Themenliste / list of topics,
Seminar Computergrafik, Winter 2024/25

Modelling of vegetation

1.
Wang, Y., Xue, X., Jin, X., & Deng, Z. (2017):
Creative virtual tree modeling through hierarchical topology-preserving blending.
IEEE Transactions on Visualization and Computer Graphics, vol. 23, no. 12, 2521-2534.
https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7775115

2.
Yi, L., Li, H., Guo, J., Deussen, O., & Zhang, X. (2018):
Tree growth modelling constrained by growth equations.
Computer Graphics Forum, vol. 37, no. 1, 239-253.
https://onlinelibrary.wiley.com/doi/pdf/10.1111/cgf.13263

3.
Chengsong Hu, J. Alex Thomasson, Chris Reberg-Horton, Steven B. Mirsky, Muthukumar V. Bagavathiannan (2022):
Modeling realistic 3D agricultural vegetations using photometric-based approach and its application to weed detection.
Computers and Electronics in Agriculture 198, 107020.
https://papers.ssrn.com/sol3/Delivery.cfm/ed5f7ca9-fa02-429b-995d-9b4811361e54-MECA.pdf?abstractid=4001357&mirid=1

4.
Fumio Okura (2022):
3D modeling and reconstruction of plants and trees: A cross-cutting review across computer graphics, vision, and plant phenotyping.
Breeding Science 72, 31-47.
https://www.jstage.jst.go.jp/article/jsbbs/72/1/72_21074/_pdf

Modelling of architecture

5.
Lars Krecklau, Janis Born, Leif Kobbelt (2013):
View-dependent realtime rendering of procedural facades with high geometric detail.
In: I. Navazo, P. Poulin (eds.): EUROGRAPHICS 2013. *Computer Graphics Forum*, vol. 32 (2013), no. 2.
https://www.graphics.rwth-aachen.de/media/papers/krecklau_2013_eg.pdf

Surface modelling

6.
James Andrews, Carlo H. Séquin (2013):
Type-constrained direct fitting of quadric surfaces.
Computer-Aided Design and Applications, 11 (1), 107-119.
http://graphics.berkeley.edu/papers/Andrews-TCD-2013-06/Andrews-TCD-2013-06.pdf

Modelling at landscape level

7.
Rui Li (2023):
Real-world large-scale terrain model reconstruction and real-time rendering.
Proceedings of the 28th International ACM Conference on 3D Web Technology, pp. 1-10.
https://dl.acm.org/doi/pdf/10.1145/3611314.3615901

8.
Wojtek Palubicki, Milosz Makowski, Weronika Gajda, Torsten Hädrich, Dominik L. Michels, Sören Pirk (2022):
Ecoclimates: Climate-response modeling of vegetation.
ACM Trans. Graph. 41 (4), Art. 155.
https://dl.acm.org/doi/pdf/10.1145/3528223.3530146

9.
Cristina Gasch, José Martínez Sotoca, Miguel Chover, Immaculada Remolar, Cristina Rebollo (2022):
Procedural modeling of plant ecosystems maximizing vegetation cover.
Multimedia Tools and Applications 81, 16195-16217.
https://link.springer.com/content/pdf/10.1007/s11042-022-12107-8.pdf

Point clouds

10.
Ole Wegen, Willy Scheibel, Matthias Trapp, Rico Richter, Jürgen Döllner (2024):
A survey on non-photorealistic rendering approaches for point cloud visualization.
IEEE Transactions on Visualization and Computer Graphics
https://www.researchgate.net/profile/Ole-Wegen/publication/380937598/inline/jsViewer/6656d7040b0d28457461c8b6?pdfJsDownload=1

Natural phenomena

11.
Favorskaya, M. N., & Tkacheva, A. (2013):
Rendering of wind effects in 3D landscape scenes.
Procedia Computer Science, 22, 1229-1238.
https://www.sciencedirect.com/science/article/pii/S187705091301003X/pdf?md5=a15d78253d23887feec72dc80df810d8&pid=1-s2.0-S187705091301003X-main.pdf

Rewriting techniques

12.
Ulysse Vimont, Damien Rohmer, Antoine Begault, Marie-Paule Cani (2017):
Deformation grammars: Hierachical constraint preservation under deformation.
Computer Graphics Forum (2017), vol. 36, no. 8, pp. 429-443. doi:10.1111/cgf.13090.
https://hal.inria.fr/hal-01518534/document

13.
Jason Bernard, Ian McQuillan (2018):
A fast and reliable hybrid approach for inferring L-systems.
In: Artificial Life Conference Proceedings. MIT Press, 2018. pp. 444-451.
https://www.mitpressjournals.org/doi/pdf/10.1162/isal_a_00083