

Jinghua Chen, MD, PhD

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Neuro-Ophthalmology Department
Massachusetts Eye and Ear Infirmary
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PROFILE: A highly motivated, results-oriented medical researcher with over 10 years' experience in clinical, electrophysical, basic biomedical and retinal prosthesis research.

EDUCATION:

1990 - 1995	M.D.	Beijing University Health Science Center, Beijing, China
1995 - 1999	PhD	Department of Ophthalmology People's 2nd Clinical Hospital, Beijing University Health Science Center, Beijing, China

POST DOCTORAL TRAINING:

Internship and Residencies

1994-1995	Intern in medicine, Beijing University Health Science Center The Third School of Clinical Medicine (the Third Hospital), Beijing, China
1995 –1999	Resident in Ophthalmology, the Second School of Clinical Medicine (the people's Hospital), Beijing, China

LICENSURE AND CERTIFICATION:

2001-	The People's Republic of China Doctor's License for Practicing
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ACADEMIC APPOINTMENTS:

-2006 Assistant Professor in Ophthalmology, Beijing University Health Science Center
2004-2007 Senior Research Fellow in Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA
2007- Associate Scientist in Massachusetts Eye and Ear Infirmary, Harvard Medical School, Boston, MA

HOSPITAL APPOINTMENTS:

2003 –	Department of Ophthalmology People's 2nd Clinical Hospital, Beijing University B e i j i n g , China	Assistant surgeon in Ophthalmology
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1999-2003 Department of Ophthalmology
People's 2nd Clinical Hospital, Beijing University Beijing, China
Attending doctor in Ophthalmology

RESEARCH EXPERIENCE:

2004 – Department of Neuro-Ophthalmology
Massachusetts Eye and Ear Infirmary Boston, MA
Senior Researcher/ Associate Scientist

Responsible for in vivo studies of retinal prostheses, including:

- Development of surgical techniques to implant and extract the prosthesis
- Biocompatibility studies of retinal prostheses
- Acute and chronic electrical stimulation of the retina
- Histological studies and retinal optical coherence tomography (OCT)

1997 – 2004 Department of Ophthalmology
2nd Clinical Hospital, Beijing University Beijing, China

Responsible for basic and clinical studies of eye diseases:

- Clinical electrophysiology of vision (2000 ~ 2004)
- Age-related ocular diseases (2000 ~ 2004)
- Plasmin induced posterior vitreous detachment (2002)
- Microscotometry using scanning laser ophthalmoscopy (2000 ~ 2001)
- Retinal photocoagulation (1999 ~ 2004)
- Vitreous biochemical changes (1997 ~ 1998)

EXTRAMURAL RESEARCH GRANTS:

2004 –2006 **Principal investigator**
'Nanoscience-based study of retinal prostheses' supported by the
National Natural Science Foundation of China under Grant
#30300378

PROFESSIONAL MEMBERSHIP

2002- Member, Association for Research in Vision and Ophthalmology
2002- Specialist Member, Chinese Medical Association
2000- Member, Chinese Medical Association
2007-2009 Regular member, American Society for Biochemistry and Molecular
Biology

PEER REVIEW

Journal of EYE SCIENCE
Investigative Ophthalmology and Visual. Science
Ophthalmology

Ophthalmic Surgery, laser and Imaging

CLINICAL WORK EXPERIENCE

2003 – Department of Ophthalmology
People's 2nd Clinical Hospital, Beijing University B e i j i n g ,
China **Assistant surgeon of Ophthalmology**

1999 – 2003 Department of Ophthalmology
People's 2nd Clinical Hospital, Beijing University, Beijing, China
Attending doctor of Ophthalmology
-Performed glaucoma surgeries
-Performed cataract surgeries and intraocular lens implantation
-Treated retinal tears and diabetic retinopathy
-Performed retinal photocoagulation with a YAG laser
-Participated in many corneal transplants and vitreous surgeries
-Treated around 500 patients per month
-Taught medical students and residents in ophthalmology

TEACHING EXPERIENCE:

1999-2003 Lecturer for Ophthalmology Courses
Beijing University Health Science Center

AWARDS AND HONORS:

2003 Third Place Award, Lecturing Competition, People's Hospital of
Beijing University
2002 Third Place Award, Fourth Annual Lecturing Competition, People's
Hospital of Beijing University
2002 Excellent Doctor Award from the Chinese Health Department for
performing 900 cases of free cataract surgeries in rural areas of
China
2000 Excellent Young Teacher Award, Beijing University Health Science Center
2000 Excellent Award, Third Annual Lecturing Competition, People's Hospital of
Beijing University
1999 Excellent Teacher Award, People's Hospital of Beijing University
1998 Second Place Scholarship Award, Beijing University Medical School
1997 Third Place Scholarship Award, Beijing University Medical School

PUBLICATIONS:

1. J. Chen, P. Doyle, J. Dumser, A. Marvast, O. Mendoza, M. Gingerich, S. Kelly, D. Shire, J. F. Rizzo, III. *Surgical Implantation of Newly Designed Subretinal Implant in Minipig Eyes* Invest. Ophthalmol. Vis. Sci., 2011 52:4929
2. S. F. Cogan, J. Chen, T.D. Plante, M.D. Gingerich, D.B. Shire, J.F. Rizzo. *Electrochemical Behavior of Chronically Implanted Sub-retinal Iridium Oxide Stimulation Electrodes* Invest. Ophthalmol. Vis. Sci., 2011 52:4964
3. J. Chen, S. J. Kim, M.D. Gingerich, D.B. Shire, S.F. Cogan, J.F. Rizzo. *Surgical Implantation and Testing of Active Electrode Arrays in the subretinal space of the Minipigs*. XV Congress of Chinese Ophthalmological Society in Beijing September 2010, invited speaker abstract

4. J. Chen, P. Doyle, C. Cai, J. Dumser, R. Akhmechet, M.D. Gingerich, S.K. Kelly, D.B. Shire, J.F. Rizzo. *Surgical Implantation of 1.5 Generation Retinal Implant in Minipig Eyes*. Invest. Ophthalmol. Vis. Sci., Vol. 51: 3052, 2010.
5. J.Chen, H.A. Shah, C. Herbert, J.Loewenstein, J.F. Rizzo, III, *Extraction of a Chronically Implanted, Microfabricated. Sub-Retinal Electrode Array*. Ophthalmic Res 2009;42:128-137
6. J. Chen, S.J. Kim, J.E. Dumser, F. Shihab, C. Cai, R. Akhmechet, M.D. Gingerich, D.B. Shire, J.F. Rizzo, III. *Surgical Implantation of Penetrating Electrode Arrays in Minipig Eyes* Vis. Sci. 2009: E-Abstract
7. J.Chen, J.Loewenstein, S. J. Kim, M. A. Memon, L. S. Snebold, F. Masrur, M. D. Gingerich, D. B. Shire, and J. F.Rizzo *Surgical Implantation of Different Geometries of Electrode Arrays in Minipig Eyes* Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 3036.
8. M.A. Memon, J. Chen, S. J. Kim, L. Snebold, F. Masrur, D. B. Shire, M. Kenney, and J. F. Rizzo *Surgical Methods for Implantation of Dual Sub-Retinal Electrode Arrays Into One Minipig Eye* Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 5877.
9. J.F. Rizzo, III, J.Chen, D.Shire, S. Kelly, M. Gingerich, G. Swider, W. Drohan, and J. L. Wyatt *Implantation of a Wirelessly Powered Retinal Prosthesis Using an ab externo Surgical Technique* Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 3027.
10. D.B.Shire, S.K.Kelly, M.D.Gingerich, O.Mendoza, G.Swider, W.Drohan, J. Chen, J. F. Rizzo, and J. L. Wyatt *Operation of a Wirelessly Powered Subretinal Neurostimulator* Invest. Ophthalmol. Vis. Sci. 2008 49: E-Abstract 3031.
11. J.Chen, S.Kim, J.Brookman, L.Snebold, M.Kenney, D.Shire, J.F. Rizzo, III *Surgical Methods for Large Sub-Retinal Prosthetic Implantation*. Invest. Ophthalmol. Vis. Sci. 2007 48: E-Abstract 2562.
12. J.Chen, L.Snebold, M.Kenney, J.Brookman, J.F. Rizzo, III *A Modified Method for Ab Externo, Sub-Retinal Prosthetic Implantation*. Invest. Ophthalmol. Vis. Sci. 2006 47: E-Abstract 3190.
13. X.Hu, X.Li, H. Wu, J. Chen, X. Cao, X. Xu, G. Liu, H. Chen *Electrophysiological response in rabbits with normal and injured photoreceptor due to subretinal implantation of chip*. Chinese Journal of Ocular Fundus diseases 2006 Vol.22 No.5 P.324-327
14. J. Chen, J. Loewenstein, H.A. Shah, C.D. Herbert, and J.F. Rizzo *Extraction of a Chronically Implanted Sub-Retinal Electrode Array* Invest. Ophthalmol. Vis. Sci. 2005 46: E-Abstract 1488.
15. H.A. Shah, J.H. Chen, C.D. Herbert, and J.F. Rizzo *Electrical Stimulation of the Rabbit Retina With a Sub-Retinal Electrode Array: Charge and Charge Density Limits for Safe Stimulation* Invest. Ophthalmol. Vis. Sci. 2005 46: E-Abstract 1507.
16. C.D. Herbert, J.H. Chen, H.A. Shah, and J.F. Rizzo *Retinal Detachment Following Vortex Vein Injection in Rabbits: A New Strategy for Ab-Externo Retinal Prosthesis Implantation* Invest. Ophthalmol. Vis. Sci. 2005 46: E-Abstract 1497.
17. S.F. Cogan, T.D. Plante, J. Ehrlich, H.A. Shah, J. Chen, and J.F. Rizzo *In vivo Electrochemical Characterization of Activated Iridium Oxide Stimulation Electrodes Implanted Sub-Retinally in Rabbit* Invest. Ophthalmol. Vis. Sci. 2005 46: E-Abstract 1515.
18. M.D. Gingerich, D.B. Shire, J. Chen, J. Loewenstein, H.A. Shah, J. Sun, J.L. Wyatt, and J.F. Rizzo *Surgical Guides for Electrode Array Implantation Into the Subretinal Space* Invest. Ophthalmol. Vis. Sci. 2005 46: E-Abstract 1494.
19. W. Pei, H. Chen, J. Tang, L. Lu, J. Liu, H. Wu, J. Chen, X. Hu, X. Li, K. Li *Subretinal implanting micro-chips for vision prosthesis* Chinese High Technology letters 2005 Vol.15 No.8 P.39-43
20. J. Chen, X. Li. *Macular Function Assessed by Multifocal Electoretinogram in Elder Patients with Macular Pucker, Sub retinal CNV and Drusen*. Invest. Ophthalmol. Vis. Sci. 2003 44: E-Abstract 4955.
21. X. Li, J. Chen. *The Vitreous Degenerative Changes in High Myopia*. Invest. Ophthalmol. Vis. Sci. 2002 43: E-Abstract 2451.
22. Jinghua Chen, Xiaoxin Li. *The evaluation of fixation, microscotometry and multi-focal electoretinogram examination in macular holes pre- and post- operation*. Chin Ophthalmol Res, 2002 vol 20(4): 328-331
23. Jinghua Chen, Xiaoxin Li, Xiulan Xu. *The variability of parameters in multi-focal electoretinograms*. Chin J Fundus Dis, Dec 2001; Vol 17(4): 277-279
24. Jinghua Chen, Xiaoxin Li. *A study on human vitreous rheology*. Chin Ophthalmol Res, October 2001, Vol.19, (5): 405-406

25. Jinghua Chen, Xiaoxin Li. *The theory and clinical use of mERG and mVEP*. Chin J. Ophthalmol, 2001, Vol 37(3): 233-236 (Review)
26. Jinghua Chen, Xiaoxin Li, Xiulan Xu. *Variability of mERG results*. Chin Ophthalmol Res, June 2001, Vol.19, (3): 239-241
27. Jinghua Chen, Xiaoxin Li, Yanrong Jiang. *Analysis and treatment of rehemorrhage in eyes with proliferative diabetic retinopathy after vitrectomy*. Chin J of Practical Ophthalmol 2000, vol 18 (2) : 83-84
28. Jinghua Chen, Xiaoxin Li. *Macular hole on one high myopic eye induced by LASIK*. Chin J Ophthalmol, July 1999, Vol 35(4): 296

Book Chapters:

1. Jinghua Chen, Xiaoxin Li: Retinal Degeneration Diseases. In Shouzhi He (Ed): Clinical Ophthalmology. Tianjin Science and Technology, China, pp. 731-748, 2002
2. Xiaoxin Li, Jinghua Chen: Clinical Electrophysiologic Testing. In Shouzhi He (Ed): Clinical Ophthalmology. Tianjin Science and Technology, China, pp. 345-357, 2002