



**CURRICULUM VITAE**

**OF**

**DR. PARESH KISHORCHANDRA DOSHI**

## GENERAL INFORMATION

Name : DR. PARESH KISHORCHANDRA DOSHI

Qualification : M.S. (General Surgery)  
M.Ch. (Neurosurgery)

Date of Birth : 11-03-63

Present appointment: Director of Neurosurgery  
Director of Stereotactic and Functional neurosurgery  
Jaslok Hospital & Research Center, Mumbai.

Positions Held : President. Indian Society for Stereotactic and Functional  
Neurosurgery  
President, Neuromodulation Society  
Director WSSFN  
Board member Asian-Australian Soc of Stereotactic and FN  
Member of International task force for Neurosurgery for  
Psychiatric Disorders

Editorial Board : Stereotactic and Functional Neurosurgery  
Neurosurgery  
Neurology India  
WSSFN regional editor

Wife : Chronic Pain management specialist

Website : [www.neurologicalsurgery.in](http://www.neurologicalsurgery.in)

## EDUCATION

Higher Secondary Cert. Examination M.B.B.S.	Apr. 1980	First attempt	Best higher Secondary school
	Jan. 1985	-Do-	Smt. N.H.L. Mun. Med. College. Ahmedabad, India.
M.S. (Gen. Surg.)	Dec. 1988	-Do-	Sheth K.M. School of P.G. Medicine & Research. Ahmedabad, India

MCh. (Neurosurg.)                      Apr. 1992                      -Do-                      T.N. Medical College.  
Bombay, India.

### **SCHOLARSHIPS AND AWARDS**

School	New S.S.C.E H.S.C.E	National Merit scholarships National Merit scholarships
Postgraduate	M.S. (Gen. Surg) M.Ch. (Neuro)	First rank in the college First rank in the University of Bombay.

### **AWARDS**

**Young achiever's Award- 2002**, Indo-American Society, Mumbai

**Excellence in Neurosciences: Medscape India Award 2012 on 16<sup>th</sup> June 2012** at Mumbai (Birla Matushri Sabhagar – Marine lines).

**Best Neurosurgical Department-2012** Modern Medicare magazine

### **DISSERTATION (Thesis)**

M.S. (Gen. Surg.) -	Anorectal Malformations.
M.Ch. (Neurosurgery) -	Spinal Dysraphism.

### **RESEARCH PROJECTS**

“Surgery for movement disorders - (2000-2005) – Jaslok Hospital Research Trust.  
Cost: U.S. \$ 50000.

“Management of Intracerebral Haematoma: - Pilot study to compare stereotactic evacuation v/s. Medical Management” (2003-2005) – Jaslok Hospital Research Trust.  
Cost: U.S. \$ 30000.

Evaluate Hardware and surgical Complications of Deep Brain Stimulation Surgery.(2006-2009)-Budget US \$ 20000

To study and identify the most effective targeting protocol for subthalamic nucleus stimulation. . (2006-2009)-Budget US \$ 25000

Autologous Mesenchymal Stem cells implantation for Parkinson's disease. Jaslok Hospital Research Trust. (2008-2011) Cost: US \$ 30000  
Several Ongoing research projects

### **MEMBERSHIP OF THE SOCIETIES**

President, Indian Society of Stereotactic and Functional Neurosurgery  
Director, World society of Stereotactic and Functional Neurosurgery  
Board member Asian: Australasian Society of Stereotactic and Functional Neurosurgery.  
Committee member- Taskforce for Psychiatric disorders surgery, World society for stereotactic and Functional Neurosurgery.  
Regional Editor- WSSFN newsletter  
Member of WSSFN and AASSFN  
Member of the Neurological Society of India  
Member of Indian Academy of Neurology

### **PREVIOUS APPOINTMENTS**

- I. **Internship**: 1985 to 1986.
- II. **General Surgery**: 1986 to 1989.
- III. **NEUROSURGERY** : 1989 to 1993.
  1. *Appointments at T.N. Medical, Bombay, India*  
*Prof. Dr. U. S. Vengsarkar and Asst. Prof. Dr. V. G. Panchal*  
Resident in NS                      August 89 to July 92  
Lecturer                                      August 92 to July 93
  2. *Clinical assistant at the National Hospital for Neurology and Neurosurgery, Queen square, London. August 93 to August 94, under Prof. David GT Thomas.*
  3. *Registrar in Neurosurgery at the Maudsley Hospital, London, from September 94 to July 95.*
  4. *Registrar in Neurosurgery at the Newcastle General Hospital from August 95 to January 97.*
  5. *Training for Pallidotomy- Dr. Marwan Hariz and Prof. A Bosch, 1998.*
  6. *Training for Deep Brain Stimulation- Prof. A. Benabid and Prof. F. Alesch, 1999.*
  7. *Training for Spasticity- Prof. Marc Sindou, Lyon France, 2003.*

### **DETAILS OF NEUROSURGICAL EXPERIENCE**

During my tenure in Neurosurgery **in India** I gained vast experience in various aspects of neurosurgery. I have assisted, performed and supervised large no. of Neurosurgical operations. These include cases of head trauma, brain tumors, spinal surgeries, vascular neurosurgeries, paediatric neurosurgeries, etc. I also had opportunity to assist and occasionally perform specialised neurosurgeries like radiofrequency lesions for pain, transsphenoidal and transoral surgeries, stereotaxy, etc. I have acquainted myself with the use of microscope and microneurosurgery.

In **England**, I worked as a clinical fellow with Prof. Thomas, where I was actively associated with Stereotaxy and Functional Neurosurgery program, including research activities. I gained experience in epilepsy surgery from the Maudsley Hospital and thereafter I moved on to New Castle upon Tyne to continue my experience in general Neurosurgery.

To continue my further interest in **movement disorder surgeries**, I visited Dr. Marwan Hariz and Prof. A. Bosch in Umea and Amsterdam respectively to train myself for performing pallidotomies. Subsequently, I spent time with Prof. Benabid and Prof. Alesch, in Grenoble and Vienna to learn the art of Deep Brain Stimulation, surgery. In 2003, I visited Lyon, France to obtain training in Spasticity from Prof. Marc Sindou.

In **India** I have set up a Functional Neurosurgery Department at the Jaslok Hospital and Research Center, Mumbai. I dedicate myself entirely to Functional Neurosurgical work. I am supported in my endeavor by well-trained neurologists and neurophysiologists, backed by state of the art neurophysiology and neuroradiology departments. We perform epilepsy surgeries, movement disorder surgeries, psychiatric surgery, surgery for chronic pain and spasticity. We perform a wide spectrum of movement disorder surgeries including thalamotomy, pallidotomy, subthalamic nucleus lesioning and deep brain stimulation. We have performed 350 movement disorder surgeries, including **475 cases of DBS**, out of which 400+ cases are bilateral STN stimulation for Parkinson's disease. The stereotactic biopsy spectrum (>750) includes all types of biopsies including brainstem procedures.

We have performed several surgeries for **the first time** in India, Asia or World. For e.g. The first DBS for Depression, in Asia and Australia, first PPN DBS for PSP in the World, second case of Autism in the world, first, occipital nerve stimulation for migraine, DBS for Tourette and several other surgeries in India.

## PUBLICATIONS

1. Vengsarkar US, Panchal VG, Tripathi PD, Patkar SV, Agrawal AR, Doshi PK, and Kamat MM: Percutaneous Thecoperitoneal shunt for syringomyelia. *J Neurosurg* 74: 827-831, 1991.
2. Patkar SV, Agrawal AA, Doshi PK, and Darda GH: Emergency surgery in orbital trauma: A neurosurgical overview. *Ind J Opthal* 40: No. 2: 48-52, 1992.
3. Doshi PK, Lemieux L, Fish D, Shorvon SD, Harkness W, Thomas DGT: Frameless Stereotaxy and interactive Neurosurgery with the ISG viewing wand. *Acta Neurochirurgica Suppl.* 64: 49-53, 1995.
4. Doshi PK, Thomas DGT, Kitchen ND: A Frameless Stereotactic Approach to Preoperative Neurosurgical Planning and Interactive Surgery. (Abstract) *Acta Neurochir (Wien)* 129: 209-251.
5. "Intralesional <sup>131</sup>I- Labelled Monoclonal Antibody (Mab) therapy in Patients with Recurrent High Grade Gliomas." (Abstract) *Journal Neurooncology* 21: 63; 1994.
6. "Acute Morbidity following catheter implantation for interstitial brachytherapy and antibody targeted radiotherapy for recurrent gliomas." (Abstract) *British J of Neurosurgery*, 1995.
7. "Thalamotomy for intractable tremor due to a basal ganglia infarction." Bhatt MH, Doshi PK, Elias M. (abstract) *Mov Disord*, Vol. 13, Suppl. 2; 305, 1998.
8. "Subthalamic nucleus lesioning for advanced Parkinson's disease." Bhatt MH, Doshi PK. (abstract) *Mov Disord*, Vol. 15, Suppl. 3; 348, 2000.
9. "Bilateral Subthalamic Nucleus Stimulation for Advanced Parkinson's Disease." Doshi PK, Bhatt MH. (abstract) *Acta Neurochir*, Suppl. 2000.
10. "Head Pain – The Neurosurgical Aspects” – First National Symposium And Workshop on HEADACHE - Recent Advances, Mumbai, 25<sup>th</sup> - 26<sup>th</sup> November 2000.
11. "Bilateral Subthalamic Nucleus Stimulation for Parkinson's Disease." Doshi PK, Chhaya NA, Bhatt MH. *Jaslok Hospital & Research Center Bulletin*: Vol. XXV No. 4, April 2001.
12. "High frequency stimulation of subthalamic nucleus for advanced Parkinson's disease - study of twenty-three cases." – *Reviews in Neurology*, CME program of Indian Academy of Neurology, 2001.
13. "Hemiballism during Subthalamic Nucleus Lesioning” Doshi PK, Bhatt MH. *Mov Disord*. 2002, Vol. 17, 848-849.

14. "Depression leading to attempted suicide following bilateral subthalamic nucleus stimulation for Parkinson's disease." Doshi PK, Chhaya NA, Bhatt MH. *Mov Disord.* 2002, Vol. 17(5), 1084-1085.
15. "Bilateral Subthalamic Nucleus Stimulation for Parkinson's Disease". Doshi PK, Bhatt MH. *Acta Neurochir* 2002, Vol. 144(10), 1070.
16. "Surgery for Movement Disorders". Doshi PK. *Reviews in Neurology, CME programme of Indian Academy of Neurology* 2002, 103 - 111.
17. "Bilateral Subthalamic Nucleus Stimulation for Parkinson's Disease" Doshi PK, Chhaya NA, Bhatt MH. *Neurology India* 2003, Vol. 51(1), 43-48.
18. "Hyper sexuality or just punding? Post deep Brain Stimulation (DBS). Doshi PK, A Aggarwal, N Chhaya , M Bhatt. *Movement Disord.*2006, Vol-21(Suppl 15), S677.
19. "Chronic bilateral subthalamic nucleus (STN) deep brain stimulation (DBS) for advance Parkinson's disease (PD) – a four year follow-up ". Doshi PK , A Aggarwal, N Chhaya , M Bhatt .*Movement Disord.*2006,Vol-21(Suppl-15), S682.
20. "Hypersexuality following subthalamic nucleus stimulation for Parkinson's disease". Doshi P, Bhargava P. *Neurol India.* 2008 Oct-Dec; 56(4):474-6.
21. "Neuromodulation for Epilepsy". Pranshu Bhargava, Doshi PK. *Journal Pediatric Neurosciences* 2008 Jan –Jun; Vol -3:111-116.
22. "History of Stereotactic Surgery In India" Doshi PK, in *Textbook of Stereotactic and Functional Neurosurgery*, Lozano AM, Gildenberg P, Tasker R (eds). 2nd Ed. Berlin, Springer. P155-69.
23. "Surgical Management of Parkinson's diseases". Doshi PK, *Textbook of Neurosurgery*, ed. R Rammamurthi.
24. "Surgical Treatment of Obsessive Compulsive Disorders: Current Status". Doshi PK, *Indian Journal of Psychiatry* 2009 Jul-Sep;51(3):216-221.
25. "Radiofrequency Thermocoagulation for Trigeminal Neuralgia" Doshi PK, Animesh Upadhayay, *Journal of Indian Dental Association* July 2009, Pg 9-14.
26. "Desmoplastic non-infantile ganglioglioma ": a low-grade tumor, report of two patients. Doshi PK, Khubchandani SR, Chitale AR, *Neurol India.* 2009 Nov-Dec; 57(6):796-799.
27. "Long-term Surgical And Hardware-related Complications of Deep Brain Stimulation". Doshi P K, *Journal of Stereotactic & Functional Neurosurgery* 2011; 89-95.

28. “Deep brain stimulation improves quality of life in pantothenate kinase-associated neurodegeneration : Case Report ”.Kiran Sathe , Anaita Hegde , Doshi P K. Journal of Pediatric Neurosciences 2013, Iss -1 ; Vol -8:pg46-48.
29. “Consensus on guidelines for stereotactic neurosurgery for psychiatric disorders.Nuttin B, Wu H, mayberg H, Paresh Doshi ,et al. Journal Neurol Neurosurg Psychiatry 2014;0:pg1-6.
30. “Bilateral Pedunculopontine Nucleus Stimulation for Progressive Supranuclear Palsy”- Doshi PK, Desai JD, Karkera B, et al. Stereotact Funct Neurosurg 2015;93:59–65
31. “Mania Induced by Stimulation following DBS of the Bed Nucleus of Stria Terminalis for Obsessive-Compulsive Disorder” Doshi Paresh K, Stereotact Funct Neurosurg 2016;94:326
32. “Stereotactic Thalamotomy for Task-Specific Dystonia” Doshi Paresh K, Movement disorders in clinical practice, DOI:10.1002/mdc3.12398
33. “Surgical treatment for Parkinson’s disease and Epilepsy” Textbook of APICON
34. Neurosurgery for psychiatric disorders. Neurology India, 2017;65; 4, 777-778

### **WORKSHOPS CONDUCTED**

- 1 Stereotactic Workshop conducted by William Harkness and Prof. DGT Thomas, The National Hospital, Queen Square, London, United Kingdom, March 1994.
- 2 I visited the Yale University School of Medicine, New Haven, USA, to gain further experience in epilepsy surgery under Prof. Dennis Spencer, for two weeks.
- 3 Movement disorder surgery workshop - 4th National Conference of Indian Society of Stereotactic and Functional Neurosurgery, Indore, October 2000.
- 4 Organizing secretary of the “7th National Movement disorder and Parkinson’s Disease Surgery Workshop”, on 10-11th January 2001 in Mumbai.
- 5 Management of Patients with Deep-Brain Stimulators, Expert course and workshop conducted by the Movement Disorder Society - European Section, Department of Neurology, Christian-Albrechts-University, Kiel, Germany from 3rd -7th June 2001.
- 6 “Radiofrequency thermocoagulation for trigeminal neuralgia”- live demonstration in Regional conference of Maxillo-facial surgeons, Jabalpur, India, 2007



- 7 "Radiofrequency thermocoagulation for trigeminal neuralgia"- live demonstration in Sahayadri Neurocon- Shimoga, India, 2008.
- 8 Organizing Secretary of the "Indian Society for Stereotactic & Functional Neurosurgery (ISSFN) Workshop 2012", demonstration on Neuronavigation system & Stereotactic equipment's (CRW Frame), 13th – 14th Oct 2012 in Mumbai.
- 9 Participated in scientific session as Faculty / Chairperson at NEUROBIONICS 2013, Indo-German Workshop on Neurobionics in Clinical Neurology at JIPMER, Pondicherry, 15th – 17th Feb 2013.
- 10 Chariman of the World society for stereotactic and functional neurosurgery interim meeting 2015, 3rd –6th September 2015.

### **INVITED PRESENTATIONS TO INTERNATIONAL AND NATIONAL SOCIETIES**

- 1 "Frameless Stereotaxy" Stereotactic Workshop, March 23 - 25, 1994, Queen's Square, London.
- 2 "Objective Post-Surgical Resection Volume Estimates in Epilepsy" Fifth International Cleveland clinic-Bethel Epilepsy Symposium, May 22 - 25, 1994, Cleveland.
- 3 Interview on BBC world service on the topic of "Image directed Neurosurgery" in June 1994.
- 4 "Image Directed Neurosurgery". In the exhibition "New Frontiers in Science, at The Royal Society, 15-16th June, 1994.
- 5 "Intralesional <sup>131</sup>I- Labelled Monoclonal Antibody (Mab) therapy in Patients with Recurrent High Grade Gliomas." British Neuro-Oncology meeting, July 1994.
- 6 "Acute Morbidity following catheter implantation for interstitial brachytherapy and antibody targeted radiotherapy for recurrent gliomas." British Neuro-Oncology meeting, July 1994.
- 7 "Frameless Stereotaxy for Neocortical lesional Epilepsy" presented at SBNS, September 1994.
- 8 "A frameless stereotactic approach to preoperative neurosurgical planning and interactive surgery" in European Society for Stereotactic and Functional Neurosurgery, September 24-27, 1994.
- 9 "ISG Wand: Nuovo sistema stereotassico computerizzato" presented in XLIII National Neurosurgical Congress, Taorlina, Italy. September 1994.

- 10 "Intralesional 131I- Labelled Monoclonal Antibody (Mab) therapy in Patients with Recurrent High Grade Gliomas." First Congress for the European Association for Neuro-oncology October 1994.
- 11 "Frameless Stereotaxy and interactive neurosurgery with the ISG viewing wand" presented at the EANS in February 1995.
- 12 "Acute Morbidity following catheter implantation for interstitial brachytherapy and antibody targeted radiotherapy for recurrent gliomas." presented in the EANS in February 1995.
- 13 "Craniotomy Guidance using a Stereo Video Based Tracking System (VISLAN)." presented at the 1995 Quadrennial meeting of the American Society For Stereotactic and Functional Neurosurgery and The American Association of Neurological Surgeons.
- 14 "Intralesional 131I-Labelled Monoclonal Antibody For Recurrent High Grade Glioma. Presented at the AANS meeting, 1995.
- 15 "Frameless Stereotaxy for Neocortical lesional Epilepsy" presented at the November 1995, meeting of NENA.
- 16 "Epilepsy Surgery"- CME lecture, at the 45th Annual conference of the Neurological Society of India, Calcutta, 1996.
- 17 "Stereotactic Thalamotomy for Movement Disorder: Bombay Experience." Doshi PK, Shah AB, Bhatt MH, Hastak S. 6th Annual Conference of Indian Academy of Neurology.
18. "Experience with Stereotactic Biopsies of Unusual Sites & Lesions." Doshi PK. 2nd Annual Meeting of the Indian Society of Stereotactic & Functional Neurosurgery, December 1998, Bangalore.
19. "Surgical Technique for Subthalamic Nucleus stimulation." Doshi PK, Bhatt MH. 49<sup>th</sup> Annual Conference - Neurological Society of India, December 2000.
20. "Subthalamic Nucleus stimulation - Mumbai Experience." Doshi PK, Bhatt MH. 49<sup>th</sup> Annual Conference - Neurological Society of India, December 2000.
21. "Bilateral Subthalamic Nucleus Stimulation for Advanced Parkinson's Disease." Doshi PK, Bhatt MH. 4<sup>th</sup> Congress of the Asian Society for Stereotactic Functional and Computer Assisted Neurosurgery, Beijing, China, 29<sup>th</sup> October - 2<sup>nd</sup> November 2000.
22. "Subthalamic Nucleus Stimulation" – 5<sup>th</sup> National Conference of Indian Society of Stereotactic & Functional Neurosurgery, Ahmedabad, 27<sup>th</sup> – 28<sup>th</sup> October 2001.

23. "Surgical treatment of Parkinson's Disease – Indian experience" – 3<sup>rd</sup> International Symposium of the Asian and Pacific Parkinson's Disease Association, Hong Kong, 1<sup>st</sup> – 5<sup>th</sup> December 2001.
24. "Surgical Strategies in the Parkinson's Disease, Selection, Criteria and Technique" – CME lecture, 50th Neurological Society of India conference, Mumbai, 15th – 18th December 2001.
25. "Epilepsy: In Children, in Adults and Surgical Management" – Association of Physicians of India conference, Chennai, 13th – 17th January 2002. "Surgery for Movement Disorders" – Xth Annual Conference of Indian Academy of Neurology IANCON 2002, 26th – 29th October 2002, Lucknow.
26. "Unusual Observations following Subthalamic Nucleus Stimulation". Doshi PK. XVth Congress of European for Stereotactic & Functional Neurosurgery, Toulouse, France, 9<sup>th</sup> – 12<sup>th</sup> October 2002.
27. "Bilateral Subthalamic Nucleus Stimulation for Parkinson's Disease". Doshi PK. XVth Congress of European for Stereotactic & Functional Neurosurgery, Toulouse, France, 9th – 12th October 2002.
28. "Current Concepts in movement disorder surgeries " & "Unusual observations following subthalamic nucleus stimulation " - Presentation delivered at the 11th Asian-Australasian Congress of Neurological Surgery (AACNS ) , 22nd – 26th November 2003 ,Singapore
29. "Subthalamic Nucleus Stimulation" Indian society for stereotactic and Functional Neurosurgery 2004, 29th – 30th September 2004, Bangalore.
30. "Stereotactic Evacuation of Intracerebral Hemorrhage and clot lysis using urokinase" 12th Annual Conference of Indian Academy of Neurology, 29<sup>th</sup> – 31<sup>st</sup> October 2004, Nagpur.
31. "Two years follow-up of Bilateral Subthalamic nucleus Stimulation in Parkinson's disease" The 5<sup>th</sup> Congress of Asian Society for Stereotactic, Functional and Computer Assisted Neurosurgery, 27<sup>th</sup> – 30<sup>th</sup> November 2004, Kaohsiung, Taiwan.
32. "Surgical Treatment for Movement Disorders" – As I do It" 53<sup>rd</sup> Annual Conference of Neurological Society of India, 16<sup>th</sup> – 18<sup>th</sup> December 2004, Indore.
33. "Surgical Treatment of Movement Disorders – As I Do It" 3<sup>rd</sup> South Asian Neurosurgical Congress of the South Asian Association of Neurosurgeons, 17<sup>th</sup> – 20<sup>th</sup> March 2005, Karachi Pakistan.

34. "Movement disorders surgery" – 6<sup>th</sup> Congress of Asian Society for Stereotactic, Functional & Computer Assisted Neurosurgery, 22<sup>nd</sup> – 24<sup>th</sup> May 2007, St. Fuji Resort - Japan.
35. "Radio-frequency Lesioning" Stereocon 2007 - 10<sup>th</sup> Annual meeting of ISSFN, 13<sup>th</sup> - 14<sup>th</sup> October 2007, Kolkata.
36. "Long-term outcomes after DBS for Parkinson's disease" Neurological Society of India (NSI) Conference, 17<sup>th</sup> December 2008, Pune.
37. " STN DBS for the Elderly: Efficacy and Complication " Brain 2009- The Chinese University of Hong Kong , Conjoint Meeting of Asian –Australian Society Of Stereotactic & Functional Neurosurgery (AASSFN) And The Chinese Society of Stereotactic & Functional Neurosurgery (CSSFN) , 08<sup>th</sup> –10<sup>th</sup> January 2009, Hong Kong.
38. "Interventions in PD" - 2nd Asian and Oceanian Parkinson's disease and Movement Disorders Congress (2<sup>nd</sup> AOPMC 2009) and 7th International Symposium of Asia Pacific Parkinson's Association (7<sup>th</sup> APPA 2009), 15<sup>th</sup> to 17<sup>th</sup> February 2009, New Delhi.
39. "Psychosurgery in India" – presentation delivered at the First Core Group Meeting of Psychiatry Disorder Surgical Treatment Program, 8<sup>th</sup> March 2009, Mumbai.
40. "Global Standards of Functional Neurosurgery- South Asia" 15<sup>th</sup> World Society for Stereotactic & Functional Neurosurgery (WSSFN) Conference, 24<sup>th</sup> –27<sup>th</sup> May 2009, Toronto.
41. Participated in International Conference on Neurology and Rehabilitation, ICNR 2010 - Goa; 24<sup>th</sup> -25<sup>th</sup> April 2010, Goa.
42. "Neuromodulation: Deep Brain Stimulation to Peripheral Nerve Stimulation- Personal Experience"- 16<sup>th</sup> Academia Eurasiana Neurochirurgica, Mumbai February, 2011.
43. "Current practice of psychiatric surgery in India"- WSSFN Psychiatric Surgery Forum, Shanghai, March 2011.
44. "Case Based Discussion on Functional Neuro Surgery" Neurology Update-9, Ahmedabad, November, 2011.
45. "Surgery for Movement Disorders (excluding dystonia)" – Indian Society for Stereotactic & Functional Neurosurgery (ISSFN) Workshop 2012, 13<sup>th</sup> -14<sup>th</sup> Oct 2012 in Mumbai.
46. Participated in 62<sup>nd</sup> Annual Conference of Neurological Society for India (NSI), NSICON – 2013 at NCPA Auditorium, Mumbai from 12<sup>th</sup> -15<sup>th</sup> Dec 2013.

47. "Medtronic Symposium: Surgical Planning" - AASSFN Shanghai 2014, 10<sup>th</sup> – 12<sup>th</sup> Jan 2014, Shanghai – China.
48. "Bilateral PPN stimulation for PSP" - AASSFN Shanghai 2014, 10<sup>th</sup> – 12<sup>th</sup> Jan 2014, Shanghai – China.
49. "What is new in functional neurosurgery" NSSICON 2015, 26-28<sup>th</sup> February, 2015, Indore
50. "Deep Brain stimulation for psychiatric disorders" NSICON, December 2015, Bangalore.
51. "Epilepsy surgery" Neurology update, January 2016, Indore.
52. "Role of lesional surgeries in Movement disorders" – 1<sup>st</sup> Middle eastern society of stereotactic and functional neurosurgery meeting, January, 2016, Dubai
53. "PPN stimulation for Progressive supranuclear palsy"-10<sup>th</sup> AASSFN meeting, March 2016, Cairns, Australia
54. "Challenges of functional neurosurgery in developing country- Early experience of Vercise system" 10<sup>th</sup> AASSFN meeting, March 2016, Cairns, Australia
55. "Neuromodulation for Pain" 3<sup>rd</sup> Biennial CME of ISSFN. 10-11 Sept. 2016, Hyderabad.
56. "Can the quality of DBS be measured and controlled?" First DBS Expert Summit, November 30-December 2, 2016, Würzburg, Germany
57. "Surgery for Parkinson's disease and epilepsy" 72<sup>nd</sup> API meeting, APICON 2017, 26-29 January 2017, Mumbai
58. Introduction to movement disorder surgery-targets, techniques and indications. 17<sup>th</sup> Quadrennial meeting of WSSFN, 26-29 June, 2017 Berlin, Germany.
59. Challenging cases in DBS. 17<sup>th</sup> Quadrennial meeting of WSSFN, 26-29 June, 2017 Berlin, Germany.

### **SELECTED INVITED LECTURES**

1. "Parkinsonism-Beyond Levodopa" - 21<sup>st</sup> Annual Conference of Association of Physicians of Gujarat, Baroda, 8<sup>th</sup> - 9<sup>th</sup> January 2000.

2. "STN stimulation - the ultimate therapy for Parkinson's disease" - 4<sup>th</sup> National Conference of Indian Society of Stereotactic and Functional Neurosurgery, Indore, October 2000.
3. "Head Pain – The Neurosurgical Aspects" – First National Symposium and Workshop on HEADACHE - Recent Advances, Mumbai, 25<sup>th</sup> - 26<sup>th</sup> November 2000.
4. "Pallidotomy for Parkinson's Disease" – 7<sup>th</sup> National Movement Disorder and Parkinson's disease Surgery Workshop, Mumbai, 10<sup>th</sup> – 11<sup>th</sup> January 2001.
5. "Surgical Technique Video – STN stimulation for Parkinson's disease" - 7<sup>th</sup> National Movement Disorder and Parkinson's disease Surgery Workshop, Mumbai, 10<sup>th</sup> – 11<sup>th</sup> January 2001.
6. "Bilateral subthalamic nucleus stimulation for Parkinson's disease" - The Emirates Neuroscience Conference organised by the Ministry of Health - Dubai Medical District & Department of Neurosciences - Al Baraha Hospital, Dubai, 10<sup>th</sup> - 14<sup>th</sup> April 2001.
7. "Functional Neurosurgery for Parkinson's Disease and Epilepsy." - Lecture delivered at the Annual conference organised by Kenya Medical Association, Kisumu, Kenya, 26<sup>th</sup> - 27<sup>th</sup> April 2001.
8. "Stereotactic Neurosurgery" - Annual conference, Indian Medical Association - Mumbai branch, April 2001.
9. "Surgery for Intractable Epilepsy" – XI<sup>th</sup> Annual CME, Indian Medical Association, 7<sup>th</sup> – 8<sup>th</sup> December 2002, Kalyan.
10. Stereotactic Surgery for Parkinson's disease in India-Present Status, 7<sup>th</sup> World Parkinson's Day International Symposium, Bombay Hospital, 4<sup>th</sup> – 7<sup>th</sup> December, 2003, Taj Mahal Hotel, Mumbai.
11. "Surgery & Epilepsy", Intensive National CME program on Epilepsy - New Delhi, 29<sup>th</sup> February, 2004.
12. "Epilepsy Surgery" and "Neurosurgery of Movement Disorders & Spasticity" Epilepsy Update 2004, 6<sup>th</sup> – 7<sup>th</sup> March 2004, Kolkata.
13. "Recent Advances in Functional Neurosurgery" Neuro Update 2004, 24<sup>th</sup> October 2004, Ahmedabad.
14. "Stereotactic Evacuation of Intracerebral Hemorrhage and clot lysis using urokinase" 12<sup>th</sup> Annual Conference of Indian Academy of Neurology, 29<sup>th</sup> – 31<sup>st</sup> October 2004, Nagpur.

15. "Stereotactic and Functional Neurosurgery" – Entebbe Medical association, Uganda, June 2005.
16. "Epilepsy Surgery" – Aga Khan hospital, Nairobi, Kenya, June 2005.
17. "Surgery in Movement Disorders" – Neuro 50 Kolkata 2005, 50<sup>th</sup> Year of Neuro Sciences in West Bengal – 2005, 18<sup>th</sup> – 20<sup>th</sup> November 2005, Kolkata, West Bengal.
18. "Surgical Treatment of Parkinson's disease" Symposium by Parkinson's disease Society of Gujarat, 23<sup>rd</sup> April 2006, Ahmedabad.
19. "Movement Disorders and Epilepsy Surgery" – Rajkot Medical Association at Shri G. T. Sheth Orthopaedic Hospital Auditorium, 28<sup>th</sup> August 2006, Rajkot.
20. "Managing the Movers and Shakers of the Society" CME of IAOH, 9<sup>th</sup> September 2006, Mumbai.
21. "Neurosurgeon and Headache" – Headache Symposium, Neurological Society of India, December 2006
22. "Surgical Technique" Movement Disorders surgery symposium, King Edward Memorial Hospital-80 years meeting, December 2006
23. "DBS Mumbai Experience-101 cases" Neuro Update Chennai 2007, 4<sup>th</sup> –7<sup>th</sup> January 2007, Chennai
24. "Surgery for Movement Disorders" Delhi Neurological Association, Annual meeting, July 2007.
25. "Surgery for Movement Disorders" CME lecture, Jaipur Medical Association, July 2007.
26. "Awareness among Parkinson's patient "CME Railway conducted by Bombay Hospital, 10<sup>th</sup> –11<sup>th</sup> May 2008, Mumbai.
27. Participated in – ASSFN Vancouver 2008, 1<sup>st</sup> – 4<sup>th</sup> June 2008, Vancouver.
28. "Role of ICP monitoring in Intensive care unit" Criticon 2008 – Neuro & Trauma Program conducted by Department of Critical Care Medicine , Jaslok Hospital & Research Centre , 05<sup>th</sup> - 6<sup>th</sup> July 2008 , Mumbai .
29. "SCS and IDD- Surgical Techniques and Results" Spine 2008, 8<sup>th</sup> Annual National Conference of Neurospinal Surgeons Foundation of India, 26<sup>th</sup> –28<sup>th</sup> September 2008, Rajkot.
30. "Surgery for movement Disorders" Sahyadri Neurocon 2009, Karnataka State Neuroscientists Conference, 17<sup>th</sup> –18<sup>th</sup> January 2009, Shimoga.

31. “Experiences in PD surgery in India” in Indo-Canadian Neuro-Update 2009 organised by Bangur Inst. Of Neurosciences and Psychiatry & Neuroclub -Kolkatta, 23rd – 25<sup>th</sup> January 2009, Kolkatta.
32. “Surgical Treatments of Movement Disorders” Mumbai Institute of Neurosciences conducted Bombay Hospital CME, 15<sup>th</sup> Feb 2009, Mumbai.
33. Participated in Head Clinic conducted by Dr.Ravi Shankar.
34. Debate: Deep Brain Stimulation (DBS) in Early motor Fluctuation in PD .Yes – Neucon 2009, 4th –5<sup>th</sup> April 2009, Ahmedabad.
35. Participated in– Indian Medical Association (IMA) – Mumbai 2010, 1-4 June 2010, Mumbai.
36. Participated in Movement Disorder Society Conference; 18<sup>th</sup> April 2010, Delhi.
37. Seminar on Parkinson’s disease – “Bharpoor Zindagi” Pakistan Parkinson’s Society, Islamabad, December 2011.
38. “Functional Neurosurgery Kaleidoscope” – Indian Society for Stereotactic & Functional Neurosurgery (ISSFN) Workshop 2012, 13th – 14<sup>th</sup> Oct 2012 in Mumbai.
39. "Safe Neurosurgery: A myth or reality" – Annual Scientific Conference 2014 at Haffkine Institute Auditorium, Parel (Mumbai), 19<sup>th</sup> Jan 2014.
40. “Role of lesional surgery in Movement disorder” – International Update on Movement Disorders (IUMD) , 14<sup>th</sup> – 16<sup>th</sup> Feb 2014, Siliguri (West Bengal ).
41. “Surgical Treatment for Parkinson’s disease, Epilepsy & psychiatric disorders” 46th Annual Conference of IMA Mumbai, on Sunday, 13<sup>th</sup> November 2016, Mumbai.
42. “DBS Surgery in Elderly: What is different?” and “Evolving surgical therapies and advances in Parkinson’s disease” MDSICON 2017, 6-8 January, Bengaluru.
43. “Surgical Management of Parkinson’s Disease” KNACON 2017 meeting, 28-29 January, Bagalkot, Karnataka.