Themenliste für das Seminar Computergrafik, Wintersemester 2015/16

3D object reconstruction and rendering

1. ***(topic already chosen)***
Spatial data structures for accelerated 3D visibility computation to enable large model visualization on the web
Christian Stein, Max Limper, Arjan Kuijper
Proceedings of the Nineteenth International ACM Conference on 3D Web Technologies (WEB3D2014). ACM, 2014, pp. 53-61.
http://dl.acm.org/citation.cfm?id=2628600
http://delivery.acm.org/10.1145/2630000/2628600/p53-stein.pdf?ip=134.76.192.145&id=2628600&acc=ACTIVE%20SERVICE&key=2BA2C432AB83DA15%2E8C14E74AF280C121%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&CFID=439402070&CFTOKEN=23351634&__acm__=1412854662_213069af160216af5d8bf7c557ed1b6b

2.
Scalable real-time volumetric surface reconstruction
Jiawen Chen, Dennis Bautembach, Shahram Izadi
ACM Transactions on Graphics, 32 (4), Article 113 (July 2013), 10 p.
http://dl.acm.org/citation.cfm?doid=2461912.2461940
http://delivery.acm.org/10.1145/2470000/2461940/a113-chen.pdf?ip=134.76.192.145&id=2461940&acc=ACTIVE%20SERVICE&key=2BA2C432AB83DA15%2E8C14E74AF280C121%2E4D4702B0C3E38B35%2E4D4702B0C3E38B35&CFID=439402070&CFTOKEN=23351634&__acm__=1412854956_d3469e6433062825342917b0d5962404

Modelling of objects (general)

3. ***(topic already chosen)***
A probabilistic model for component-based shape synthesis
Evangelos Kalogerakis, Siddhartha Chaudhuri, Daphne Koller, Vladlen Koltun
ACM Transactions on Graphics (TOG), Volume 31, Issue 4 (July 2012), Article No. 55
http://dl.acm.org/citation.cfm?id=2185551
http://vladlen.info/publications/a-probabilistic-model-for-component-based-shape-synthesis/

Light regime modelling

4.
An analytic model for full spectral sky-dome radiance
Lukas Hosek, Alexander Wilkie
ACM Transactions on Graphics (TOG), Volume 31, Issue 4 (July 2012), Article No. 95
http://dl.acm.org/citation.cfm?id=2185591
http://cgg.mff.cuni.cz/projects/SkylightModelling/

5.
Predicting sky dome appearance on earth-like extrasolar worlds
Alexander Wilkie, Lukas Hosek
Proceedings of the 29th Spring Conference on Computer Graphics (SCCG 2013), 2013
Paper: http://cgg.mff.cuni.cz/projects/SkylightModelling/sccg_2013_alien_sun_preprint.pdf
Paper webpage: http://cgg.mff.cuni.cz/projects/SkylightModelling/

Collision detection

6. ***(topic already chosen)***
I-COLLIDE: An interactive and exact collision detection system for large-scale environments
Jonathan D. Cohen, Ming C. Lin, Dinesh Manocha, Madhav Ponamgi
Proceedings of the 1995 Symposium on Interactive 3D graphics (I3D '95) (1995), pp. 189-218
Paper: http://dl.acm.org/citation.cfm?id=199437

Modelling of vegetation

7.
Interactive authoring of simulation-ready plants
Yili Zhao, Jernej Barbič
ACM Transactions on Graphics (TOG), Volume 32, Issue 4 (July 2013), Article No. 84
Paper: http://dl.acm.org/citation.cfm?id=2461961&picked=formats
Paper webpage: http://run.usc.edu/botanical/

8.
Modeling and generating moving trees from video
Chuan Li, Oliver Deussen, Yizhe Song, Phil Willis, Peter Hall
ACM Transactions on Graphics (TOG), Volume 30, Issue 6 (December 2011), Article No. 127
http://dl.acm.org/citation.cfm?id=2024161
http://www.cs.bath.ac.uk/~cl249/

9.
A plastic, dynamic and reducible 3D geometric model for simulating gramineous leaves
Christian Fournier, Christophe Pradal
International Symposium on Plant Growth Modeling, Simulation, Visualization and Applications, 2012, pp. 125-132
http://hal.archives-ouvertes.fr/docs/00/78/81/40/PDF/leafshape.pdf

10.
Real-time realistic rendering and lighting of forests
Eric Bruneton, Fabrice Neyret
Computer Graphics Forum, Volume 31, Issue 2, pt 1 (May 2012), pp. 373-382
http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8659.2012.03016.x/abstract
http://onlinelibrary.wiley.com/doi/10.1111/j.1467-8659.2012.03016.x/pdf

Modelling of special objects (non-vegetation)

11. ***(topic already chosen)***
On-the-fly generation and rendering of infinite cities on the GPU
Markus Steinberger, Michael Kenzel, Bernhard Kainz, Peter Wonka, Dieter Schmalstieg
Proceedings of EUROGRAPHICS 2014 (Eds.: B. Lévy, J. Kautz)
Computer Graphics Forum, 33 (2) (2014), 105-114
http://onlinelibrary.wiley.com/doi/10.1111/cgf.12315/abstract
http://onlinelibrary.wiley.com/doi/10.1111/cgf.12315/pdf

Texturing, image-based graphics

12. ***(topic already chosen)***
CG2Real: Improving the realism of computer generated images using a large collection of photographs
Micah K. Johnson, Kevin Dale, Shai Avidan, Hanspeter Pfister, William T. Freeman, Wojciech Matusik
IEEE Transactions on Visualization and Computer Graphics, Volume 17, Issue 9 (September 2011), pp. 1273-1285
Paper:
http://ieeexplore.ieee.org/xpl/articleDetails.jsp?arnumber=5620893&sortType%3Dasc_p_Sequence%26filter%3DAND%28p_IS_Number%3A5946031%29
http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=5620893
Paper webpage: http://people.csail.mit.edu/wojciech/CG2Real/index.html

Level of Detail (LOD) methods

13. ***(topic already chosen)***
Foliage simplification based on multi-viewpoints for efficient rendering
Sulan Zhang
Journal of Software, 9 (7) (July 2014), 1655-1665
http://www.ojs.academypublisher.com/index.php/jsw/article/download/jsw090716551665/9613