FEMTEC 2011 - Monday, May 9

- 8:45 Conference opening

- **9:00 - 11:00 Keynote Session** (chairman C. Dawson)

    – 9:00 - 10:00 P. Colella - TBA
    – 10:00 - 11:00 J. Shadid - Solution Methods for Multiple-time-scale Multiphysics Systems: Application to Transport/Reaction and Resistive MHD

- 11:00 - 11:15 Coffee break

- **11:15 - 12:15 Contributed Session I-A** (chairman G. Hansen)

    – 11:15 - 11:45 S. J. Owen - Parallel Hexahedral Mesh Generation from Volume Fraction Data
    – 11:45 - 12:15 R. W. Douglass - Laplace-Beltrami Enhancement for Unstructured Meshes having Dendritic Elements and Boundary Node Movement

- **11:15 - 12:15 Contributed Session I-B** (chairman M. Walther)

    – 11:15 - 11:45 V. A. Dobrev - High Order Curvilinear Finite Elements for Lagrangian Hydrodynamics
    – 11:45 - 12:15 A. Guardone - Finite Volume/Element Equivalence for the Euler Equations in the Cylindrical and Spherical References

- 12:15 - 13:30 Lunch

- **13:30 - 15:30 Contributed Session II-A** (chairman V. F. de Almeida)

    – 13:30 - 14:00 M. Ebeida - Conforming Voronoi Meshing Based on Maximal Poisson Sampling
    – 14:00 - 14:30 B. Azarenok - Generation of Structured Mesh in 2D Domain with Singularities on Boundary by using Elliptic PDEs
    – 14:30 - 15:00 A. Reid - Object-Oriented Finite Element Materials Modeling at NIST
    – 15:00 - 15:30 D. Pugal - Using hp-FEM to Model Actuation of IPMC Materials

- **13:30 - 15:30 Contributed Session II-B** (chairman J. Trommler)

    – 13:30 - 14:00 I. Doležel - Monolithic Model of Combined Electromagnetic-Thermoelastic Actuator for Accurate Setting of Position
    – 14:00 - 14:30 D. Meeker - Improved Continuum Skin and Proximity Effect Model for Hexagonally Packed Wires
    – 14:30 - 15:00 H. Hakula - On hp-Adaptive Solution of Complete Electrode Model Forward Problems of Electrical Impedance Tomography
    – 15:00 - 15:30 P. Karban - Monolithic Modeling of Assembly of Induction Shrink Fits

- 15:30 - 15:45 Coffee break

- **15:45 - 17:15 Contributed Session III-A** (chairman T. Austin)

    – 15:45 - 16:15 G. Fujii - Finite Element Analysis of Laser Modes within Photonic Random Media
    – 16:15 - 16:45 L. Korous - Combined Adaptive Multimesh hp-FEM/hp-DG for Multiphysics Coupled Problems Involving Compressible Inviscid Flows
    – 16:45 - 17:15 J. D. McAlpine - Simulation and parameterization of atmospheric surface flow with computational fluid dynamics

- **15:45 - 17:15 Contributed Session III-B** (chairman D. Meeker)

    – 15:45 - 16:15 J. Trommler - A Finite-Element Thin-Sheet Approach in Magneto-Quasistatics
    – 16:15 - 16:45 S. Durand - Convergence of the mixed finite element method for Maxwell's equations with non-linear conductivity
    – 16:45 - 17:15 J. J. Heys - Implicit Discontinuous Galerkin Methods for Parabolic Problems

- **18:00 - 20:00 Welcome reception**

FEMTEC 2011 - Tuesday, May 10

- **9:00 - 11:00 Keynote Session** (chairman J. Shadid)

  - 9:00 - 10:00 M. Heroux - Scalability of Trilinos: People, Processes and Parallelism
  - 10:00 - 11:00 C. Dawson - Finite Elements in Coastal Ocean Circulation Modeling

- 11:00 - 11:15 Coffee break

- **11:15 - 12:15 Contributed Session I-A** (chairman N. Böttcher)

  - 11:15 - 11:45 C. E. Kees - Multiscale Numerical Modeling of Levee Breach Processes
  - 11:45 - 12:15 M. Walther - Large-scale Density-dependent Groundwater Modelling in Agriculturally Used Coastal Arid Regions

- **11:15 - 12:15 Contributed Session I-B** (chairman M. Slodička)

  - 11:15 - 11:45 T. Austin - An Efficient Preconditioner for Elliptic Problems Discretized by High-Order Finite Element Problems
  - 11:45 - 12:15 S. Giani - An a Posteriori Error Estimator for hp-Adaptive Discontinuous Galerkin Methods for Elliptic Eigenvalue Problems

- 12:15 - 13:30 Lunch

- **13:30 - 15:30 Software Workshop I**

  - 13:30 - 15:30 Cubit

- 15:30 - 15:45 Coffee break

- **15:45 - 17:45 Software Workshop II**

  - 15:45 - 17:45 Paraview

FEMTEC 2011 - Wednesday, May 11

- **9:00 - 11:00 Keynote Session** (chairman M. Heroux)

    - 9:00 - 10:00 L. Taylor -The Challenge to Provide Computational Tools for Increasingly Complex Models and Physics
    - 10:00 - 11:00 S. Kodiyalam - GPU Experiences for Applications in Computational Mechanics

- 11:15 - 11:15 Coffee break

- **11:15 - 12:15 Contributed Session I-A** (chairman L. Taylor)

    - 11:15 - 11:45 G. Hansen - Development of a Reactor System Analysis Code using TRILINOS
    - 11:45 - 12:15 V. F. de Almeida - Anisotropic Thermal Conductivity of Cermet Nuclear Waste

- **11:15 - 12:15 Contributed Session I-B** (chairman C. E. Kees)

    - 11:15 - 11:45 R. Belu - Modeling the Influence of Wind Characteristics and the Atmospheric Parameters on the Wind Turbine Performances
    - 11:45 - 12:15 J. Jiang - Application Of Variational Data Assimilation To Dynamical Downscaling Of Regional Wind Energy Resources In The Western U.S.

- 12:15 - 13:30 Lunch

- **13:30 - 15:30 Software Workshop I**

    - 13:30 - 14:30 FEMM
    - 14:30 - 15:30 Hermes

- 15:30 - 15:45 Coffee break

- **15:45 - 16:45 Software Workshop II**

    - 15:45 - 16:45 Agros2D

FEMTEC 2011 - Thursday, May 12

- **9:00 - 11:00 Contributed Session I-A** (chairman I. Doležel)

    - 9:00 - 9:30 J. Novák - Compression of large microstructural data sets via aperiodic tiling
    - 9:30 - 10:00 M. Šejnoha - Homogenization of Non-Stationary Transport Processes in Masonry Structures
    - 10:00 - 10:30 J. Vorel - Numerical Simulations of Concrete Mechanical Tests
    - 10:30 - 11:00 J. Sýkora - Acceleration of Uncertainty Updating in Description of Transport Processes in Heterogeneous Materials

- **9:00 - 11:00 Contributed Session I-B** (chairman S. Giani)

    - 9:00 - 9:30 M. Paprocki - FEMhub Online Methods Laboratory
    - 9:30 - 10:00 R. W. Douglass - A Python Implementation of the Wilson-Fowler Spline for Open and Closed Curves
    - 10:00 - 10:30 N, Muhtaroglu - A Smart Job Scheduler for Non-linear Finite Element Analyses on Cloud Computing Platforms
    - 10:30 - 11:00 N. Böttcher - Heat Transport Simulation for CO_2 Enhanced Gas Recovery

- 11:00 - 11:15 Coffee break

- **11:15 - 12:15 Contributed Session II-A** (chairman M. Šejnoha)

    - 11:15 - 11:45 N. Celik - A Rebar P-version Finite Element for Three-dimensional Reinforced Concrete Structures
    - 11:45 - 12:15 M. Slodička - Numerical Scheme for Augmented Landau-Lifshitz Equation in Heat Assisted Recording

- **11:15 - 12:15 Contributed Session II-B** (chairman V. A. Dobrev)

    - 11:15 - 11:45 S. Li - TBA
    - 11:45 - 12:15 I. C. Husanu - Vaporization and Combustion of Droplet Clusters in Zero Gravity Environment

- 12:15 - 13:30 Lunch

- **13:30 - 15:30 Software Workshop I**

    - 13:30 - 14:30 PLaSM
    - 14:30 - 15:30 Uintah

- 15:30 - 15:45 Coffee break

- **15:45 - 17:45 Software Workshop II**

    - 15:45 - 16:45 OFELI
    - 16:45 - 17:45 AMDiS

- **19:00 - 21:00 Farewell reception**

FEMTEC 2011 - Friday, May 13

- **9:00 - 11:00 Contributed Session I** (chairman P. Karban)

  - 9:00 - 9:30 D. Isola - Simulation of shock tube flows with an adaptive conservative scheme
  - 9:30 - 10:00 S. Piskin - Visualization of Blood Flow Simulation in Human Arteries
  - 10:00 - 10:30 M. Hernandez - Reduced-Order Modeling of Two-Phase Flow Hydraulics using Orthonormal Wavelets
  - 10:30 - 11:00 X. Zhang - Immersed Finite Element (IFE) Methods for Elasticity Interface Problems

- 11:00 - 11:15 Coffee break

- **11:15 - 12:15 Contributed Session II** (chairman P. Solin)

  - 11:15 - 11:45 K. R. Jayaraman - Minimum Sobolev Norm Methods For Bi-Harmonic Type Equations Hyperelastic Layers
  - 11:45 - 12:15 A. Ramabathiran - Conserving Integrators for Wave Propagation in Hyperelastic Layers

- **12:15 Conference closing**