

CURRICULUM VITAE

April, 2020

Shukti Chakravarti, M.S., Ph. D
Professor of Ophthalmology
Director of Basic Science Research, Ophthalmology
Professor of Pathology
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Alexandria Life Sciences West Tower
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EDUCATION

Year	Degree	Discipline	Institution
1978	B.S.	Botany (Honors)	Lady Brabourne College, India
1983	M.S	Biological Chemistry	University of Pittsburgh, USA
1989	PhD	Biological Chemistry	University of Pittsburgh, USA

POSTDOCTORAL TRAINING

1989-1990	Albert Chung, Ph.D., Department of Biological Sciences, University of Pittsburgh, Pittsburgh, PA.
1990-1993	John R. Hassell, Ph. D., Department of Ophthalmology, University of Pittsburgh School of Medicine and Eye & Ear Institute, Pittsburgh, PA.
1994-1995	Terry Magnuson, Ph. D., Department of Genetics, Case Western Reserve University School of Medicine, Cleveland, OH.

ACADEMIC APPOINTMENTS

Dates	Position	Institution
1995-1996	Instructor of Genetics	Department of Genetics, Case Western Reserve University, Cleveland, OH
1996-2000	Assistant Professor of Medicine (Primary)	Department of Medicine, Case Western Reserve University, Cleveland, OH
2000	Assistant Professor of Genetics (Secondary)	Department of Genetics, Case Western Reserve University, Cleveland, OH
2000-2004	Assistant Professor of Medicine (Primary), Ophthalmology and Cell Biology (Secondary)	Departments of Medicine (Gastroenterology Division), Ophthalmology, Cell Biology, Johns Hopkins University School of Medicine (SOM), Baltimore, MD
2004-2012	Associate Professor of Medicine (Primary) Ophthalmology and Cell Biology (Secondary)	Departments of Medicine (Gastroenterology Division), Ophthalmology, Cell Biology, Johns Hopkins University School of Medicine (SOM), Baltimore, MD

2013-03/2018	Professor of Medicine (primary) Cell Biology and Ophthalmology (secondary)	Departments of Medicine (Gastroenterology Division), Ophthalmology, Cell Biology, Johns Hopkins University School of Medicine (SOM), Baltimore, MD
2018-	Professor of Ophthalmology Professor of Pathology Director of Basic Science Research, Ophthalmology	NYU Langone Health NY, NY 10016

Awards and Honors

- 2012** University of Rochester's Center for Visual Science Boynton Colloquium Lectureship
2013 Cole Eye Institute Distinguished Lectureship
2019 Visiting Professor Lectureship, Department of Ophthalmology, Harvard Medical School

Major Committee Assignments

Advisory Committees, Review groups/Study Sections

- 2000 Special Emphasis Study Section ZDK1GRB-7 NIDDK microarray Biotechnology Centers
2001 Wellcome Trust Funds grant review
2001-2003 NIH Vis A Study Section ad hoc member
2003-2006 NIH AED (Vis A) Study Section Permanent Member
2004 Eli and Edythe Broad Medical Research Program Grants
2005 GCRC site visit, UCLA and Cedars Sinai LA
9/2007 NIH AED (Vis A) Study Section. Ad hoc reviewer
6/2008 NIH AED (Vis A) Study Section. Ad hoc reviewer
10/2008 NIH AED (Vis A) Study Section. Ad hoc reviewer
6/ 2011 NIH ZRG1 BDCN-H Study Section. Ad hoc reviewer
6/2015 NIH, BVS Study Section. Ad hoc reviewer
2/2016 NIH, DPVS Study Section. Ad hoc reviewer
6/2018 NIH BDCN Study Section. Ad hoc reviewer

Memberships, Offices, And Committee Assignments in Professional Societies

Professional Society memberships

- American Association for the Advancement of Science (AAAS)
Association for Research in Vision and Ophthalmology (ARVO)
American Gastroenterological Association (AGA)
The American Society for Matrix Biology (ASMB)
The American Society for Biochemistry and Molecular Biology (ASBMB)
The Tear Film and Ocular Surface Society (TFOS)

Conference Chair

- 2010 Gordon Research Conference on the Biology and Pathobiology of the Cornea
Inaugural Chair.
2011 Cornea Section Program Committee Co-Chair, Association for Research in Vision and
Ophthalmology (ARVO) Annual meeting

Organizing Committee member

- 2002 Gordon Research Conference on Proteoglycans
2008-2011 Association for Research in Vision and Ophthalmology (ARVO) Annual meeting Program
2012- Gordon Research Conference on the Biology and Pathobiology of the Cornea

Session/symposium Organizer

2000	Gordon Research Conference on Proteoglycans: Small leucine-rich proteoglycans
2002	Gordon Research Conference on Proteoglycans: Cell Biology of Proteoglycans
2005	ARVO: Proteome and Genome Session organizer
2006	Gordon Research Conference: Proteoglycans in Disease Models
2006	American Society of Matrix Biology (ASMB) Molecular mechanisms of matrix in inflammation-Special Interest Group
2008	ARVO: Extracellular matrix driven regulation of innate immune response and inflammation-Special Interest Group
2009	ARVO: Inflammation: Different diseases, common themes- Symposium,
2010	ARVO: Novel gene-targeted mutations affecting structure and functions of the cornea -Mini-symposium
2011	ARVO: Innate and adaptive Immunity in ocular defense and disease - Symposium
2011	ARVO: Genomics in Vision Research - Symposium
2011	ARVO: Cell fate decisions - Mini-symposium
2011	ARVO: Small leucine rich repeat proteoglycans of the cornea- Mini-symposium
2012	International Society for Eye Research, Annual Conference, Berlin.
2016	Gordon Research Conference, Cornea Biology and Pathobiology
2017	ARVO: Special interest group - TGF beta signaling in disease
2018	ARVO: Lens and cornea regeneration Mini symposium

Moderator/Discussion Leader

1999	Association for Research in Vision and Ophthalmology (ARVO): Mouse Genetics Session, Ft. Lauderdale
2001	ARVO: Keratocyte and stromal functions Session, Ft. Lauderdale
2004	ARVO: Cornea development and differentiation Session, Ft. Lauderdale
2005	ARVO: Study of the Structure and Functions of the Cornea Using Mouse Models: Advantages and Challenges. Special Interest Group, Ft. Lauderdale
2005	ARVO: Corneal Genome and Proteome Session
2005	ARVO: Use of Transgenic Models to Study the Cornea and the Anterior Segment. Panelist
2008	ARVO: Stroma and Keratocytes Session, Ft. Lauderdale
2010	ARVO: Cornea mini-symposium, Ft. Lauderdale
2010	TFOS: Tear film and ocular surface society conference. Florence, Italy

Editorial Positions

2010-2017	Editor, Experimental Eye Research (Cornea Section)
2017-	Editorial Board Member Matrix Biology
2009-	Academic Editor, PLoS ONE
2008-2014	Editorial Board Member, Journal of Biological Chemistry
2019-	Editorial Board Member, Invest Ophthalmology and Visual Sciences

Journal Peer Review Activities (2003-present)

Invest Ophthalmology and Visual Sciences

Molecular Vision

Human Molecular Genetics

Mammalian Genome

Inflammatory bowel diseases

American Journal of Physiology

Gastroenterology

Journal of Biological Chemistry

Journal of Experimental Medicine
New England Journal of Medicine
Genome Research

Major Administrative Responsibilities

2003-2004 Organization of the Gastroenterology Division Seminar Series, Johns Hopkins SOM
2003 - 4/2018 Cellular & Molecular Medicine Graduate Training Program Faculty, Johns Hopkins School of Medicine
2014-4/2018 Pathobiology Graduate Program member, Johns Hopkins School of Medicine
2006 - 4/2018 Fellowship Program committee member, Gastroenterology Division Johns Hopkins SOM
2006 - 4/2018 Wilmer Keratoconus Research Team Director, Johns Hopkins SOM
2009 - 4/2018 JHU Phenotyping Core Faculty
2018 - Director of Basic Science Research, Ophthalmology, NYU Langone Health

Teaching Experience

Classroom instruction

10/2-11/01 Molecules and Cells III and IV. Department of Medicine, Johns Hopkins University SOM, Baltimore, MD
2001 Workshop on Statistical & Computational Genomics. Applications of Microarray. Indian Statistical Institute, Kolkata, India
2003 Molecules and Cells III and IV. Johns Hopkins University School of Medicine. Small group Discussant. Department of Medicine, Johns Hopkins University SOM, Baltimore, MD
2004-4/2018 CMM Core Discussion Faculty Moderator, Johns Hopkins University SOM, Baltimore, MD

CME Instruction

1999 Frontiers in Gastroenterology and Hepatology. Lecture Series. Chip into ulcerative colitis and Crohn's Disease: gene expression signatures of two different diseases. Case Western Reserve University, Cleveland, OH.
2008 Pathology Grand Rounds. Department of Pathology. Johns Hopkins SOM, Baltimore, MD.
2008 Pathology Grand Rounds. Department of Pathology. UMDNJ, Newark, NJ.
2018 Keratoconus CME: Genetics and Pathobiology, NYU Langone Health.
Grand Round NYU Ophthalmology
2019 Resident Research Paper didactic
2020 Ophthalmology Resident Research topics

Mentoring of Graduate Students, Residents, Post doctoral fellows

Pre-doctoral (since 2003)

2003 Ashwin Singh, BS. University of Maryland, Baltimore County, Baltimore, MD. Summer Undergraduate Research Meyerhoff Scholarship Program. Research elective funding from CCFA under Dr. Chakravarti's guidance. Role of Collagen VI in Crohn's disease.
2003 Megan Keefe, CMM Graduate Student rotation, Johns Hopkins University, Baltimore, MD
2005 Brittany Jackson, BS Washington University, St. Louis. Undergraduate Summer Internship. NIH under-represented minority grant award (mentor: Dr. Chakravarti)

- 2006 Jeffrey Doyle, MBBS. CMM Graduate student rotation. Graduate Student, SOM Genetics Smilow Ctr Marfan Synd Rsch Johns Hopkins School of Medicine
- 2007 Kyle Bowrin, BS. South Carolina State University. Johns Hopkins Summer Internship Program for undergraduate students. The role of lumican in neutrophil migration. Co-author on a 2009 JBC paper.
- 2010 Hardik Sardana, MBBS. AIIMS, India. Johns Hopkins SOM Gastroenterology Research elective on inflammatory bowel disease. Co-author on 2011 Inflammatory Bowel Diseases paper.
- 2010-2011 Sangeeta Ramani, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Course - Extracellular matrix-cell signaling.
- 2011-2012 Anthony Sin, Medical Tutorial Program Johns Hopkins Undergraduate Hopkins Undergraduate, Homewood Campus. Course - Extracellular matrix-cell signaling.
- 2011 Richard Braum, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Course - Extracellular matrix-cell signaling.
- 2013-2014 Sudarshan Pinglay, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Keratoconus exome sequence studies.
- Aaron Hsu, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Recombinant lumican proteins and study of functional domains.
- Isha Kachwalla, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Recombinant lumican proteins and study of functional domains.
- Joey Bahng, Medical Tutorial Program, Johns Hopkins Undergraduate Homewood Campus. Recombinant lumican proteins and study of functional domains.
- 2014- Mehak Bassi, MBBS. AIIMS, India. Johns Hopkins SOM. Extracellular Matrix Research Internship.
- 2016 Ye Eun Jeong, BS Rotation Graduate student. Lumican and T cell interactions.

Ph.D. Oral Examination and Thesis Committee

- 2004 Betty Doan Ph. D. Oral examination committee member. JHU School of Public Health
- 2012 Nina Hosmane, Ph. D. Candidate. CMM Oral examination committee member.
- Victoria Baxter, Ph. D. Candidate. CMM Oral examination committee member.
- Agnieszka Anna Rucki, Ph. D. Candidate. CMM Oral examination committee member.
- 2014 Chinda Hemmavanh, Ph.D. Candidate. Thesis Committee Chair, Univ. South Florida
- 2016 Ryan Porell, Ph.D Candidate, Thesis Proposal Committee member, Johns Hopkins University, Advisor: Ronald Schnaar, Ph.D

Postdoctoral Fellowship trainees

- 1998-2000 Ian C. Lawrance, MD., Ph.D – Ulcerative Colitis and Crohn’s disease studies. Present position: Professor, University of Western Australia, Freemantle, Australia.
- 2000-2005 Feng Wu, M.D., Ph.D -Research on Pathogenesis of Ulcerative colitis and Crohn's Disease. Present position: Research Faculty, Gastroenterology Division, University of Chicago School of Medicine, Chicago, IL
- 2002-2004 Neeraj Vij, Ph.D. Lumican mediated cell signaling in the cornea. Present position: Associate Professor of Molecular & Cell Biology, College of Medicine, Central Michigan University.

- 2004-2009 Albert S. Jun, M.D., Ph.D. KO8 award recipient: Role of Collagen type VIII in the mouse cornea. Present position: Professor, Wilmer Eye Institute, Johns Hopkins SOM, Baltimore MD
- 2006-2007 Mukesh Gandhari, Ph.D. Role of lumican in innate immune functions. Present position: Postdoctoral Fellow, NIH, Bethesda, MD
- 2007-2008 Jamie. L. Wolfe, M.D. Clinical Pediatric Gastroenterology fellow, Johns Hopkins Children's Center. Baltimore, MD. Present position: Gastroenterologist, Children's National Specialists of Virginia, LLC, Fairfax, Virginia.
- 2007-2009 Amit Ghosh, Ph. D. Peptidoglycan recognition proteins in the cornea. Present position: Postdoctoral fellow, Oregon Health Science Center,
- 2009-2010 Xiaojun Feng, Ph.D. Pathophysiology of keratoconus, Department of Medicine Johns Hopkins SOM, Baltimore, MD. Present position: Group Manager, Invitrogen, China.
- 2007-2010 Seakwo Lee, Ph.D. Postdoctoral Fellow. Regulation of inflammation by extracellular matrix lumican. Present position: Research Fellow, JHU Pediatrics-pulmonary.
- 2010-2012 Hanjuan Shao, Ph.D. Research Associate. ECM regulation of cellular functions. Present position: Research Associate, Department of Ophthalmology, University of Pennsylvania.PA.
- 2010-2012 Sherri Gae Scott, Ph. D (Johns Hopkins CMM). Keratoconus research. Present position: Grants Administrator, FASEB.
- Ranjita Harji- Gowda, Ph. D. Postdoctoral Fellow. Antimicrobial proteins at the ocular surface.
- 2012 -2013 Zhaoxia Li, Ph.D. Postdoctoral Fellow. Regulation of inflammatory infiltrates by lumican. Training for Physician's Assistantship.
- 2013- 2017 James W Foster, Ph.D. Genetic and Functional studies of Keratoconus. Present Position - Research Associate, Wilmer Eye Institute, Johns Hopkins Medical Institutions.
- 2014-2017 Jihane Frikeche, Ph.D. Role of ECM proteoglycans in innate and adaptive immunity. Present Position – Senior Scientist, TxCell, France.
- 2015- George Maiti, Ph.D. Role of small leucine rich repeat proteoglycans in macrophage, TLR4 and TLR9 functions. Dept. of Ophthalmology, NYU Langone Health
- 2016- Vishal Shinde, Ph.D. Functional studies of Keratoconus. Dept. of Ophthalmology, NYU Langone Health
- 2018-2020 Avinash Veerappa, Ph.D. Genetic studies of keratoconus. Dept. of Ophthalmology, NYU Langone Health
- 2020- Amit Biswas, PhD. Immune regulations by the ECM in secondary lymphoid organs, Dept. of Ophthalmology, NYU Langone Health

Major Research Interests

Extracellular matrix (ECM) protein functions in macrophages
 The ECM in innate and adaptive immunity
 The ECM in corneal inflammation and wound healing
 Anterior eye diseases
 Mouse models of anterior eye diseases
 The ECM and stem cell niche

Grants received

Current

- 01/01/2020- 12/31/2023 Extracellular matrix proteoglycans regulate toll-like receptors 4 and 9
 1R01EY030917, NIH/NEI
 PI: **Chakravarti, S**
- 6/10/2016-5/31/2019
 5/31/2020(NCE) TGF- β and AKT signaling in keratoconus pathogenesis
 1R01EY024273-01, NIH/NEI
 PI: **Chakravarti, S**

Goals: To investigate pathogenesis of keratoconus using genomic and functional cell culture studies

Previous

- 1995
Genetic studies of lumican. Pilot and Feasibility grant.
Skin Diseases Research Center. Case Western Reserve University
PI: **Chakravarti, S**
Goals: to characterize lumican and seek extramural funding.
- 1995-1997
Genetic analysis of lumican's role in the cardiovascular system.
Grant-in-aid
American Heart Association
PI: **Chakravarti, S**
Goals: to develop gene-targeted lumican-null mice and investigate the effects of the null mutation on heart development.
- 1995-1997
Basement membrane proteoglycan perlecan.
NIH/NEI
PI; Hassell, John
Subcontract PI: **Chakravarti, S**
Goals: to develop perlecan over expressing transgenic mice.
- 1/1/97-12/31/17
Role of lumican in the cornea.
RO1EY11654
NIH/NEI
PI: **Chakravarti, S**
Goals: to determine the role of lumican in collagen fibrillogenesis and elucidate the effects of lumican-deficiency on the structure and development of the cornea.
- 1/1/97-12/31/01
Core Facility for the Visual Sciences.
NIH P30EY11373
NIH/NEI
PI: Lass, Jonathan, Case Western Reserve University
Co-investigator: **Chakravarti, S** (1/1/97-7/31/00)
- 4/1/99-3/31/01
Molecular studies of corneal transparency
NIH 611-340-LO-A
NIH.NEI
PI: Hassell, John, Univ. South Florida
Subcontract PI: **Chakravarti, S**
Goals: To develop keratocan targeting construct and null mice.
- 7/1/00-6/31/03
Pediatric IBD: key to early pathogenic events
1PO1DK57756-01
NIH/NIDDK
PI: Fiocchi, Claudio, Case Western Reserve University, Cleveland
Project #4: Title: Extracellular matrix in pediatric IBD.
PI: **Chakravarti, S**
Goals: to identify ECM changes associated with colitis.
- 1/01/00-1/31/03
The role of extracellular matrix in inflammatory bowel disease: novel experimental models for intestinal inflammation and fibrosis.
CCFA

- PI: **Chakravarti, S**
Goals: To elucidate ECM changes in mouse models of colitis.
- 9/30/00-9/29/03 Hopkins DK Center for the Analysis of Gene Expression.
R24 DK58757-01
NIH/NIDDK.
PI: Vincent Yang, Greg Germino
Co-investigator: **Chakravarti, S**
- 7/01/03-10/31/04 Molecular classification of Crohn's disease subtypes by gene expression profiling.
BMRP0051
Broad Medical Research Program.
PI: **Chakravarti, S.**
Goals: To investigate gene expression differences in Crohn's disease and ulcerative colitis in endoscopic pinch biopsies.
- 07/1/06-12/31/10 Role of lumican in colitis
Senior Research Award 1599
CCFA (Crohn's and Colitis Foundation of America)
PI: **Chakravarti, S**
Goals: to investigate lumican functions in colitis.
- 7/1/07-6/30/08 Role of lumican in the cornea
R56 EY11654.
NIH/NEI
PI: **Chakravarti, S**
Goals: To define the role of lumican in the cornea using the lumican-null mouse as a model system.
- 09/01/10 – 08/31/11 Fas pathway in organ-specific tolerance and autoimmunity
1R56AI083444 - 01A2
NIH
PI: Hamad, A
Co-investigator: **Chakravarti, S**
Goals: to analyze mechanisms by which inhibition of the Fas pathway prevents type 1 diabetes in the NOD mouse model.
- 08/01/09 - 07/31/12 ARRA supplement to EY11654
PI: **Chakravarti, S**
Goals: to investigate functions of lumican in neutrophils migration.
- 07/31/08-12/31/13 The role of lumican in the cornea
2R01EY011654-12A1
NIH/NEI
PI: **Chakravarti, S**
Goals: to investigate the role of lumican in the cornea.
- 04/1/11-3/31/14 Functions of mammalian PGLYRPs in the cornea
1R21EY021585
NIH/NEI
PI: **Chakravarti, S**

- 04/24/2014-04/23/2016
NCE-2018
Goals: to elucidate functions of four antibacterial proteins in the cornea using gene-targeted mice deficient in these proteins.
Proteomic analyses of keratoconus patients from the Kingdom of Saudi Arab
KKESH/Wilmer
PI: Chakravarti, S
Goals: To study keratoconus patients from the Kingdom of Saudi Arabia.
- 04/22/2015-02/28/2017
NCE-2018
Transcriptome Analyses of Keratoconus Patients from the Kingdom of Saudi Arabia.
KKESHJHU/04-01
PI: Chakravarti, S
Goals: To perform RNA Seq from total RNA isolated from surgical corneal specimens from keratoconus patients from Saudi Arabia.
- 1/1/2014-12/31/2018
NCE 12/31/2019
Role of lumican in the cornea
NIH/NEI
PI: Chakravarti, S
Goals: To investigate innate immune functions of lumican in the eye.

Educational Extramural Funding

- 2008-2018 Hopkins Digestive Disease Basic Research Development Center
PI: Donowitz, M
Co-investigator: **Chakravarti, S**
- 2000-2002 Hopkins DK Center for the Analysis of Gene Expression
R24 DK58757-01
PI: Germino, G
Co-Investigator: **Chakravarti, S** (2000-2001)
Co-PI: Chakravarti, S (2002)
- 03/07/10 -03/12/10
Gordon Research Conference: Biology and Pathobiology of The Cornea
1R13EY 020033
NIH/NEI
PI: Chakravarti, S
Goal: to subsidize attendance of trainees at the conference

Patents

Gene expression patterns in Crohn's disease and ulcerative colitis- Case Western Reserve University.
License purchased by Prometheus.

Invited Seminars and Lectures (from 2000)

2000

Department of Genetics and Center for Human Genetics. Case Western Reserve University
PCTB Seminar series. Johns Hopkins School of Medicine, Baltimore
XIV International Congress for Eye Research, Santa Fe, NM

2001

MD, Ph D. Retreat Symposium, the Johns Hopkins School of Medicine. Airlee Conference Center
Gastroenterology Division, the Johns Hopkins School of Medicine.

ARVO, Annual Conference, Ft. Lauderdale.
The 7th. Corneal Conference, Cardiff University, Cardiff, UK

2002

Prometheus Laboratories, San Diego CA
Mini-symposium, ARVO, Annual Conference, Ft. Lauderdale

2003

Department of Biological Chemistry, Johns Hopkins University School of Medicine
National Eye Institute/NIH.
Schepens Eye Research Institute. Harvard Medical School
Keratocyte Club, ARVO, Annual Conference, Ft. Lauderdale
Pathobiology of Proteoglycans, Parma, Italy

2004

ARVO, Annual Conference, Ft. Lauderdale
Digestive Disease Week, American Gastroenterological Association Annual Conference
International Congress for Eye Research, Sydney, Australia

2005

Department of Cell Biology, Johns Hopkins School of Medicine
BMRP Investigator meeting. Broad Foundation Conference, Los Angeles
V World Cornea Congress. Washington, DC
ARVO, Annual Conference, Ft. Lauderdale.
NCBS, Bangalore, India

2006

Department of Biological Chemistry, Johns Hopkins School of Medicine
GI Division Seminar Series, Johns Hopkins School of Medicine
Gordon Research Conference on Proteoglycans, Andover, NH
American Society for Matrix Biology. Biennial Conference, NC

2007

Digestive Disease Week. Annual Conference.
Asia-ARVO, Biennial Conference Singapore
ARVO, Annual Conference, Ft. Lauderdale

2008

F.A.R.M., Wilmer seminar Series. Johns Hopkins University School of Medicine
Pathology Grand Rounds. Johns Hopkins University School of Medicine
Autoimmunity Day, Dr. Noel Rose, Johns Hopkins University School of Medicine
ARVO Annual Conference, Ft. Lauderdale.
UMDNJ, Department of Pathology
LV Prasad Eye Institute, India
ARVO Summer Eye Research Conference, Monterey CA.

2009

Gastroenterology Division Johns Hopkins School of Medicine
Center for Marine Biotechnology, University of Maryland Biotechnology Institute.
Schepens Eye Research Institute, Harvard Medical School

2010

Gordon Research Conference Biology and Pathobiology of the Cornea, Ventura, CA
ARVO, Annual Conference, Ft. Lauderdale. Cornea Mini-symposium

2011

ARVO, Ft. Annual Conference, Lauderdale. Minisymposium.
Phagocytes Gordon Research Conference, Davidson College, North Carolina.
Centre de Biophysique Moléculaire UPR 4301 CNRS, Orléans, France.
Laboratoire de Biochimie Médicale, Faculté de Médecine, Reims, France.

2012

Cornea, Biology and Pathobiology, Gordon Research Conference, Ventura, CA
F.A.R.M., Wilmer seminar Series. Johns Hopkins University.
International Congress for Eye Research, Berlin, Germany.

University of Rochester's Center for Visual Science Boynton Colloquium Series, Rochester, NY.

2013

Johns Hopkins ICMIC Seminar Series. Johns Hopkins University
FEBS Advanced Lecture Course. Matrix Pathobiology, signaling and Molecular targets. Kos Greece.
Cole Eye Institute Distinguished Lecture Series. Cleveland, OH.

2014

University of South Florida. Tampa, FL.
Dean A. McGee Eye Institute. Oklahoma City.
Stockholm. Journal of Internal Medicine Symposium

2015

University of Houston College of Optometry, Houston, Tx. Periopsia Lecture Series.
Johns Hopkins Immunology Seminar Series. Johns Hopkins University

2016

International Society for Eye Research. Japan. Keratoconus: genes and pathways.
University of Michigan, Ann Arbor. Extracellular matrix proteoglycans.
Capital Institute of Pediatrics, Beijing, China. Genetics and pathogenesis of Keratoconus.

2017

ARVO. Annual Conference

2018

Cornea Gordon Research Conference
ISER- Genetic and functional studies of keratoconus
NYU Ophthalmology CME
NYU Ophthalmology Grand Round- Ophthalmology and Genetics

2019

NYU Translational research in progress Seminar Series, NYU
Illinois Eye and Ear Infirmary, University of Chicago
Department of Ophthalmology Harvard Medical School

2020

Vaccine Club, NYU Langone Health, NY

Peer- reviewed publications

1. Friedrich CA, **Chakravarti S**, Ferrell RE. A general method for visualizing enzymes releasing adenosine or adenosine-5'-monophosphate. *Biochemical Genetics*. 1984; 22:389-394. PubMed PMID: 6466287.
2. **Chakravarti S**, Hamilton B, Sussman R. Relationship between cellular RecA protein concentration and untargeted mutagenesis in *Escherichia coli*. *Mutation Research*. 1986; 160:179-193. PubMed PMID: 2938000.
3. Durkin ME, **Chakravarti S**, Bartos B, Liu S-H, Friedman RL, Chung AE. Amino acid sequence and domain structure of entactin. Homology with epidermal growth factor precursor and low density lipoprotein receptor. *J Cell Biol*. 1988; 107:2749-2758. PubMed PMID: 3264556; PubMed Central PMCID: PMC2115676.
4. Tsao T, Hsieh J-C, Durkin M, Wu C, **Chakravarti S**, Dong L-J, Lewis M, Chung AE, Characterization of the basement membrane glycoprotein entactin synthesized in the baculovirus expression system. *J. Biol. Chem*. 1990; 265: 5188-5191. PubMed PMID: 2180961.
5. **Chakravarti S**, Tam MF, Chung AE. The basement membrane glycoprotein entactin promotes cell attachment and binds calcium ions. *J Biol Chem*. 1990; 265:10597-10603. PubMed PMID: 2191952.
6. **Chakravarti S**, Phillips S, Hassell JR. Assignment of the perlecan (heparan sulfate proteoglycan) gene to mouse chromosome 4. *Mammalian Genome*. 1991; 1: 270-272. PubMed PMID: 1686572.

7. **Chakravarti S**, Hassell JR, Phillips SL. Perlecan gene expression precedes laminin gene expression during differentiation of F9 embryonal carcinoma cells. *Develop Dynamics*. 1993; 197:107-114. PubMed PMID: 8219353.
8. **Chakravarti S**, Horchar T, Jefferson B, Laurie G, Hassell JR. Recombinant Domain III of Perlecan Promotes Cell Attachment through Its RGDS Sequence. *J Biol Chem*. 1995; 270: 404-409. PubMed PMID: 7814401.
9. SunderRaj N, Fite D, Ledbetter S, **Chakravarti S**, and Hassell JR. Perlecan is a component of cartilage matrix and promotes chondrocyte attachment. *J Cell Science*. 1995;108: 2663-2672. PubMed PMID: 7593307.
10. **Chakravarti S**, Stalling R, SunderRaj N, Cornuet PK, Hassell JR. Primary Structure of Human Lumican (Keratan Sulfate Proteoglycan) and Localization of the Gene (LUM) to Chromosome 12q21.3-q22. *Genomics*. 1995; 27:481-488. PubMed PMID: 7558030.
11. **Chakravarti S**, Magnuson T. Localization of mouse lumican (keratan sulfate proteoglycan) to distal chromosome 10. *Mammalian Genome*. 1995; 6:367-368. PubMed PMID: 7626890.
12. Dunlevy JR, **Chakravarti S**, Gyalzen P, Vergnes J-P, Hassell JR. Cloning and chromosomal localization of mouse keratocan, a corneal keratan sulfate proteoglycan. *Mamm Genome*. 1998 Apr;9(4):316-9. PubMed PMID: 9530631.
13. **Chakravarti S**, Magnuson T, Lass JH, LaMantia C, Jepsen KJ, Carroll H. Collagen fibril defects affecting skin and cornea in lumican-deficient mice. *J Cell Biol*. 1998; 141: 1277-1286. PubMed PMID: 9606218; PubMed Central PMCID: PMC2137175.
14. **Chakravarti S**, Petroll WM, Hassell JH, Jester J, Lass JH, Paul J, Birk DE. Corneal opacity in lumican-null mice: defects in collagen fibril structure and packing in the posterior stroma. *Invest Ophthalmol. Vis. Sci*. 2000; 41(11):3365-3373.
15. Ezura Y, **Chakravarti S**, Oldberg A, Chervoneva I, Birk DE. Differential expression of lumican and fibromodulin regulate collagen fibrillogenesis in developing mouse tendons. *J Cell Biol*. 2000 ; 151: 779-787. PubMed Central PMCID: PMC2169450.
16. Lawrance IC, Fiocchi C, **Chakravarti S**. Ulcerative colitis and Crohn's disease: distinctive gene expression profiles and novel susceptibility candidate genes. *Hum Mol Genet*. 2001 Mar 1;10(5):445-56. PubMed PMID: 11181568.
17. Jester JV, Ghee Lee Y, Li J, **Chakravarti S**, Paul J, Petroll WM, Dwight Cavanagh H. Measurement of corneal sub layer thickness and transparency in transgenic mice with altered corneal clarity using in vivo confocal microscopy. *Vision Res*. 2001; 41: 1283-90.
18. Quantock AJ, Meek KM, **Chakravarti S**. An X-ray diffraction investigation of corneal structure in lumican-deficient mice. *Invest Ophthalmol Vis Sci*. 2001; 42: 1750-1756.
19. Jepsen K, Wu F, Peragallo JH, Paul J, Roberts L, Ezura Y, Oldberg A, Birk DE, **Chakravarti S**. A syndrome of joint laxity and impaired tendon integrity in lumican- and fibromodulin-deficient mice. *J Biol Chem*. 2002; 277:35532-35540. PubMed PMID: 12089156.
20. **Chakravarti S**, Paul J, Roberts L, Oldberg A, Birk DE. Ocular and scleral alterations in gene-targeted lumican-fibromodulin double-null mice. *Invest Ophthalmol Vis Sci*. 2003; 44(6):2422-32.
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Invited Review articles

1. **Chakravarti S**. The cornea through the eyes of knock-out mice. *Exp Eye Research*. 2001; 73: 411-419.
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Book Chapters

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