Stanford

Peter Pinsky

Professor of Mechanical Engineering, Emeritus

NIH Biosketch available Online Curriculum Vitae available Online

Bio

BIO

Pinsky works in the theory and practice of computational mechanics with a particular interest in multiphysics problems in biomechanics. His work uses the close coupling of techniques for molecular, statistical and continuum mechanics with biology, chemistry and clinical science. Areas of current interest include the mechanics of human vision (ocular mechanics) and the mechanics of hearing. Topics in the mechanics of vision include the mechanics of transparency, which investigates the mechanisms by which corneal tissue self-organizes at the molecular scale using collagen-proteoglycan-ion interactions to explain the mechanical resilience and almost perfect transparency of the tissue and to provide a theoretical framework for engineered corneal tissue replacement. At the macroscopic scale, advanced imaging data is used to create detailed models of the 3-D organization of collagen fibrils and the results used to predict outcomes of clinical techniques for improving vision as well as how diseased tissue mechanically degrades. Theories for mass transport and reaction are being developed to model metabolic processes and swelling in tissue. Current topics in the hearing research arena include multiscale modeling of hair-cell mechanics in the inner ear including physical mechanisms for the activation of mechanically-gated ion channels. Supporting research addresses the mechanics of lipid bilayer cell membranes and their interaction with the cytoskeleton. Recent past research topics include computational acoustics for exterior, multifrequency and inverse problems; and multiscale modeling of transdermal drug delivery. Professor Pinsky currently serves as Chair of the Mechanics and Computation Group within the Department of Mechanical Engineering at Stanford.

ACADEMIC APPOINTMENTS

- Emeritus Faculty, Acad Council, Mechanical Engineering
- Member, Bio-X
- Member, Institute for Computational and Mathematical Engineering (ICME)

HONORS AND AWARDS

- Fellow, American Society of Mechanical Engineers (1998)
- Fellow, International Association of Computational Mechanics (2002)
- Executive Committee Member, US Association for Computational Mechanics as Member-At-Large (2008-12)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Editorial Board, Journal for Modeling in Ophthalmology (2016 - present)
- Editorial Board, International Biomechanics (2015 - present)
- Editorial Board, Computer Methods in Applied Mechanics and Engineering (2003 - 2012)
- Editorial Board, Engineering Computations (International Journal for Computer-Aided Engineering and Software) (2001 - present)

PROFESSIONAL EDUCATION

- PhD, University of California, Berkeley , Civil Engineering (1981)
- M.Sc, University of Toronto , Civil Engineering (1971)
- B.Sc. (Hons), University of Wales, Swansea , Civil Engineering (1969)

Publications

PUBLICATIONS

- **Celebrating the 95th birthday of Professor Karl S. Pister** *CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES*
  Austin, M., Hughes, T. J. R., Eibeck, P., Pines, D., Agogino, A., Oden, J., Martin-Atilano, L., Greene, B., Sture, S., Lutolf-Carroll, C., Ramm, E., Hawthorn, P., Simons, et al
  2021
- **Fluid and Osmotic Pressure Balance and Volume Stabilization in Cells Dedicated to Professor Karl Stark Pister for his 95th birthday** *CMES-COMPUTER MODELING IN ENGINEERING & SCIENCES*
  Pinsky, P. M.
  2021
- **A Mathematical Model of Corneal Metabolism in the Presence of an Iris-Fixated Phakic Intraocular Lens.** *Investigative ophthalmology & visual science*
  Davvalo Khongar, P., Pralits, J. O., Cheng, X., Pinsky, P., Soleri, P., Repetto, R.
  2019; 60 (6): 2311–20
- **Biofluid modeling of the coupled eye-brain system and insights into simulated microgravity conditions.** *PloS one*
  Salerni, F., Repetto, R., Harris, A., Pinsky, P., Prud'homme, C., Szopos, M., Guidoboni, G.
  2019; 14 (8): e0216012
- **A Constitutive Model for Swelling Pressure and Volumetric Behavior of Highly-Hydrated Connective Tissue** *JOURNAL OF ELASTICITY*
  Pinsky, P. M., Cheng, X.
  2017; 129 (1-2): 145–70
- **A simple mathematical model for the collagen architecture of normal and keratoconic human corneas**
  Pinsky, P. M., Ma, Y., Hwang, Y., Hayes, S., Meek, K. M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **Ocular and cerebral hemo-fluid dynamics in microgravity: a mathematical model**
  Guidoboni, G., Salerni, F., Harris, A., Prud'homme, C., Szopos, M., Pinsky, P. M., Repetto, R.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2017
- **A numerical model for metabolism, metabolite transport and edema in the human cornea** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Cheng, X., Pinsky, P. M.
  2017; 314: 323-344
- **Numerical investigation of glucose transport and corneal metabolism in the anterior chamber in the presence of an iris-fixated intraocular lens**
  Khongar, P., Cheng, X., Pralits, J., Repetto, R., Soleri, P., Pinsky, P. M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2016
- **The Balance of Fluid and Osmotic Pressures across Active Biological Membranes with Application to the Corneal Endothelium** *PLOS ONE*
  Cheng, X., Pinsky, P. M.
  2015; 10 (12)
- **The Balance of Fluid and Osmotic Pressures across Active Biological Membranes with Application to the Corneal Endothelium.** *PloS one*
  Cheng, X., Pinsky, P. M.
  2015; 10 (12): e0145422

- **A structural model for the in vivo human cornea including collagen-swelling interaction.** *Journal of the Royal Society, Interface / the Royal Society*
  Cheng, X., Petsche, S. J., Pinsky, P. M.
  2015; 12 (109)
- **A computational model for collagen-swelling interaction in the in vivo human cornea**
  Cheng, X., Petsche, S. J., Pinsky, P.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2015
- **Three-Dimensional Modeling of Metabolic Species Transport in the Cornea With a Hydrogel Intrastromal Inlay** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Pinsky, P. M.
  2014; 55 (5): 3093-3106
- **THREE-DIMENSIONAL MODELING OF METABOLIC SPECIES TRANSPORT IN THE CORNEA WITH A HYDROGEL INTRASTROMAL INLAY.** *Investigative ophthalmology & visual science*
  Pinsky, P. M.
  2014
- **The role of 3-D collagen organization in stromal elasticity: a model based on X-ray diffraction data and second harmonic-generated images.** *Biomechanics and modeling in mechanobiology*
  Petsche, S. J., Pinsky, P. M.
  2013; 12 (6): 1101-1113
- **The role of 3-D collagen organization in stromal elasticity: a model based on X-ray diffraction data and second harmonic-generated images** *BIOMECHANICS AND MODELING IN MECHANOBIOLOGY*
  Petsche, S. J., Pinsky, P. M.
  2013; 12 (6): 1101-1113
- **The elusive hair cell gating spring, a potential role for the lipid membrane.** *journal of the Acoustical Society of America*
  Kim, J., Pinsky, P. M., Steele, C. R., Puria, S., Ricci, A. J.
  2013; 133 (5): 3509-?
- **Three-dimensional distribution of transverse collagen fibers in the anterior human corneal stroma.** *Investigative ophthalmology & visual science*
  Winkler, M., Shoa, G., Xie, Y., Petsche, S. J., Pinsky, P. M., Juhasz, T., Brown, D. J., Jester, J. V.
  2013; 54 (12): 7293-7301
- **Mechanisms of self-organization for the collagen fibril lattice in the human cornea.** *Journal of the Royal Society, Interface / the Royal Society*
  Cheng, X., Pinsky, P. M.
  2013; 10 (87): 20130512-?
- **Depth-Dependent Transverse Shear Properties of the Human Corneal Stroma** *INVESTIGATIVE OPHTHALMOLOGY & VISUAL SCIENCE*
  Petsche, S. J., Chernyak, D., Martiz, J., Levenston, M. E., Pinsky, P. M.
  2012; 53 (2): 873-880
- **A nonlinear macroscopic multi-phasic model for describing interactions between solid, fluid and ionic species in biological tissue materials** *PHILOSOPHICAL MAGAZINE*
  Li, L., Pinsky, P. M.
  2011; 91 (2): 311-325
- **Elastostatic Analysis of the Membrane Tenting Deformation of Inner-Ear Stereocilia** *11th International Workshop on the Mechanics of Hearing*
  Kim, J., Pinsky, P. M., Ricci, A. J., Puria, S., Steele, C. R.
  AMER INST PHYSICS.2011
- **Matrix-Pade via Lanczos solutions for vibrations of fluid-structure interaction** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Liew, H., Pinsky, P. M.
  2010; 84 (10): 1183-1204
- **DEPTH DEPENDENT IN-PLANE SHEAR PROPERTIES OF THE CORNEAL STROMA** *12th ASME Summer Bioengineering Conference*

Petsche, S., Pinsky, P., Chernyak, D., Martiz, J.
AMER SOC MECHANICAL ENGINEERS.2010: 397–398

- **ELECTROSTATIC CONTRIBUTION OF THE PROTEOGLYCANS TO THE IN-PLANE SHEAR AND COMPRESSIVE STIFFNESS OF CORNEAL STROMA**
  Hatami-Marbini, H., Pinsky, P. M., ASME
  AMER SOC MECHANICAL ENGINEERS.2010: 369–70
- **THE CONTRIBUTION OF PROTEOGLYCANS TO THE MECHANICAL PROPERTIES OF THE CORNEAL STROMA** *ASME 1st Global Congress on NanoEngineering for Medicine and Biology*
  Hatami-Marbini, H., Pinsky, P. M.
  AMER SOC MECHANICAL ENGINEERS.2010: 299–300
- **Multiscale Modeling Framework of Transdermal Drug Delivery** *ANNALS OF BIOMEDICAL ENGINEERING*
  Rim, J. E., Pinsky, P. M., van Osdol, W. W.
  2009; 37 (6): 1217-1229
- **MODELING THE OPTICAL PERFORMANCE OF THE HUMAN CORNEA FOLLOWING REFRACTIVE SURGERY** *ASME Summer Bioengineering Conference*
  Pinsky, P. M., van der Heide, D.
  AMER SOC MECHANICAL ENGINEERS.2009: 777–778
- **Modeling electrostatic force microscopy for conductive and dielectric samples using the boundary element method** *ENGINEERING ANALYSIS WITH BOUNDARY ELEMENTS*
  Shen, Y., Barnett, D. M., Pinsky, P. M.
  2008; 32 (8): 682-691
- **Finite element modeling of acousto-mechanical coupling in the cat middle ear** *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*
  Tuck-Lee, J. P., Pinsky, P. M., Steele, C. R., Puria, S.
  2008; 124 (1): 348-362
- **Analytic perturbation solution to the capacitance system of a hyberboloidal tip and a rough surface** *APPLIED PHYSICS LETTERS*
  Shen, Y., Barnett, D. M., Pinsky, P. M.
  2008; 92 (13)
- **Simulating and interpreting Kelvin probe force microscopy images on dielectrics with boundary integral equations** *REVIEW OF SCIENTIFIC INSTRUMENTS*
  Shen, Y., Barnett, D. M., Pinsky, P. M.
  2008; 79 (2)
- **Adaptive frequency windowing for multifrequency solutions in structural acoustics based on the matrix Pade-via-Lanczos algorithm** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Tuck-Lee, J. P., Pinsky, P. M.
  2008; 73 (5): 728-746
- **A resolution study for electrostatic force microscopy on bimetallic samples using the boundary element method** *NANOTECHNOLOGY*
  Shen, Y., Lee, M., Lee, W., Barnett, D. M., Pinsky, P., Prinz, F. B.
  2008; 19 (3)
- **Using the method of homogenization to calculate the effective diffusivity of the stratum corneum with permeable corneocytes** *JOURNAL OF BIOMECHANICS*
  Rim, J. E., Pinsky, P. M., van Osdol, W. W.
  2008; 41 (4): 788-796
- **Integral equation modeling of electrostatic interactions in atomic force microscopy** *International Conference on Integral Methods in Science and Engineering (IMSE 2006)*
  Shen, Y., Barnett, D. M., Pinsky, P. M.
  BIRKHAUSER BOSTON.2008: 237–246
- **Using the method of homogenization to calculate the effective diffusivity of the stratum corneum** *JOURNAL OF MEMBRANE SCIENCE*
  Rim, J. E., Pinsky, P. M., van Osdol, W. W.

2007; 293 (1-2): 174-182

- **Finite element modeling of coupled diffusion with partitioning in transdermal drug delivery** *ANNALS OF BIOMEDICAL ENGINEERING*
  Rim, J. E., PINSKY, P. M., van Osdol, W. W.
  2005; 33 (10): 1422-1438
- **A 3D model of muscle reveals the causes of nonuniform strains in the biceps brachii** *JOURNAL OF BIOMECHANICS*
  Blemker, S. S., PINSKY, P. M., Delp, S. L.
  2005; 38 (4): 657-665
- **Recovery of shear modulus in elastography using an ajoint method with B-spline representation** *FINITE ELEMENTS IN ANALYSIS AND DESIGN*
  Liew, H. L., Pinsky, P. M.
  2005; 41 (7-8): 778-799
- **Computational modeling of mechanical anisotropy in the cornea and sclera** *JOURNAL OF CATARACT AND REFRACTIVE SURGERY*
  Pinsky, P. M., van der Heide, D., Chernyak, D.
  2005; 31 (1): 136-145
- **A molecular dynamics study of the diffusion of fentanyl in DPPC bilayers** *49th Annual Meeting of the Biophysical-Society*
  Rim, J. E., PINSKY, P. M., van Osdol, W. W.
  CELL PRESS.2005: 148A–148A
- **An application of shape optimization in the solution of inverse acoustic scattering problems** *INVERSE PROBLEMS*
  Feijoo, G. R., Oberai, A. A., PINSKY, P. M.
  2004; 20 (1): 199-228
- **Application of Pade via Lanczos approximations for efficient multifrequency solution of Helmholtz problems** *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*
  Wagner, M. M., PINSKY, P. M., Malhotra, M.
  2003; 113 (1): 313-319
- **A Krylov subspace projection method for simultaneous solution of Helmholtz problems at multiple frequencies** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Wagner, M. M., PINSKY, P. M., Oberai, A. A., Malhotra, M.
  2003; 192 (41-42): 4609-4640
- **Computational investigation of the biomechanical response of the cornea to lamellar procedures.**
  Guarnieri, F. A., PINSKY, P. M., Shimmick, J.
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- **Shape sensitivity calculations for exterior acoustics problems** *ENGINEERING COMPUTATIONS*
  Feijoo, G. R., Malhotra, M., Oberai, A. A., PINSKY, P. M.
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- **A residual-based finite element method for the Helmholtz equation** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Oberai, A. A., PINSKY, P. M.
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- **A numerical comparison of finite element methods for the Helmholtz equation** *JOURNAL OF COMPUTATIONAL ACOUSTICS*
  Oberai, A. A., PINSKY, P. M.
  2000; 8 (1): 211-221
- **Efficient computation of multi-frequency far-field solutions of the Helmholtz equation using Pade approximation** *JOURNAL OF COMPUTATIONAL ACOUSTICS*
  Malhotra, M., PINSKY, P. M.
  2000; 8 (1): 223-240
- **A novel method to utilize existing TCAD tools to build accurate geometry required for MEMS simulation** *2nd International Conference on Modeling and Simulation of Microsystems*

Wilson, N. M., Liang, S., PINSKY, P. M., DUTTON, R. W.
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- **Investigation of tetrahedral automatic mesh generation for finite-element simulation of micro-electro-mechanical switches** *2nd International Conference on Modeling and Simulation of Microsystems*
  Wilson, N. M., PINSKY, P. M., DUTTON, R. W.
  COMPUTATIONAL PUBLICATIONS.1999: 305–308
- **On the implementation of the Dirichlet-to-Neumann radiation condition for iterative solution of the Helmholtz equation** *APPLIED NUMERICAL MATHEMATICS*
  Oberai, A. A., Malhotra, M., PINSKY, P. M.
  1998; 27 (4): 443-464
- **Parallel preconditioning based on h-hierarchical finite elements with application to acoustics** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Malhotra, M., PINSKY, P. M.
  1998; 155 (1-2): 97-117
- **Galerkin Generalized Least Squares finite element methods for time-harmonic structural acoustics** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Grosh, K., PINSKY, P. M.
  1998; 154 (3-4): 299-318
- **A multiscale finite element method for the Helmholtz equation** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Oberai, A. A., PINSKY, P. M.
  1998; 154 (3-4): 281-297
- **Finite element modeling for interconnect materials and structures** *Symposium on Advanced Interconnects and Contact Materials and Processes for Future Integrated Circuits*
  Bassman, L., Pinsky, P., Deal, M.
  MATERIALS RESEARCH SOCIETY.1998: 299–299
- **Iterative solution of multiple radiation and scattering problems in structural acoustics using a block quasi-minimal residual algorithm** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Malhotra, M., Freund, R. W., PINSKY, P. M.
  1997; 146 (1-2): 173-196
- **Nonlinear dynamic modeling of micromachined microwave switches** *41st Annual IEEE MTT-Society International Microwave Symposium (IMS) at 1997 Microwave Week*
  Chang, E. K., Kan, E. C., DUTTON, R. W., PINSKY, P. M.
  IEEE.1997: 1511–1514
- **Mesoscale modeling of diffusion in polycrystalline structures** *1997 International Conference on Simulation of Semiconductor Processes and Devices (SISPAD 97)*
  BASSMAN, L. C., Ibrahim, N. R., PINSKY, P. M., Saraswat, K. C., Deal, M. D.
  IEEE.1997: 149–152
- **A matrix-free interpretation of the non-local Dirichlet-to-Neumann radiation boundary condition** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Malhotra, M., PINSKY, P. M.
  1996; 39 (21): 3705-3713
- **Stabilized Element Residual Method (SERM): A posteriori error estimation for the advection-diffusion equation** *JOURNAL OF COMPUTATIONAL AND APPLIED MATHEMATICS*
  Agarwal, A. N., PINSKY, P. M.
  1996; 74 (1-2): 3-17
- **A space-time finite element method for structural acoustics in infinite domains .2. Exact time-dependent non-reflecting boundary conditions** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Thompson, L. L., PINSKY, P. M.
  1996; 132 (3-4): 229-258

- **A space-time finite element method for the exterior acoustics problem** *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*
  Thompson, L. L., PINSKY, P. M.
  1996; 99 (6): 3297-3311
- **A space-time finite element method for structural acoustics in infinite domains .1. Formulation, stability and convergence** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Thompson, L. L., PINSKY, P. M.
  1996; 132 (3-4): 195-227
- **A space-time finite element method for the exterior structural acoustics problem: Time-dependent radiation boundary conditions in two space dimensions** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Thompson, L. L., PINSKY, P. M.
  1996; 39 (10): 1635-?
- **Design of Galerkin Generalized Least Squares methods for Timoshenko beams** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Grosh, K., PINSKY, P. M.
  1996; 132 (1-2): 1-16
- **Numerical simulation of glucose diffusion in the cornea with an ICR(R) (intrastromal corneal ring)**
  Silvestrini, T. A., PINSKY, P. M., DATYE, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1996: 311–11
- **Finite element modelling of intravitreous drug kinetics**
  PINSKY, P. M., Maurice, D. M., DATYE, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1996: 3200–3200
- **Numerical prediction of astigmatic corrections in the human cornea after insertion of intrastromal corneal ring arcs**
  DATYE, D. V., PINSKY, P. M., Silvestrini, T. A.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1996: 310–10
- **A Finite element method for the Helmholtz equation based on a subgrid scale model** *2nd ECCOMAS Conference on Numerical Methods in Engineering*
  Oberai, A. A., PINSKY, P. M.
  JOHN WILEY & SONS LTD.1996: 79–85
- **NUMERICAL-SOLUTION OF 2-CARRIER HYDRODYNAMIC SEMICONDUCTOR-DEVICE EQUATIONS EMPLOYING A STABILIZED FINITE-ELEMENT METHOD** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Aluru, N. R., Law, K. H., Raefsky, A., PINSKY, P. M., DUTTON, R. W.
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- **An analysis of the hydrodynamic semiconductor device model - Boundary conditions and simulations** *COMPEL-THE INTERNATIONAL JOURNAL FOR COMPUTATION AND MATHEMATICS IN ELECTRICAL AND ELECTRONIC ENGINEERING*
  Aluru, N. R., Law, K. H., PINSKY, P. M., DUTTON, R. W.
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- **NUMERICAL-SIMULATION OF SURGICAL-PROCEDURES ON THE HUMAN CORNEA USING MECHANICAL MODELS BASED ON CORNEAL ULTRA-STRUCTURE**
  DATYE, D. V., PINSKY, P. M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1995: S38–S38
- **NUMERICAL-SIMULATION OF TOPOGRAPHICAL ALTERATIONS IN THE CORNEA AFTER ICR(R) (INTRASTROMAL CORNEAL RING)**
  PINSKY, P. M., DATYE, D. V., Silvestrini, T. A.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1995: S309–S309
- **A GALERKIN LEAST-SQUARES FINITE-ELEMENT METHOD FOR THE 2-DIMENSIONAL HELMHOLTZ-EQUATION** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  Thompson, L. L., PINSKY, P. M.
  1995; 38 (3): 371-397

- **FINITE-ELEMENT FORMULATION FOR A BAFFLED, FLUID-LOADED, FINITE CYLINDRICAL-SHELL** *Symposium on Computational Structural Acoustics, at the 2nd US National Congress on Computational Mechanics*
  Grosh, K., PINSKY, P. M., Malhotra, M., Rao, V. S.
  JOHN WILEY & SONS LTD.1994: 2971–85

- **SELECTED PAPERS FROM THE SYMPOSIUM ON COMPUTATIONAL STRUCTURAL ACOUSTICS, 2ND UNITED-STATES-NATIONAL-CONGRESS ON COMPUTATIONAL MECHANICS - PREFACE** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  PINSKY, P. M.
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- **DETERMINATION OF MECHANICAL-PROPERTIES OF CORNEA IN-VIVO BY INDENTATION**
  Chang, S. S., Maurice, D. M., PINSKY, P. M., DATYE, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1994: 1357–57

- **A MICROSTRUCTURALLY-BASED MECHANICAL MODEL OF THE HUMAN CORNEA WITH APPLICATION TO KERATOTOMY**
  PINSKY, P. M., DATYE, D. V.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1994: 1296–96

- **COMPLEX WAVE-NUMBER DISPERSION ANALYSIS OF GALERKIN AND GALERKIN LEAST-SQUARES METHODS FOR FLUID-LOADED PLATES** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Grosh, K., PINSKY, P. M.
  1994; 113 (1-2): 67-98

- **SPACE-TIME GALERKIN LEAST-SQUARES FINITE-ELEMENT FORMULATION FOR THE HYDRODYNAMIC DEVICE EQUATIONS** *1993 VLSI Process and Device Modeling Workshop (VPAD 93)*
  Aluru, N. R., Law, K. H., PINSKY, P. M., Raefsky, A., GOOSSENS, R. J., DUTTON, R. W.
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- **COMPLEX WAVE-NUMBER FOURIER-ANALYSIS OF THE P-VERSION FINITE-ELEMENT METHOD** *COMPUTATIONAL MECHANICS*
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- **A SPACE-TIME FINITE ELEMENT METHOD FOR FLUID STRUCTURE INTERACTION IN EXTERIOR DOMAINS** *2nd International Conference on Computational Structures Technology*
  PINSKY, P. M., Thompson, L. L.
  CIVIL COMP PRESS.1994: 103–115

- **GALERKIN GENERALIZED LEAST SQUARES METHODS FOR INVACUO AND FLUID-LOADED TIMOSHENKO BEAMS** *Conference on Recent Developments in Finite Element Analysis, in honor of Robert L Taylor on his 60th Birthday*
  PINSKY, P. M., Grosh, K.
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- **A FINITE-ELEMENT FORMULATION FOR THE HYDRODYNAMIC SEMICONDUCTOR-DEVICE EQUATIONS** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  Aluru, N. R., Raefsky, A., PINSKY, P. M., Law, K. H., GOOSSENS, R. J., DUTTON, R. W.
  1993; 107 (1-2): 269-298

- **CORNEAL DEFORMATION BY INDENTATION AND APPLANATION FORCES**
  Chang, S. S., Hjortdal, J. O., Maurice, D. M., PINSKY, P. M.
  ASSOC RESEARCH VISION OPHTHALMOLOGY INC.1993: 1241–41

- **NEW GENERALIZED GALERKIN LEAST-SQUARES FINITE-ELEMENT METHODS FOR WAVE-PROPAGATION IN TIMOSHENKO BEAMS** *2ND INTERNATIONAL CONF ON MATHEMATICAL AND NUMERICAL ASPECTS OF WAVE PROPAGATION*
  Grosh, K., PINSKY, P. M.
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- **FINITE-ELEMENT DISPERSION ANALYSIS FOR THE 3-DIMENSIONAL 2ND-ORDER SCALAR WAVE-EQUATION** *INTERNATIONAL JOURNAL FOR NUMERICAL METHODS IN ENGINEERING*
  ABBOUD, N. N., PINSKY, P. M.
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- **Numerical modeling of radial, astigmatic, and hexagonal keratotomy.** *Refractive and corneal surgery*
  PINSKY, P. M., DATYE, D. V.
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- **LOCAL HIGH-ORDER RADIATION BOUNDARY-CONDITIONS FOR THE 2-DIMENSIONAL TIME-DEPENDENT STRUCTURAL ACOUSTICS PROBLEM** *JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA*
  PINSKY, P. M., Thompson, L. L., ABBOUD, N. N.
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- **FINITE-ELEMENT SOLUTION OF THE TRANSIENT EXTERIOR STRUCTURAL ACOUSTICS PROBLEM BASED ON THE USE OF RADIALLY ASYMPTOTIC BOUNDARY OPERATORS** *COMPUTER METHODS IN APPLIED MECHANICS AND ENGINEERING*
  PINSKY, P. M., ABBOUD, N. N.
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