive Hairs, SIGGRAPH 2014





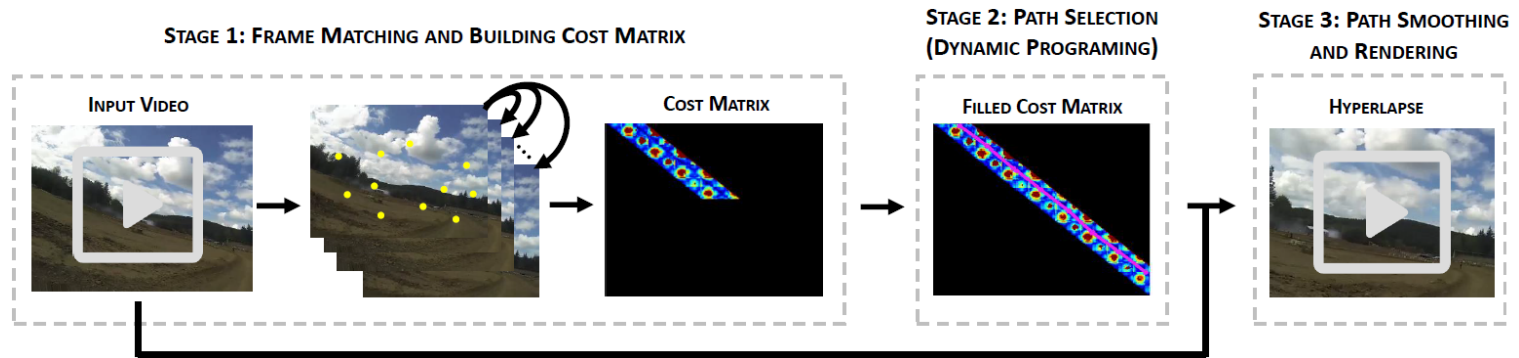
FACIAL ANIMATIONS

Dynamic 3D Avatar Creation from Hand-Held Video Input, SIGGRAPH 2015
Video-Audio Driven Real-Time Facial Animation, SIGGRAPH Asia 2015





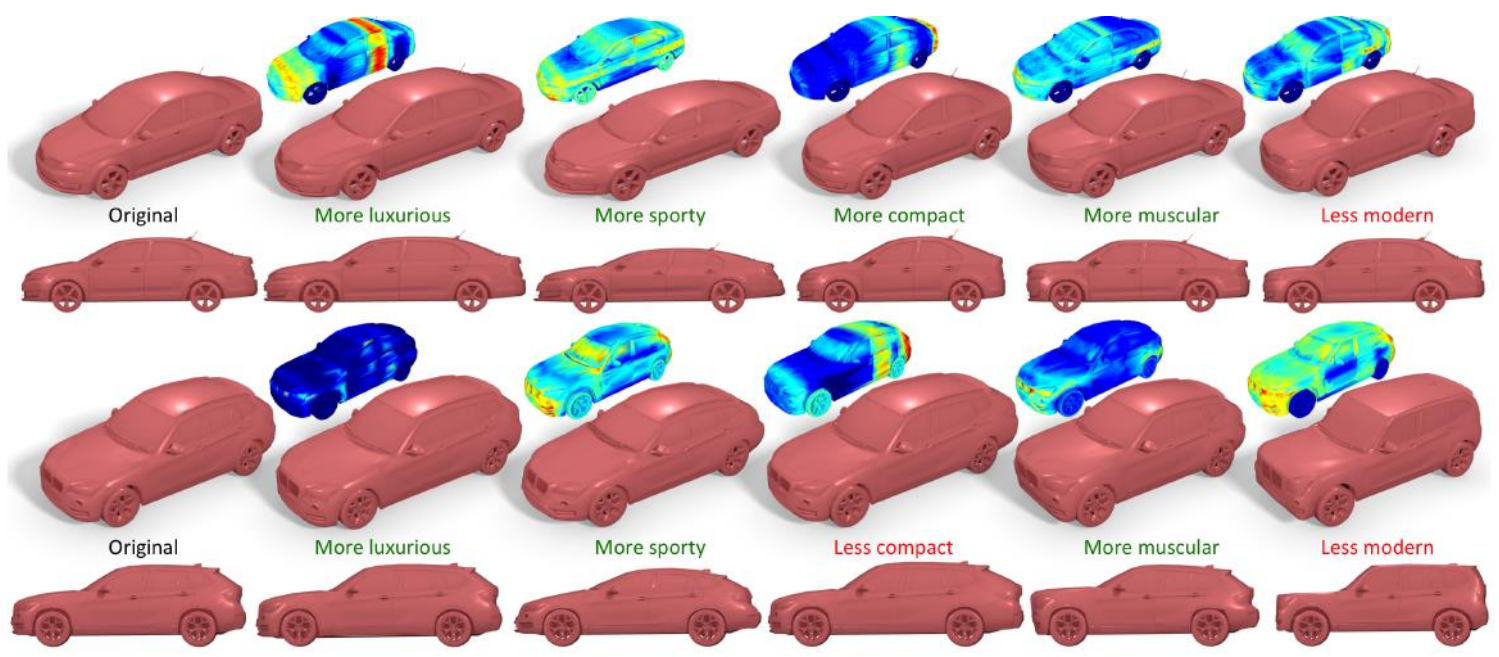
Real-Time Hyperlapse Creation via Optimal Frame Selection, SIGGRAPH 2015





SEMANTIC SHAPE EDITING

Semantic Shape Editing Using Deformation Handles, SIGGRAPH 2015





PROCEDURAL GENERATION

Procedural Generation of 3D Caves for Games on the GPU, Foundation of Digital Games 2015

WorldBrush: Interactive Example-Based Synthesis of Procedural Virtual Worlds, SIGGRAPH 2015

