

Journal of WSCG

An international journal of algorithms, data structures and techniques for computer graphics and visualization, surface meshing and modeling, global illumination, computer vision, image processing and pattern recognition, computational geometry, human interaction and virtual reality, animation, multimedia systems and applications in parallel, distributed and mobile environment.

EDITOR – IN - CHIEF

Václav Skala
University of West Bohemia

Journal of WSCG

Editor-in-Chief: Vaclav Skala
University of West Bohemia, Univerzitni 8, Box 314
306 14 Plzen
Czech Republic
skala@kiv.zcu.cz

Managing Editor: Vaclav Skala

Author Service Department & Distribution:
Vaclav Skala UNION Agency
Na Mazinach 9
322 00 Plzen
Czech Republic

Hardcopy: ***ISSN 1213 – 6974*** ***KDP*** 2/; 8; 65/22/5
CD ROM: ***ISSN 1213 – 6980***
On-line: ***ISSN 1213 – 6964***

WSCG 2005

International Programme Committee

Alexa, Marc (Germany)
Bajaj, Chandrajit (United States)
Bartz, Dirk (Germany)
Bekaert, Philippe (Belgium)
Benes, Bedrich (Mexico)
Bengtsson, Ewert (Sweden)
Bouatouch, Kadi (France)
Brodie, Ken (United Kingdom)
Brunet, Pere (Spain)
Brunnet, Guido (Germany)
Clapworthy, Gordon (United Kingdom)
Coquillart, Sabine (France)
Debelov, Victor (Russia)
Deussen, Oliver (Germany)
du Buf, Hans (Portugal)
Ertl, Thomas (Germany)
Ferguson, Stuart (United Kingdom)
Floriani, Leila De (Italy)
Flusser, Jan (Czech Republic)
Goebel, Martin (Germany)
Haber, Jörg (Germany)
Harris, Mark (United Kingdom)
Hauser, Helwig (Austria)
Hege, Hans-Christian (Germany)
Chen, Min (United Kingdom)
Chrysanthou, Yiorgos (Cyprus)
Jansen, Frederik,W. (The Netherlands)
Jorge, Joaquim (Portugal)
Kakadiaris, Ioannis (United States)
Kalra, Prem (India)
Kjell Dahl, Lars (Sweden)
Klein, Reinhard (Germany)
Klosowski, James T. (United States)
Kobbelt, Leif (Germany)
Kruijff, Ernst (Germany)
Magnor, Marcus (Germany)
Margala, Martin (United States)
Moccozet, Laurent (Switzerland)
Mudur, Sudhir,P. (Canada)
Mueller, Klaus (United States)
Muller, Heinrich (Germany)
Myszkowski, Karol (Germany)
O'Sullivan, Carol (Ireland)
Pasko, Alexander (Japan)
Peroche, Bernard (France)
Post, Frits H. (Netherlands)
Puech, Claude (France)
Puppo, Enrico (Italy)
Purgathofer, Werner (Austria)
Rauterberg, Matthias (Netherlands)
Rheingans, Penny (United States)
Rokita, Przemyslaw (Poland)
Rossignac, Jarek (United States)
Rudomin, Isaac (Mexico)
Sbert, Mateu (Spain)
Shamir, Ariel (Israel)
Schaller, Nan,C. (United States)
Schneider, Bengt-Olaf (United States)
Schumann, Heidrun (Germany)
Skala, Vaclav (Czech Republic)
Slusallek, Philipp (Germany)
Sochor, Jiri (Czech Republic)
Stuerzlinger, Wolfgang (Canada)
Sumanta, Pattanaik (United States)
Szirmay-Kalos, Laszlo (Hungary)
Taubin, Gabriel (United States)
Teschner, Matthias (Switzerland)
Theoharis, Theoharis (Greece)
Trahanias, Panos (Greece)
Velho, Luiz (Brazil)
Veltkamp, Remco (Netherlands)
Weiskopf, Daniel (Germany)
Westermann, Ruediger (Germany)
Wuethrich, Charles Albert (Germany)
Zara, Jiri (Czech Republic)
Zemcik, Pavel (Czech Republic)

WSCG 2005 Board of Reviewers

Adzhiev, V. (United Kingdom)
Alexa, M. (Germany)
Ammann, C. (Switzerland)
Anan, H. (United States)
Andreadis, I. (Greece)
Artusi, A. (Italy)
Aspragathos, N. (Greece)
Avenueau, L. (France)
Bajaj, C. (United States)
Bartz, D. (Germany)
Bekaert, P. (Belgium)
Benes, B. (Mexico)
Bengtsson, E. (Sweden)
Bieri, H. (Switzerland)
Bilbao, J. (Spain)
Bischoff, S. (Germany)
Bottino, A. (Italy)
Bouatouch, K. (France)
Bourdin, J. (France)
Brodie, K. (United Kingdom)
Brunet, P. (Spain)
Brunnet, G. (Germany)
Buehler, K. (Austria)
Callieri, M. (Italy)
Clapworthy, G. (United Kingdom)
Coleman, S. (United Kingdom)
Coombe, G. (USA)
Coquillart, S. (France)
Daniel, M. (France)
de Aquiar, E. (Germany)
De Decker, B. (Belgium)
de Geus, K. (Brazil)
Debelov, V. (Russia)
del Rio, A. (Germany)
Deussen, O. (Germany)
Diehl, S. (Germany)
Dingliana, J. (Ireland)
Dmitriev, K. (Germany)
Doleisch, H. (Austria)
Dong, F. (United Kingdom)
Drakopoulos, V. (Greece)
du Buf, H. (Portugal)
Duce, D. (United Kingdom)
Durupina, F. (Turkey)
Egges, A. (Switzerland)
Eibl, M. (Germany)
Erbacher, R. (United States)
Ertl, T. (Germany)
FariaLopes, P. (Portugal)
Faudot, D. (France)
Feito, F. (Spain)
Ferguson, S. (United Kingdom)
Fernandes, A. (Portugal)
Fischer, J. (Germany)
Flaquer, J. (Spain)
Floriani, L. (Italy)
Flusser, J. (Czech Republic)
Gagalowicz, A. (France)
Galo, M. (Brazil)
Geraud, T. (France)
Giannini, F. (Italy)
Gudukbay, U. (Turkey)
Gutierrez, D. (Spain)
Haber, J. (Germany)
Hadwiger, M. (Austria)
Haro, A. (United States)
Harris, M. (United Kingdom)
Hast, A. (Sweden)
Hauser, H. (Austria)
Havran, V. (Germany)
Hege, H. (Germany)
Hladuvka, J. (Slovakia)
Horain, P. (France)
Hornung, A. (Germany)
Chen, M. (United Kingdom)
Chin, S. (Korea)
Chover, M. (Spain)
Chrysanthou, Y. (Cyprus)
Iwanowski, M. (Poland)
Jaillet, F. (France)
Jansen, F. (Netherlands)
Jeschke, S. (Germany)
JoanArinyo, R. (Spain)
Kalra, P. (India)
Kjeldahl, K. (Sweden)
Klosowski, J. (United States)
Kobbelt, L. (Germany)
Kolcun, A. (Czech Republic)
Koutek, M. (Netherlands)
Krolupper, F. (Czech Republic)
Kruijff, E. (Germany)
Larsen, B. (Denmark)

Leopoldseeder, S. (Austria)
Lewis, J. (United States)
Lintu, A. (Germany)
Loizides, A. (Cyprus)
Loizides, A. (Cyprus)
Magnor, M. (Germany)
Maierhofer, S. (Austria)
Mandl, T. (Germany)
Mantler, S. (Austria)
Margala, M. (United States)
Marinov, M. (Germany)
Maughan, C. (USA)
McAllister, D. (USA)
McMenemy, K. (United Kingdom)
Mertens, T. (Belgium)
Moccozet, L. (Switzerland)
Mokhtari, M. (Canada)
Molledo, L. (Italy)
Montrucchio, B. (Italy)
Moreton, H. (USA)
Mudur, S. (Canada)
Mueller, K. (United States)
Muller, H. (Germany)
Myszkowski, K. (Germany)
Neubauer, A. (Austria)
Nielsen, F. (Japan)
O'Sullivan, C. (Ireland)
Ozguc, B. (Turkey)
Pan, Z. (China)
Pandzic, I. (Croatia)
Pasko, A. (Japan)
Pedrini, H. (Brazil)
Perez, M. (Spain)
Peroche, B. (France)
Plemenos, D. (France)
Post, F. (Netherlands)
Prakash, E. (Singapore)
Pratikakis, I. (Greece)
Prikryl, J. (Czech Republic)
Puppo, E. (Italy)
Purgathofer, W. (Austria)
Rauterberg, M. (Netherlands)
Ravyse, I. (Belgium)
Renaud, C. (France)
Revelles, J. (Spain)
Rheingans, P. (United States)
Rodrigues, M. (United Kingdom)
Rokita, P. (Poland)
Rossignac, J. (United States)
Rudomin, I. (Mexico)
Sahli, H. (Belgium)
Sainz, M. (USA)
Sbert, M. (Spain)
Segura, R. (Spain)
Shamir, A. (Israel)
Schaller, N. (United States)
Schneider, B. (United States)
Scholz, V. (Germany)
Schumann, H. (Germany)
Sijbers, J. (Belgium)
Sips, M. (Germany)
Sirakov, N. (United States)
Sitte, R. (Australia)
Slusallek, P. (Germany)
Snoeyink, J. (United States)
Sochor, J. (Czech Republic)
Sorel, M. (Czech Republic)
Sroubek, F. (Czech Republic)
Stuerzlinger, W. (Canada)
Stylianou, G. (Cyprus)
Suarez Rivero, J. (Spain)
Sumanta, P. (United States)
Szekely, G. (Switzerland)
Szirmay-Kalos, L. (Hungary)
Tang, W. (United Kingdom)
Taubin, G. (United States)
Teschner, M. (Germany)
Theobald, C. (Germany)
Theoharis, T. (Greece)
Theußl, T. (Austria)
Tobler, R. (Austria)
Torres, J. (Spain)
Trahanias, P. (Greece)
Traxler, A. (Austria)
Van Laerhoven, T. (Belgium)
Velho, L. (Brazil)
Veltkamp, R. (Netherlands)
Vergeest, J. (Netherlands)
Vuorimaa, P. (Finland)
Weiskopf, D. (Germany)
Weiss, G. (Germany)
Westermann, R. (Germany)
Wu, S. (Brazil)
Wuethrich, C. (Germany)
Yilmaz, T. (Turkey)
Zach, C. (Austria)
Zachmann, G. (Germany)
Zara, J. (Czech Republic)
Zemcik, P. (Czech Republic)
Zhu, Y. (United States)
Zitova, B. (Czech Republic)

Journal of WSCG

Vol.13, No.1-3, 2005

Contents

No.1.

Ali,K., Hartmann,K., Strothotte,Th.: Label Layout for Interactive 3D Illustrations	1
Cuno,A., Esperanca,C., Cavalcanti,P.R., Farias,R.: 3D Free-form Modeling with Variational Surfaces	9
Erleben,K., Dohlmann,H., Sporning,J.: The Adaptive Thin Shell Tetrahedral Mesh	17
Benölken,P., Graf,H.: Direct Volume Rendering Unstructured Grids in a PC based VR Environment	25
Westenberg,M.A., Ertl,T.: Denoising 2-D Vector Fields by Vector Wavelet Thresholding	33

No.2.

Guthe,M., Borodin,P., Klein,R.: Fast and Accurate Hausdorff Distance Calculation between Meshes	41
Szirmay-Kalos,L., Antal,Gy., Sbert,M.: Go with the Winners Strategy in Path Tracing	49
Bendels,G.H., Klein,R., Samimi,M., Schmitz,A.: Statistical Shape Analysis for Computer Aided Spine Deformity Detection	57
Ilmonen,T., Reunanen,M., Kontio,P.: Broadcast GL: An Alternative Method for Distributing OpenGL API Calls to Multiple Rendering Slaves	65
Porcu,M.B., Sanna,N., Scateni,R.: Efficiently Keeping an Optimal Stripification over a CLOD Mesh	73

No.3.

Linsen,L., Karis,B.J., McPherson,E.G., Hamann,B.: Tree Growth Visualization	81
Wang,H., Wang,M., Hintz,T.,Wu,Q., He,X.: VSA-bades Fractal Image Compression	89
Huysmans,T., Sijbers,J., Verdonk,B.: Parametrization of Tubular Surfaces on the Cylinder	97
Luz,J.L.,Velho,L.; Carvalho,P.C.: Silhouette Enhanced Point-Based Rendering	105
Mercier,B., Meneveaux,D.: Shape from Silhouette: Image Pixels for Marching Cubes	112
Hu,J., You,S., Neumann,U.: Texture Painting from Video	119

