

UNIVERSITY OF OKLAHOMA  
COLLEGE OF MEDICINE

CURRICULUM VITAE

**Bappaditya Ray, M.B.B.S., M.D.**

Assistant Professor, Department of Neurology  
Section of Vascular & Critical Care Neurology  
Medical Director, OU Medical Center Neurosciences Intensive Care Unit, Department of Neurology  
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**Appointment Type:** Consecutive  
**Pathway:** Clinician Educator

**EDUCATION AND TRAINING**

**Postgraduate Education and Training**

- 2011 - 2013 Fellowship, Neurocritical Care, University of Texas, Southwestern Medical Center, Dallas, TX
- 2010 - 2011 Chief Resident Neurology, University of Arkansas for Medical Sciences, Little Rock, AR
- 2007 - 2010 Resident Neurology, University of Arkansas for Medical Sciences, Little Rock, AR
- 2002 - 2005 Junior Resident, Developmental neuroanatomy, Anatomy, All India Institute of Medical Sciences, New Delhi, India  
Mentor: Tara S Roy, M.D., Ph.D.

**Education**

- 2002 - 2005 Doctor of Medicine, Neurosciences; Developmental neurobiology  
Anatomy, All India Institute of Medical Sciences, New Delhi, India  
"Development of human fetal cochlear nerve"  
Advisor: Tara S Roy, M.D., PhD
- 1994 - 2000 Bachelor of Medicine, Bachelor of Surgery  
Nilratan Sircar Medical College, Kolkata, India

**PROFESSIONAL EXPERIENCE**

**Academic**

- 2013 - Present Assistant Professor, Department of Neurology, College of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK
- 2005 - 2007 Research Scholar and Senior Demonstrator, Department of Anatomy, Neuroscience Research, Medical Education, All India Institute of Medical Sciences, New Delhi,, India

### **Administrative**

2016 - Present Medical Director, OU Medical Center Neurosciences Intensive Care Unit, Department of Neurology, College of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK

2015 - Present Medical Director (Research), Department of Neurology, College of Medicine, University of Oklahoma Health Sciences Center, Oklahoma City, OK

### **Other Professional**

2002 Housestaff, Department of Nephrology and Renal Transplant, SSKM Hospital, Calcutta, India

### **HONORS AND AWARDS**

Most Influential Medical Educator Award Recipient, Department of Neurology (Received), June 2015

American Neurological Association Resident Symposium, American Neurological Association (Received), September 2010

Neurocritical Care Society Travel Grant recipient, Neurocritical Care Society (Received), September 2010

Research Associateship, Indian Council of Medical Research (Received), 2006

Council for Scientific and Industrial Research (Received), November 2003

International Brain Research Organization - Asia-Pacific Region, IBRO - Asia Pacific Regional Committee (Received), November 2003

Research Scholarship, Indian Council for Medical Research (Received), 1997

### **BOARD AND PRACTICE CERTIFICATION**

2016 - 2026 Society of Neurological Surgeons, Neurocritical Care, Committee on Advanced Subspecialty Training, Active

2013 - 2023 United Council for Neurological Sub-specialties, Neurocritical Care, Active

2011 - 2021 American Board of Psychiatry and Neurology, Neurology, Active

### **LICENSURE**

2012 - Present Oklahoma State Medical Board, Active

2011 - 2017 Texas Medical Board, Inactive

## SCHOLARSHIP

### Contracts, Grants, and Sponsored Research

\* indicates mentee

#### Current

##### Clinical Trial Agreements

Bohnstedt, B. N. (Site PI), **Ray, B.** (Supporting Investigator), 5% Effort, "ENRICH trial," Sponsored by NICO Corporation, Private  
January 2017 - Present

**Ray, B.** (Supporting Investigator), 1% Effort, "Stroke AF," Prospective industry sponsored study, Sponsored by Medtronic Inc., Private  
December 2016 - Present

##### Non-Funded Research

**Ray, B.** (Principal Investigator), 2% Effort\*, "Determinants of contrast induced nephropathy in different subcategories of acute stroke and its comparison with other non-cerebrovascular patients after contrast enhanced study in the Emergency Department," Retrospective chart review, Sponsored by Neurology, The University of Oklahoma (Institutional)  
November 2017 - Present

**Ray, B.**, 2% Effort\*, "Utility of Serial Peripheral Blood Tests During Hospitalization in Predicting Delayed Cerebral Ischemia After Subarachnoid Hemorrhage," Retrospective chart review, Sponsored by Neurology, OUHSC, The University of Oklahoma (Institutional)  
October 2017 - Present

**Ray, B.** (Principal Investigator), 2% Effort\*, Karfonta, B. (Co-Investigator), "Prevalence of hypophosphatemia and vitamin D deficiency in hemorrhagic stroke"  
May 2017 - Present

**Ray, B.** (Principal Investigator), 2% Effort, Saucedo, S., "Spontaneous Subarachnoid Hemorrhage Management Trends at OU Medical Center," Retrospective Chart Review, Sponsored by Neurology Department, The University of Oklahoma (Institutional)  
March 2017 - Present

**Ray, B.** (Co-Principal Investigator), 1% Effort\*, Sidorov, E. V. (Principal Investigator), "Glycemic Control in Patients with ICH," Retrospective chart review, Sponsored by Neurology, OUHSC, The University of Oklahoma (Institutional)  
February 2017 - Present

**Ray, B.**, 2% Effort\*, "Imaging Characteristics of Non-Aneurysmal Subarachnoid Hemorrhage - Comparing Diabetic and Non-Diabetic Patients," Retrospective chart review, Sponsored by Neurology, OUHSC, The University of Oklahoma (Institutional)  
March 2016 - Present

**Ray, B.** (Principal Investigator), 2% Effort, "Role of Coated-platelets in Functional Outcome among different subcategories of Spontaneous Subarachnoid Hemorrhage," Prospective clinical study, Sponsored by Department of Neurology  
July 2014 - Present

**Ray, B.** (Principal Investigator), 5% Effort, "Temporal trend of coated-platelets in patients with spontaneous subarachnoid hemorrhage," Prospective clinical study, Sponsored by Department of Neurology  
July 2014 - Present

## Completed

### Grants

**Ray, B.** (Co-Principal Investigator), 10% Effort, "Radiological parameters as a determinant for coated-platelet levels after spontaneous subarachnoid hemorrhage," Intramural Research, Sponsored by OCNS/OUBC, The University of Oklahoma (Institutional)  
January 2016 - December 2016

### Non-Funded Research

**Ray, B.** (Principal Investigator), 2% Effort\*, "Mean Platelet Volume as a marker for predicting Delayed Cerebral Ischemia/ Symptomatic Vasospasm after Spontaneous Subarachnoid Hemorrhage," Retrospective chart review, Sponsored by Department of Neurology, The University of Oklahoma (Institutional)  
December 2015 - November 2017

**Ray, B.** (Principal Investigator), 5% Effort, "Preadmission glycemic control in diabetics and non-diabetics as a determinant of permanent cerebrospinal fluid diversion after subarachnoid hemorrhage," Retrospective chart review, Sponsored by Department of Neurology  
December 2014 - December 2016

**Ray, B.** (Co-Investigator), Hall, C. E. (Site PI)\*, "Serum albumin as a predictor of peri-operative and short-term outcome of patients with subarachnoid hemorrhage," Retrospective chart review, Sponsored by Neurocritical Care Division, Department of Neurological Surgery, University of Texas Southwestern Medical Center, Dallas, TX  
July 2012 - June 2013

**Ray, B.** (Co-Investigator), Gu, E. (Site PI)\*, "Effect of iodinated contrast media on renal function in subarachnoid hemorrhage," Retrospective chart review, Sponsored by Neurocritical Care Division, Department of Neurological Surgery, University of Texas Southwestern Medical Center, Dallas, TX  
July 2011 - June 2013

Keyrouz, S. G. (Site PI)\*, **Ray, B.** (Resident trainee project), "Analysis of various outcome measures in telestroke program (SAVES) in the state of Arkansas," Retrospective chart review, Sponsored by Department of Neurology, University of Arkansas for Medical Sciences, Little Rock, AR  
Additional Information: ongoing – not actively involved.  
2009 - 2011

Keyrouz, S. G. (Site PI)\*, **Ray, B.** (Resident trainee project), "Indicators for tracheostomy and G-tube in patient with intracranial hemorrhage in a tertiary care hospital," Retrospective chart review, Sponsored by Department of Neurology, University of Arkansas for Medical Sciences, Little Rock, AR  
July 2009 - June 2011

**Ray, B.** (Research trainee), Wadhwa, S.\*, "Development of blood-nerve barrier in human fetal cochlear nerve," Basic science research, Sponsored by Department of Anatomy, All India Institute of Medical Sciences, New Delhi, India  
August 2005 - April 2007

**Ray, B.** (Research trainee), Roy, T. \*, "Morphological study on development of human fetal cochlear nerve," Basic science research, Sponsored by Department of Anatomy, All India Institute of Medical Sciences, New Delhi, India  
July 2002 - June 2005

Ghosh, M. (Principal Investigator), **Ray, B.** (Research trainee), "Profile of thalassemia patients in a day care center – a study of endocrine, serological, cardiac status," Prospective clinical research, Sponsored by Nilratan Sircar Medical College, Calcutta, India  
October 1999 - September 2000

### Research Agreements

Dasgupta, S. \*, **Ray, B.** (Research trainee), "Study of birth-weight and some socio-biological factors," Retrospective chart review, Sponsored by Nilratan Sircar Medical College, Calcutta, India, Indian Council for Medical Research, New Delhi  
June 1997 - August 1997

### Publications - Peer-Reviewed/Refereed

\* indicates Mentee

+ indicates Co-First Author

# indicates Contributing Author/Corresponding Author

### Scientific/Scholarly Journals

1. **Ray, B.**, Tinsley, L., Ford, L., Thompson, D. M., Sidorov, E. V., Bohnstedt, B. N. (2018). Trends of Platelet Volume Index Predicts Delayed Cerebral Ischemia After Subarachnoid Hemorrhage. *World neurosurgery*, 111, e624-e631. PMID: 29292187. DOI: 10.1016/j.wneu.2017.12.131
2. **Ray, B.**, Pandav, V. M., Mathews, E. A., Thompson, D. M., Ford, L., Yearout, L. K., Bohnstedt, B. N., Chaudhary, S., Dale, G. L., Prodan, C. I. (2017). Coated-Platelet Trends Predict Short-Term Clinical Outcome After Subarachnoid Hemorrhage. *Translational stroke research*. PMID: 29224114. DOI: 10.1007/s12975-017-0594-7
3. **Ray, B.**, Ludwig, A., Yearout, L. K., Thoompson, D. M., Bohnstedt, B. N. (2017). Stress induced hyperglycemia after spontaneous subarachnoid hemorrhage and its role in predicting cerebrospinal fluid diversion. *World Neurosurgery*, 100(4), 208-215. PMID: 28089808. DOI: 10.1016/j.wneu.2017.01.008
4. Sharma, S., **Ray, B.**, Dinda, A. K., Roy, T. S. (2015). Cochleotomy of human cochlear nucleus. *Journal of the Anatomical Society of India*, 64(1), 18-26.
5. **Ray, B.**, Keyrouz, S. G. (2014). *Management of anticoagulant-related intracranial hemorrhage: an evidence-based review*. (3rd ed., vol. 18, pp. 223). Critical care (London, England). PMID: 24970013. DOI: 10.1186/cc13889
6. Scott, W. W., **Ray, B.**, Rickert, K. L., Madden, C. J., Raisanen, J. M., Mendelsohn, D., Rogers, D., Whitworth, T. A. (2014). Functional müllerian tissue within the conus medullaris generating cyclical neurological morbidity in an otherwise healthy female. *Child's nervous system : ChNS : official journal of the International Society for Pediatric Neurosurgery*, 30(4), 717-21. PMID: 24081711. DOI: 10.1007/s00381-013-2291-5
7. **Ray, B.**, Rickert, K. L., Welch, B. G., White, J. A., Klinger, D. R., Boudreaux, B. P., Whittemore, B. A., Gu, E. (2013). Development of contrast-induced nephropathy in subarachnoid hemorrhage: a single center perspective. *Neurocritical care*, 19(2), 150-6. PMID: 23653268. DOI: 10.1007/s12028-013-9850-1

8. Yaghi, S., Moore, P., **Ray, B.**, Keyrouz, S. G. (2013). Predictors of tracheostomy in patients with spontaneous intracerebral hemorrhage. *Clinical Neurology and Neurosurgery*, 115(6), 695-698. DOI: 10.1016/j.clineuro.2012.08.010
9. Sharma, S., **Ray, B.**, Bhardwaj, D., Dwivedi, A. K., Roy, T. S. (2009). Age changes in the human oculomotor nerve - a stereological study. *Annals of anatomy = Anatomischer Anzeiger : official organ of the Anatomische Gesellschaft*, 191(3), 260-6. PMID: 19406628. DOI: 10.1016/j.aanat.2009.02.008
10. **Ray, B.**, Singh, L. K., Das, C. J., Roy, T. S. (2006). Ectopic supernumerary tooth on the inferior nasal concha. *Clinical anatomy (New York, N.Y.)*, 19(1), 68-74. PMID: 16283635. DOI: 10.1002/ca.20161
11. **Ray, B.**, Roy, T. S., Wadhwa, S., Roy, K. K. (2005). Development of the human fetal cochlear nerve: a morphometric study. *Hearing research*, 202(1-2), 74-86. PMID: 15811701. DOI: 10.1016/j.heares.2004.09.013
12. **Ray, B.**, Rai, A. L., Roy, T. S. (2004). Unusual insertion of the coracobrachialis muscle to the brachial fascia associated with high division of brachial artery. *Clinical anatomy (New York, N.Y.)*, 17(8), 672-6. PMID: 15495166. DOI: 10.1002/ca.20024
13. **Ray, B.**, Dasgupta, S., Mandal, A. K. (2004). Low birth weight and maternal socio-biological determinants situation in a medical college hospital. *Indian J Public Health*, 48(4), 218-220. PMID: 15709581.

#### **Book Chapters**

1. **Ray, B.**, Keyrouz, S. G. (2015). CHAPTER 5 - Coma. *Evidence-Based Neurology: Management of Neurological Disorders* (pp. 33-52). Wiley-Blackwell. DOI: 10.1002/9781119067344.ch5
2. Butchee, M., Bohnstedt, B., **Ray, B.** (2015). Hydrocephalus following subarachnoid hemorrhage – its occurrence and implications. *Subarachnoid hemorrhage: Epidemiology, Management and Long-term health effects*. Hauppauge, NY: Nova Science Publishers.
3. Roy, T., Mishra, S., **Ray, B.**, Sharma, V. (2009). *Maturation of the Human Auditory Pathway During Prenatal and Early Postnatal Period*. New Delhi: Anshan Publisher.

#### **Innovative Teaching Materials - Peer-Reviewed/Refereed**

1. **Ray, B.** (2016). *Handbook for Residents/Health Care Professionals for Neurosciences Intensive Care Unit*, Editor, OUHSC/SCM.
2. **Ray, B.** (2013). *Online Neurocritical Care Fellow Lecture Series for Neurocritical Care Fellowship Program*, Developer, contributor and moderator.
3. Aiyagari, V., **Ray, B.** (2013). *Handbook of Neurocritical Care Unit*, Contributor, Zale-Lipshy and Parkland Hospital. University of Texas – Southwestern Medical Center, Dallas, TX.

## PRESENTATIONS

### Abstracts

\* indicates mentee

#### National/International

1. Chandrashekhar, S.\* , Samkutty, D. G.\* , Santucci, J. A., Ford, L., Hollabaugh, K. M., Bohnstedt, B. N., **Ray, B.**, "Change in Practice Pattern in Management of Aneurysmal Subarachnoid Hemorrhage During Hospitalization over a 5-year Period - A Single Center Perspective", AAN Annual Meeting, American Academy of Neurology, Los Angeles, Accepted, Poster. April 27, 2018.
2. Sohail, A.\* , Santucci, J. A., Ford, L., Hollabaugh, K. M., **Ray, B.**, AAN Annual Meeting, American Academy of Neurology, Los Angeles, Accepted, Poster. April 22, 2018.
3. Samkutty, D. G.\* , Chandrashekhar, S.\* , Santucci, J. A., Ford, L., Hollabaugh, K. M., Bohnstedt, B. N., **Ray, B.**, "Change in outpatient post-discharge clinic follow-up for aneurysmal subarachnoid hemorrhage patients over 5-year period - a single center perspective", AAN Annual Meeting, American Academy of Neurology, Los Angeles, Accepted, Poster. April 22, 2018.
4. Greenert, J. C.\* , Ross, S. R.\* , Ford, L., Thompson, D. M., **Ray, B.\***, "Modified Graeb Score Predicts Stress-Induced Hyperglycemia After Subarachnoid Hemorrhage", International Stroke Conference, American Stroke Association, Los Angeles, Accepted, Poster. January 25, 2018.
5. Fleming, D.\* , Hathidara, M.\* , Ozcan, M. S., Bohnstedt, B. N., **Ray, B.\***, "Extensive Cerebral Venous Sinus Thrombosis due to Ulcerative Colitis - A Clinical Quagmire", Neurocritical Care Society Annual Meeting 2017, Neurocritical Care Society, Hawaii, Accepted, Poster. October 14, 2017.
6. Clayton, S. M.\* , Fleming, D.\* , **Ray, B.\***, "Posterior Reversible Encephalopathy Syndrome and Refractory Status Epilepticus treated with Ketamine and Brivaracetam", Neurocritical Care Society Annual Meeting 2017, Neurocritical Care Society, Hawaii, Accepted, Poster. October 14, 2017.
7. Erben, A. N.\* , Fleming, D., Saucedo, S., **Ray, B.\***, "Heparin Infusion Protocol in Acute Brain Injury: Utility of Anti-Xa Monitoring", Neurocritical Care Society Annual Meeting, Neurocritical Care Society, Hawaii, Accepted, Poster. October 11, 2017.
8. **Ray, B.**, Ross, S. R., Karfonta, B. N., Aghaei, F., Ford, L., Thompson, D. M., Bohnstedt, B. N., Zheng, B., Prodan, C. I., "Volume of intracranial blood after aneurysmal subarachnoid hemorrhage predicts coated-platelet levels and long-term cognitive outcome", Vasospasm 2017, Accepted, Oral Presentation. October 3, 2017.
9. Ross, S.\* , Thompson, D. M., Aghaei, F., Cornwell, B. O., Wu, D., Zheng, B., **Ray, B.**, "Volume of intracranial blood is associated with occurrence of stress induced hyperglycemia after aneurysmal subarachnoid hemorrhage", American Academy of Neurology Annual Meeting, American Academy of Neurology, Boston, Poster. April 27, 2017.
10. Aghaei, F.\* , Ross, S. R.\* , Wang, Y., Wu, D., Cornwell, B. O., **Ray, B.**, Zheng, B., "Implementation of a Computer-aided Detection Tool for Quantification of Intracranial Radiologic Markers on Brain CT Images", SPIE Medical Imaging, Poster. February 2017.
11. **Ray, B.**, Tinsley, L.\* , Yearout, L. K., Thompson, D. M., "Mean Platelet Volume as a Predictor of Delayed Cerebral Ischemia after Aneurysmal Subarachnoid Hemorrhage", International Stroke Conference, American Heart Association/ American Stroke Association, Houston, Poster. February 22, 2017.

12. Sohail, A.\* , Williams, M. D., **Ray, B.**, Cornwell, B. O., Garg, A., "Imaging and Disposition Differences in Diabetics Versus Non-diabetics Presenting With Non-aneurysmal Subarachnoid Hemorrhage", Society of Vascular and Interventional Neurology, Brooklyn, Poster. November 2016.
13. Fields, E. M., Tinsley, L.\* , Vohra, A.\* , Yearout, L. K., Thompson, D. M., **Ray, B.**, "Admission Mean Platelet Volume As A Predictor Of Subarachnoid Hemorrhage Occurrence In Diabetics And Non-Diabetics", Neurocritical Care Society, Annual Meeting, National Harbor, MD, USA, Poster. September 2016.
14. **Ray, B.**, Ludwig, A.\* , Yearout, L. K., Thompson, D. M., Bohnstedt, B. N., "Stress Induced Hyperglycemia Determines External Ventricular Drain Placement in Non-Hydrocephalic Aneurysmal Subarachnoid Hemorrhage - A Retrospective Single Center Study", Congress of Neurological Surgeons, Annual Meeting, San Diego, CA, Poster. September 2016.
15. Pandav, V. M.\* , Bohnstedt, B. N., Yearout, L. K., Thompson, D. M., **Ray, B.**, "Does Anterior Cerebral Artery Angiographic Vasospasm after Spontaneous Subarachnoid Hemorrhage Predict Short-Term Cognitive Outcome", Society of Neurointerventional Surgery, Annual Meeting, Boston, MA, Poster. July 2016.
16. Ludwig, A.\* , Thompson, D. M., Han, B.\* , **Ray, B.**, "Effect of acute and chronic glycemic control on shunt placement after spontaneous non-traumatic subarachnoid hemorrhage", American Academy of Neurology, Annual Meeting, Vancouver, Canada, Accepted, Poster. April 2016.
17. **Ray, B.**, Pandav, V. M., Matthews, E. A., Thompson, D. M., Traore, A. A., Dale, G. L., Prodan, C. I., "Clinico-radiologic Severity of Subarachnoid Hemorrhage Predicts Coated-platelet Levels and Associated In-hospital Morbidity", International Stroke Conference, Los Angeles, CA, USA, Accepted, Oral Presentation. February 2016.
18. **Ray, B.**, Pandav, V. M., Matthews, E. A., Thompson, D. M., Traore, A. A., Chaudhary, S., Bohnstedt, B. N., Dale, G. L., Prodan, C. I., "Coated-platelets Levels after Subarachnoid Hemorrhage Predict Post-discharge Short-term Cognitive Outcome.", International Stroke Conference, Los Angeles, CA, USA, Accepted, Poster. February 2016.
19. **Ray, B.**, Pandav, V. M., Matthews, E. A., Thompson, D. M., Traore, A. A., Chaudhary, S., Dale, G. L., Prodan, C. I., "Coated-Platelets Predict Delayed Cerebral Ischemia after Spontaneous Subarachnoid Hemorrhage", Neurocritical Care Society, Annual Meeting, Scottsdale, AZ, USA, Accepted, Poster. October 2015.
20. Wheelock, K. M., Fields, E. M., Erben, A. N., Tullos, H. J., Bohnstedt, B. N., **Ray, B.**, "Low Pressure Hydrocephalus after Aneurysmal Subarachnoid Hemorrhage Masquerading As Seizure", Neurocritical Care Society, Annual Meeting, Scottsdale, AZ, USA, Accepted, Poster. October 2015.
21. Bermejo, L., Duvall, J., Fields, E., Garg, A., **Ray, B.**, "Novel method using cerebral angioplasty and milrinone in management of clinical cerebral vasospasm after severe traumatic brain injury", Neurocritical Care Society, Annual Meeting, Seattle, WA, USA, Poster. September 2014.
22. Sankara, I., **Ray, B.**, Olson, D., Stutzman, S., Welch, B., Hall, C., "Albumin Loss A Predictor of Clinical Outcome in Subarachnoid Hemorrhage? A Retrospective Single Center Study", Neurocritical Care Society, Annual Meeting, Philadelphia, PA, USA, Poster. October 2013.
23. Figueroa, S., **Ray, B.**, Hall, C., "Severe anasarca and endocrinopathy developing in a patient with weakness- neurocritical care lessons", Carrell-Krusen Neuromuscular Symposium, Annual



Meeting, Dallas, TX, USA, Poster. February 2012.

24. Yaghi, S., **Ray, B.**, Keyrouz, S., "Efficiency of intravenous thrombolysis in telestroke program vs. tertiary care center", American Academy of Neurology, Annual Meeting, Honolulu, HI, USA, Oral Presentation. April 2011.
25. **Ray, B.**, Yaghi, S., Keyrouz, S., "Impact of number of consultation on different time parameters in spoke hospitals in a statewide telestroke program", American Academy of Neurology, Annual Meeting, Honolulu, HI, USA, Poster. April 2011.
26. **Ray, B.**, Rudnicki, S., "Progressive onset diplopia and dysphagia in a post-operative patient", Carrell-Krusen Neuromuscular Symposium, Dallas, TX, USA, Oral Presentation. February 2011.
27. **Ray, B.**, Yaghi, S., Keyrouz, S., "Predictors of Gastrostomy tube in ICH", Neurocritical Care Society, Annual Meeting, San Francisco, CA, USA, Poster. September 2010.
28. Yaghi, S., **Ray, B.**, Keyrouz, S., "Predictors of Tracheostomy in ICH", American Academy of Neurology, Annual Meeting, Toronto, Canada, Poster. April 2010.
29. **Ray, B.**, Sharma, S., Dinda, A., Wadhwa, S., Roy, T., "Pathological Effect of Auditory Nerve Demyelination on Cochlear Nucleus in Human", Association for Research in Otolaryngology, Mid-winter Meeting, Denver, CO, USA, Poster. February 2007.
30. Sharma, S., Singh, L., **Ray, B.**, Roy, T., "Age changes in human adult Oculomotor nerve", Japan Neuroscience Society, Kyoto, Japan, Poster. July 2006.
31. **Ray, B.**, Roy, T., Wadhwa, S., Roy, K., "Ontogeny of human cochlear nerve – Asymmetry in maturation", Society for Neuroscience Annual Meeting, San Diego, CA, USA, Poster. October 2004.
32. **Ray, B.**, Roy, T., Wadhwa, S., Roy, K., "Ontogenesis of human cochlear nerve: A quantitative approach through electron-microscopy and stereology", International Neuroscience Conference, Indian Academy of Neurosciences and Society for Neurochemistry, Hyderabad, India, Oral Presentation. May 2004.
33. Roy, T., **Ray, B.**, Wadhwa, S., "Prenatal Development of Human Cochlear Nerve – A Quantitative Electron-microscopic Study", Society for Neuroscience Annual Meeting, New Orleans, LA, USA, Poster. November 2003.

#### **Local/Regional**

1. Ludwig, A.\* , Thompson, D. M., Bohnstedt, B. N., **Ray, B.**, "Patients with Diabetes Mellitus are predisposed to disorders of Cerebrospinal Fluid circulation after subarachnoid hemorrhage", Diabetes Symposium, Harold Hamm Foundation, Oklahoma City, OK, USA, Accepted, Oral Presentation. October 2015.
2. **Ray, B.**, Chaudhuri, U., Ghosh, M., "Profile of thalassemia patients in a day care center", Society of Hematology and Blood Transfusion (West Bengal chapter), Calcutta, India, Oral Presentation. December 1999.

## Other Presentations

\* indicates mentee

### Local/Regional

1. **Ray, B.,** Zhneg, B., "Can Radiological Features and Coated-platelet Levels Predict Long-term Clinical Outcome after Spontaneous Subarachnoid Hemorrhage?", OU, Norman and OUHSC, Oklahoma City, Invited, Oral Presentation. February 27, 2017.
2. **Ray, B.,** Zhneg, B., "Can Radiological Features and Coated-platelet Levels Predict Long-term Clinical Outcome after Spontaneous Subarachnoid Hemorrhage?", OU, Norman and OUHSC, Oklahoma City, Invited, Oral Presentation. January 27, 2017.

## TEACHING AND INSTRUCTION

### Teaching and Course Instruction – Institutions Outside of OUHSC/SCM

Year(s) of Instruction	Institution / Location	Course ID	Course/Lecture Title	Role	Avg. Contact Hrs/Year	Primary Learner Audience
Summer 2012 - Summer 2013	University of Texas - Southwestern Medical Center	NA	Neurology Clerkship Didactics: Coma	Instructor	1	MSIII

### Graduate Medical Education (GME) Instruction Delivered

Date	Course Name or Session Topic	Role	Number of Instruction Hours	Primary Learner Audience	Sponsoring Department or Organization
December 21, 2017 - Present	Lecture: Subarachnoid hemorrhage - Acute and ICU care	Lecturer	1 hr(s) Anually	Fellows	Internal Medicine
September 14, 2017 - Present	Lecture: Intracerebral Hemorrhage - Acute and ICU care	Lecturer	1 hr(s) Anually	Fellows	Internal Medicine
July 1, 2016 - Present	Lecture: Acute Hemorrhagic Cerebrovascular Diseases	Lecturer	1 hr(s) Anually	Fellows	Internal Medicine
July 1, 2016 - Present	Lecture: Acute neuromuscular disorders	Lecturer	Annually	Fellows	Internal Medicine
July 1, 2016 - Present	Lecture: Disorders of Consciousness	Lecturer	1 hr(s) Anually	Fellows	Internal Medicine
2017	Lecture: Frontiers in Translational Cancer Research: Role of platelets in acute neurological disorders (and cancer)	Lecturer	1 hr(s) bi annually	Fellows	Neurology
May 9, 2017	Grand Rounds: Third circulation of the body - CSF and its circulatory abnormalities after aneurysmal subarachnoid hemorrhage	Lecturer	1 hr(s)	Faculty, residents, medical students, allied health care professionals	Department of Neurology
September 2016	Grand Rounds: Diagnosis and Management of Subarachnoid Hemorrhage	Lecturer	1 hr(s)	Fellows, Residents, Faculty, Students	Department of Neurology

<b>Date</b>	<b>Course Name or Session Topic</b>	<b>Role</b>	<b>Number of Instruction Hours</b>	<b>Primary Learner Audience</b>	<b>Sponsoring Department or Organization</b>
September 2016	Lecture: Coma and Encephalopathy	Lecturer	1 hr(s)	Residents	Department of Neurology
July 2016	Lecture: Intracranial Hypertension and Cerebral Herniation Syndromes	Lecturer	1 hr(s)	Residents	Department of Neurology
September 2015	Lecture: ICU management of SAH patients	Lecturer	1 hr(s)	Residents	Department of Neurology
August 2015	Lecture: Intracranial Hypertension and Cerebral Herniation Syndromes	Lecturer	1 hr(s)	Residents	Department of Neurology
May 2015	Lecture: Intracranial Hypertension and Cerebral Herniation Syndromes	Lecturer	1 hr(s)	Residents	Department of Neurology
April 2015	Lecture: Hydrocephalus	Lecturer	1 hr(s)	Residents	Department of Neurology
September 2014	Lecture: ICU management of SAH patients	Lecturer	1 hr(s)	Residents	Department of Neurology
January 2014	Grand Rounds: Hydrocephalus and CSF Shunts	Lecturer	1 hr(s)	Fellows, Residents, Faculty and Students	Department of Neurology
July 2011 - June 2013	Lecture: Adrenal dysfunction in ICU	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Cerebral salt wasting and autonomic storming	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Chronic obstructive pulmonary disease	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Cranio-cervical dissection	Lecturer	1 hr(s)	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Evaluation of a patient with hypotension	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Hepatic encephalopathy	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Infection in ICU	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Peri-operative neurosurgical care	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Physiology of hemostasis	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Pleural diseases	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Prognosis of coma	Instructor	1 hr(s) Annually	Resident/Fellow/Faculty	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Pulmonary embolism	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX

<b>Date</b>	<b>Course Name or Session Topic</b>	<b>Role</b>	<b>Number of Instruction Hours</b>	<b>Primary Learner Audience</b>	<b>Sponsoring Department or Organization</b>
July 2011 - June 2013	Lecture: Sedation and analgesia for neurocritical care unit	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center, - Dallas, TX
July 2011 - June 2013	Lecture: Thyroid dysfunction in ICU	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2011 - June 2013	Lecture: Uremic encephalopathy	Instructor	1 hr(s) Annually	Resident/Fellow	University of Texas – Southwestern Medical Center - Dallas, TX
July 2008 - June 2011	Lecture: Amebic encephalitis	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Amyloidosis	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Antiepileptic agents	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Botulism	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Brain Tumors	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Coma	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Development of Brain	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Inflammatory myopathies	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Neurosarcoidosis	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Prion disease	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: Psychopharmacology of Psychosis	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
July 2008 - June 2011	Lecture: “Intraspinal tumors”, “Auditory pathway”	Lecturer	1 hr(s)	Residents	University of Arkansas for Medical Sciences - Little Rock
October 2010	Grand Rounds: Sedation in Neurologic Intensive Care Unit	Lecturer	1 hr(s)	Faculty, residents, allied health care professionals	Department of Neurology
March 2010	Grand Rounds: Intracranial hypertension–physiology, pathophysiology and management	Lecturer	1 hr(s)	Residents	Department of Neurology

### Professional and Continuing Education Instruction

Date	Course Name or Session Topic	Role	Number of Instruction Hours	Primary Learner Audience	Sponsoring Department or Organization
February 23, 2018 - Present	Continuing Education: OUMC 2018 Annual Winter Respiratory Conference	Presenter	1 hr(s) Annual	RRT	Department of Respiratory Therapists, OUMC, Oklahoma City
November 2017 - Present	Review Course: Neurologic care for CCRN	Presenter			OU Medical Center - Nursing
February 2017 - Present	Seminar: Hemorrhagic Stroke - Initial Management	Presenter	1 hr(s)	Community physicians	Mercy Hospital, Enid, OK
November 2016 - Present	Seminar: Hemorrhagic Stroke - Initial Management	Presenter	1 hr(s)	Community physicians	Comanche County Hospital, Lawton, OK
November 17, 2017	Review Course: CCRN review course	Presenter	1.5 hr(s)	Critical Care Nurses	OU Medical Center, OU Medical Center
April 2017	Grand Rounds: Transcranial dopplers in Neurocritical care unit	Presenter	1 hr(s)	Vascular Medicine faculty, fellows, residents, technicians	Internal Medicine, OUHSC
March 2014	Continuing Education: ICU management of subarachnoid hemorrhage	Presenter	1 hr(s)	Primary Care Physicians	The University of Oklahoma Health Sciences Center
March 2014	Continuing Education: ICU management of subarachnoid hemorrhage	Presenter	1 hr(s)	MD	Department of Neurology, Oklahoma City

### Mentoring and Advising

Date	Mentee Name	Mentee Level/Program	Role/Involvement Type	Mentee Outcomes
2017 - Present	Mausaminben Hathidara, MD	Resident	Mentor - Research project	Neurocritical Care Society abstract submission
2017 - Present	Jason King, MD	Resident	Mentor - Annual research project	
2017 - Present	Brittany Karfonta	Graduate Student	Mentor	
2017 - Present	Danny Samkutty, MD	Resident, Neurology, OUHSC	Mentor - Mentoring annual research project	Abstract accepted at AAN annual meeting Manuscript in preparation
2017 - Present	Swathy Chandrashekar, MD	Resident, Neurology, OUHSC	Mentor - Mentoring annual research project	Abstract accepted at AAN annual meeting Manuscript in preparation
2016 - Present	John Greenert, MD	Resident, Neurology, OUHSC	Mentor - Mentoring annual research project	Abstract presented at International Stroke Conference annual meeting, 2018 Manuscript in preparation
2016 - Present	Stephen Ross, MD	Medical Student, Department of Neurology	Mentor - Research Project Advisor	Abstract presentation at American Academy of Neurology annual meeting 2017 Manuscript in preparation
2015 - 2017	Lane Tinsley, MD	Resident, Department of Neurology	Mentor - Research project advisor	Abstract presentation in International Stroke Conference annual meeting, 2017 Manuscript published in World Neurosurgery

Date	Mentee Name	Mentee Level/Program	Role/Involvement Type	Mentee Outcomes
2015 - 2017	Vijay Pandav, MD	Fellow, Department of Neurology	Mentor - Research project advisor	Multiple projects and abstracts presented at ISC, SVIN Manuscript published in Translational Stroke Research
2015 - 2016	Ayesha Vohra, MD	Resident, Department of Neurology	Mentor - Research project advisor	Abstract presented at Neurocritical Society annual meeting, 2016
2014 - 2016	Ayumi Ludwig, MD	Resident, Department of Neurology	Mentor - Research project advisor	Abstracts presented at Harold Hamm annual meeting, American Academy of Neurology, Congress for Neurological Surgery annual meetings Manuscript published World Neurosurgery
2014	Marguerite Butchee, MD	Resident, Department of Neurology	Mentor - Scholarship project advisor	Publication of book chapter on hydrocephalus after subarachnoid hemorrhage
2013 - 2014	Leonides Bermejo, MD	Resident, Department of Neurology	Advisor - Research project advisor	Case report submission in Neurocritical Care Society annual meeting, 2014

## CLINICAL SERVICE

### Clinical/Patient Care

Attending, Patient Care, OUMC Hospital, Oklahoma City, OK, July 2013 - Present, Active

### Clinical Administration and Leadership

Chair, OUMC Neurosciences Critical Care Service Line, OU Medical Center, Oklahoma City, OK, September 1, 2016 - Present, Active

Director, Neurosciences Intensive Care Unit, Oklahoma University Medical Center, Oklahoma City, OK, June 1, 2016 - Present, Active

Member, OUMC Stroke Program, OU Medical Center, Oklahoma City, OK, June 1, 2016 - Present, Consulting

Member, OUMC Critical Care Service Line Committee, OU Medical Center, Oklahoma City, OK, September 1, 2013 - Present, Consulting

### Clinical Committee Service

Member, Communications/Professionalism Risk Assessment Committee, OUMC Hospital, Oklahoma City, OK, September 2014 - Present

Member, Hospital Quality & Improvement Committee, OUMC Hospital, Oklahoma City, OK, September 2013 - Present, Active

Member, OUMC Critical Care Service Line Committee, Oklahoma City, OK, September 2013 - Present, Active

## **Hospital Privileges**

Consultant, NSICU attending physician, OU Medical Center, Oklahoma City, OK, September 1, 2013  
- Present, Active

## **ORGANIZATIONAL SERVICE**

### **Organizational Committee Service**

#### ***Campus/University***

Member, Critical Care Service Line Committee, OU Medical Center, August 2013 - Present

Member, Hospital Quality & Improvement Committee, OU Medical Center, August 2013 - Present

Member, Service Critical Care Line Committee, Oklahoma University Medical Center, August 2013 - Present

#### ***College***

Member, OU College of Medicine Admissions Board Subcommittee, July 2017 - Present

#### ***Department***

Member, Program Evaluation Committee, Department of Neurology, July 2016 - Present

Member, Executive Committee, Department of Neurology, July 2015 - Present

## **PROFESSIONAL SERVICE**

### **National/International**

Reviewer, Neurocritical Care Society Annual Meeting Abstract Reviewer, 2017, Neurocritical Care Society, July 2017 - August 2017

### **Editor, Editorial Board, Journal Reviewer**

Editorial Board Member, Medicine - Academic, 2017 - Present

#### **Ad-Hoc Reviewer:**

Neurocritical Care	2017 - Present
PLoS One	2017 - Present
Scientific Reports - Nature Publications	2017 - Present
Translational Stroke Research	2017 - Present
Journal of Neuroscience Nursing	2016 - Present
Neurosurgery	2016 - Present
Journal of Neurosciences in Rural Practice	2013 - Present
European Neurology	2015
Journal of the Saudi Heart Association	2015
Medical Research Archives	2015
CNS Drugs	2014
Neural Regeneration Research	2013

### **Previous Service to Other Academic Institutions**

Member, Hospital Stroke Committee, University of Arkansas for Medical Sciences, Little Rock, July 2010 - June 2011

Member, Quality and performance improvement committee,, University of Arkansas for Medical Sciences, Little Rock, USA, July 2008 - June 2009

### **PERSONAL COMMUNITY SERVICE**

Speaker, Community Outreach, Stillwater Medical Center, Stillwater, OK, July 2017

Speaker, Community Outreach, St. Mary's Hospital, Enid, OK, February 2017

Speaker, Community Outreach, Comanche County Memorial Hospital, Lawton, OK, November 2016

Volunteer, Oklahoma Center for Neurosciences initiative, Oklahoma City, OK, September 2013

### **MEDIA CONTRIBUTIONS**

Interviewed Expert, <http://kfor.com/2016/05/17/ardmore-man-survives-stroke-brain-surgery/>, May 17, 2016

### **PROFESSIONAL MEMBERSHIPS**

American Neurological Association (ANA)	February 2018 - Present
Congress of Neurological Surgeons (CNS)	2016 - Present
Harold Hamm Diabetes Center	2015 - Present
Oklahoma Neuroscience Society	2014 - Present
American Stroke Association (ASA)	2010 - Present
Society for Critical Care Medicine (SCCM)	2010 - Present
Neurocritical Care Society (NCS)	2009 - Present
American Academy of Neurology (AAN)	2008 - Present

### **PROFESSIONAL GROWTH AND DEVELOPMENT**

#### **Faculty Fellowships and Internships**

Faculty Leadership Program, Oklahoma University Health Sciences Center, Oklahoma City, OK, USA, 128 Credit Hours, Monthly, August 2014 - June 2015

#### **Seminars, Workshops, and Other Training**

Neurosciences Research, All India Institute of Medical Sciences, New Delhi, India, July 2002 - May 2007