

## 6 TRENDS IN UNSTRUCTURED MESH GENERATION

### 1 GENERAL SESSION

**Chair** S. Canann

**Date** 8/4/99 **Time** 9:30 - 11:30

**Location** Room 4

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**Keynote:** ON AUTOMATING THE GENERATION OF HEX MESHES FOR ASSEMBLY GEOMETRIES

*T.J. Tautges*

**Title 1:** ON ELEMENT SHAPE MEASURES FOR MESH OPTIMIZATION

*P. Labbe, J. Dompierre, F. Guibault and R. Camarero*

**Title 2:** AN OPTIMIZATION-BASED APPROACH TO SIMPLICIAL MESH UNTANGLING AND IMPROVEMENT

*L.A. Freitag and P. Plassmann*

**Title 3:** INTERVAL ASSIGNMENT FOR VOLUMES WITH HOLES

*J. Shepherd, S. Benzley and S. Mitchell*

**Title 4:** AUTOMATIC SCHEME SELECTION FOR TOOLKIT HEX MESHING

*D.R. White and T.J. Tautges*

**Title 5:** THREE-DIMENSIONAL, PARALLEL, HYBRID GRID GENERATION FOR THE ASCI PROGRAM

*H.E. Trease and G.L. Barrett*

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## 6 TRENDS IN UNSTRUCTURED MESH GENERATION

### 2 HEXAHEDRAL MESHING

**Chair** S. Mitchell

**Date** 8/4/99    **Time** 1:00 - 3:00

**Location** Room 4

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**Title 1:** H-MORPH: AN INDIRECT APPROACH TO ADVANCING FRONT HEX MESHING

*S.J. Owen and S. Saigal*

**Title 2:** INTELLIGENT LOCAL APPROACH FOR AUTOMATIC HEXAHEDRAL MESH GENERATION

*Y. Wada, S. Yoshimura and G. Yagawa*

**Title 3:** GENERATING A MIXED MESH OF HEXAHEDRA, PENTAHEDRA AND TETRAHEDRA FROM AN UNDERLYING TETRAHEDRAL MESH

*S.Meshkat and D. Talmor*

**Title 4:** MESH EXTRUSION BASED ON A GLOBALLY ELLIPTIC SYSTEM

*J.C. Vassberg*

**Title 5:** HEXAHEDRAL MESHING OF NON-LINEAR VOLUMES USING VORONOI FACES AND EDGES

*A. Sheffer, M. Etzion, A. Rappoport and M. Bercovier*

**Title 6:** AUTOMATED HEXAHEDRAL MESH GENERATION BY GENERALIZED MULTIPLE SOURCE TO MULTIPLE TARGET SWEEPING

*M. Lai, S.Benzley, and D. White*

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## 6 TRENDS IN UNSTRUCTURED MESH GENERATION

### 3 ANISOTROPIC MESHING

**Chair** B. Soni

**Date** 8/4/99      **Time** 3:30 - 5:30

**Location** Room 4

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**Title 1:** ADAPTIVE HYBRID GRID GENERATION FOR TURBOMACHINERY AND AEROSPACE APPLICATIONS

*A. Khawaja, H. McMorris and Y. Kallinderis*

**Title 2:** AN ADAPTIVE UNSTRUCTURED MESH METHOD FOR TRANSIENT FLOWS INVOLVING MOVING BOUNDARIES

*L. B. Bayne, O. Hassan, K. Morgan and N. P. Weatherill*

**Title 3:** ALGORITHMIC AND IMPLEMENTATION ASPECTS OF GENERATING ISOTROPIC AND ANISOTROPIC TETRAHEDRAL MESHES

*T. J. Baker and J. C. Vassberg*

**Title 4:** GENERATION OF NON-ISOTROPIC UNSTRUCTURED GRIDS VIA DIRECTIONAL ENRICHMENT

*R. Lohner and J. Cebal*

**Title 5:** BOUNDARY SENSITIVE MESH GENERATION USING AN OFFSETTING TECHNIQUE

*J. Krause, W. Fichtner*

**Title 6:** MESH QUALITY AND CONTROL IN BOUNDARY LAYER MESH GENERATION FOR VISCOUS FLOWS

*R.V. Garimella and M.S. Shephard*

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**6 TRENDS IN UNSTRUCTURED MESH GENERATION****4 TET MESHING****Chair** T. Baker**Date** 8/5/99 **Time** 9:30 - 11:30**Location** Room 4

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**Title 1:** TRIANGULATION OF ARBITRARY POLYHEDRA*B.K. Karamete, M.W. Beall and M.S. Shephard***Title 2:** THREE DIMENSIONAL MESH GENERATION USING A DELTAHEDRAL BUILDING BLOCK FOR ANATOMICALLY ACCURATE BIOLOGICAL MODELS*J.Q. Zhang and J.M. Sullivan Jr.***Title 3:** ON THE PARALLELIZATION OF GUARANTEED-QUALITY 3D DELAUNAY MESH GENERATORS*N. Chrisochoides and D. Nave***Title 4:** DYNAMIC BUBBLE SYSTEM: AN AUTOMATIC MESH GENERATION SYSTEM FOR 2D AND 3D FINITE ELEMENT MESH GENERATION IN ELECTROMAGNETIC FIELD COMPUTATIONS*V. Cingoski, T. Yokoyama, and H. Yamashita***Title 5:** BITING: ADVANCING FRONT MEETS SPHERE PACKING*X.Y. Li, S.H. Teng and A. Ungor***Title 6:** AN ALGORITHM FOR THREE-DIMENSIONAL MESH GENERATION FOR ARBITRARY REGIONS WITH CRACKS*J.B.C. Neto and P.A. Wawrzynek*

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**6 TRENDS IN UNSTRUCTURED MESH GENERATION****5 ADAPTIVITY / REMESHING****Chair** M. Shepherd**Date** 8/5/99 **Time** 1:00 - 3:00**Location** Room 4

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**Title 1:** ADAPTIVE REFINEMENT OF HIERARCHICAL MESHES*R. Grosso***Title 2:** MESH GENERATION AND MESH ADAPTATION BY MESH TOPOLOGY OPTIMISATION*T. Coupez***Title 3:** SURFACE REMESHING BY LOCAL HERMITE DIFFUSE INTERPOLATION*A. Rassineux, J.M. Savignat, O. Stab, P. Villon***Title 4:** LONGEST-EDGE ALGORITHMS: NONDEGENERACY PROPERTIES IN 3 DIMENSIONS*M.C. Rivara and Angel Plaza***Title 5:** SPECIFIC FEATURES OF FE-MESHES USED IN LAGRANGE FORMULATION FOR THE ANALYSIS OF METAL FORMING PROCESSES*E. Doege and J. Meinen***Title 6:** MESH GENERATION FOR HP-TYPE FINITE ELEMENT ANALYSIS OF PLATES*S.M. Holzer*

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**6 TRENDS IN UNSTRUCTURED MESH GENERATION****6 SURFACE MESHING****Chair** S. Benzley**Date** 8/5/99 **Time** 3:30 - 5:30**Location** Room 4

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**Title 1:** AUTOMATED GENERATION OF F.E.A. MODELS THROUGH IDEALIZATION OPERATO

*L. Fine, L. Remondini and J.C. Leon*

**Title 2:** ABOUT PARAMETRIC SURFACE MESHING

*H. Borouchaki, P. Laug, and P.L. George*

**Title 3:** EXTENDING METRIC-BASED SURFACE MESHING TO G1-CONNECTED PTCH COMPLEXES

*J. Peters*

**Title 4:** EDGE RECOVERY METHOD ON AN EXISTING SURFACE MESH FOR BOUNDARY LAYER MESHING

*B.K. Karamete, R.V. Garimella and M.S. Shephard*

**Title 5:** ADAPTATION OF CAD SURFACE MESHES TO A MAP OF SIZES THROUGH THE IGATOMM CONCEPT

*F. Noel*

**Title 6:** A RESULTANT-BASED ALGORITHM FOR RAY INTERSECTION

*S.A. Vavasis*