

NAME AND PRESENT POSITION

Yunmei Chen, Distinguished Professor of Mathematics

Research Interest

Optimization and deep learning for data analysis;

Variational methods, theories and applications to image processing;

Partial differential equations, Nonlinear analysis.

EDUCATIONAL BACKGROUND

Ph.D., Mathematics, Fudan University, Shanghai, China, 1985

M.S., Mathematics, Tongji University, Shanghai, China, 1981

B.S., Mathematics, Fudan University, Shanghai, China, 1967

EMPLOYMENT

Distinguished Professor, University of Florida, 2015-present

Professor, University of Florida, 1995-2015

Associate Professor, University of Florida, 1992-1995

Assistant Professor, University of Florida, 1991-1992

Visiting Professor, SISSA, Italy, 1989-1991

Post-Doctoral Fellow, International Centre for Theoretical Physics, Italy, 1986-1989

HONORS

- University of Florida Term Professorship 2016-2019;
- University of Florida Research Foundation Professorship 2003-2006;
- Gibson Term Professorship 2001-2002;
- The best paper award in the 5th World Multi-conference on systemics, Cybernetics and Informatics, Orlando, USA, July 22-25, 2001;
- TIP Awards for distinguished teaching at University of Florida, 1994-1995, and 1998-1999;
- The third prize for Natural Science Award, National Science and Technology Committee of China, 1997;
- The first prize for Advancement of Science and Technology, National Education Committee of China, 1993.

CONTRACTS AND GRANTS

A. Funded Externally

NSF Key personnel, 2/1/2018 1/31/2023, Phase I IUCRC University of Florida: Center for Big Learning, (\$750,000);

NSF/DMS PI, 7/1/2017-6/30/2020, PI, Bundle Level Type Gradient Sliding Methods for Large Scale Convex Optimization, (\$154,975);

AFOSR/Eglin 9/30/2014 10/27/2018, Co-PI, Air Force Research Laboratory (AFRL) Mathematical Modeling and Optimization Institute Task Order 0042, (\$ 1,680,364);

NSF/DMS 9/1/2013-8/31/2017, PI, Accelerated Algorithms for a Class of Saddle Point Problems and Variational Inequality, (\$160,000);

NSF/DMS 3/15/2014-3/14/2015, Co-PI, The Third University of Florida SIAM Gators Conference, (\$15,300);

NSF/IIP 9/1/2012-8/31/2015, Co-PI, Innovation Transfer of the Portable Nuclear Moment Imaging Platform (\$ 598,644);

NSF/DMS 9/15/2011-9/14/2014, Co-PI, Collaborative Research: Fast TV-Regularized Large-Scale and Ill-Conditioned Linear Inversion with Application to PPI, (\$241,579);

NIH/R01, 07/01/2006 - 06/30/2011, Co-Investigator, Segmentation of Ultrasound Images, (\$1,556,175, 10% FTE);

NIH/R01, 4/1/2006-12/30/2011, Co-Investigator, Biochemical Markers of Traumatic Brain Injury, (\$5,099,083, 10% FTE);

NSF/CCF, 10/1/2005-9/30/2007, Co-PI, MSPA-MCS: Mathematical and Computational Algorithms for Visualization of Human Brain Neural Pathways, (\$193,615);

Research Support: from ViewRay Inc., 8/15/06-8/15/07, (\$50,000);

Contract: 3/1/2006-8/15/2006, PI, Research Agreement between ViewRay Inc and the University of Florida: Deformable registration registration in radiotherapy, (\$ 25,000);

NSF (Analysis), 9/1/2005-8/31/2006 , Co-PI, Conference on Partial Differential Equations and Applications, (\$14,700);

NIH/R01, 4/1/2002-3/31/2006, Co-Investigator, *Algorithms for Automatic Fiber Tract Mapping in Central Nervous System*, (\$1,369,534, 22% FTE);

NIH/P50, 6/1/2000-5/31/2005, Co-Investigator, *Treatment of Aphasia and Related Disorders*, Core B: *Neuroimaging*, (\$6,006,497, 7.5% FTE);

NSF (Applied Mathematics), 9/15/2003-9/14/2004, Co-PI, University of Florida 2003/2004 Special Year in Mathematics, (\$30,000);

Contract, 1/1/2003-12/10/2003, PI, Contract with MRI Device Corporation, *Research Agreement between MRI Device Corporation and the University of Florida/Parallel Noise Encoding*, (\$34,906);

Contract, 1/1/2002-12/31/2002, PI, Contract with MRI Device Corporation, *Research Agreement between MRI Device Corporation and the University of Florida/Parallel Noise Encoding*, (\$55,118);

Contract, 12/2000-12/2001, PI, Research Agreement between MRI Device Corporation and the University of Florida, (\$63,214);

NSF/DMS (IGMS), 8/15/1999-8/14/2000, PI, Interdisciplinary study in image and signal processing, (\$93,082);

NSF/DMS (SCREMS), 7/1/1998-6/30/1999, Co-PI, Mathematical Methods in Imaging, (\$19,640);

NSF /DMS (Analysis), 8/15/1997-8/14/2000, PI, gradient like flows, (\$72,210);
NSF/DMS (Analysis), 8/15/1994-8/14/1997, PI, weak flow of harmonic maps, (\$60,000);
NSF (Analysis), 1992-1994, PI, heat flow of harmonic maps, (\$30,000).

b. Funded Internally

Title: Combining Deep Neural Networks and Large-Scale Brain Data to Predict Human Cognition and Behavior, University of Florida OR-DRD-AI2020, 12/2/2020 12/1/2021, (\$50,000);

Title: UF Informatics Institute Support, 1/01/2016-12/31/2017, PI, *First-order Accelerated Gradient Methods with Applications to Data Science Problems*, (\$25,742);

The UF Informatics Institute Seed Fund, 5/16/2015 5/16/2016, CO-PI, *Image Informatics for Scanning Tunneling Microscopy and Scanning Tunneling Potentiometry*, (\$ 45,000);

Opportunity Fund from UF, 06/01/2009-05/31/2011, CO-PI, *A Portable, Wearable, Fast, Magnetic Resonance Imager*, (\$90,298);

Opportunity Fund from UF, 5/1/2000-5/1/2002, PI, *A PDE Based Method for Automatic Boundary Determination on 2-D Echocardiographic Images*. (\$36,820).

Ph.D. STUDENTS ADVISEMENT AND PLACEMENT:

2000: Stacey Levine, full professor, Department of Mathematics and Computer Science, Duquesne University, Pittsburgh, PA.

2003: Thomas Wunderli, associate professor, American University of Sharjha, Sharjha, UAE.

2004: Feng Huang, Research Scientist, Invivo Diagnostic Imaging, Philips Gainesville, FL.

2005: Sheshadri Thiruvankadam, senior research scientist at GE Global Research, Bangalore, India.

2005: Jung-ha An, associate professor, Department of Mathematics, California State University, Stanislaus, CA.

2006: Christopher Tweddle, assistant professor, University of Evansville, Evansville, IN.

2007: Weihong Guo, associate professor, Department of Mathematics Case Western Reserve University, Cleveland, Ohio.

2007: Pengwen Chen, associate professor, Department of Mathematics, National Chung Hsing University, Taiwan.

2008: Qingguo Zeng, Scientist, ViewRay Inc., Beachwood, Ohio.

2009: Junyi Xia, (Co-Chair), assistant professor, Department of Radiation Oncology, University of Iowa Hospitals and Clinics, Iowa City, Iowa.

2011: Xiaojing Ye, Assistant professor, Department of Mathematics, Georgia State University, Atlanta, Georgia.

2012: Fuhua Chen, Assistant professor, Department of Natural Sciences and Mathematics, West Liberty University, West Virginia.

2012: Iulia Posrica, Adjunct, Department of mathematics, Santa Fe College.
 2013: Jinseop Lee, Adjunct, Department of mathematics, Santa Fe College.
 2013: Ouyang Yuyuang, Assistant professor, Department of Mathematical Sciences, Clemson University, SC
 2013: Haili Zhang, Senior Image Processing Engineer, Hermes Microvision Inc. San Jose, CA.
 2013: Jiangli Shi, Programmer Analyst, TMC Software, Inc. San Francisco, CA
 2014: Meng Liu, Data Analyst & Marketing Consultant, Dragon Oil Technologies Inc., Houston, TX.
 2016: Hao Zhang, Postdoctoral Researcher, Washington University in St. Louis, MO. (Software Engineer, Google, Seattle, Washington, since 2018)
 2017: Wei Zhang, Software Engineer, Google, Mountain View, CA.
 2018: Xianqi Li, Postdoctoral Research, Harvard University Medical School, Boston, MA.
 2019: Chenxi Chen, Software Engineer, Bloomberg Inc, New York, NY.

OTHER PROFESSIONAL SERVICES

Editorial Board for the SIAM Journal on Imaging Sciences, 2007-Dec. 2017;
 Editorial Board for the AIMS journal on Inverse Problem and Imaging, 2009-Present;
 Editorial Board for the Journal of Mathematical Imaging and Vision, 2016-present;
 Guest editor for the special issue series: “Medical Imaging” in Inverse Problem and Imaging, 2009 (with Prof. Tony Chan and Prof. Nikos Paragios), 2010.
 Guest editor for the special issue series: “Integrative Approaches in Computational Biomedical Imaging” in computational and Mathematical Methods in Medicine, 2013-2014, and 2014-2015 (with Prof. Huafeng Liu and Prof. Pengcheng Shi).
 Reviewer for Mathematical Review; 1992-Present;

PATENT

Patent issued

X.Zhang, Y.Chen, H.Zhang, A.Li and X.Li, Method for Error Correction in Scanning Tunneling Microscope Data, issued on June 2, 2020, as U.S. Patent No. 10,670,625.
 B.Lu, Y.Chen, H.Zhang and C.Park, Common-Mask Guided Image Reconstruction for Enhanced Four-Dimensional Cone-Beam Computed Tomography, issued on August 20, 2019, U.S. Patent No. 10,388,036.
 J. Dobson, Y.Chen, M.Davidson, and K.White, Systems and Methods for Detecting the Presence of Anomalous Material within Tissue, Serial No.: 14/342,976, U.S. Patent No. 9,767,552, issued on September 19, 2017.
 F.Huang, G.R.Duensing, Y.Chen, Method for applying an In-painting technique to correct images in parallel imaging, US patent 7,230,429 B1. 2007.

Patent filed

J.Dobson, M. Davidson, K.White and Y.Chen, Detection of Anomalies within Tissue, U.S. Provisional App. No.: 62/425,300, November 22, 2016.

B.Lu, Y.Chen, H.Zhang and C.Park, Common-Mask Guided Image Reconstruction for Enhanced Four-Dimensional Cone-Beam Computed Tomography, U.S. Provisional App. No. 62/118,952, October 26, 2015.

J.Dobson, M.Davison, Y.Chen, K.White, Systems and Methods for Detecting the Presence of Iron Within Tissue (the Invention), U.S. Patent, Serial No. 14/342,976, March 5, 2014.

M.Davison, Y.Chen, J.Dobson, K.White, Systems and Methods for Detecting the Presence of Iron Within Tissue, U.S. Patent, PCT/US12/53916, 2012.

Y.Chen and X.Ye, Fast MR Image Reconstruction in Partially Parallel Imaging. U.S. Patent, PCT/US11/58921, 2011.

PUBLICATIONS

A. Books, Co-authored

N.Paragios, Y.Chen, and O.Faugeras, Handbook of Mathematical Models in Computer Vision, *Springer Verlag*, (2006).

T.Li and Y.Chen, Global Classical Solutions for Nonlinear Evolution Equations, *Pitman Monographs and Surveys in Pure and Applied Mathematics*45, Longman Scientific & Technical, (1992).

T.Li and Y.Chen, Nonlinear Evolution Equations *Science Press*, Beijing, China, (1990).

B. Book Chapters

B.C.Vemuri and Y.Chen, PDE-based Algorithms for Simultaneous Image Registration and Segmentation, book chapter in *Geometric Level Set Methods in Imaging, Vision and Graphics*, Springer Verlag, (2003), 251-271.

Y.Chen, Characterization of Diffusion Anisotropy in DWI, book chapter in *Handbook of Mathematical Models in Computer Vision*, Springer Verlag, (2006), 487-502.

Y.Chen and X.Ye, Inverse Consistent Deformable Image Registration, *Development of Mathematics, The Legacy of Alladi Ramakrishnan in the Mathematical Sciences*, Springer-Verlag, (2010), 419-440.

Y.Chen, X.Ye and Q.Zhang, Book Chapter: Variational Model Based Deep Neural Networks for Image Reconstruction, *Handbook of Mathematical Models and Algorithms in Computer Vision and Imaging*, Springer Cham. (2021), 1-29.

C. Refereed Papers

Submitted and In Press

W.Bian, Y.Chen and X.Ye, An Optimal Control Framework for Joint-channel Parallel MRI Reconstruction without Coil Sensitivities, *Magnetic Resonance Imaging*, (to appear).

Published

W.Wang and Y.Chen, An accelerated smoothing gradient method for nonconvex nonsmooth minimization in image processing, *Journal of Scientific Computing*, 90, 31 (2022). Pages 1-28.

Y. Chen, H.Liu, X.Ye, Q.Zhang, Learnable Descent Algorithm for Nonsmooth Nonconvex Image Reconstruction, *SIAM Journal on Imaging Science*, Vol. 14 (4), 15321564, (2021).

W.Bian, Y.Chen, X.Ye, and Q.Zhang, An Optimization-Based Meta-Learning Model for MRI Reconstruction with Diverse Dataset, Special Issue on Inverse Problems and Imaging of Journal of Imaging, Vol. 7 (11) (early access version article number 231) 29 pages, (2021).

Q. Zhang, X. Ye, and Y. Chen. Nonsmooth nonconvex LDCT image reconstruction via learned descent algorithm. In *Developments in X-Ray Tomography XIII, International Society for Optics and Photonics*, Vol. 11840, (2021), page 1184013 (9 pages).

W. Zhang, X. Feng, F.Xiao, Y.Chen; A Folded Concave Penalty Regularized Low Rank Subspace Clustering Method to Integrate Affinity and Clustering, *Mathematical Problems in Engineering*, Vol. 2021, Article ID 6641180, 13 pages, (2021). <https://doi.org/10.1155/2021/6641180>.

W. Bian, Y.Chen and X.Ye, Deep Parallel MRI Reconstruction Network Without Coil Sensitivities. Machine Learning for Medical Image Reconstruction, *Lecture Notes in Computer Science*, Vol 12450. Springer, Cham. (2020). <https://doi.org/10.1007/978-3-030-61598-7-2>.

Y.Chen, X.Ye and W.Zhang, Acceleration techniques for level bundle methods in weakly smooth convex constrained optimization, *Computational Optimization and Applications*, Vol. 77 (2), (2020). <https://doi.org/10.1007/s10589-020-00208-9>.

C.Chen, Y.Chen and X.Ye, A Randomized Incremental Primal Dual Method for Decentralized Consensus Optimization, *Special Issue "Mathematics of Data Science" in Analysis and Applications*, , (2020) (early access) <https://doi.org/10.1142/S0219530519410082>.

X.H.Yang, L.Tian, Y.Chen, L.Yang, S.Xu, and W.Wu, Inverse Projection Representation and Category Contribution Rate for Robust Tumor Recognition, *IEEE/ACM Transactions on Computational Biology and Bioinformatics*, Vol.17 (4). 1262-1275, (2020).

W.Zhang, X.Feng, Y.Chen, A Manifold Laplacian Regularized Semi-supervised Sparse Image Classification Method with a Variant Trace Lasso Norm, *IEEE Access*, Vol. 8 (1), 97361-97369 (2020). doi: 10.1109/ACCESS.2020.2997413.

J. Cui, Z. Qin, S. Chen, Y. Chen and H. Liu, Structure and Tracer Kinetics-Driven Dynamic PET Reconstruction, *IEEE Transactions on Radiation and Plasma Medical Sciences*, Vol. 4 (4), 400-409, (2020), doi: 10.1109/TRPMS.2019.2947860.

S.Dual, S.Yu, Y.Chen and J.C. Principe, On Kernel Method-Based Connectionist Models and Supervised Deep Learning Without Backpropagation, *Neural Computation*, Vol. 32 (1), 97-135, (2020).

Y.Chen, B.Li and X.Ye, A Two-stage Algorithm for Joint Multimodal Image Reconstruction, *SIAM Journal on Imaging Science*, Vol. 12(3), 14251463, (2019).

N.Xie, Y.Chen and H.Liu, 3D Tensor Based Nonlocal Low Rank Approximation in Dynamic PET Reconstruction, *Special Issue "Compressed Sensing in Biomedical Signal and Image Analysis" in Sensors*, 19(23), 5299-5132, (2019).

W.Wu, X.Yang, Y.Chen, J.Zhang, D.Long, L.Yang and C.Tian, Layer-Wise Pre-Training Low-Rank NMF Model for Mammograms-Based Breast Tumor Classification, *Journal of the Operations Research Society of China*, Vol. 7 (4), 515-537, (2019).

Y.Chen, G.Lan, Y.Ouyang, and W.Zhang, Fast Bundle-Level Methods for Unconstrained and Ball Constrained Convex Optimization, *Computational Optimization and Applications*, 73 (1), 159-199, (2019).

L.Fang, Q.Zhung, W.Mao, Y.Chen and H.Lin, TV Regularized Low-rank Framework for Localizing Premature Ventricular Contraction Origin, Special Section on Theory, Algorithms and Applications of Sparse Recovery in *IEEE Access*, Vol.7, 27802-27813, (2019).

L.Fang, J.Xu, H.Hu, Y.Chen, P.Shi, L.Wang, H.Liu, Noninvasive imaging of epicardial and endocardial potentials with low rank and sparsity constraints, *IEEE Transactions on Biomedical Engineering*, Vol. 66 (9), 2651-2662, (2019).

X.H.Yang, W.Wu, Y.Chen, X.Li, J.Zhang, D.Long, L.Yang, An Integrated Inverse Space Sparse Representation Framework for Tumor Classification, *Pattern Recognition*, Vol.93, 293-311, (2019).

J.Cui, H.Yu, S.Chen, Y.Chen and H.Liu, Simultaneous Estimation and Segmentation from Projection Data in Dynamic PET, *Medical Physics*, Vol. 46 (3), 1245-1259, (2019).

H.Liu, Y.Chen and B.Lu, A New Inverse Planning Formalism with Explicit DVH Constraints and Kurtosis-Based Dosimetric Criteria, *Physics in Medicine and Biology*, Vol. 63 (18) 1-13, (2018).

C.Chen, Y.Chen, Y.Ouyang and E.Pasilião, An Accelerated Stochastic ADMM with Important Sampling, *Journal of Optimization Theory and Application*, Vol. 179 (2), 675-695, (2018).

N.Xie, Y.Chen and H.Liu, Nonlocal Low-Rank and Total Variation Constrained PET Image Reconstruction, *Proceeding of IEEE conference: the 24th International Conference on Pattern Recognition*, August 20-24, 2018, Beijing, China, 3874-3879 (2018).

Y.Chen and W.Zhang, Inexact Accelerated Bundle Level methods, *Science China: Mathematics*, Vol. 47 (10) (2017) 1119-1142.

Y.Chen, X.Li, Y.Ouang and E.Pasilião, Accelerated Bregman Operator Splitting with backtracking, *Inverse problem and Imaging*, Vol. 11 (6), (2017), 1047 1070.

H.Zhang, X.Li, Y.Chen, J.Park, A.P.Li and X.G. Zhang, Postprocessing Algorithm for Driving Conventional Scanning Tunneling Microscope at Fast Scan Rates, *Scanning*, Vol. 2017, Article ID 1097142, 1-8, (2017). doi:10.1155/2017/1097142

Y.Chen, G.Lan and Y.Ouyang, Accelerated Schemes for a Class of Variational Inequalities, a special issue of Stochastic Equilibrium and Variational Inequalities, *Mathematical Programming B*, (2017), DOI 10.1007/s10107-017-1161-4, 1-37.

H.Yu, S.Chen, Y.Chen and H.Liu, Joint Reconstruction of Dynamic PET Activity and Kinetic Parametric Images Using Total Variation Constrained Dictionary Sparse Coding, *Inverse problem and Imaging*, Vol. 33(5), 055011 (2017), 1-18.

H.Zhang, X.Li, Y.Chen, C.Durand, A.P.Li and X.G. Zhang, Conductivity map from scanning tunneling potentiometry, *Review of Scientific Instruments*, DOI: <http://dx.doi.org/10.1063/1.4960081>.

F.Dong and Y.Chen, A Fractional-order Derivative Based Variational Framework for Image Denoising, *Inverse Problem and Imaging*, Vol. 10 (1) (2016), 27-50.

X.Yu, H.Liu, S.Chen, M.Liu, Y.Chen, P.Shi. Sparse/Low Rank Constrained Reconstruction for Dynamic PET Imaging, *PLOS ONE*, November 5, 2015, DOI: 10.1371/journal.pone.0142019.

S.Chen, H.Liu, Z.Hu, P.Shi and Y.Chen. Simultaneous Reconstruction and Segmentation of Dynamic PET via Low-rank and Sparse matrix decomposition, *IEEE Transactions on Biomedical Engineering*, Vol. 62(7) (2015), 1784-1795.

F.Dong, Y.Chen and D.Kong, Salt and Pepper Noise Removal Based on an Approximation of l_0 Norm, *Computers and Mathematics with Applications*, Vol. 70(5), (2015), 789-804.

J.Park, H.Zhang, Y.Chen, Q.Fan, J.Li, C.Liu and B.Lu, Common-mask guided image reconstruction (c-MGIR) for enhanced four-dimensional cone-beam computed tomography, *Physics in Medicine and Biology*, Vol. 60(21) (2015), 8505-8524.

M.Guo, L.Chen, X.Shen, H.Iwai, Y.Chen, H.Liu, System model enabling fast tomographic phase microscopy with total variation regularization, *Physics in Medicine and Biology*, Vol. 60(23) (2015), 9059-9077.

J.Park, H.Zhang, Y.Chen, Q.Fan, L.Kahler, C.Liu and B.Lu, Priori mask guided image reconstruction (p-MGIR) for ultra-low dose cone-beam computed tomography, *Physics in Medicine and Biology*, Vol. 60, no. 21 (2015), 8505-8524.

Y.Ouyang, Y.Chen, G.Lan and E.Pasilliao Jr., An Accelerated Linearized Alternating Direction Method of Multipliers, *SIAM Journal on Imaging Sciences*, 8 (1) (2015), 644-681.

Y.Chen, J.Shi, M.Rao, and J-S.Lee, Deformable Multi-modal Image Registration by Maximizing Renyi's Statistical Dependence Measure, *Inverse Problem and Imaging*, Vol.9 (1), (2015) 79-203.

H.Zhang, Y.Chen, E.Pasoliao and F.Huang, Joint Multi-Shot Multi-Channel Image Reconstruction in Compressive Diffusion Weighted MR Imaging, *Proc. SPIE 9413, Medical Imaging 2015: Image Processing*, 94130B (March 20, 2015); doi:10.1117/12.2082104.

M. Liu, Y.Chen, H.Zhang and F.Huang, Multi-Contrast Multi-Channel MR Image Reconstruction with Significantly Reduced Data, *Proc. SPIE 9413, Medical Imaging 2015: Image Processing*, 94130C (March 20, 2015); doi:10.1117/12.2082136.

H.Zhang, J.Park, Y.Chen, G.Lan and B.Lou, A novel method for 4D Cone-Beam Computer-Tomography Reconstruction, *Proc. SPIE 9413, Medical Imaging 2015: Image Processing*,

941324 (March 20, 2015); doi:10.1117/12.2082128.

S.Chen, H.Liu, P.Shi and Y.Chen, Sparse Representation and Dictionary Learning Penalized Image Reconstruction for Positron Emission Tomography, *Physics in Medicine Biology* 60 (2015) 807-823.

I.Posirca, Y.Chen, C.Z. Barcelos, A New Variational Model for Segmentation and Denoising of Images with Multiplicative Noise, *Advanced Modeling and Optimization*, Vol.17 (1), (2015) 1-18.

Y.Chen, G.Lan and Y.Ouyang, Optimal Primal-Dual Methods for a Class of Saddle Point Problems, *SIAM Journal on Optimization* 24(4)(2014), 1779-1814.

C. A. Z. Barcelos, Y.Chen, F.Chen, Soft Image Segmentation Based on the Mixture of Gaussian and the Phase-Transition Theory, *Applied Mathematics*, Vol.5, (2014), 2888-2898.

S.Chen, Z.Hu, Y.Chen, H.Liu, Simultaneous Reconstruction and Segmentation for Dynamic PET: A Low Rank Framework, *Proceedings of the 2014 IEEE International Symposium on Biomedical Imaging*, Beijing, China, April 29 - May 2, (2014) 967-970.

J.Peng, F.Dong, Y.Chen, and D.Kong, A Region Appearance Based Adaptive Variational Model for 3D Liver Segmentation, *Medical Physics*, Vol. 41 (4), 043502 (2014) 1-11.

Y.Ouyang, Y.Chen and Y.Wu, Vectorial Total Variation Regularization of Orientation Distribution Functions in Diffusion Weighted MRI, *International Journal of Bioinformatics Research and Applications*, Vol. 10, No.1, (2014), 110-127.

J.Huang, X.Yang, Y.Chen and L.Tang, Ultrasound kidney segmentation with a global prior shape, *Journal of Visual Communication and Image Representation*, Vol. 24, Issue 7, (2013), 937943.

M.Liu, Y.Chen, Y.Ouyang, X.Ye, and F.Huang, An Enhanced Approach for Simultaneous Image Reconstruction and Sensitivity Map Estimation on Partially Parallel Imaging, *Proceedings of the 20th IEEE International Conference on Image Processing*, (2013), 2314-2318.

H.Zhang, X.Ye and Y.Chen, An Efficient Algorithm for Multi-phase Image Segmentation with Intensity Bias Correction, *IEEE Transaction on Image Processing*, (doi: 10.1109/TIP.2013.2262291), 22(10), (2013), 3842-3851.

F.Chen, Y.Chen and H.Wang, A New Multiphase Soft Segmentation with Adaptive Variants, *Applied Computational Intelligence and Soft Computing*, Vol. 2013, Article ID 921721, 9 pages, doi:10.1155/2013/921721, (2013).

Y.Ouyang, Y.Chen, and Y.Wu, Total Variation and Wavelet Regularization of Orientation Distribution Functions in Diffusion MRI, *Inverse Problems and Imaging*, Vol. 7, (2), (2013), 565-583.

M.Liu, Y.Chen, Y.Ouyang, X.Ye, F.Huang, An Enhanced Approach for Simultaneous Image Reconstruction and Sensitivity Map Estimation on Partially Parallel Imaging, *Proceedings of 20th IEEE International Conference on Image Processing*, (2013), 2314-2318.

Y.Chen, W.Hager, M.Yashtini and X.Ye, Bregman Operator Splitting with Variable

Stepsize for Total Variation Image Reconstruction, *Computational Optimization and Applications*, Vol. 54, (2), (2013), 317-342.

Y.Chen, D.T.Phan, W.W.Hager, F.Huang, X.Ye, and W.Yin, A Fast Algorithm for Image Reconstruction with Application to Partially Parallel MR Imaging, *SIAM Journal on Imaging Sciences*, Vol.5 (1), (2012), 90-118.

H.Liu, P.Shi and Y.Chen, Integrative Approaches in Computational Biomedical Imaging, *Computational and Mathematical Methods in Medicine*, Vol. 2012, Article ID 162892, (2012), doi:10.1155/2012/162892.

H.Zhang, Y.Chen, and J.Shi, Nonparametric Image Segmentation Using Renyis Statistical Dependence Measure, *Journal of Mathematical Imaging and Vision*, (doi:10.1007/s10851-012-0329-z). Vol. 44(3), (2012), 330 - 340.

Y.Chen and X.Ye, Modeling and Computations in Image Registration, *Mathematical Modeling and Its Applications*, Vol. 1, No. 1, (2012), 26-37.

S.Wu, G.Fu, Y.Chen, Z.Wang and R.Wu, Genetic Mapping of Complex Traits by Minimizing Integrated Square Errors, *BMC Genetics*, (2012), 13:20 doi:10.1186/1471-2156-13-20.

H.Zhang and Y.Chen, A Sparseland model for Deblurring Images in the Presence of Impulse, *Proceedings of 2012 IEEE International Conference on Image Processing*, Sep.30-Oct.3, 2012, Orlando, Florida, (2012), 3077-3080.

H.Zhang, X.Ye and Y.Chen, A Variational Multiphase Model for Simultaneous MR Image Segmentation and Bias Correction, *Proceedings of 2012 IEEE International Conference on Image Processing*, Sep.30-Oct.3, 2012, Orlando, Florida, (2012), 2037-2040.

M. Yashtini, W. W. Hager, Y. Chen, X. Ye, Parallel MR Image Reconstruction Using Sensitivity Encoding, *Proceedings of 2012 IEEE International Conference on Image Processing*, Sep.30-Oct.3, 2012, Orlando, Florida, (2012), 2077-2080.

F.Chen, Y.Chen and H.D.Tagare, A New Framework of Multi-phase Segmentation and Its Application to Partial Volume Segmentation, *Applied Computational Intelligence and Soft Computing*, Vol. 2011, Article ID 786369, 11 pages, (2011). doi:10.1155/2011/786369.

I.Posirca, Y.Chen, C.Z.Barcelos, A New Stochastic Variational PDE Model for Soft MumfordShah Segmentation, *Journal of Mathematical Analysis and Applications*, Vol.384 (1), (2011), 104-114.

J.Huang, X.Yang, and Y.Chen, A Fast Algorithm for Global Minimization of Maximum Likelihood Based on Ultrasound Image Segmentation, *Inverse Problem and Imaging*, Vol.5 (3), (2011), 645-657.

J.An and Y.Chen, A Piecewise Constant Region Based Simultaneous Image Segmentation and Registration, International Conference on Signal Processing and Imaging Engineering, San Francisco, California, October, 2011, *World Congress on Engineering and Computer Science*, Vol. I,(2011) 491-494.

X.Ye, Y.Chen and F.Huang, Computational Acceleration for MR Image Reconstruction

in Partially Parallel Imaging, *IEEE Transactions on Medical Imaging*, Vol.30 (5), (2011) 1055-1063.

Y.Ouyang, Y.Chen and Y.Wu, A Spatial Regularization Framework of Orientation Diffusion Functions Using Total Variation and Wavelet, *Proceedings of the 8th IEEE International Symposium on Biomedical Imaging: From Nano to Macro*, March 30-April 2, 2011, Chicago, Illinois, USA, (2011) 272-275.

X.Ye, Y.Chen, W.Lin, and F.Huang, Fast MR Image Reconstruction for Partially Parallel Imaging with Arbitrary k-Space Trajectories, *IEEE Transactions on Medical Imaging*, Vol. 30(3), (2011), 575-585.

M. Rao, S.Seth, J.Xu, Y.Chen, H.Tagare, and J.C.Prncipe, A test of independence based on a generalized correlation function, *Signal Processing*, Vol.91(1), (2011), 15-27.

F.Huang, Y.Chen, W.Yin, W.Lin, X.Ye, W.Guo, and A.Reykowski, A Rapid and Robust Numerical Algorithm for Sensitivity Encoding with Sparsity Constraints: Self-feeding Sparse SENSE, *Magnetic Resonance in Medicine*, Vol. 64, No. 4, (2010), 1078-1088.

F.Chen and Y.Chen, A Stochastic Variational Model for Multi-phase Soft Segmentation with Bias Correction, *Advanced Modeling and Optimization*, Vol. 12 (3), (2010), 339-345.

Y.Chen, X.Ye and F.Huang, A Novel Model and Fast Algorithm for MR Image Reconstruction with Significantly Under-Sampled Data, *Inverse Problem and Imaging*, Vol.4, No.2, (2010), 223-240.

F.Chen and Y.Chen, A Multi-phase Soft Segmentation Based on Bi-direction Projected PDHG Method, *Proceedings of International Conference on Image Processing, Computer Vision, & Pattern Recognition*, July 12-15, 2010, Las Vegas, USA, (2010), 486-491.

J.Shi, Y.Chen, M.Rao and J.S.Lee, A Statistical Similarity Measure for Non-rigid Multimodal Image Registration *Proceedings of SPIE Medical Imaging*, San Diego, California, USA, 13 - 18 February, 762307 (2010);

K.H.Zou, H.Du, S.Sidharthan, L.M.DeTora, Y.Chen, A.B.Ragin, R.R.Edelman, Y.Wu, Statistical Evaluations of the Reproducibility and Reliability of 3-Tesla High Resolution Magnetization Transfer Brain Images: A Pilot Study on Healthy Subjects, *International Journal of Biomedical Imaging*, doi:10.1155/2010/618747, (2010), 1-11.

T.McGraw, B.Vemuri, E.Ozarslan, Y.Chen and T.Mareci, Variational Denoising of Diffusion Weighted MRI, *Inverse Problems and Imaging*, Vol. 3(4), (2009), 625-648.

X.Ye and Y.Chen, A New Algorithm for Inverse Consistent Image Registration, *Lecture Notes in Computer Science* 5875, Springer-Verlag (2009), 2420-2423.

X.Ye, Y.Chen and F.Huang, Image Reconstruction via Sparse Representation: Modeling and Algorithm. *Proceedings of International Conference on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, USA, July 13-16 (2009), 10-16.

C.Barcelos, Y.Chen, and F.Chen, A Soft Multiphase Segmentation Model via Gaussian Mixture, *Proceedings of IEEE International Conference on Image Processing*, Cairo, Egypt, November 7-10, (2009)

P.Chen, Y.Chen and M.Rao, Metrics Defined by Bregman Divergences, *Communications in Math Sciences*, Vol.6 (4), (2008) 915-926.

P.Chen, Y.Chen and M.Rao, Metrics Defined by Bregman Divergences, part 2, *Communications in Math Sciences*, Vol.6 (4), (2008) 927-948.

Y.Chen, W.Guo, Q.Zeng, Y.Liu, A Nonstandard Smoothing in Reconstruction of Apparent Diffusion Coefficient Profiles from Diffusion Weighted Images, *Inverse Problems and Imaging Journal* (2008), No. 2, 205-224.

W.Guo, Y.Chen, Q.Zeng, A Geometric Flow Based Approach for Diffusion Tensor Image Segmentation, Theme Issue Mathematical and Statistical Methods for Diagnoses and Therapies, *Philosophical Transactions of the Royal Society A*, Vol.366, No.1874 (2008), 2279-2292.

P.Chen, Y.Chen and M.Rao, A Novel Distribution Classifier, *Journal of Mathematical Analysis and Applications*, Vol 342/2, (2008), 915-930.

X.Ye and Y.Chen, Improvement of Accuracy in Deformable Registration in Radiation Therapy, *Proceedings of IEEE 15th International Conference on Image Processing*, San Diego, California, USA, October 12-15,(2008) 2420-2423.

F.Chen, Y.Chen and H.D.Targare, An Improvement of the Sine-Sinc Model Based on Log-Likelihood, *Proceedings of International Conference on Image Processing, Computer Vision, and Pattern Recognition*, Las Vegas, Nevada, USA, July 14-17, (2008), Vol. 1, 222-227.

Y.Chen, G.Fu, and R.Wu, Integration of Functional Mapping and Delay Differential Equations to Map the Genes that Regulate Circadian Rhythms, *Proceedings of International Conference on Bioinformatics, Computational Biology, Genomics and Chemoinformatics*, Orlando, FL, USA July 7-10, (2008), 118-125.

Q.Zeng and Y.Chen, Accurate Inverse Consistent Non-rigid Image Registration and Its Application on Automatic Re-contouring, *Proceedings of the 4th International Symposium on Bioinformatics Research and Applications*, Atlanta, GA, USA, May 6-9, 2008, Lecture Notes in Computer Science 4983/(2008), 293-304.

H.D.Tagare, Y.Chen, R.K.Fulbright, Comparison of EM-based and Level Set Partial Volume Segmentations of MR Brain Images, *Medical Imaging 2208, Proceedings of S.P.I.E. Symposium on Medical Imaging*, San Diego (2008), Vol.6914, 69140N, 1-7.

Y.Chen, M.Rao and C.Tweddle, Fenchel Transforms of a Convex Functional, *International Journal of Pure and Applied Mathematics*, Volume 39, No. 3, (2007), 341-362.

Y.Liu, X.Liu, Y.Chen and R.Wu, A Computational Model for Functional Mapping of Genes that Regulate Intracellular Circadian Rhythms, *Theoretical Biology and Medical Modeling*, (2007), 4:5 doi:10.1186/1742-4682-4-5.

J.h.An and Y.Chen, Region Based Image Segmentation Using Modified Mumford-Shah Algorithm, *Lecture Notes in Computer Science* 4485, (2007), 733-742.

P.Chen, Y.Chen, and M.Rao, Kullback Leibler Divergence Based Curve Matching Method,

Lecture Notes in Computer Science 4485, (2007), 813-824.

J.Xia, Y.Chen, and S.Samant, The "Juggler Algorithm: A Hybrid Deformable Image Registration Algorithm for Adaptive Radiotherapy, *Proceedings of SPIE Conference on Medical Imaging*, San Diego, CA, February 17-22, Medical Imaging (2007): Physics of Medical Imaging 65105J.

Y.Chen, S.Levine, and M.Rao, Variable Exponent, Linear Growth Functionals in Image Restoration, *SIAM Journal on Applied Mathematics*, 66 (2006), no. 4(1), 1383-1406.

Y.Chen, F.Huang, H.D.Tagare, and M.Rao, A Coupled Minimization Problem for Medical Image Segmentation with Priors, *International Journal of Computer Vision*, 71 (2006) 259-272.

X.Zheng, Y.Chen, D.Groisser, and D.Wilson, Nonrigid Correspondence and Classification of Curves Based on More Desirable Properties, *Multi-scale Optimization Methods and Applications, Nonconvex Optimization and its Applications Series*, Springer Verlag, Vol.82 (2006), 397-411

Q.Zeng, Y.Chen, W.Guo, Y.Liu, Recover Multi-tensor Structure from HARD MRI Under Bi-Gaussian Assumption, *Multi-scale Optimization Methods and Applications, Nonconvex Optimization and its Applications Series*, Springer Verlag, Vol.82 (2006), 379-386

J.h.An, Y.Chen, M.Chang, D.Wilson, and E.Geiser, Generating Geometric Models through Self-Organizing Maps, *Multiscale Optimization Methods and Applications, Nonconvex Optimization and its Applications Series*, Springer Verlag, Vol.82 (2006), 241-250

S.Thiruvenkadam, S.Arcot, and Y.Chen: A PDE Based Method For Fuzzy Classification Of Medical Images, *Proceedings of International Conference on Image Processing*, Atlanta, Oct. 8-11, (2006), 1805-1808.

W.Guo and Y.Chen: Using Non-Parametric Kernel To Segment And Smooth Images Simultaneously, *Proceedings of International Conference on Image Processing*, Atlanta, Oct. 8-11, (2006), 217-220.

W.Guo, Q.Zeng, Y.Chen and Y.Liu, Using Multiple Tensor Deflection to Reconstruct White Matter Fiber Traces With Branching, *Proceedings of IEEE International Symposium on Biomedical Imaging Macro to Nano*, Arlington, Virginia, April 6-9, 2006, 69-72.

Y.Chen, M.Rao, Y.Tonegawa, T.Wunderli, Partial regularity for a Selective Smoothing Functional for Image Restoration, *SIAM Journal on Mathematical Analysis*, 37 (4) (2005), 1098-1116.

F.Huang, Y.Chen, G.R.Duensing, J.Akao, A.Rubin, and C.Saylor, Application of Partial Differential Equation-Based Inpainting on Sensitivity Maps, *Magnetic Resonance in Medicine* Vol.53 (2005), 388-397.

Y.Chen, W.Guo, Q.Zeng, X.Yan, M.Rao, Y.Liu, Apparent Diffusion Coefficient Approximation and Diffusion Anisotropy Characterization in DWI, *Proceedings of Information Processing in Medical Imaging*, Glenwood Springs, Colorado, July 11-15, (2005), 246-257.

X.Zhang, Y.Chen, D.Groisser, D.Wilson, Some New Results on Non-rigid Correspon-

dence and Classification of Curves, *Lecture Notes in Computer Science 3757, Proceedings of Energy Minimization Methods in Computer Vision and Pattern Recognition*, St. Augustine, FL, USA, Nov. (2005), 473-489.

S.Thiruvenkadam, D.Groisser and Y.Chen, Non-Rigid Shape Comparison of Implicitly-Defined Curves, *Lecture Notes in Computer Science, Vol. 3752, Proceedings of the Third International Workshop of Variational, Geometric, and Level Set Methods in Computer Vision*, Beijing, China, October 16, (2005), 222-234.

H.Liu, Y.Chen, H.P.Ho, and P.Shi, Geodesic Active Contours with Adaptive Neighboring Influence *Lecture Notes in Computer Science 3750. Proceedings of The 8th International Conference on Medical Image Computing and Computer-Assisted Intervention*, Palm Springs, CA, Oct. (2005), 741-748.

H.P.Ho, Y.Chen, H.Liu, and P.Shi, Point-Based Geometric Deformable Models for Medical Image Segmentation *Lecture Notes in Computer Science 3749, Proceedings of International Conference on Medical Image Computing and Computer Assisted Intervention*, Palm Springs, CA, Oct. (2005), 278-285.

J.h.An, Y.Chen, F.Huang, D.Wilson, and E.Geiser, A Variational PDE Based Level Set Method for a Simultaneous Segmentation and Non-rigid Registration, *Lecture Notes in Computer Science 3749, Proceedings of International Conference on Medical Image Computing and Computer Assisted Intervention*, Palm Springs, CA, Oct. (2005), 286-293.

H.P.Ho, Y. Chen, H. Liu, and P.Shi, Level Set Active Contours on Unstructured Point Cloud, *Proceedings of IEEE International Conference on Computer Vision and Pattern Recognition* San Diego, CA, June 20-26, (2005), 690-697.

M.Rao, Y.Chen, B.C.Vermuri, F. Wang, Cumulative Residual Entropy, a New Measure of Information, *IEEE Trans. on Info. Theory*, Vol. 50 (6), (2004), 1220-1228.

T.E.McGraw, B.C.Vemuri, Y.Chen, M.Rao and T.Mareci, DT-MRI Denoising and Neuronal Fiber Tracking, *Medical Image Analysis*, 8 (2004), 95-111.

Z.Wang, B.C.Vemuri, Y.Chen, and T.Mareci, A Constrained Variational Principle for Direct Estimation and Smoothing of the Diffusion Tensor Field from Complex DWI *IEEE Transactions on Medical Imaging*, (2004), 930-939.

Y.Chen, W.Guo, Q.Zeng, G.He, B.C.Vemuri, Y.Liu, Recovery of Intra-Voxel Structure from HARD DWI, *Proceedings of IEEE International Symposium on Biomedical Imaging Macro to Nano*, Arlington Virginia, (2004), 1028-1031.

Z.Wang, B.C.Vemuri, E.Ozarslan, Y.Chen and T.Mareci, Statistical Analysis of a Non-linear Estimator for ADC and Its Application to Optimizing Diffusion Weighting Factors, *Proceedings of IEEE International Symposium on Biomedical Imaging Macro to Nano*, Arlington Virginia, (2004), 1032-1035.

Y.Chen, W.Guo, Q.Zeng, X.Yan, F.Huang, G.He, B.C.Vemuri, Y.Liu, Estimation, Smoothing, and Characterization of Apparent Diffusion Coefficient Profiles from High Angular Resolution DWI, *Proceedings of IEEE Conference on Computer Vision and Pattern Recognition*

(2004), 588-593.

Y.Chen and M.Rao, Minimization Problems and Associated Flows Related to Weighted P-energy and Total Variation, *SIAM J. on Math. Anal.*, Vol.34 (5), (2003) 1084-1104.

A. Meyer-Baese, S.Pilyugin and Y.Chen, Global Exponential Stability Analysis for Neural Networks with Different Time Scales, *IEEE Transaction on Neural Networks*, Vol.14 (3), (2003), 716-719.

B.C.Vemuri, J.Ye, Y.Chen and C.M.Leonard, Image Registration via Level-set Motion: Applications to Atlas-based Segmentation, *Medical Image Analysis*, Vol.7(1), (2003), 1-20.

Y.Chen, F.Huang, H.Tagare, M.Rao, D.Wilson and A.Geiser, Using Prior Shapes and Intensity Profiles in Medical Image Segmentation, *Proceedings of International Conference on Computer Vision*, Nice, France, (2003), 1117-1124.

F.Wang, B.C.Vemuri, M.Rao and Y.Chen, Cumulative Residual Entropy, A new Measure of Information and its Application to Image Alignment, *Proceedings of International Conference on Computer Vision*, Nice, France, (2003), 548-554.

Z.Wang, B.Vemuri, Y.Chen, T.Mareci A Constrained Variational Principle for Direct Estimation and Smoothing of the Diffusion Tensor Field from DWI, *Proceedings of Information Processing in Medical Imaging*, Ambleside, UK, July 20-25, (2003), 660-671.

F.Wang, B.Vemuri, M.Rao, Y.Chen, A New & Robust Information Theoretic Measure and its Application to Image Alignment, *Proceedings of Information Processing in Medical Imaging*, Ambleside, UK, July 20-25, (2003), 388-400.

Y.Chen, W.Guo, F.Huang, D.Wilson, A.Geiser, Using prior shape and points in medical image segmentation, *Lecture Notes in Computer Science - Proceedings of Energy Minimization Methods in Computer Vision and Pattern Recognition*, Lisbon, Portugal, July 7-9, (2003), 291-305.

Z. Wang, B.C.Vemuri, Y.Chen, T.Mareci, Diffusion tensor MR image restoration, *Proceedings of Energy Minimization Methods in Computer Vision and Pattern Recognition*, Lisbon, Portugal, July 7-9, (2003), 421-435.

F.Wang, B.C.Vemuri, M.Rao, Y.Chen, Cumulative Residual Entropy, A new Measure of Information; its Application to Image Alignment, *Proceedings of Computer Vision and Pattern Recognition*, Madison (Wisc), USA, June 16-22 (2003).

Z.Wang, B.C.Vemuri, Y.Chen, T.Mareci, Simultaneous estimation and smoothing of the tensor field from DT-MRI, *Proceedings of Computer Vision and Pattern Recognition*, Madison (Wisc), USA, June 16-22,(2003), 461-466.

Y.Chen, F.Huang, D.Wilson and A.Geiser, Segmentation with shape and intensity priors, *Proceedings, Second International Conference on Image and Graphics* August 2002, Hefei, China, (2003), 378-385.

Y.Chen, C.L.Shen, Q.Zhou, Asymptotic behavior of Yang-Mills flow in higher dimensions. *Differential geometry and related topics*, 16-38, World Sci. Publishing, River Edge, NJ, 2002.

Y.Chen and T.Wunderli, Adaptive total variation for image restoration in BV space, *Journal of Mathematical Analysis and Applications*, 272 (2002), 117-137.

Y.Chen, H.Tagare, S.R.Thiruvankadam, F.Huang, D.Wilson, A.Geiser, K.Gopinath and R.Briggs, Using prior shapes in geometric active contours in a variational framework, *International Journal of Computer Vision*, 50(3), (2002), 315-328.

Y.Chen and S.Levine, Image restoration via diffusion tensor and time-delay regularization, *Journal of Visual Communication and Image Representation*, Vol.13, (2002), 156-175.

Y.Chen, Existence and singularities for the flow of H-systems *Journal On Discrete and Continuous Dynamical Systems*, Vol. 8(1) (2002), 219-236

Y.Chen, Existence and singularities for Dirichlet boundary value problems of Landau-Lifshitz equation *Nonlinear Analysis*, Vol 48 ,(2002), 411-426

Y.Chen, S.Thiruvankadam, K.S.Gopinath, and R.W.Brigg, Functional MR image registration using Mumford-Shah functional and shape information, *Proceedings of the 6th World Multiconference on systemics, Cybernetics and Informatic*, July, (2002), Orlando, 580-583.

B.C.Vemuri, Y.Chen, M.Rao, Z. Wang, T.McGraw, T.Mareci, S.J.Blackband and P.Reier, Automatic Fiber Tractography from DTI and its Validation, *IEEE International Symposium on Biomedical Imaging Macro to Nano*, July (2002), 501-504.

B.C.Vemuri, Y.Chen, and Z.Wang, Registration assisted image smoothing and segmentation *Proceedings of the 7th European Conference on Computer Vision*, Copenhagen, Denmark, May (2002), 546-559.

Y.Chen, S.R.Thiruvankadam, F.Huang, K.Gopinath and R.Briggs, Simultaneous segmentation and registration for functional MR images *Proceedings of 16th International Conference on Pattern Recognition*, Quebec city, Canada, Aug. 11-15 (2002), 747-750

B.C.Vemuri, Y.Chen and Z.Wang, Registration assisted image smoothing and segmentation, *Proceedings of the 7th European Conference on Computer Vision*, Copenhagen, Denmark, May (2002), 546-559.

T.McGraw, B.C.Vemuri, Z.Wang, Y.Chen, M.Rao, T.Mareci, Line integral convolution for visualization of fiber tract maps from DTI, *Proceedings of the 5th International Conference on Medical Image Computing and Computer-Assisted Intervention*, Tokyo, Japan, Sep. (2002), 615-622.

Y.Chen, S.Thiruvankadam, K.S.Gopinath, and R.W.Brigg, Functional MR image registration using Mumford-Shah functional and shape information, *Proceedings of the 6th World Multiconference on systemics, Cybernetics and Informatic*, July, (2002), Orlando, 580-583.

B.C.Vemuri, Y.Chen, M.Rao, Z. Wang, T.McGraw, T.Mareci, S.J.Blackband and P.Reier, Automatic Fiber Tractography from DTI and its Validation, *IEEE International Symposium on Biomedical Imaging Macro to Nano*, July (2002), 501-504.

B.C.Vemuri, Y.Chen, and Z.Wang, Registration assisted image smoothing and segmentation *Proceedings of the 7th European Conference on Computer Vision*, Copenhagen, Denmark, May (2002), 546-559.

Y.Chen, S.R.Thiruvankadam, F.Huang, K.Gopinath and R.Briggs, Simultaneous segmentation and registration for functional MR images *Proceedings of 16th International Conference on Pattern Recognition*, Quebec city, Canada, Aug. 11-15 (2002), 747-750.

Y.Chen, C.A.Z.Barcelos and B.Mair, Selective smoothing and segmentation by time dependent penalized total variation *Computer Vision and Image Understanding* Vol. 82, (2001), 85-100

Y.Chen, and P.Bose On the incorporation of time-delay regularization into curvature-based diffusion *Journal of Mathematical Imaging and Vision*, Vol.14, (2001), 149-164

Y. Chen, A. Meyer-Baese, and S. McCullough, Hebbian and Anti-Hebbian Learning for Independent Component Analysis *Proceedings of IEEE International Joint Conference on Neural Networks*, July 15-19, 2001, Washington DC (2001), 920-925.

B.C.Vemuri, Y.Chen, M.Rao, T.McGraw, Z.Wang, T.Mareci, Fiber tract mapping from diffusion tensor MRI *Proceedings of IEEE Workshop in Variational and Level Set Methods in Computer Vision*, July 13, 2001, Vancouver, Canada, (2001), 81-88.

Y.Chen, S.Thiruvankadam, H.Tagare, F.Huang, D. Wilson, and A.Geiser, On the Incorporation of shape priors into geometric active contours *Proceedings of IEEE Workshop on Variational and Level Set Methods in Computer Vision*, July 13, 2001, Vancouver, Canada, (2001), 145-152.

Y.Chen, D.Wilson and F.Huang, A new procrustes methods for generating geometric models, *Proceedings of the 5th World Multiconference on systemics, Cybernetics and Informatics*, Orlando, USA, July 22-25, (2001) 227-232.

Y.Chen, S.R.Thiruvankadam, F.Huang, K.S. Gopinath and R.W.Briggs, Feature based image registration for functional MR images using prior shape information *Proceedings of the 5th World Multiconference on Systemics, Cybernetics and Informatics*, Orlando, USA, July 22-25, (2001) 221-226.

A.Meyer-Baese, Y.Chen and S.McCullough, Hebbian and Anti-Hebbian Learning for Independent Component Analysis *Proceedings of IEEE International Joint Conference on Neural Networks*, Washington DC, USA, July 15-19, (2001) 920-925.

Y.Chen, S.R.Thiruvankadam, F.Huang, K.S.Gopinath and R.W.Briggs, Feature based image registration *Proceedings of IEEE Conference in Sampling Theory and Applications*, Orlando, USA May 13-17,(2001) 255-260.

Y.Chen, F.Huang, J.Larocca, D.C.Wilson, and E.A.Geiser, Shape analysis of the left ventricle using expert tracings on Echocardiographic image sequences *Proceedings of IEEE Conference in Sampling Theory and Applications*, Orlando, USA, May 13-17,(2001) 249-254.

Y. Chen, and T.H.Wagner et. al. A Geometrically based method for automated Radio-surgery planning *International Journal of Radiation Oncology, Biology and Physics*, Vol.48, No.5, (2000), 1599-1611.

Y. Chen, and C.A.Z.Barcelos, Heat flows and related minimizing problem in image recovery *An International Journal Computers & mathematics with Applications*, Vol. 39,

(2000), 81-97.

Y.Chen, B.C.Vemuri and L.Wang, Image denoising and segmentation via nonlinear diffusion *An International Journal Computers & mathematics with Applications*, Vol. 39, No. 5/6, (2000), 131-149.

Y.Chen, S.Chastain, Anisotropic diffusion driven by diffusion tensors *Proceeding of SPIE's 45th Annual Meeting on Mathematical Modeling, Estimation and Imaging*, July 30 - August 4, 2000, San Diego, (2000) 148-157.

B.C.Vemuri, Y.Chen, and J.Yi, A level-set based approach to image registration *Proceeding of the IEEE workshop on mathematical methods in biomedical image analysis*, Hilton Head, SC., June 10-12, (2000) 86-93.

Y.Chen, Dirichlet boundary value problems of Landau-Lishitz equation *Comm. in PDE*, Vol.25(1 & 2), (1999), 101-124.

Y.Chen, Weak flow of H-system *Proceeding of the International Conference on Nonlinear Partial Differential Equations and Applications, June 26-31, 1997, Chongqing, China*, World Scientific Publishing, (1999), 27-40.

Y. Chen, S.Ding and B.Guo, Partial regularity for two dimensional Landau-Lifshitz equations *Acta Math. Sinica*, vol.3 (1998), 423-432.

Y. Chen, and F.H. Lin Evolution of harmonic maps with free boundary conditions *Journal of Geometrical Analysis*, Vol.8 (2), (1998), 179-197.

Y.Chen, B.C.Vemuri, L.Wang, Fluid-based nonlinear diffusion for image smoothing and segmentation *Proceeding of IEEE Conf. on Computer Vision and Pattern Recognition*, UC-Santa Barbara, june 22-25, (1998), 132-137.

Y.Chen, Uniqueness for weak flow of H-systems with Dirichlet boundary conditions *Comm. in PDE*, 22(11&12) (1997), 2105-2127.

Y.Chen, Regularity for the flow of harmonic maps into manifolds with symmetries *Nonlinear Evolution Equations and Infinite Dimensional Dynamical Systems*, World Scientific Publishing, (1997), 24-35.

Y.Chen, A Remark on the regularity of Landau-Lifshitz equation *Applicable Analysis*, Vol.63, (1997), 207-221.

Y.Chen, and G.Bao, A nonlinear grating problem in diffractive optics *SIAM J. Mathematical Analysis*. Vol. 28 (2), (1997), 322-337.

Y.Chen, and G.L.Guo, Uniqueness for Landau-Lifschitz equation *J. Partial Diff. Equa.*, Vol. 9, (1996), 313-322.

Y.Chen, L.Flaminio Removability of the singular set of the heat flow harmonic maps *Proceedings of The American Mathematical Society* Vol. 124(2) (1996) 513-525.

Y.Chen, and C.Wang, Partial regularity for weak flows into Riemannian Homogeneous Spaces *Comm. Partial Diff. Equa* Vol. 21, (5&6) (1996), 735-761.

Y.Chen, Weak flow of harmonic maps *Proceeding of the International Conference on Nonlinear Evolution Equations and Infinite Dynamical Systems, June 17-21, 1994, Beijing*,

China (1996), 1-13.

Y.Chen, and F.H.Lin, Remarks on approximate harmonic maps *Commentarii Mathematici Helvetici* Vol. 70 (1995), 161-169.

Y.Chen, J.Y.Li, and F.H.Lin Partial regularity for weak flows into sphere *Communications on Pure and Applied Mathematics*, XLIII (1995), 429-448.

Y.Chen, Heat flow method *Proceeding of Workshop on Qualitative Aspects and Applications of Nonlinear Evolution Equations, Trieste, Italy, May 1993*, (1995), 46-58.

Y.Chen, and C.L.Shen, Monotonicity formula and small action regularity for Yang-Mills flow *Calculus of Variations, PDE* Vol. 2 (1994), 389-403.

Y.Chen, and J.Gao Remarks on the global existence of harmonic maps Minkowski space R^{2+1} , *Mathematische Zeitschrift (Math. Z.)*, Vol. 217 (1994), 95-107.

Y.Chen, M.Hong, and N.Hungerbuhler Heat flow of p-harmonic maps with values into spheres *Math. Z.*, Vol. 215 (1994), 25-35.

Y. Chen, and F.H.Lin Evolution of harmonic maps with Dirichlet boundary conditions *Communication for Analysis and Geometry* Vol. 1(3) (1993), 327-346.

Y. Chen, and J.Gao, A Remark on Harmonic maps in three dimensional Minkowski space *Math Reports of Academy of Society of Canada* Vol. 9(2) (1993), 79-84.

Y.Chen, C.L.Shen, Evolution problem for Yang-Mills connections *Differential Geometry (Proceedings of the Symposium in Honour of Prof. Su Buchin on his 90th Birthday, Shanghai, China, 1991)* Vol. (1993), 33-41.

Y.Chen, Evolution problems of harmonic maps in higher dimensions “*School on Qualitative Aspects and Applications on Nonlinear Evolution Equations*”, Trieste, Italy, (1990), World Scientific Publishing Co., PTE. LTD, (1991)

Y. Chen, Dirichlet problems for heat flows of harmonic maps in higher dimensions *Math. Z.* Vol. 208 (1991), 557-565.

Y.Chen, and W.Y.Ding, Blow-up analysis for heat flow of harmonic maps , Nematic, Mathematical and Physical Aspects *NATO ASI Series, Series C* Vol. 332 (1991), 49-64.

Y.Chen, $L^\infty(R^n)$ decay for the solutions to a class of nonlinear Schrodinger equations *J. of Applicable Analysis* Vol. 39 (1990), 209-226.

Y.Chen, and M.Roberta Harmonic maps into manifolds with boundary *Ann. Scuola Norm. Sup. Pisa Cl. Sci.* Vol. 3 (1990), 365-392.

Y.Chen, and J.Gao, Global existence of solutions to nonlinear hyperbolic equations in exterior domains *Chin. Ann. of Mathematics* Vol. 11B (1990), 315-329.

Y.Chen, and W.Y.Ding Global existence and blow-up for heat flow of harmonic maps *Invent. Math.* Vol. 99 (1990), 567-578.

Y.Chen, Le flot d’applications harmoniques d’une variete compacte sur une variete a bord *C.R. Acad. Sci. Paris* Vol. 309 (I) (1989), 499-501.

Y.Chen, and M.Struwe, Existence and partial regularity for the solutions to evolution problems for harmonic maps *Math. Z.* Vol. 201 (1989), 83-103.

- Y.Chen, The weak solutions to the evolution problems of harmonic maps *Math. Z.* Vol. 201 (1989), 69-74.
- Y.Chen, A note on global existence of classical solutions to nonlinear wave equations *Chinese Journal of Contemporary Mathematics* Vol. 10(2) (1989), 163-176.
- Y.Chen, Initial boundary value problems for nonlinear wave equations in an exterior domain *J. London Mathematical Society* Vol. 40 (2) (1989), 519-534.
- Y.Chen, The life span of solutions to Cauchy problems for nonlinear wave equations *J. of Nonlinear Analysis-TMA* Vol. 13(2) (1989), 101-124.
- Y.Chen, The Cauchy problems of nonlinear wave equations in three and four space dimensions *Bollettino U.M.I.* Vol. (7) 3-B (1989), 669-689.
- Y.Chen, A note on global existence of classical solutions to nonlinear wave equations *Chin. Ann. of Math.* Vol. 10 (1989), 317-327.
- Y.Chen, Remark on the global existence for the generalized Benjamin-bona-Mahony equations in arbitrary dimension *J. Applicable Analysis* Vol. 30 (1988), 1-15.
- Y.Chen, Existence and nonexistence of global solutions for a class of nonlinear hyperbolic equations *Mathematica Acta Scientia* Vol. 8(1) (1988), 1-8.
- Y.Chen, Initial value problems for nonlinear wave equations *Comm. in PDE.* Vol. 13 (4) (1988), 383-422.
- Y.Chen and T.Li, Initial value problems for nonlinear heat equations *J. of PDE* Vol. 1 (1988), 1-11.
- Y.Chen and T.Li, Global classical solutions to the Cauchy problems for nonlinear wave equations *C.R. Acad. Sci. Paris* Vol. 305 (1987), 171-174.
- Y.Chen and S.Zhen, Blow up of solutions for a class of evolution equations *J. of Fudan University* Vol. 26 (1987), 19-27.
- Y.Chen, The Global existence of solutions to the systems consisting of complex *Schrödinger* field interacting with a real Klein-Gordon field *J. of Tongji University* Vol. 15 (1987), 101-114.
- Y.Chen and S.Zhen, Global existence for nonlinear parabolic equations *China Ann. of Math.* Vol. 7B (1) (1986), 57-73.
- Y.Chen, Global existence of the solutions of nonlinear parabolic equations in exterior domains *China Ann. of Math.* Vol. 7B (4) (1986), 499-522
- Y.Chen, The initial boundary value problem for a class of nonlinear Schrodinger equations *Mathematica Acta Scientia* Vol. 4 (1986), 405-418.
- Y.Chen, Global existence of the solution of the nonlinear parabolic equation in exterior domains *Proceeding of International Workshop on Applied Differential Equations*, World Scientific Publishing Co. Pte Ltd. (1986), 210-247.
- Y.Chen Global existence of the solutions to nonlinear Schrodinger equations in exterior domains *Acta Math. Appl. Sinica* Vol. 2 (1985), 191-212.

Y.Chen and S.Zhen, Global solution for nonlinear heat equations *Nature Journal* Vol.7 (1984).

Y.Chen and L.Xu, On the local solvability and hypoellipticity for a class of evolution equations *Acta Mathematica Sinica* Vol. 26 (1983), 642-649.