CURRICULUM VITAE

Chin-Tu Chen, Ph.D.

Education:

1974	B.S. (Physics), National Tsing-Hua University, Hsinchu, Taiwan
1978	M.S. (Physics), Northwestern University, Evanston, Illinois, USA.
1986	Ph.D. (Medical Physics), The University of Chicago, Chicago, Illinois, USA.

Professional Experience:

4/1/82 - 12/31/86	Physicist, The Franklin McLean Memorial Research Institute and Department of Radiology, The University of Chicago, Chicago, Illinois.
1/1/87 - 6/30/87	Research Associate (Instructor), Department of Radiology, The University of Chicago
4/1/87 - present	Director, Frank Center for Image Analysis, Department of Radiology, The University of Chicago
7/1/87 - 6/30/94	Assistant Professor, Department of Radiology and Graduate Program in Medical Physics, The University of Chicago
7/1/87 - present	Fellow, Brain Research Institute, The University of Chicago
7/1/94 - present	Faculty Member, Cancer Research Center, The University of Chicago
7/1/94 - present	Associate Professor, Department of Radiology and Committee on Medical Physics, The University of Chicago
7/1/05 – present	Director, Functional and Molecular Imaging Core, Biological Sciences Division and UC Cancer Research Center, The University of Chicago

Professional Associations:

American Association of Physicists in Medicine (AAPM)
Society of Nuclear Medicine (SNM)
The Institute of Electrical and Electronics Engineering (IEEE)
American Association for the Advancement of Sciences (AAAS)
The International Society for Optical Engineering (SPIE)
Academy of Molecular Imaging (AMI)
Society of Molecular Imaging (SMI)

National and International Professional Activities:

As Committee or Task Group Member

1985 - 1999	Dynamic Bladder Model Task Group, Committee on Medical Internal Radiation Dosimetry (MIRD Committee), Society of Nuclear Medicine.
1991 - 1993	Imaging Science Advisory Group, Museum of Science and Industry, Chicago.

As Reviewer or Referee

Journals:

1985 - present	IEEE Transaction on Medical Imaging
1986 - 1995	Journal of the Optical Society of America
1987 - 1991	IEEE Transaction on Biomedical Engineering
1987 - present	Physics in Medicine and Biology
1987 - present	Radiology
1988 - 2000	Medical Physics
1988 - present	IEEE Transaction on Nuclear Science
1990 - 1992	Journal of Computer Assisted Tomography
1991	Journal of Cerebral Blood Flow and Metabolism
1991 - 1992	IEEE Transaction on Pattern Analysis and Machine Intelligence
1992	IEEE Biomedical Engineering
1992	Proceedings of the National Academy of Sciences

Grants:

1987 - 1994	Department of Energy
1989 - present	National Institute of Health
1990	Louisiana Board of Regents
1990	Radiological Society of North America
1992	National Science Foundation
1993	National Health Research Institutes (Taiwan)

Conferences:

1987 - present	Radiological Society of North America Annual Meeting
1991 - present	IEEE Nuclear Science Symposium and Medical Imaging Conference
1991 - 1992	Conference of the IEEE Society of Engineering in Medicine and Biology
1992	Computer Vision and Pattern Recognition (CVPR'92)
1992	SPIE Optical Engineering Midwest (OEM'92)
1992	IEEE International Conference on System, Man, and Cybernetics (SMC'92)
1993	Conference on Biomedical Image Processing and Biomedical Visualization, IS&T/SPIE Electronic Imaging Symposium 1993
1993	Information Processing in Medical Imaging (IPMI)
1993	Computer Assisted Radiology 1993 (CAR’93)
1993	The 5th International Conference on Tools with Artificial Intelligence (TAI'93)
1994 – present	SPIE Medical Imaging Symposium

As Committee Member or Organizer

1988	Organizer, PET Workshop, International Symposium on Nuclear Medicine, (Beijing, China)
1991	Organizer, The First Midwest Workshop on Iterative Image Reconstruction
1991 - 2001	Program Committee, Medical Imaging Conference, IEEE Nuclear Science Symposium
1991 - 1992	Program Committee, National Academy of Sciences Colloquium on Images of Science: Science of Images
1991 - 1992	Program Committee, Computer Vision and Pattern Recognition 1992 (CVPR'92)
1991 - 1992	Program Chair and Tutorial Organizing Committee, Medical Imaging, SPIE/Optical Engineering Midwest 1992 (OEM'92)
1991 - 1992	Program Organizer, Session on Medical Imaging, IEEE International Conference on System, Man, and Cybernetics 1992 (SMC'92)

1992 - 1993	Program Committee Co-Chair, Biomedical Image Processing and Biomedical Visualization, IS&T/SPIE Electronic Imaging, 1993
1993	Organizer, Workshop on Small Gamma Cameras at the 1993 IEEE Medical Imaging Conference
1993	Program Committee, The 5th International Conference on Tools with Artificial Intelligence, 1993 (TAI'93)
1993 - 1997	Program Committee, Conference on Physiology and Function from Multidimensional Images, SPIE Medical Imaging Symposium
1993 - 1994	Program Committee, Workshop on "Multidimensional Biomedical Image Analysis," Computer Vision and Pattern Recognition, 1994 (CVPR'94)
1994	Track Chair and Program Committee, The 6th International Conference on Tools with Artificial Intelligence, 1994 (TAI'94)
1997 - 2002	Conference Chair, Conference on Physiology and Function from Multidimensional Images, SPIE Medical Imaging Symposium
2002 - 2005	Symposium Chair, SPIE Medical Imaging Symposium

University and Departmental Professional Activities:

1987 - 1999	Coordinator, Image Processing and Image Reconstruction Thrust Group, Center for Imaging Science
1988 - 1989	Member, IBM 3090 Design Committee
1988 - 1994	Member, PACS Committee, Department of Radiology
1989 - 1990	Member, Data Analysis Committee, Cardiovascular Imaging Group
1989 - 1998	Member, Journal Club Committee, Medical Physics Graduate Program
1990 - present	Member, Admission Committee, Medical Physics Graduate Program
1991 - 1995	Member, Computer Networking Committee, Biological Science Division
1992 - 1998	Member, Curriculum Committee, Medical Physics Graduate Program
1993 - 1996	Co-Chair, Department Brochure Committee, Department of Radiology
1997 – 2002	Member, University and University Hospitals Combined Human Use of Radioisotopes and Radioactive Drug Research Committee, The University of Chicago
2005 – present	Ex Officio Member, Faculty Advisory Committee, Optical Imaging Core Facility, Biological Sciences Division and UC Cancer Research Center
2006 – present	Board Member, Graham School of General Studies

Funding History:

As Principal Investigator, Co-Principal Investigator, or Project Director

Completed

9/84 - 9/86 Brain Research Foundation, $295,000
"Frank Center for Image Analysis"
P.I.s: M. Cooper & R.N. Beck
C.-T. Chen, as Project Director

6/1/88 - 5/31/89 Brain Research Foundation, $11,000
"Three-Dimensional Visualization of Brain Function"
P.I.: C.-T. Chen

6/88 - 6/90 Technology Commercialization Center, $25,000
"Application of NADH in situ Fluorimeter in Clinical Medicine"
P.I.: C.-T. Chen

12/88 - 12/89 W. M. Keck Foundation, $350,000 (Equipment Grant)
"New Development in Imaging Science for Multi-modality Imaging of the Brain"
P.I.s: R.N. Beck & A.V. Crewe; Project Director: C.-T. Chen

6/1/89 - 5/31/90 Brain Research Foundation, $8,000
"Expert System for Understanding and Interpretation of Brain Images"
P.I.: C.-T. Chen

1989 - 1994 Siemens Gammasonics Unrestricted Gift Funds, $280,000
($50,000 annually, $30,000 additional Equipment Grant in 1990)
"Applications of Artificial Intelligence to Nuclear Medicine"
P.I.: R.N. Beck; Co-P.I.s: M. Cooper & C.-T. Chen

4/90 - 6/91 State of Illinois Technology Challenge Fund, $175,000
"New Development in Imaging Science for Multi-Modality Imaging of the Brain"
P.I.s: R.N. Beck, A.V. Crewe, and C.-T. Chen

11/91 - 11/93 NASA/Hughes Aircraft Co., $128,152
"Data Visualization and Sensor Fusion"
P.I.: C.-T. Chen

1/15/92 - 1/14/94 Department of Energy, $1,307,000
"Instrumentation and Quantitative Methods of Evaluation"
P.I.: R.N. Beck; Co-P.I.s: M. Cooper & C.-T. Chen

4/1/92 - 3/31/95 Whitaker Foundation, $179,950
"Visualization and Analysis of Brain Function Using Emission Computed Tomography"
P.I.: C.-T. Chen

7/1/93 - 6/30/97 National Institutes of Health/NCI, $507,450 (Direct Cost)
"Statistical Methods for Medical Image Reconstruction"
P.I.: C.-T. Chen

10/1/93 - 9/30/95 Siemens Corporate Research, Inc., Unrestricted Gift Funds, $60,000
"Novel Methods for Image Reconstruction"
P.I.: C.-T. Chen

7/26/96 - 5/30/00 National Institutes of Health/NINDS, $682,183 (Direct Cost)
“Analysis of Detectability in Brain Activation Studies“
P.I.: C.-T. Chen

3/1/98 – 2/28/00 Argonne National Laboratory/University of Chicago Collaborative Seed Grant, $200,000
“Precision Micromachined X-ray/Gamma-ray Collimators for Medial Imaging,”
UC P.I.: C.-T. Chen

4/1/02 – 3/31/04 National Institutes of Health//NCI, P30 CA14599, $100,000 (Direct Cost)
"UCCRC Cancer Center Support Grant: Innovative Cancer CAM Initiative in Cancer Centers"
"Pilot Project: PET for Quantitative Assessment of Responses to Complementary and Alternative Therapies of Cancer"
P.I.: C.-T. Chen

4/1/04 – 3/31/05 National Institutes of Health//NCI, P30 CA14599, $30,000 (Direct Cost)
"UCCRC Cancer Center Support Grant: Pilot Development Grants"
"Collaborative Pilot Studies of Animal Imaging"
P.I. C.-T. Chen

4/1/04 – 3/31/05 National Institutes of Health//NCI, P30 CA14599, $38,125 (Equipment Grant)
"UCCRC Cancer Center Support Grant: Development of New Core Facilities"
"Optical Imaging Core Facility"
(Used in combination with $226,625 from contributions of BSD faculty members)
P.I. C.-T. Chen

7/1/04 - 6/30/05 UCCRC/ANL Collaborative Pilot Project Grant, $10,000 (Direct Cost)
"Radiophage: A New Generation of Radiotracer for Cancer Imaging"
UC P.I. C.-T. Chen

Active

1/1/01 – 12/31/07 National Health Research Institutes/Medical Engineering Research Division (Taiwan)
Unrestricted Industrial Gift Funds, $280,000 (accumulative to 6/30/2006)
"Functional and Molecular Imaging"
P.I.: C.-T. Chen

4/1/05 – 3/31/07 National Institutes of Health//NCI, P30 CA14599
$65,000 (05/06); $30,000 (06/07)
"UCCRC Cancer Center Support Grant: Development of New Core Facilities"
"Functional and Molecular Imaging Core: Development of Five Imaging Core Facilities for Small Animal and Specimen Imaging"
P.I. C.-T. Chen

7/1/05 – 6/30/07 UC BSD Committee on Research Resources
$155,000 (05/06, approved); $110,000 (carry-over from 05/06 to 06/07, approved)
$108,132 (06/07, approved)
"Functional and Molecular Imaging Core: Development of Five Imaging Core Facilities for Small Animal and Specimen Imaging"
P.I. C.-T. Chen

7/1/05 – 6/30/08 University of Chicago/Argonne National Laboratory (UC/ANL) Collaborative Seed Grant
$204,000 (Direct Cost)
"Radiophage: A New Generation of Radiotracer for Molecular Imaging"
UC P.I.: C.-T. Chen

1/1/07 – 12/31/07 National Health Research Institutes/Medical Engineering Research Division (Taiwan)
$15,000 (approximate Direct Cost)
"Quantitative Measurements in Animal Imaging Using Positron Emission Tomography"
P.I.: C.-T. Chen

3/1/07 – 2/28/09 National Health Research Institutes/Medical Engineering Research Division (Taiwan)
$165,780 (Direct Cost)
"Biomedical Imaging Collaboration"
P.I.: C.-T. Chen

5/1/07 – 4/30/09 Psychopharmacology Research Foundation (Brazil)
$335,000
"Brain Imaging Collaboration"
P.I.: C.-T. Chen

6/1/07 – 12/31/07 National Nanotechnology Initiatives (Taiwan) $37,500 (approximate Direct Cost)
"Molecular Imaging and Nanotechnology"
P.I.: C.-T. Chen

As Section Leader, Project Leader, or Investigator

Completed

1/1/82 - 3/31/86 Department of Energy, $2,463,075
"Quantitative Studies in Radiopharmaceutical Science"
P.I.: R.N. Beck; Co-P.I.: M. Cooper
C.-T. Chen, as Project Leader & Investigator

1/15/82 - 1/14/86 Department of Energy, $2,160,674
"Instrumentation and Quantitative Methods of Evaluation"
P.I.: R.N. Beck; Co-P.I.: M. Cooper
C.-T. Chen, as Project Leader & Investigator

1/15/86 - 1/14/92 Department of Energy, $4,154,168
"Instrumentation and Quantitative Methods of Evaluation"
P.I.: R.N. Beck; Co-P.I.: M. Cooper
C.-T. Chen, as Project Leader & Investigator

4/1/86 - 12/31/93 Department of Energy, $5,131,383
"Quantitative Studies in Radiopharmaceutical Science"
P.I.: M. Cooper; Co-P.I.: R.N. Beck
C.-T. Chen, as Project Leader & Investigator

4/90 - 6/91 State of Illinois Technology Challenge Fund, $212,278
"High-Resolution Multi-Slice Positron Emission Tomograph (PET)"
P.I.: R.N. Beck
C.-T. Chen, as Investigator

4/90 - 6/91 State of Illinois Technology Challenge Fund, $1,152,196
"A Very High-Performance Network and Archiving Facility for Imaging Science"
P.I.s: S. Teissler & R.N. Beck
C.-T. Chen, as Investigator

9/30/91 - 9/29/94 National Institutes of Health/NINDS, $621,250 (Direct Cost)

"Localization of Cerebral Dsyfunction in Dementia (AD)"
P.I.: M. Cooper
C.-T. Chen, as Investigator

4/1/98 – 3/31/01 National Institutes of Health/NCI, R29 CA40779
"Non-Iterative Methods for 3D SPECT Image Reconstruction"
P.I.: X. Pan
C.-T. Chen, as Investigator

6/1/00 – 12/31/06 National Health Research Institutes (Taiwan) $400,000 (approximate Direct Cost)
"Quantitative Imaging Using Positron Emission Tomography (PET)"
P.I. N. H.-C. Hwang
C.-T. Chen, as Co-Investigator

7/1/00 – 5/30/05 National Institutes of Health/NIGMS, R01 GM61101
"Electrical Injury: Imaging of Thermal & Non-Thermal Aspects"
P.I.: R. C. Lee
C.-T. Chen, as Investigator

9/14/00 – 8/31/03 National Institutes of Health/NCI, R21 CA88367
"Economic and Compact PET Systems (ezPET)"
P.I.: C.-M. Kao
C.-T. Chen, as Investigator

Active

4/1/01 – 3/31/07 National Institutes of Health/NCI, R01 CA70449
"Non-Iterative Methods for 3D SPECT Image Reconstruction"
P.I.: X. Pan
C.-T. Chen, as Investigator

4/1/02 – 3/31/07 National Institutes of Health/NIGMS, R01 GM64757
"Membrane Sealing: Biopolymers for Tissue Electroporation"
P.I.: R. C. Lee
C.-T. Chen, as Resource Person

8/1/03 – 12/31/07 National Science Council (Taiwan) $500,000 (approximate Direct Cost)
"Molecular Imaging in Prevention, Diagnosis, and Treatment of Cardiac Diseases"
P.I. N. H.-C. Hwang
C.-T. Chen, as Co-Investigator

1/1/05 – 5/31/07 National Nanotechnology Initiatives (Taiwan) $240,000 (approximate Direct Cost)
"Molecular Imaging and Nanotechnology"
P.I. N. H.-C. Hwang
C.-T. Chen, as Co-Investigator

9/1/05 – 8/31/08 National Institutes of Health/NIBIB, R01 EB000225
"Targeted Imaging in Helical Cone-beam CT"
P.I.: X. Pan
C.-T. Chen, as Investigator

Teaching Experience:

Courses Taught

Spring 1983	Radiology/Radiation Oncology 386
Spring 1985	"The Physics of Nuclear Medicine"
Spring 1988 - 1999	As course coordinator (until 1996) and lecturer (every year)
Summer 1983	Radiology/Radiation Oncology 342
Summer 1985	"Practicum in The Physics of Nuclear Medicine"
Summer 1988 - 1999	As course coordinator (until 1996) and instructor (every year)
Summer 1982 - present	Radiology/Radiation Oncology 420
	"Research in The Physics of Nuclear Medicine"
	As course coordinator (until 1999) and instructor (every quarter)
Autumn 1988	Radiology/Radiation Oncology 350
Autumn 1990	"Interaction of Ionizing Radiation with Matter"
	As lecturer
Summer 1990	Radiology/Radiation Oncology 428
	"Radiotracer Methodology: Positron Emission Tomography (PET)"
	As course coordinator and lecturer
Autumn 1992	Radiology/Radiation Oncology/Statistics 353
	"Medical Image Reconstruction"
	As course coordinator and lecturer
Autumn 1992 - 1995	Radiology/Radiation Oncology 349
	"Mathematics for Medical Physicists"
	As lecturer (every year)
Autumn 1993, 1995	Radiology/Radiation Oncology 355
	"Clinical Physics in Nuclear Medicine"
	As course coordinator and instructor
Autumn 1993, 1995	Radiology/Radiation Oncology 358
	"Clinical Physics in Positron Emission Tomography"
	As course coordinator and instructor
Summer 2000 – 2002	Medical Physics 34300
	“Physics of Medical Imaging – II”
	As lecturer

Students/Trainees/Academic Staff Supervised

The University of Chicago
Medical Physics (Postdoctoral Trainees, Academic Staff, and Visiting Scholars):

1989 - 1995	Caesar Ordonez, Ph.D. (Physics, MIT, 1986) Research Associate (Assistant Professor) Research on PET instrumentation, image reconstruction and analysis Currently Chief Scientist in an medical imaging company
1990 - 1995	Miles N. Wernick, Ph.D. (Optics, University of Rochester, 1990) NIH Postdoctoral Fellow (1990-1991) and Research Associate Research on PET image reconstruction and analysis Currently Associate Professor in the Department of Electrical Engineering and Director of Medical Imaging, Center for Biomedical Engineering Illinois Institute of Technology
1991 - 1994	Xiaochuan Pan, Ph.D. (Physics, The University of Chicago, 1991) Research Associate and NIH Postdoctoral Fellow (1992-1994) Research on SPECT image reconstruction Currently Professor in the Department of Radiology, The University of Chicago
1991 – 1996	S.Y. James Chen, Ph.D. (Electrical Engineering and Computer Science, Northwestern University, 1991) Research Associate and Research Associate (Assistant Professor) Research on cardiac image analysis, 3D imaging & reconstruction, virtual colonoscopy Currently Associate Professor in the Department of Medicine at the University of Colorado
1992 – 1995	John N. Aarsvold, Ph.D. (Applied Mathematics, University of Arizona, 1993) Research Associate and Research Associate (Instructor) Research on SPECT instrumentation and reconstruction Currently Physical Scientist in the Department of Nuclear Medicine at the Atlanta VA Hospital and Assistant Professor in the Department of Radiology at Emroy University
1998 – 1999 2002	Yu-Tai Jing, Ph.D., Visiting Scholar from Taiwan Professor with the Department of Information Sciences, National Jiao-Tung University Research on medical image analysis and intelligent systems
2002 – 2004	Qingguo Xie, Ph.D. (Control Engineering) Medical Engineering Research Division, National Health Research Institutes (Taiwan) As External Advisor for his research on PET imaging
2003	Chia-Chieh Chen, Ph.D., Visiting Scholar from Taiwan Director, Radiation Application Center, Institute of Nuclear Energy Research Research on molecular imaging
2004	Tzu-Chen Yen, M.D., Ph.D., Visiting Scholar from Taiwan Chairperson of the Department of Nuclear Medicine and Director of Molecular Imaging Center, Chung Gung Memorial Hospitals and Chang Gung University Research on molecular imaging
2004, 2005	Kun-Ju Lin, M.D., Ph.D., Visiting Scholar from Taiwan Chief of the Nuclear Clinics, Chung Gung Memorial Hospitals and Chang Gung University Research on PET and SPECT

2004, 2005 Yee-Hsin Weng, M.D., Visiting Scholar from Taiwan
Attending Physician in the Department of Neurology, Chung Gung Memorial Hospitals
Research on brain imaging

2004 – 2007 Christian Wielholt Ph.D. (Biomedical Engineering)
Medical Engineering Research Division, National Health Research Institutes (Taiwan)
Research on SPECT/CT imaging

2004 – present Jeffrey S. Souris, Ph.D. (Biophysics, University of Pennsylvania, 1999)
NIH Postdoctoral Fellow (2004 -2006)
Research Associate (Assistant Professor) (2006-present)
Research on PET and SPECT, and their integration with optical imaging and CT
Currently also Technical Director of the Optical Imaging Core Facility, BSD and UCCRC

2006 Yi-Ping Liu, Ph.D. (Molecular Biology, Postdoctoral training at University of Wisconsin)
Research Associate (Assistant Professor)
Research on novel molecular imaging probes

2007 – present Antonio Jose Machado Segundo, M.D. (Federal University of Sao Paulo, 1997)
Postdoctoral Fellow
Research on Molecular Imaging

2007 – present Lynnette Gerhold, Ph.D. (University of California at Davis, 2005)
Research Professional
Biomedical Director of the Optical Imaging Core Facility, BSD and UCCRC

Medical Physics (Graduate Students):

1982 - 1987 Gregory F. Powell, (Ph.D. in Medical Physics, 1987)
Dissertation research on radiation absorbed dose from positron emitters
Currently Senior Scientist and Manager with a leading medical imaging company

1984 - 1990 Xiaoping Hu, (Ph.D. in Medical Physics, 1988)
Research on statistical image reconstruction and processing
Currently Professor, Department of Radiology, Emory University

1987 - 1994 Xiaolin Yu, (Ph.D. in Medical Physics, 1994)
Dissertation research on incorporation of CT and MR images for attenuation correction in PET image reconstruction
(As principal advisor)

1988 - 1993 Xiaolong Ouyang, (Ph.D. in Medical Physics, 1993)
(NIH Predoctoral trainee, 1991-1992)
Dissertation research on multi-modal image reconstruction
(As principal advisor)
Currently Senior Scientist with a leading medical imaging company

1988 - 1998 Jeffrey Yap (Ph.D. in Medical Physics, 1998)

Dissertation research on knowledge-based factor analysis of dynamic nuclear medicine image data
(As principal advisor)
Currently Assistant Professor in the Department of Radiology, Harvard University

1990 - 1996 Kenneth Matthews (Ph.D. in Medical Physics, 1996)
(NIH Predoctoral trainee, 1990-1992)
Research on physiological studies using small gamma cameras
(As principal advisor)
Currently Assistant Professor in the Department of Physics, Louisiana State University

1991 - 1995 Chunwu Wu (Ph.D. in Medical Physics, 1995)
Research on 3-D image reconstruction
(As principal advisor)
Current as Chief Scientist with a leading medical device company

1992 - 1997 Chien-Min Kao (Ph.D. in Medical Physics, 1997)
Research on signal recovery in image reconstruction
(As principal advisor)
Currently Assistant Professor in the Department of Radiology, University of Chicago

1994 – 1999 Beilei Xu (Ph.D. in Medical Physics, 1999)
Dissertation research on SPECT image reconstruction
(As principal advisor)
Currently Senior Scientist at Xerox Corporation

Medical Students

1985 - 1990 Fu-Shih Pan, (Ph.D. in Chemistry, 1986; M.D., 1989)
Research on NADH in situ fluorimeter for medical applications
Currently in private practice in Taiwan

1986 - 1989 Michael Wendel, (M.D., 1989)
Research on cerebral glucose model and radiation dose to bladder wall
Completed Resident in Radiology, University of Pittsburgh

1987 - 1992 Michael Dowd, (M.D., 1992)
Research on bladder dosimetry and modeling of brain physiology
Completed Resident in Radiology, University of Washington

1988 - 1992 Kyontae Bae, (Ph.D. in Biomedical Engineering, 1988, University of Pennsylvania; M.D., 1992)
Research on automated image analysis of liver images
Currently Assistant Professor in Radiology, Washington University

Statistics (Graduate Students)

1988 - 1989 Valen Johnson, (Ph.D. in Statistics, 1989)

Dissertation research on Bayesian image restoration and reconstruction
Currently Professor, Institute of Statistics and Decision Science, Duke University
(With Professor Wing H. Wong)

1990 - 1991 Jun Liu, (Ph.D. in Statistics, 1991)
Research on attenuation correction in SPECT image reconstruction
Currently Professor, Department of Statistics, Harvard University
(With Professor Wing H. Wong)

1990 - 1993 Mark Leveson, (Ph.D. in Statistics, 1993)
Research on new prior function in Bayesian image restoration
Scientist position at the National Institute of Standards and Technology,
the US Department of Commerce
(With Professor Wing H. Wong)

Northwestern University
Electrical Engineering and Computer Science (Graduate Students)

1987 - 1988 Yue-Tong Weng, (M.S. in Electrical Engineering, 1988)
Research on expert vision systems integrating segmentation and recognition processes
(With Professor Wei-Chung Lin)

1987 - 1991 Cheng-Chung Liang, (Ph.D. in Electrical Engineering, 1991)
Dissertation research on shape and intensity interpolation, and general deformable models
Currently Staff Scientist at Siemens Corporate Research, Inc., Princeton, New Jersey
(With Professor Wei-Chung Lin)

1988 - 1991 James Shiuh-Yung Chen, (Ph.D. in Computer Science, 1991)
Dissertation research on an expert vision system for segmentation and recognition of brain images
Currently Associate Professor in the Department of Medicine, University of Colorado
(With Professor Wei-Chung Lin)

1988 - 1989 Darnell Little, (M.S. in Electrical Engineering, 1989)
Thesis research on application of the maximum likelihood EM algorithm to radiologic images
Currently Member of Technical Staff at AT&T Bell Laboratories, Naperville, Illinois
(With Professor Barry J. Sullivan, and Dr. Maryellen L. Giger)

1989 - 1996 Jie Feng, M.S. 1990, Ph.D. 1996
Research on detection of cardiac wall boundary using fuzzy logic
Currently senior scientist with a computer software company
(With Professor Wei-Chung Lin)

1988 - 1991 Eric Chen-Kuo Tsao, (Ph.D. in Electrical Engineering, 1991)
Dissertation research on constraint satisfaction neural networks for image segmentation and understanding
Currently Chairman and CEO of a medical software company in Taiwan
(With Professor Wei-Chung Lin)

1989 - 1991 Han W. Neiw, (Ph.D. in Electrical Engineering, 1991)
Dissertation research on automated image registration
Currently Member of Technical Staff at AT&T Bell Laboratories, New Jersey
(With Professor Wei-Chung Lin)

1991 - 1992 James C. Brailean, M.S.
Research on application of the maximum likelihood EM algorithm to radiologic images
(With Professor Barry J. Sullivan, and Dr. Maryellen L. Giger)

1990 - 1993 Ting Chen, (Ph.D. in Electrical Engineering, 1993)
Dissertation research on artificial neural networks for 3-D motion analysis
Deceased
(With Professor Wei-Chung Lin)

1991 - 2002 Hui-Hua Wen, (Ph.D. in Electrical Engineering, 2002)
Dissertation research on Knowledge-based image fusion
Currently NIH Postdoctoral Fellow in Medical Physics at University of Chicago
(With Professor Wei-Chung Lin)

As External Examiner or Advisor

1995 -1996 Babal Assai Ardekani, (Ph.D. in Electrical Engineering, 1996)
University of Technology, Sydney, Australia
As External Examiner for his disseration on "Fusion of Anatomical and Functional Medical Images."

2003 – 2004 Christian Wielholt (Ph.D. in Biomedical Engineering, 2004)
Marquette University, Milwaukee, Wisconsin
As External Advisor for his dissertation research on combined SPECT/CT study of lung physiology

BIBLIOGRAPHY

Journal and Refereed Papers:

R1. Schmidt, R.A., Chan, H.-P., Kodera, Y., Doi, K. and **Chen, C.-T.**: Evaluation of cassette performance: Physical factors affecting patient exposure and image contrast. *Radiology* **46**:801-806, 1983.

R2. Chan, H.-P., **Chen, C.-T.**, Doi, K., Fewell, T.R. and Shuping, R.E.: Investigation of energy responses of germanium detectors and correction of measured spectra by means of Monte Carlo simulation. *Radiation Research* **99**:443-464, 1984.

R3. **Chen, C.-T.** and Metz, C.E.: A simplified EM reconstruction algorithm for TOFPET. *IEEE Transactions on Nuclear Science* **NS-32**:885-888, 1985.

R4. Powell, G.F. and **Chen, C.-T.**: Radiation absorbed dose to bladder walls from positron emitters in the bladder content. *Medical Physics* **14**:1079-1089, 1987.

R5. **Chen, C.-T.**, Metz, C.E. and Hu, X.: Maximum likelihood reconstruction in PET and TOFPET. In: *Mathematics and Computer Science in Medical Imaging* (M.S. Viergever and A.E. Todd-Pokropek, eds.), Springer-Verlag, pp. 319-329, 1987.

R6. Lin, W.-C., Liang, C.-C. and **Chen, C.-T.**: Dynamic elastic interpolation for 3-D medical image reconstruction from serial cross-sections. *IEEE Transactions on Medical Imaging* **MI-7**:225-232, 1988.

R7. Levin, D.N., Pelizzari, C.A., Chen, G.T.Y., **Chen, C.-T.** and Cooper, M.D.: Retrospective geometric correlation of MR, CT, and PET images. *Radiology* **169**:817-823, 1988.

R8. Lin, W.-C., Weng, Y.-T. and **Chen, C.-T.**: Expert vision systems integrating image segmentation and recognition processes. *Engineering Application of Artificial Intelligence* **1**:230-249, 1988.

R9. Pelizzari, C.A., Chen, G.T.Y., Spelbring, D.R., Weichselbaum, R.R. and **Chen, C.-T.**: Accurate three-dimensional registration of CT, PET and MR images of the brain. *Journal of Computer Assisted Tomography* **13**:20-26, 1989.

R10. Lin, W.-C., Liang, C.-C. and **Chen, C.-T.**: A computational model for process-grammar. *Artificial Intelligence* **38**:207-224, 1989.

R11. Levin, D.N., Hu, X., Tan, K.K., Galhotra, S., Chen, G.T.Y., Pelizzari, C.A., Beck, R.N., **Chen, C.-T.**, Cooper, M.D., Mullan, J.F., Hekmatpanah, J. and Spire, J.-P.: The brain: Integrated three-dimensional display of MR and PET images. *Radiology* **172**:783-789, 1989.

R12. Lin, W.-C., Chen, S.-Y. and **Chen, C.-T.**: A new surface interpolation technique for reconstructing 3-D objects from serial cross-section. *Computer Vision, Graphics, and Image Processing (CVGIP)* **48**:124-143, 1989.

R13. Lathrop, K.A., Tsui, B.M.W., **Chen, C.-T.** and Harper, P.V.: Multiparameter extrapolation of biodistribution data between species. *Health Physics* **57**(sup.1):121-126, 1989.

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