EBERHARD KARLS
UNIVERSITÄT
TÜBINGEN

MATHEMATISCH-
NATURWISSENSCHAFTLICHE FAKULTÄT
FB Informatik / Computergrafik

[Livny et al. 2011]

Fortgeschrittene Themen aus Computergrafik und Computer Vision

18.04.2013 | Hendrik Lensch, hendrik.lensch@uni-tuebingen.de

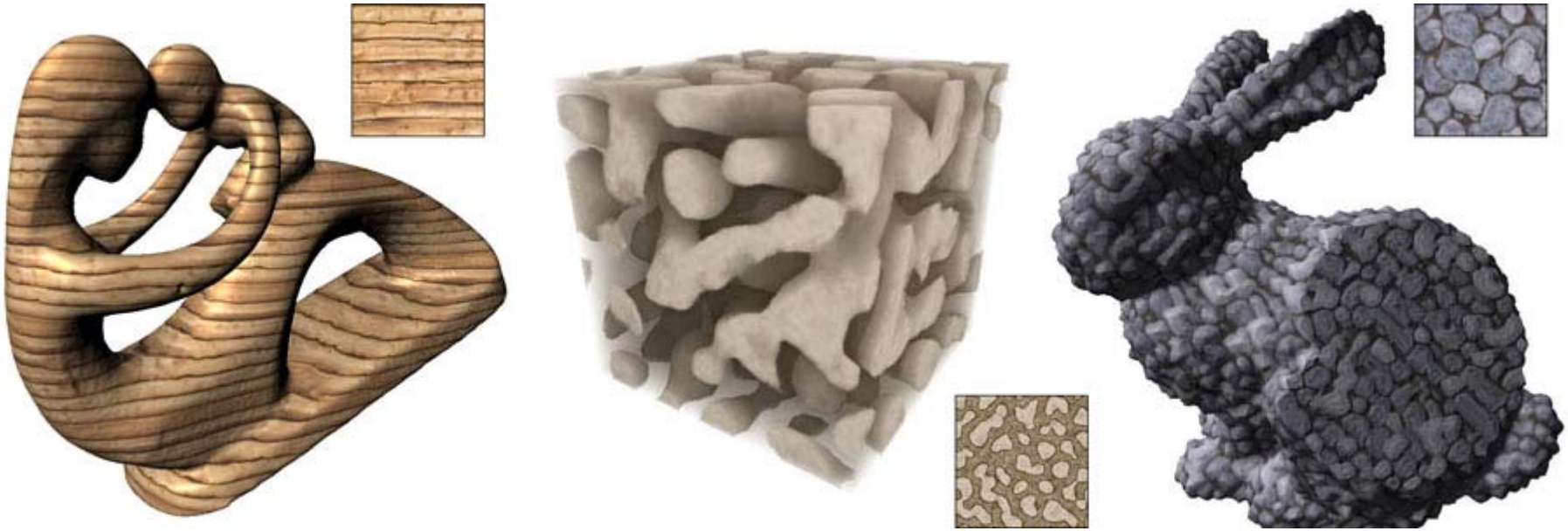
Rough Schedule

- Pick a topic (if you haven't already)
- How to give talks (next week)
- 2 weeks for preparing a "fast-forward" (02.05.)
  - FFWD: a 3 minutes presentation of your topic
- Find a second paper in the context of your selected paper
- Prepare the written summary (20.06.)
  - Will be peer-reviewed
- Time to prepare talks
- Talks
  - No longer than 20 minutes
  - All on one day (04.07.)

Topics

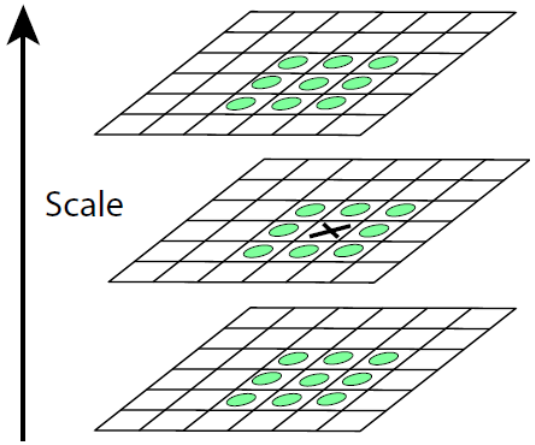
- List of topics on the web (with papers)
  - Overview on next slides
- Own topics welcome
  (if decent papers available)

Solid Texture Synthesis from 2D Exemplars



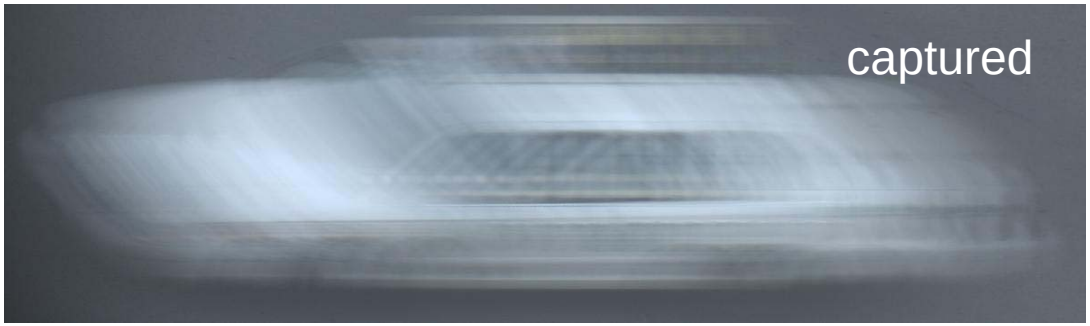
- Kopf et al., SIGGRAPH 2007
- Preparing 3D solid textures that mach the statistical properties of given 2D images

Distinctive Image Features from Scale-Invariant Keypoints - SIFT



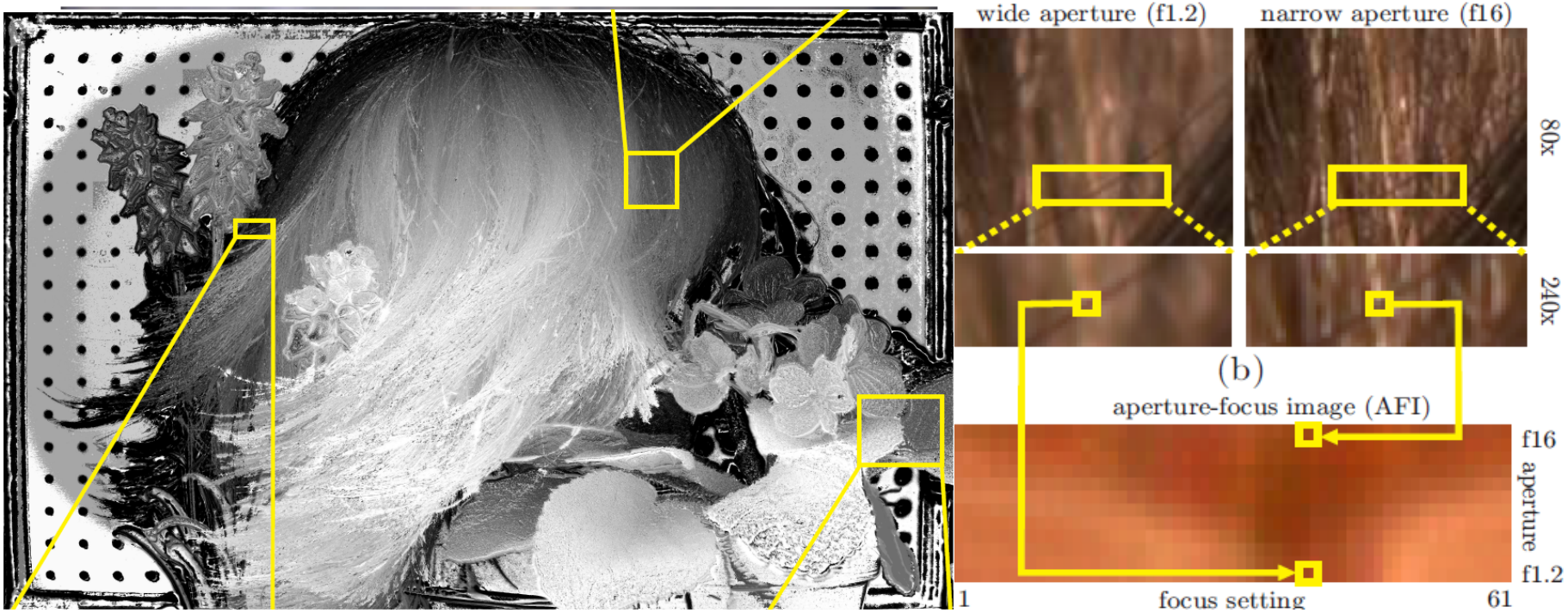
- Lowe, 2004
- Scale and orientation invariant features for image matching and registration
- Feature localization, creating a feature vector, matching

Coded Exposure Photography: Motion Deblurring using Fluttered Shutter



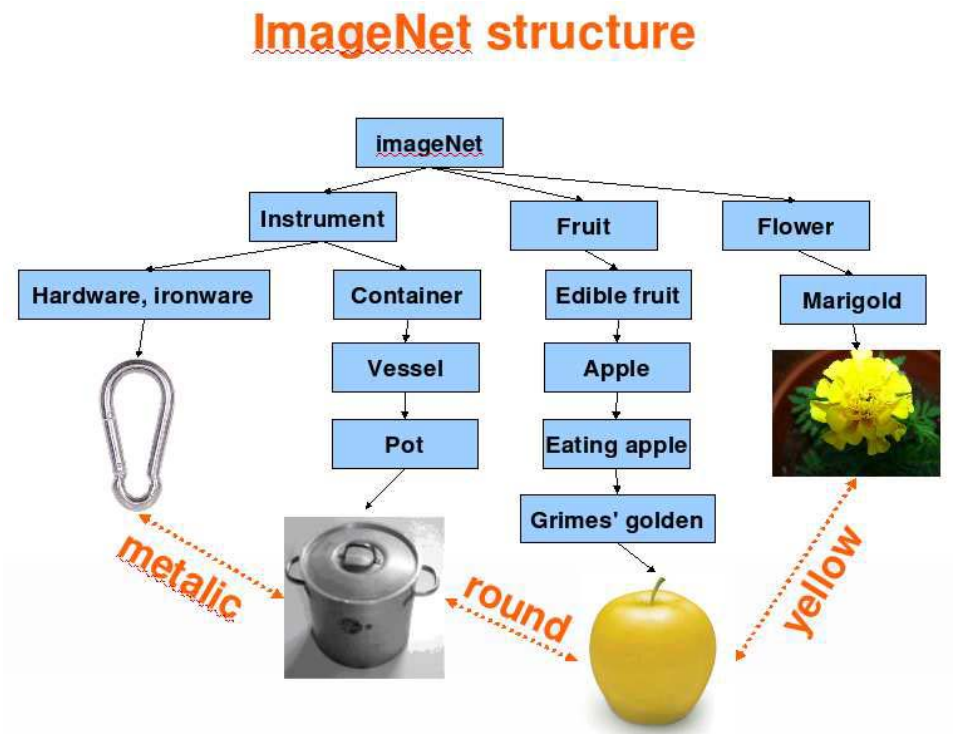
- [Raskar et al. SIGGRAPH 2006]
- Capture fast moving objects with a flickering shutter
- Provides sufficient information for good deconvolution

Confocal Stereo



- [Hasinoff & Kutulakos, ECCV 2006]
- Obtaining depth information through a single lens by observing defocus while changing focus and aperture

Attribute learning in large-scale datasets

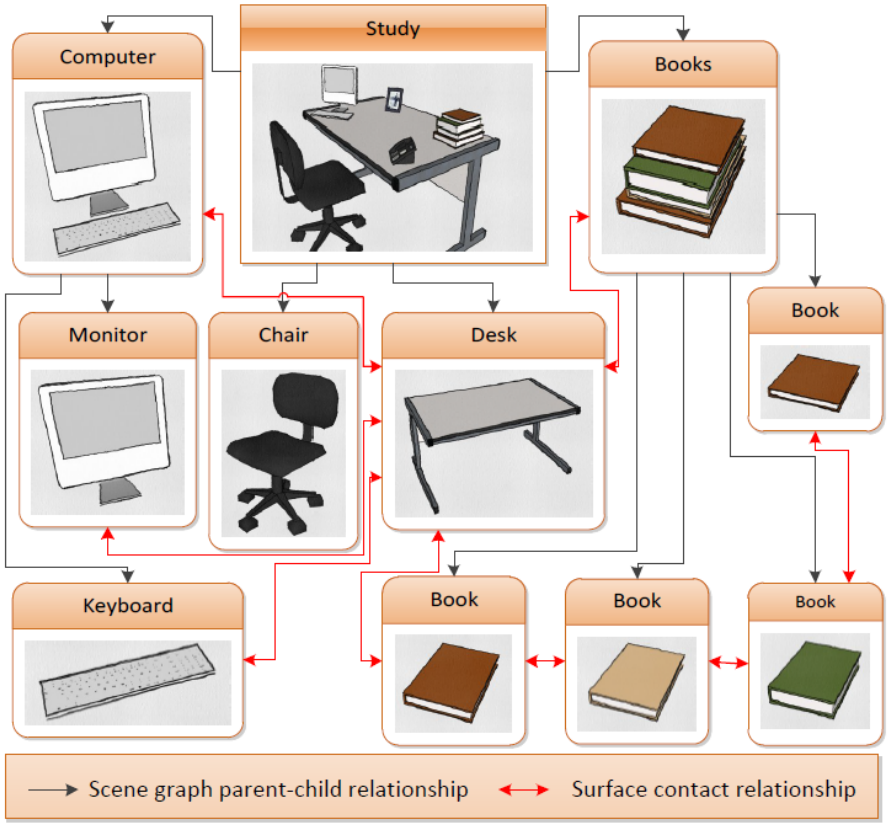


- [Russakovsky & Fei-Fei, ECCV-Workshop 2010]
- Determining visual (dis)similarities between categories in a visual ontology

Video-based Characters – Creating New Human Performances from a Multi-view Video Database

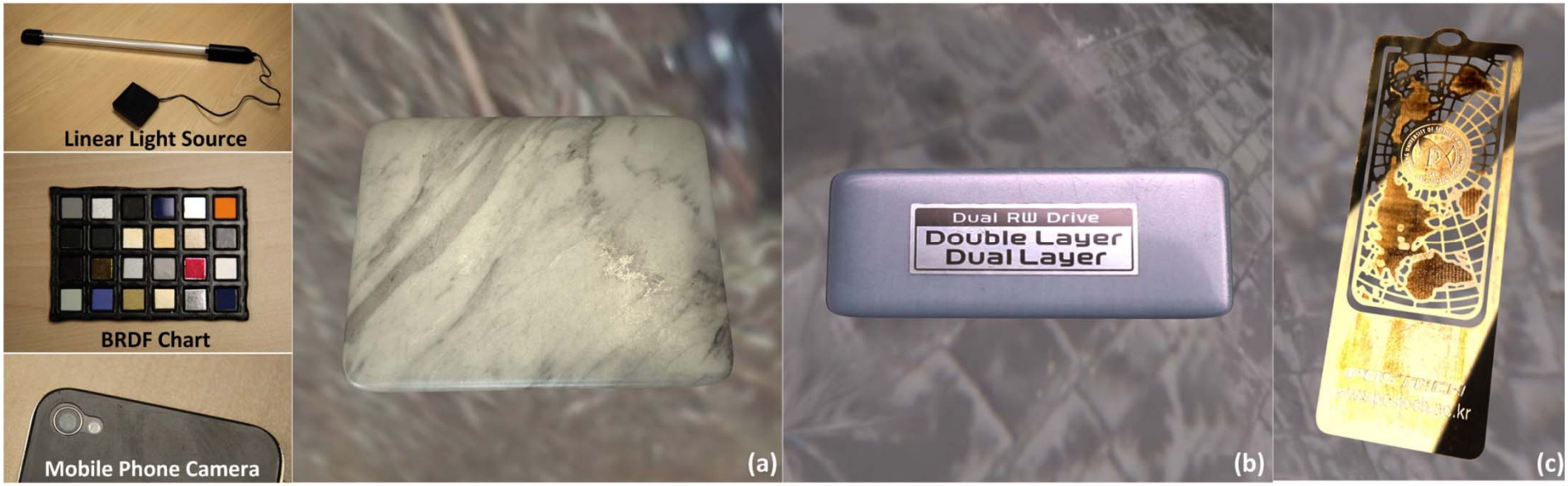
- [Xu et al. SIGGRAPH 2011]
- Animate a character by analyzing a video, making her move in a controlled way

Characterizing Structural Relationships in Scenes Using Graph Kernels



- [Fisher et al. SIGGRAPH 2011]
- Expressing and grouping relationships between objects in a 3D scene

Pocket Reflectometry

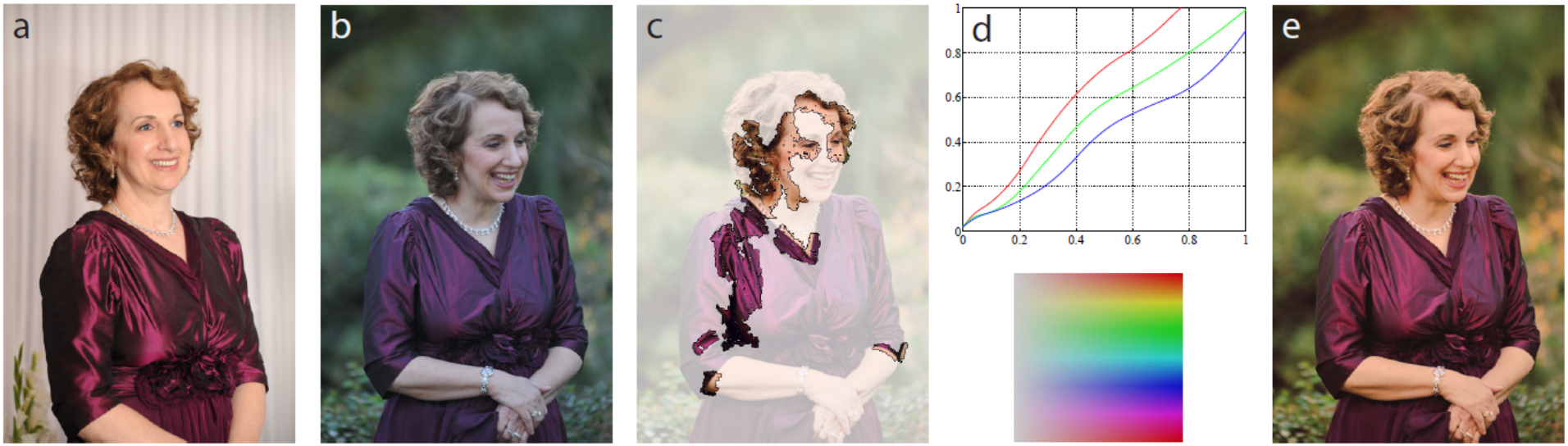


- [Ren et al. SIGGRAPH 2011]
- A simple device to capture the spatially varying reflectance of objects

Texture-Lobes for Tree Modelling

- [Livny et al. SIGGRAPH 2011]
- Capturing the rough shape of a tree for realistic rendering

Non-Rigid Dense Correspondence with Applications for Image Enhancement



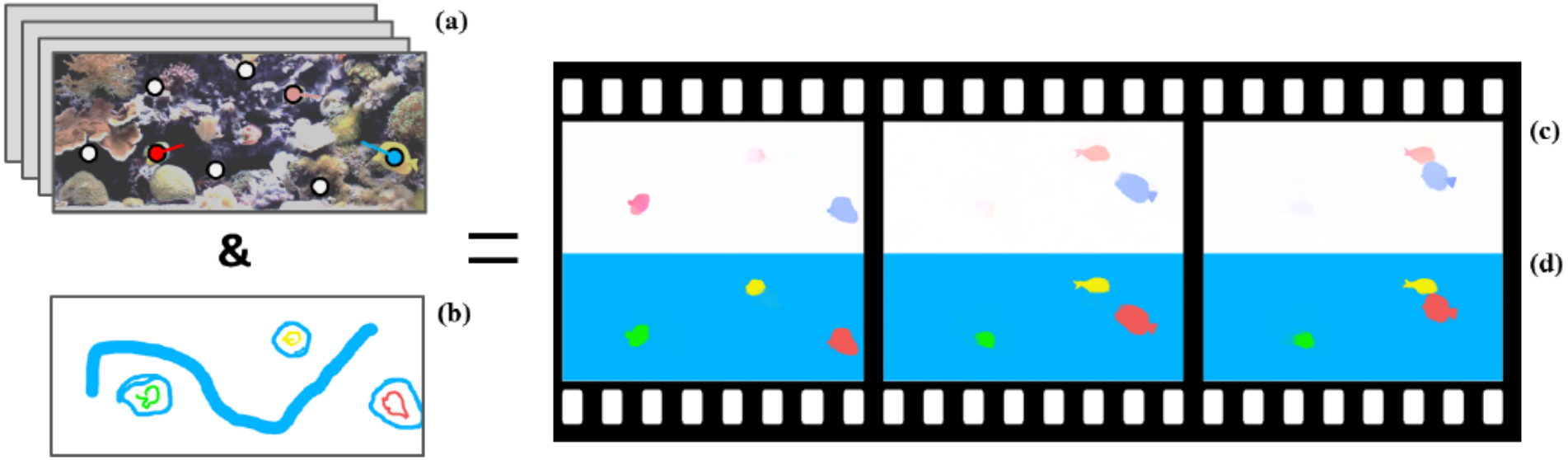
- [HaCohen et al. SIGGRAPH 2012]
- Identify dense correspondences between similar picture to transfer the look

Local Laplacian Filters: Edge-aware Image Processing with a Laplacian Pyramid



- [Paris et al. SIGGRAPH 2011]
- A powerfull framework for local contrast and other changes

Practical Temporal Consistency for Image-Based Graphics Applications



- [Lang et al. SIGGRAPH 2012]
- Allowing to propagate filtering operations consistently in time between the individual frames of a video
- Establishes a very good optical flow

Fabricating Articulated Characters from Skinned Meshes

- [Bächer et al. SIGGRAPH 2012]
- Print models in 3D that can be moved according to the potential joints in a given 3D triangle mesh