

CURRICULUM VITAE

Paul J. Christo, M.D., M.B.A.

The Johns Hopkins University School of Medicine

Current Appointment

Associate Professor
Department of Anesthesiology and Critical Care Medicine
Division of Pain Medicine
The Johns Hopkins University School of Medicine
Baltimore, Maryland

Joint Appointment

Associate Professor
The Johns Hopkins School of Nursing
Baltimore, Maryland

Contact Information

The Johns Hopkins University School of Medicine
Department of Anesthesiology & Critical Care Medicine
Division of Pain Medicine

Education and Training

1986-1990 B.S. University of Notre Dame
1991-1995 M.D. University of Louisville School of Medicine
1996 Diploma in French, Institut Francais D'Annecy, Annecy, France
2003 Business of Medicine Graduate Certificate, The Johns Hopkins University
2004-2006 M.B.A. The Johns Hopkins University Carey Business School, Health Care Management

Professional Experience

1992 National Institutes of Health Research Fellow, Clinical Brain Disorders Branch, National Institute of Mental Health
1995-1996 Internship, The Johns Hopkins Bayview Medical Center, Department of Internal Medicine, Baltimore, Maryland
1997-2000 Residency, Harvard Medical School, Massachusetts General Hospital, Department of Anesthesia and Critical Care, Boston, Massachusetts
2000-2001 Fellowship in Pain Medicine, The Johns Hopkins University School of Medicine, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine
2001-2011 Assistant Professor, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD
2001-2003 Director of Pain Education, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD
2002-2003 Director of Quality Assurance, Division of Pain Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD.
2003-2011 Director, Multidisciplinary Pain Fellowship, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine, The Johns Hopkins University School of Medicine, Baltimore, MD.
2003-2008 Director, Blaustein Pain Treatment Center, The Johns Hopkins Hospital, Baltimore, MD.

2011- Associate Professor, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine,
The Johns Hopkins University School of Medicine, Baltimore, MD

RESEARCH ACTIVITIES

Publications:

1. **Christo PJ**, El-Mallakh RS: Possible role of endogenous Oubain-like compounds in the pathophysiology of bipolar illness. *Medical Hypotheses* 1993; 41:378-383.
2. Panlilio LM, **Christo PJ**, Raja SN: Current management of postherpetic neuralgia. *The Neurologist* 2002; 8:339-350.
3. Block BM, **Christo PJ**: Ketamine analgesia for the opioid-tolerant cancer patient. *The International Journal of Pain Medicine and Palliative Care* 2003; 2:71-74.
4. Cohen SP, **Christo PJ**, Moroz L: Pain management in trauma patients. *American Journal of Physical Medicine and Rehabilitation* 2004;83:142-161.
5. Wu CL, **Christo PJ**, Richman JM, Hsu W: Postdural Puncture Headaches: An Overview. *The International Journal of Pain Medicine and Palliative Care* 2004;3(2):53-59.
6. Brown AK, **Christo PJ**, Wu CL: Strategies for postoperative pain management. *Best Practice and Research Clinical Anaesthesiology* 2004;18:703-717.
7. **Christo PJ**, Hobelmann G, Sharma A: Aging and the Neurobiology of Addiction. *Geriatrics and Aging* 2005; 8 (10): 48-52.
8. **Christo PJ**, Hobelmann G, Maine D: Post Herpetic Neuralgia in Older Adults: Evidence-Based Approaches to Clinical Management. *Drugs and Aging* 2007: 24 (1):1-19.
9. Cohen SP, Hurley RW, **Christo PJ**, Winkley J, Mohiuddin MM, Stojanovic MP: Clinical Predictors of Success and Failure for Lumbar Facet Radiofrequency Denervation. *The Clinical Journal of Pain* 2007;23(1):45-52.
10. **Christo PJ**: Interventional Approaches to Neuropathic Pain. *Journal of The Transverse Myelitis Association* 2007; April, (2):41-49.
11. Cohen SP, **Christo PJ**, Wang S, Chen L, Stojanovic MP, Shields CH, Brummett C, Mao J. The Effect of Opioid Dose and Treatment Duration on the Perception of a Painful Standardized Clinical Stimulus. *Regional Anesthesia and Pain Medicine* 2008: May-June; 33(3):199-206.
12. Gupta A, **Christo PJ**. Expert Opinion in Opioid Abuse and Addiction. *The Journal for Nurse Practitioners*: February 2009: 5 (2): 132-134.
13. Williams BS, **Christo PJ**. Obstructed Catheter Connection Pin discovered During Intrathecal Baclofen Pump Exchange. *Clinical Journal of Pain* 2009: March-April; 25 (3):256-259.
14. Friedewald VE, Bennett JS, **Christo PJ**, Pool JL, Scheiman JM, Simon LS, Strand V, White WB, Williams GW, Roberts WC. American Journal of Cardiology Editor's Consensus: Selective and Nonselective Nonsteroidal Anti-inflammatory Drugs (NSAIDs) and Cardiovascular Risk. *American Journal of Cardiology* 2010;106:873-884.
15. Wang J, **Christo PJ**: The Influence of Prescription Monitoring Programs on Chronic Pain Management. *Pain Physician* 2009; 12: 507-515.
16. Carinci AJ, **Christo PJ**: Physician Impairment: Is Recovery Feasible? *Pain Physician* 2009; 12:487-491.
17. Ky P, Hameed H, **Christo PJ**: Independent Medical Examination: Facts and Fallacies. *Pain Physician* 2009; 12:811-818.
18. Brand, ES, Ky P, **Christo PJ**, Standaert C: Point-Counterpoint: Debating "Interventions" for Chronic Axial Low Back Pain. *PM&R* 2009; 1 (10): 964-972.

19. Le EN, Freischlag JA, **Christo PJ**, Chhabra A, Wigley FM. Thoracic outlet syndrome secondary to localized scleroderma treated with botulinum toxin injection. *Arthritis Care & Research* 2010; 62 (3): 430-433.
20. Cohen SP, Hayek SM, Datta S, Bajwa ZH, Larkin TM, Griffith S, Hobelmann G, **Christo PJ**, White R: Incidence and Root-Cause Analysis of Wrong Site Pain Management Procedures. *Anesthesiology* 2010; 112:711-8.
21. **Christo PJ**, Christo DK, Carinci AJ, Freischlag JA: Single CT-Guided Chemodenervation of the Anterior Scalene Muscle with Botulinum Toxin for Neurogenic Thoracic Outlet Syndrome. *Pain Medicine* 2010;11:504-511.
22. Zan E, Kurt KN, Yousem, DM, **Christo PJ**: Spinal Cord Stimulators: Typical Positioning and Postsurgical Complications. *American Journal of Roentgenology* 2010 (in press).
23. Gupta A, Martindale T, **Christo PJ**: Intrathecal Catheter Granuloma associated with Continuous Sufentanil Infusion. *Pain Medicine* 2010 Jun;11(6):847-52.
24. Mashayekh A, **Christo PJ**, Yousem DM, Pillai JJ: CT-guided Injection of the Anterior and Middle Scalene Muscles: Technique and Complications. *American Journal of Neuroradiology* 2011 Mar;32:495-500.
25. Bottros M, **Christo PJ**: Use of Urine Drug Screens. *Journal of Family Practice, Pain Management Today eNewsletter Series* 2011; 1(7).
26. Manchikanti L, Vallejo R, Manchikanti KN, Benyamin RM, Datta S, **Christo PJ**: Effectiveness of Long-Term Opioid Therapy for Chronic Non-Cancer Pain. *Pain Physician* 2011; 14:E133-E156.
27. **Christo PJ**, Manchikanti LM, Ruan X, Hansen H, Solanki DR, Jordan AE, Colson J: Urine Drug Testing in Chronic Pain. *Pain Physician* 2011; 14:123-143.
28. Manchikanti L, Ailani H, Koyyalagunta K, Datta S, Singh V, Eriator I, Sehgal N, Shah R, Benyamin R, Vallejo R, Fellows B, **Christo PJ**: A Systematic Review of Randomized Trials of Long-Term Opioid Management for Chronic Non-Cancer Pain. *Pain Physician* 2011; 14:91-121.
29. Cohen SP, Gupta A, Strassels SA, **Christo PJ**, Erdek MA, Griffith SR, Kurihara C, Buckenmaier CC, Cornblath D, Vu TN: Effect of MRI on Treatment Results or Decision Making in Patients with Lumbosacral Radiculopathy Referred for Epidural Steroid Injections. *Archives of Internal Medicine* 2012; Jan 23;172(2):134-42
30. McGreevy K, Williams KA, **Christo PJ**: Cephalad Lead Migration Following Spinal Cord Stimulation Implantation. *Pain Physician* 2012; 15:E79-E87.
31. Lum YW, Brooke BS, Likes K, Modi M, Grunebach H, **Christo PJ**, Freischlag JA: Impact of anterior scalene lidocaine blocks on predicting surgical success in older patients with neurogenic thoracic outlet syndrome. *Journal of Vascular Surgery* 2012;55 (5):1370-1375
32. Hansen H, Manchikanti L, Simopoulos TT, **Christo PJ**, Gupta S, Smith HS, Hameed H, Cohen SP: A Systematic Evaluation of the Therapeutic Effectiveness of Sacroiliac Joint Interventions. *Pain Physician* 2012;15: E247-E278
33. Manchikanti L, Buenaventura RM, Manchikanti KN, Ruan L, Gupta S, Smith HS, **Christo PJ**, Ward SP: Effectiveness of Therapeutic Lumbar Transforaminal Epidural Steroid Injections in Managing Lumbar Spinal Pain. *Pain Physician* 2012; 15:E199-E245
34. Rochlin DH, Likes KC, Gilson MM, **Christo PJ**, Freischlag JA: Management of unresolved, recurrent, and /or contralateral neurogenic symptoms in patients following first rib resection and scalenectomy. *Journal of Vascular Surgery* 2012 Oct; 56(4):1061-7.
35. Peppin JF, Passik SD, Couto JE, Fine PG, **Christo PJ**, Argoff D, Aronoff GM, Bennett D, Cheatle MD, Slevin KA, Goldfarb NI: Recommendations for Urine Drug Monitoring as a Component of Opioid Therapy in the Treatment of Chronic Pain. *Pain Medicine* 2012 Jul;13(7):886-96.
36. Neufeld NJ, Gonzalez-Fernandez M, **Christo PJ**, Williams KA: Positive Recognition Program Increases Compliance with

- Medication Reconciliation by Resident Physicians in an Outpatient Clinic. *American Journal of Medical Quality* 2013 Jan-Feb;28 (1):40-5.
37. Manchikanki L, Abdi S, Atluri S, Balog CC, Benyamin RM, Boswell MV, Brown KR, Bruel BM, Bryce DLA, Burks PA, Burton AW, Calodney AK, Caraway DL, Cash KA, **Christo PJ**, et al: American Society of Interventional Pain Physicians (ASIPP) Guidelines for Responsible Opioid Prescribing in Chronic Non-Cancer Pain: Part 1 – Evidence Assessment. *Pain Physician* 2012;15:S1-S66
 38. Manchikanki L, Abdi S, Atluri S, Balog CC, Benyamin RM, Boswell MV, Brown KR, Bruel BM, Bryce DLA, Burks PA, Burton AW, Calodney AK, Caraway DL, Cash KA, **Christo PJ**, et al: American Society of Interventional Pain Physicians (ASIPP) Guidelines for Responsible Opioid Prescribing in Chronic Non-Cancer Pain: Part 2 – Guidance. *Pain Physician* 2012;15:S67-S116
 39. Cohen SP, Mao J, Vu TN, Strassels SA, Gupta A, Erdek MA, **Christo PJ**, Kurihara C, Griffith SR, Buckenmaier CC, III, Chen L. Does pain score in response to a standardized subcutaneous local anesthetic injection predict epidural steroid injection outcomes in patients with lumbosacral radiculopathy? A prospective correlational study. *Pain Med* 2013 Mar;14(3):327-35.
 40. Rochlin DH, Gilson MM, Likes KC, Graf E, Ford N, **Christo PJ**, Freischlag JA. Quality of life scores in neurogenic thoracic outlet syndrome patients undergoing first rib resection and scalenectomy. *Journal of Vascular Surgery* 2013 Feb;57(2):436-43.
 41. Carinci AJ, Pathak R, Young M, **Christo PJ**. Complementary and alternative treatments for chronic pelvic pain. *Current Pain and Headache Reports* 2013 Feb;17(2):316
 42. Manchikanti L, Abdi S, Atluri S, Benyamin RM, Boswell MV, Buenaventura RM, Bryce DA, Burks PA, Caraway DL, Calodney AK, Cash KA, **Christo PJ**, et al: An Update of Comprehensive Evidence-Based Guidelines for Interventional Techniques in Chronic Spinal Pain. Part II: Guidance and Recommendations. *Pain Physician* 2013 Apr;16 (2 Suppl): S49-S283.
 43. Pritzlaff S, Carinci AJ, **Christo PJ**. Neurogenic Thoracic Outlet Syndrome: An often overlooked but treatable condition. *Journal of Family Practice* 2013 Sept;62 (9 Suppl 1):S16-21
 44. Chakravarthy K, Chaudhry H, Williams K, **Christo PJ**. Review of the Uses of Vagal Nerve Stimulation in Chronic Pain Management. *Current Pain and Headache Reports* (2015); 19 (12):54.
 45. Grider JS, Manchikanti L, Carayannopoulos A, Sharma ML, Balog CC, Harned ME, Grami V, Justiz R, Nouri KH, Hayek SM, Vallejo R, **Christo PJ**. Effectiveness of Spinal Cord Stimulation in Chronic Spinal Pain: A Systematic Review. *Pain Physician* (2016); 19 (1): E33-54.
 46. Chakravarthy K, Nava A, **Christo PJ**, Williams K: Review of Recent Advances in Peripheral Nerve Stimulation (PNS). *Current Pain and Headache Reports* (2016) 20:60.
 47. Deer TR, Hayek S, Pope JE, Lamer T, Hamza M, Grider JS, Rosen SM, Narouze S, Perruchoud C, Thomson S, Russo M, Grigsby E, Doleys DM, Jacobs MS, Saulino M, **Christo P**, Kim P, Huntoon EM, Krames E, Mekhail N (2017). The Polyanalgesic Consensus Conference (PACC): Recommendations for Trialing of Intrathecal Drug Delivery Infusion Therapy. *Neuromodulation: Technology at the Neural Interface*

Letters to the Editor

1. Hameed H, **Christo PJ**: Response to Dr. Spencer. *Pain Physician* 2010; 13:91-99

EDUCATIONAL ACTIVITIES**Book Chapters, Monographs**

1. Dubois BW, **Christo PJ**: The placebo effect. In: J. Ballantyne, ed. *The Massachusetts General Hospital Handbook of Pain Management*, Philadelphia: Lippincott Williams & Wilkins, 2002.
2. **Christo PJ**, Staats PS: Patient evaluation and criteria for procedure selection. In: Johnson BA, Staats PS, Wetzel FR, Mathis J, eds. *Image-Guided Spine Interventions*. New York, NY: McGraw-Hill, 2004.
3. **Christo PJ**: Opioid effectiveness and side effects in chronic pain. In: Staats PS, ed. *Anesthesiology Clinics of North America: Interventional Pain Management*. Philadelphia, PA: Elsevier/W.B.Saunders, 2004, pp 699-713.
4. **Christo PJ**, Raja SN: Complex regional pain syndrome. In: Wallace M, Staats PS, eds. *Pain Medicine and Management: Just the Facts*. New York, NY: McGraw-Hill, 2004.
5. **Christo PJ**, Grabow TS, Raja SN: Opioid effectiveness, addiction, and depression in chronic pain. In: Clark MR, Treisman GJ (eds.): *Pain and Depression. Advances in Psychosomatic Medicine*, 2004;25:123-137.
6. Grabow TS, **Christo PJ**, Raja SN: Complex regional pain syndrome: Diagnostic controversies, psychological dysfunction, and emerging concepts. In: Clark MR, Treisman GJ (eds.): *Pain and Depression. Advances in Psychosomatic Medicine*, 2004;25:89-101.
7. **Christo PJ**, Hobelmann G: Migraine Headaches, Chronic Pancreatitis, Constipation/Obstipation in Pain Management. In: Kirsch JR, Sibell D (eds.): *The 5 Minute Consult for Pain Management*. Lippincott series, 2006.
8. **Christo PJ**, Hobelmann G: Pelvic Pain. In: Smith HS (ed.): *Current Therapy in Pain*. Philadelphia, PA: WB Saunders, 2009.
9. **Christo PJ**, Jones C: Complex Regional Pain Syndrome. In: Smith HS (ed.): *Current Therapy in Pain*. Philadelphia, PA: WB Saunders, 2009.
10. **Christo PJ**, Cauley B: Post Herpetic Neuralgia. In: Smith HS (ed.): *Current Therapy in Pain*. Philadelphia, PA: WB Saunders, 2009.
11. **Christo PJ**, Mazloomdoost D: Interventional Treatments for Cancer Pain. *Annals of the New York Academy of Sciences*, New York Academy of Sciences, 1138: 299-328 (2008).
12. **Christo PJ**, Mazloomdoost D: Cancer Pain and Analgesia. *Annals of the New York Academy of Sciences*, New York Academy of Sciences, 1138: 278-298 (2008).
13. Williams BS, **Christo PJ**: Pharmacologic and Interventional Treatments for Neuropathic Pain. In: Dobretsov M and Zhang JM (eds.): *Mechanisms of Pain in Peripheral Neuropathy*. Kerala (India): Research Signpost, 2009.
14. Brown C, **Christo PJ**: Importance of Placebo Effect in Pain Management. In: Vadivelu N, Urman RD, Hines RL (eds.): *Essentials of Pain Management*. New York: Springer, 2011: 189-199.
15. Carinci AJ, **Christo PJ**: All I had was a knee bursectomy, now do I have RSD (CRPS)? In: Gallagher CJ, Lewis MC, Schwengel D (eds.): *Core Clinical Competencies in Anesthesiology: A Case-Based Approach*. Cambridge University Press, 2010: 318-323.
16. **Christo PJ** (Section Editor); Harrison D, Yamada J, Stevens B: Strategies for the Prevention and Management of Neonatal and Infant Pain. *Anesthetic Techniques in Pain Management*. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14 (1): 113-123; DOI 10.1007/s11916-009-0091-0 (2010).
17. **Christo PJ** (Section Editor); Buckenmaier CC, Brandon-Edwards H, Borden D, Wright J: Treating Pain on the Battlefield: A Warrior's Perspective. *Anesthetic Techniques in Pain Management*. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14(1): 1-7; DOI 10.1007/s11916-009-0090-1 (2010).

18. **Christo PJ** (Section Editor); Carinci AJ, Mao J: Pain and Opioid Addiction: What is the Connection? Anesthetic Techniques in Pain Management. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14 (1): 17-21; DOI 10.1007/s11916-009-0086-x (2010).
19. **Christo PJ** (Section Editor); Lawson ER, Wallace MS: Current Developments in Intraspinal Agents for Cancer and Non-cancer Pain. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14 (1): 8-16; DOI 10.1007/s11916-009-0092-z (2010).
20. **Christo PJ** (Section Editor); Green IC, Cohen SL, Finkenzeller D, **Christo PJ**: Interventional therapies for controlling pelvic pain: what is the evidence? Anesthetic Techniques in Pain Management. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14(1):22-32; DOI 10.1007/s11916-009-0089-7 (2010).
21. **Christo PJ** (Section Editor); Lee MC, Tracey I: Unraveling the mystery of pain, suffering and relief with brain imaging. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14 (2): 124-131; DOI 10.1007/s11916-010-0103-0 (2010).
22. Carinci AJ, Mehta P, **Christo PJ**: Chronic Pain in Torture Victims. Psychiatric Management of Pain. In: Silberstein SD (ed.): *Current Pain and Headache Reports*, Philadelphia, PA., 14 (2):73-79; DOI 10.1007/s11916-010-0101-2 (2010).
23. Hameed H, Hameed M, **Christo PJ**: The Effect of Morphine on Glial Cells as a Potential Therapeutic Target for Pharmacological Development of Analgesic Drugs.. In: Silberstein SD (ed.): Psychiatric Management of Pain. *Current Pain and Headache Reports*, Philadelphia, PA., 14 (2):96-104; DOI 10.1007/s11916-010-0101-2 (2010).
24. **Christo PJ**: Opioid Use in Cancer Pain Management, book review. For: Davis MP, Glare P, Quigley C, Hardy JR, (eds). Opioids in Cancer Pain, 2nd edition. *Journal of Pain and Symptom Management* 2010; 40 (4):627-629.
25. **Christo PJ** (Section Editor); Williams KA, Harden N: Managing the Placebo Effect: Enhancing the Signal-to-Noise Ratio. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed): *Current Pain and Headache Reports*, Philadelphia, PA., 15 (1):35-38; DOI 10.1007/s11916-010-0162-2 (2011).
26. **Christo PJ** (Section Editor); Stadler JA, Ellens DJ, Rosenow JM: Deep Brain Stimulation and Motor Cortical Stimulation for Neuropathic Pain. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed): *Current Pain and Headache Reports*, Philadelphia, PA., 15 (1): 8-13; DOI 10.1007/s11916-010-0161-3 (2011).
27. **Christo PJ** (Section Editor); Dhanani NM, Caruso TJ, Carinci AJ: Complimentary and Alternative Medicine for Pain: An Evidence-based Review. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed): *Current Pain and Headache Reports*, Philadelphia, PA., 15 (1): 39-46; DOI 10.1007/s11916-010-0158-y (2011).
28. **Christo PJ** (Section Editor); **Christo PJ**, McGreevy K: Updated Perspectives on Neurogenic Thoracic Outlet Syndrome. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed): *Current Pain and Headache Reports*, Philadelphia, PA., 15 (1):14-21; DOI 10.1007/s11916-010-0163-1 (2011).
29. **Christo PJ** (Section Editor);**Christo PJ**, Li S, Gibson SJ, Fine P, Hameed H: Effective Treatments for Pain in the Older Patient. Anesthetic Techniques in Pain Management. In: Silberstein SD (ed): *Current Pain and Headache Reports*, Philadelphia, PA., 15 (1): 22-34; DOI 10.1007/s11916-010-0164-0 (2011).
30. Hameed H, Hameed M, **Christo PJ**: Cancer Pain. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Clinical Aspects of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
31. Hameed H, Hameed M, **Christo PJ**: Neuropathic Pain. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Clinical Aspects of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
32. Hameed H, Hameed M, **Christo PJ**: Complex Regional Pain Syndrome. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Clinical Aspects of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah,

KY: American Society of Interventional Pain Physicians, 2011

33. Williams BS, **Christo PJ**: Pain Relief in Substance Abusers. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Clinical Aspects of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
34. **Christo PJ**, Manchikanti L, Ruan X: Urine Drug Testing in Chronic Pain. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Foundations of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
35. Williams BS, **Christo PJ**: Antipyretic Analgesics: Nonsteroidals, Acetaminophen, and Phenazone Derivatives. In: Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Foundations of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
36. Wilhelmi B, **Christo PJ**. Cancer pain assessment and consensus guidelines. In: *Analgesics for Cancer Pain*. Porreca F, King T (eds). Future Medicine, London, UK, pages 6–17 (2012).
37. Heaton S, McArthur JC, **Christo PJ**. Entrapment Syndromes (Thoracic Outlet, Carpal Tunnel, Ulnar Nerve, Radial Nerve, Lateral Femoral Cutaneous Nerve, Ilioinguinal Nerve, Peroneal Nerve, Tarsal Tunnel). In: *Neuropathic Pain: Mechanisms, Diagnosis, and Treatment*. Simpson DM, McArthur JC, Dworkin RH (eds). New York: Oxford University Press, 2012 (281-305).
38. **Christo PJ**. Management of Postherpetic Neuralgia (Shingles) in Older Adults. *The Pain Practitioner*. Pages 24-28 (Spring 2013).
39. Neufeld NJ, **Christo PJ**. Combating Cancer Pain: A look at Interventional Treatments. *Coping with Cancer*. Pg 8, July/Aug 2013.

Books, Textbooks

1. **Christo PJ** (Section Editor), Lenox B: Definitions of Chronic Pain, Evaluation of the Pain Patient, Diagnostic Imaging for the Pain Patient, Pharmacologic Approaches to Chronic Pain Treatment (non-opioid), Low Back Pain, Cervical Pain. In: Heitmiller ES, Schwengel DA (eds.): *Johns Hopkins Anesthesiology Handbook*. Philadelphia, PA: Elsevier, 2010.
2. **Christo PJ** (Section Editor), Crooks M: Substance Use Disorders and Chronic Opioid Use, Complex Regional Pain Syndrome (CRPS), Headache, Opioids in Chronic Non-Malignant Pain, Postdural Puncture Headache (PDPH). In: Heitmiller ES, Schwengel DA (eds.): *Johns Hopkins Anesthesiology Handbook*. Philadelphia, PA: Elsevier, 2010.
3. **Christo PJ** (Section Editor), Mazloomdoost D: Interventional Pain Treatments for Cancer Pain. In: Heitmiller ES, Schwengel DA (eds.): *Johns Hopkins Anesthesiology Handbook*. Philadelphia, PA: Elsevier, 2010.
4. **Christo PJ** (Section Editor), Carinci AJ: Cancer Pain and Pharmacotherapies. In: Heitmiller ES, Schwengel DA (eds.): *Johns Hopkins Anesthesiology Handbook*. Philadelphia, PA: Elsevier, 2010.
5. Bartels K, **Christo PJ**: Non-Opioid Analgesic Medications. In: Urman RD, Vadivelu N (eds.): *Pocket Pain Medicine*. Philadelphia, PA: Lippincott, Williams & Wilkins, 2011.
6. Bartels K, **Christo PJ**: Opioids. In: Urman RD, Vadivelu N (eds.): *Pocket Pain Medicine*. Philadelphia, PA: Lippincott, Williams & Wilkins, 2011.
7. Bartels K, **Christo PJ**: Implantable Devices: Spinal Cord Stimulation and Intrathecal Drug Delivery. In: Urman RD, Vadivelu N (eds.): *Pocket Pain Medicine*. Philadelphia, PA: Lippincott, Williams & Wilkins, 2011.
8. Bicket MC, **Christo PJ**. fMRI and Pain. In: *Pain – The person, the science, the clinical interface*. Armati P, Chow R (eds). IP Communications, Victoria, Australia, pages 99-106 (2015)

9. **Christo PJ**, Wilhelmi BG, Amasha RR, Raja SN: Complex Regional Pain Syndrome. In: Staats PS, Wallace MS, eds. *Pain Medicine and Management: Just the Facts*. New York, NY: McGraw-Hill, (2015)
10. Hobelmann G, **Christo PJ**: Neuropathy and Thoracic Outlet Syndrome. In: *Integrative Pain Management*. Bonakdar RA, Sukiennik AW, (eds). New York, NY: Oxford University Press, pages 109-118), (2016)

Book Editor

1. Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Foundations of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
2. Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Clinical Aspects of Pain Medicine and Interventional Pain Management: A Comprehensive Review*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
3. Manchikanti L, **Christo PJ**, Trescot A, Falco FJE (eds): *Pain Medicine and Interventional Pain Management: Board Review Self-Assessment*, Paducah, KY: American Society of Interventional Pain Physicians, 2011
4. **Christo PJ**, Fudin J, Gudin J (eds): *Opioid Prescribing and Monitoring: How to Combat Opioid Abuse and Misuse Responsibly*, Montclair, NJ: Vertical Health, 2016

Continuing Medical Education (CME) Reviewer

1. Clinical Content Review and Validation, Online Monograph: *Optimizing Chronic Pain Management in Elderly Persons: Integrating Pharmacokinetics and Pharmacodynamics*, Dannemiller Foundation, 3/2010.
2. Faculty Reviewer, *Pain Management at the End of Life*, InforMed, July 2012
3. Faculty Reviewer, *Pain: Current Understanding of Assessment, Management, and Risk Reduction*, InforMed, August 2013
4. Faculty Reviewer, *Caring for Patients at the End of Life*, InforMed, September 2016
5. Faculty Reviewer, *Extended Release/Long Acting Opioid Risk Evaluation & Mitigation Strategy (REMS) Education*, InforMed, July 2016

OTHER MEDIA

Pain Assessment and Management Course, 2007, Johns Hopkins Medicine Interactive
Development of online course and questions for physicians and nurses
Development of online course and questions for allied healthcare professional

Teaching

March 2006, *Multidisciplinary Approaches to Pain Care*, Pain Curriculum Workshop, Second Year Medical Students, **Presenter/Facilitator**, Johns Hopkins University School of Medicine

March 2007, *Multidisciplinary Approaches to Pain Care*, Pain Curriculum Workshop, Second Year Medical Students, **Presenter/Facilitator**, Johns Hopkins University School of Medicine

March 2008, *Multidisciplinary Approaches to Pain Care*, Pain Curriculum Workshop, Second Year Medical Students, **Presenter/Facilitator**, Johns Hopkins University School of Medicine

March 2009, *Multidisciplinary Approaches to Pain Care*, Pain Curriculum Workshop, Second Year Medical Students, **Presenter/Facilitator**, Johns Hopkins University School of Medicine

March 2010, *Multidisciplinary Approaches to Pain Care*, Pain Curriculum Workshop, Second Year Medical Students, **Presenter/Facilitator**, Johns Hopkins University School of Medicine

May 2010, Pain Intersession Course, First Year Medical Students, **Preceptor** for Pain Assessment, Pain and Impairment, Pain and Addiction Sessions, Johns Hopkins University School of Medicine

Continuing Medical Education (CME) Course Director:

1. Administrative Editor and Course Director, *Practical Reviews in Anesthesiology*, 2004-present
2. Program Director, *Exploring the Evolving Role of Botulinum Neurotoxin Type A in Pain Management*, Practice with the Experts (National Presentation Series), 2004
3. Program Director, *Practice with the Experts: Strategies for Pain Management with Botulinum Neurotoxin Therapy* (National Presentation Series), 2005
4. Course Director, *Multidrug Therapy for Chronic Pain, Scientific and Clinical Considerations*, Satellite Symposium, 27th Annual Scientific Meeting of the American Pain Society (APS), Tampa, FL, May 2008
5. Course Director, *Multidrug Therapy for Chronic Pain, Scientific and Clinical Considerations, Multimedia Activity*, 27th Annual Scientific Meeting of the American Pain Society (APS), September 2008
6. Course Director, *Clinical and Pharmacologic Perspectives on Opioid Use, Evidence-Based Strategies for Risk Assessment and Attenuation*, Satellite Symposium, 27th Annual Scientific Meeting of the American Pain Society (APS), Tampa, FL, May 2008
7. Course Director, *Pain and Aging*, Satellite Symposium, 25th Annual Meeting of the American Academy of Pain Medicine (AAPM), Honolulu, HI., January 2009
8. Program Director, *Case Continua in Fibromyalgia: Peer Insights in the Management of Fibromyalgia Syndrome*, National Internet CME activity incorporating a Virtual Grand Rounds Program, Johns Hopkins University School of Medicine, Nov. 2008 – Nov. 2010
9. Course Chair and Director, *Clinical Concepts in Pain and Aging*, Internet (*Medscape.com*) and *Epocrates* educational programs, Feb. 2009-Feb. 2010
10. Course Director, *Ameliorating Low Back Pain in the Primary Care Setting: A Case-based Approach to Proper Assessment and Treatment Selection*, Online Learning Tool, PeerView Institute for Medical Education (www.peerviewpress.com/p26.), Performance Improvement CME activity, September 2010-September 2011.

Continuing Medical Education (CME) Session Chair:

1. "Regional Anesthesia," *The 6th Annual Johns Hopkins Multidisciplinary Pain Medicine and Regional Anesthesia Update*, Baltimore, MD, August 2000
2. "Spinal Cord Stimulation/Intrathecal Therapy," *The 7th Annual Johns Hopkins Multidisciplinary Pain Medicine Update in conjunction with the Southern Pain Society Annual Meeting*, Baltimore, MD, August 2001
3. "Neural Blockade," "Advanced Stimulation Techniques," "IDET, Discography and Vertebroplasty," *The 8th Annual Johns Hopkins Multidisciplinary Pain Medicine Update in conjunction with the 6th Annual American Neuromodulation Society Meeting*, Orlando, FL, May 2002

4. "Membrane-Stabilizing Agents to Treat Pain," "CRPS and Thalidomide: Do cytokines Play a Role in RSD," "Herbal Medicine," Headaches: The Role of the Interventionalist," "Topical Agents: From Lidocaine to Ketamine and Beyond," "Complications of Regional Anesthesia," *The 9th Annual Johns Hopkins Multidisciplinary Pain Medicine Update in conjunction with the 7th Annual American Neuromodulation Society Meeting*, Orlando, FL, May, 2003
5. "Chronic Pain and Opioid Use: Best Practices in the Current Environment", *American Academy of Pain Management 27th Annual Meeting*, San Antonio, TX, September 2016

Continuing Medical Education (CME) Course Instructor and Lectures:

1. "Opioid Therapy Efficacy and Side Effects," *8th Annual Johns Hopkins Multidisciplinary Pain Medicine Update in conjunction with the 6th Annual American Neuromodulation Society Meeting*, Orlando, FL, May 2002
2. "Side Effects of Opioids," *9th Annual Johns Hopkins Multidisciplinary Pain Medicine Update in conjunction with the 7th Annual American Neuromodulation Society Meeting*, Orlando, FL. May 2003
3. "Management of Acute Pain in the setting of Chronic Pain," *National Association of Orthopaedic Nurses, Baltimore Chapter Annual Meeting*, Baltimore, MD, March 2004
4. "Opioid Efficacy and Toxicity", *10th Annual Johns Hopkins Multidisciplinary Pain Medicine Update*, Baltimore, MD, August 2004
5. "Post-Operative Analgesia and Interventions", *The Johns Hopkins Department of Orthopedic Surgery Anesthesia Symposium*, Baltimore, MD, September 2004
6. "Interventional and Pharmacotherapeutic Management of Acute and Chronic Pain", *Pain and Symptom Management Conference for Curative, Palliative, and End of Life Care at Winchester Medical Center*, Winchester, VA. October 2004
7. "Procedural Pain Management", *Current Concepts in Cancer Pain Management: A Multidisciplinary Case-Based Symposium*, The Johns Hopkins Center for Cancer Pain Research, Baltimore, MD, October 2004
8. "Peripheral Nerve Blocks (Sympathetic Blocks) in the Treatment of Chronic Pain", *Workshop at the Annual Meeting of the American Society of Anesthesiologists*, Las Vegas, NV. October 2004
9. "Interventional and Pharmacotherapeutic Management of Pain", *General Internal Medicine/Primary Care Clinical Conference*, Johns Hopkins Bayview Medical Center, Baltimore, MD., April 2005
10. "Neurolytic Procedures", *Current Concepts in Cancer Pain Management Symposium*, The Center for Cancer Pain Research at The Johns Hopkins University School of Medicine, Baltimore, MD., November 2005
11. "How Do I Treat Neuropathic Pain and Complex Regional Pain Syndrome", Panel Discussant, *Annual Meeting of the American Society of Anesthesiologists*, Orlando, FL., 2008.
12. "Complex Regional Pain Syndrome: What It Is & How to Treat It", Dialogue With the Experts: An Exchange of Ideas. *25th Annual Meeting of the American Academy of Pain Medicine (AAPM)*, Honolulu, HI., January 2009.
13. "Intrathecal Pump Placement" Cadaver Course, *American Society of Anesthesiologists Annual Meeting*, New Orleans, LA., October 2009
14. "Cancer Pain", *Comprehensive Pain Medicine and Interventional Pain Management Board Review Course*, American Society of Interventional Pain Physicians, Chicago, IL., August 2010
15. "Geriatric Pain Management", *Comprehensive Pain Medicine and Interventional Pain Management Board Review Course*, American Society of Interventional Pain Physicians, Chicago, IL., August 2010
16. "Lumbar, Caudal, Cervical and Thoracic Epidural Injections, Adhesiolysis", *American Society of Anesthesiologists Annual Meeting*, San Diego, CA. October 2010.

17. "Visceral and Urogenital Pain", *Comprehensive Pain Medicine and Interventional Pain Management Board Review Course*, American Society of Interventional Pain Physicians, St. Louis, MO., August 2011
18. "Cancer Pain", *Comprehensive Pain Medicine and Interventional Pain Management Board Review Course*, American Society of Interventional Pain Physicians, St. Louis, MO., August 2011
19. "Expert Panelist for *The Addiction Performance Project*", National Institute on Drug Abuse, Washington, D.C., August 2011
20. "Neurolysis: Chemical, Cryoanalgesia, and Radiofrequency in Pain Management", *Dannemiller Pain Review Course*, San Antonio, Texas, July 2012
21. "Opioid Pharmacology", *Dannemiller Pain Review Course*, San Antonio, Texas, July 2012
22. "NSAID (Non-Steroidal Anti-inflammatory Drugs) Pharmacology", *Dannemiller Pain Review Course*, San Antonio, Texas, July 2012
23. "Urine Drug Testing in Pain Management: Challenges in Assessment of Adherence", Department of Pathology Grand Rounds, *Johns Hopkins Medicine*, June 2016

CLINICAL ACTIVITIES

Certifications

- 2001 Diplomat, American Board of Anesthesiology
- Recertified 7/2011
- 2002 Subspecialty Certification in Pain Medicine by the American Board of Anesthesiology
- Recertified 10/3/2009
- 2003 Diplomat, American Board of Pain Medicine

ORGANIZATIONAL ACTIVITIES

Institutional Administrative Appointments

- 2006-present *Joint Committee on Admissions*, The Johns Hopkins University School of Medicine
- 2002-2006 Johns Hopkins University School of Medicine, Department of Anesthesiology and Critical Care, *Education Committee*
- 2002-2006 Johns Hopkins University School of Medicine, Department of Anesthesiology and Critical Care Medicine, *Clinical Competence Committee*
- 2004-2006 Johns Hopkins University School of Medicine, Department of Anesthesiology and Critical Care Medicine, *Performance Improvement Committee*
- 2008-present *Institutional Task Force on Pain Management*, Johns Hopkins University School of Medicine

Editorial Activities

- 2004-2008 Editorial Advisory Board, *Pain Physician*
- 2009-present Associate Editor, *Pain Physician*
- 2010-present Editorial Board, *Pain Management*
- 2004-present Consultant Reviewer, *Regional Anesthesia and Pain Medicine*
- 2005-present Ad Hoc Reviewer, *The Clinical Journal of Pain*
- 2006-present Peer Reviewer, Maryland Society of Anesthesiologists (Maryland Board of Physician Quality Assurance)
- 2006-present Manuscript Reviewer, *Pain Medicine*
- 2007-present Referee Panel for the American Academy of Pain Medicine (AAPM) Journal, *Pain Medicine*
- 2007-present Editorial Board Member, *The Open Geriatric Medicine Journal*
- 2009-present Reviewer, *The Journal of Pain*
- 2012- Editorial Board, *PAINWeek Journal*

2012- Editorial Board Member, *Chronic Pain Perspectives*

Advisory Committees, Review Groups/Study Sections

2003-2010 Association of Pain Program Directors (*American Society of Regional Anesthesia & Pain Medicine*)
 2006-2011 Coding and Reimbursement Committee, *American Academy of Pain Medicine*
 2007-2008 Committee on Pain Medicine, *American Society of Anesthesiologists*
 2007-2011 Liaison Representative for the External Affairs Committee, *American Academy of Pain Medicine*
 2008 American Journal of Cardiology Editor's Consensus on Selective and Nonselective Nonsteroidal Anti-inflammatory Drugs and Cardiovascular Risk
 2008-2009 Program Planning Committee, *American Academy of Pain Medicine Annual Meeting*, Honolulu, HI, January 2009
 2008-2009 Commercially Supported Symposia Committee, *American Academy of Pain Medicine Annual Meeting*, Honolulu, HI, January 2009
 2008-2010 Co-Chair, Subcommittee on Clinical Matters, Special Interest Group on Pain in Older Persons, *International Association for the Study of Pain (IASP)*.
 2008-2010 Pain.com Advisory Board, *Dannemiller Memorial Educational Foundation*
 2008-2010 Steering Committee for the Physician Clinical Support System-Methadone, *American Pain Society representative*
 2009-2010 Program Planning Committee, *American Academy of Pain Medicine Annual Meeting*, San Antonio, TX, January 2010
 2009-2011 Site Selection Committee, *American Academy of Pain Medicine*
 2009 Academic Advisory Committee, *1st International Comprehensive Pain Management Conference*, Tawam Hospital, Al Ain, United Arab Emirates.
 2010- Education Committee, *Dannemiller Memorial Educational Foundation*
 2010- Expert Consensus Panel on Developing Guidelines and Recommendations for Monitoring Drug Utilization for Patients Prescribed Opioids, *Ameritox*
 2010- Scientific Medical Advisory Board, *American Thoracic Outlet Syndrome*
 2010-2012 Advisory Panel/Thought Leader for development of Patient Evaluation Resource For Opioid Risk Management (PERFORM), *Springer Healthcare and Purdue Pharma*
 2011-2012 Regional Stakeholder, *PAINS* project, sponsored by the Center for Practical Bioethics
 2011 Dannemiller Advisory Board
 2011- Advisory Board, *Current Pain Perspectives (CHPP)*, Quadrant HealthCom, Inc
 2011 *Archimedes Regional Advisory Board Webcast*, Faculty Presenter
 2011- *American Pain Society* Opioid REMS Educational Initiative
 2013 *American Pain Society* Educational Advisory Committee
 2014-2015 Nominating Committee, *American Pain Society*
 2015 Education Advisory Committee, *American Academy of Pain Management*
 2015 Advisory Board, *NeuroMetrix*, Inc
 2015- *Men's Health Magazine* Medical Advisory Board
 2016 *Complex Regional Pain Syndrome Advisory Board Meeting*, Grunenthal, Inc
 2016 Global Pain Faculty Member, GSK Consumer Healthcare

Board of Directors

2015- Academy of Integrative Pain Management
 2016- American Pain Association

Professional Society Leadership:

2015- Secretary, Board of Directors, Academy of Integrative Pain Management

Professional Societies:

International Spinal Injection Society
American Academy of Pain Medicine
American Society of Interventional Pain Physicians
American Pain Society
North American Neuromodulation Society
American Medical Association
American Society of Anesthesiologists
American Society of Regional Anesthesia and Pain Medicine
Maryland Society of Anesthesiologists
The Johns Hopkins Medical and Surgical Association
American Society of Addiction Medicine

Conference Organizer, Session Chair

December 2005 Co-Conference Chair, *11th Annual Pain Medicine Update for Pain Specialists and Primary Care Providers*, The Johns Hopkins University School of Medicine, Department of Anesthesiology and Critical Care Medicine, Division of Pain Medicine, Baltimore, MD

July 2014 Chair, *Pain Care for Primary Care*, American Pain Society and The Journal of Family Practice, Orlando, FL

July 2015 Chair, *Pain Care for Primary Care Annual Meeting*, American Pain Society and The Journal of Family Practice, Orlando, FL

July 2016 Chair, *Pain Care for Primary Care Annual Meeting*, American Pain Society and The Journal of Family Practice, Orlando, FL

Consultantships

2007-2008 Global mentorship for pain center development/expansion at Tawam Hospital, United Arab Emirates, United Arab Emirates University, Dr. Rabiah Noueihed, Department of Anaesthesia, United Arab Emirates University.

RECOGNITION**Visiting Professorships:**

April 2007 *University of Notre Dame, Center for Health Sciences Advising, "Pain Medicine as a Career."*

May 2011 *American Academy of Pain Medicine/Pfizer Visiting Professor in Pain Medicine ; University of Louisville School of Medicine. One of 8 national pain experts selected for 3 days of educational exchange.*

September 2015 *University of Notre Dame, Center for Health Sciences Advising, College of Science, "Pain Medicine and Hopkins Medicine"*

HONORS

2003, 2006 America's Top Physicians, *Pain Medicine: Guide to America's Top Physicians, Consumer's Research Council of America.*

2007 America's Top Anesthesiologists: *Guide to America's Top Anesthesiologists*

2007 Top Doctor in Pain Medicine/Anesthesiology: Baltimore Magazine, *Top Doctors*

2007-2008 *Best Doctors in America, Best Doctor physician*

2008 America's Top Physicians, *Anesthesiology: Guide to America's Top Physicians, Consumer's Research Council of America.*

2008-2009	Fellow, <i>Mayday Pain and Society Fellowship Program: A Media and Policy Initiative</i> (www.maydayfellows.org). One of six pain experts selected from the U.S. and Canada to advocate for better pain treatment by raising visibility with the media and policymakers.
2011	American's Top Doctors, Castle Connolly
2011	70 Best Pain Management Physicians in America, <i>Becker's ASC Review</i>
2011	Super Doctor for the Washington, DC-Baltimore-Northern Virginia area (www.superdoctors.com)
2011	Top Doctor for Pain Management, <i>US News & World Report</i> (http://health.usnews.com/top-doctors/directory/best-pain-management-specialists)
2011-2012	<i>Best Doctors in America</i> , Best Doctor physician (www.bestdoctors.com)
2012-2013	150 Pain Management Physicians to Know, <i>Becker's Spine Review</i>
2012-2013	<i>Super Doctor</i> for the Washington, DC-Baltimore-Northern Virginia area (www.superdoctors.com)
2012	Top Doctors in Pain Management: Baltimore Magazine, <i>Top Doctors</i>
2013	Association of University Anesthesiologists (Academic Honor Society)
2014	Best Doctors in America
2014	American's Top Doctors, Castle Connolly
2014	America's Top Physicians
2014	The Pain Community " <i>Hero</i> " (Patient Advocacy Association)
2016	The John and Emma Bonica Public Service Award (American Pain Society)
2016	American Pain Society Awards Committee
2016	Pain Educator of the Year (American Society of Pain Educators/PAINWeek Annual Conference)

KEYNOTE SPEAKER:

1. "Interdisciplinary Care and Safe Opioid Prescribing", *Montana Pain Initiative 5th Annual Conference, "Front Line Pain Management: Neuroplastic Transformation, Interdisciplinary Care, Safe Prescribing"*, Bozeman, MT., October, 2011.
2. "Diagnosis and Treatment of Chronic Pain-New Aspects", *Masterclass on the Diagnosis and Treatment of Chronic Pain, Chronic Pain Ireland First Annual Conference at Croke Park*, Dublin, Ireland, December 2011
3. "Innovations in Pain Care for the 21st Century: From X-rays to Radio Waves", *Healthcare, Leadership, and Innovation Executive Education Program*, The Anne Arundel Health System, Johns Hopkins Carey Business School, April 2012
4. "Innovations in Pain Care for the 21st Century: From X-Rays to Radio Waves", *The Dr. Tom Dooley Society of The University of Notre Dame & Memorial Hospital & Health System*, South Bend, IN, October 2012
5. "Pain: The Human and Economic Crisis", *The Dr. Tom Dooley Society of The University of Notre Dame, College of Science*, South Bend, IN, September 2015
6. "Pain Management: Clinical and Regulatory Considerations", *Department of Health and Human Services (Centers for Medicare and Medicaid Services)/National Survey Executives Training Institute*, Baltimore, MD, April 2016
7. "Chronic and Post-Operative Pain", *The Role of the Cardiothoracic Surgeon in Pain Management: Innovative Solutions for the Management of Post-Thoracotomy Pain, American Association for Thoracic Surgery Annual Meeting*, Baltimore, MD., May 2016

CORPORATE SPEAKING:

1. "Cure Your Common Productivity Killers", *New York Life*, Timonium, Maryland, October 2013

INVITED LECTURES:

1. "Advanced Strategies for Pain Treatment", *United Auto Workers-Ford On-Site Rehabilitation Center Program*, Educational and Program Development Conference, Detroit, MI., November 2005
2. "Understanding Pain and Current Therapies", *11th Annual A Women's Journey*, Johns Hopkins Medicine, Baltimore, MD., November 2005
3. "Interventional Approach to Neuropathic Pain", *Second International Rare Neuroimmunologic Disorders Symposium*, Johns Hopkins Medicine, Baltimore, MD., July 2006
4. "Low Back Pain: A Clinical Perspective", *Emerging Technologies in Spine Meeting*, Abbott Spine, Las Vegas, NV., August 2006
5. "Neurolytic Procedures" for Cancer Pain, *Current Concepts in Cancer Pain Management: A Multidisciplinary Case-Based Symposium*, Johns Hopkins Medicine, Baltimore, MD., October 2006
6. "Chronic Pain and the Discovery of Relief", *Johns Hopkins Medicine Pain Informational Session*, Johns Hopkins Hospital, Baltimore, MD., February 2007
7. "Spinal Cord and Peripheral Nerve Stimulation: Indications and Outcomes", *American Academy of Pain Medicine 23rd Annual Meeting*, New Orleans, LA., February 2007
8. "The Bull's Eye: Intrathecal Infusion Therapies", *American Academy of Pain Medicine 23rd Annual Meeting*, New Orleans, LA., February 2007
9. "Pain Management in Cancer Patients: Nerve/Neurolytic Blocks and Implantable Therapies", *International Conference on Recent Advances in Clinical Oncology*, Al Ain, United Arab Emirates, United Arab Emirates University and Tawam Hospital, February 2007
10. "Pain Management in Malignant Disease", *International Conference on Recent Advances in Clinical Oncology*, Pre-Conference Workshop, Al Ain, United Arab Emirates, United Arab Emirates University and Tawam Hospital, February 2007
11. "Pain Management in Malignant Disease: Medical and Interventional Strategies", *Tawam Hospital Grand Rounds*, Al Ain, United Arab Emirates, February 2007
12. "Pain Management in Cancer Patients: Nerve/Neurolytic Blocks and Implantable Therapies", *Continuing Medical Education Seminar, Department of Anesthesiology, Critical Care Medicine and Pain Therapy*, Tawam Hospital, Al Ain, United Arab Emirates, February 2007
13. "Intrathecal Infusion Therapies & Implantable Drug Delivery Systems", *Multidisciplinary Blaustein Pain Conference*, Departments of Neurosurgery, Neurology, Psychiatry; Johns Hopkins Medicine, December 2007
14. "How Do I Treat Neuropathic Pain and Complex Regional Pain Syndrome", Panel Discussant, *American Society of Anesthesiologists Annual Meeting*, Orlando, FL, October 2008.
15. Christo, PJ: New procedural development for analyzing MRI brain images in schizophrenic twins. National Institutes of Health, Bethesda, MD, August, 1992.
16. Christo, PJ, Massey, D: Fluorescence in-situ hybridization (FISH). Southeast Regional Genetics Group, Pawleys Island, SC, June, 1994.
17. Chaudry V, Christo P, Raja S: Is small-fiber painful neuropathy sympathetically mediated? American Association of Electrodiagnostic Medicine, Toronto, Canada, November, 2002.
18. Brummett CM, Merritt S, Hurley RW, Klick BA, Christo PJ: Sexual function in chronic pain patients. A survey study. *American Society of Regional Anesthesia and Pain Medicine Annual Meeting and Workshops*, Playa del

Carmen, Mexico, May 2008.

19. Christo PJ, Carinci AJ, Christo DK, Freischlag, JA: CT-guided Anterior Scalene Botulinum Toxin injection for Thoracic Outlet Syndrome. *American Society of Anesthesiologists Annual Meeting*, Orlando, FL, October 2008.
20. "Pain Management: Interventions and Risks", *Physician Insurers Association of America (PIAA) Underwriting Workshop*, Baltimore, MD, September 2008.
21. "Spinal Cord Stimulation", *Medtronic Neuromodulation Cadaver Lab*, Union Memorial Hospital, Baltimore, MD, October 2008
22. Christo PJ, Carinci AJ, Christo DK, Freischlag, JA: CT-guided Anterior Scalene Botulinum Toxin injection for Thoracic Outlet Syndrome. *25th Annual Meeting of the American Academy of Pain Medicine (AAPM)*, Honolulu, HI., January 2009.
23. "Spinal Cord Stimulation: Indications and Evidence-Based Outcomes", *Fourth Mediterranean Conference Against Pain*, Menorca, Spain, May 2009
24. Goff B, Hameed H, Ky P, Christo PJ, Hurley R: Narcosis Following Catheter-tip Migration and Subsequent Pump Mechanism Failure: Experience with and Infusaid-400 Intrathecal Drug Delivery System. *17th Annual Meeting of the International Spine Intervention Society (ISIS)*, Toronto, Canada. July 2009.
25. "A Case-Based Approach to Pain and Aging for Family Physicians", *American Academy of Family Practice Scientific Assembly*, Boston, MA., October 2009
26. "Opioid Therapy for Patients with Pain: Strategies for Risk Assessment and Management", *Best Practices in Primary Care Meeting*, Rosemont, IL., November 2009.
27. "Intrathecal Drug Delivery Systems: Advancing Opioid and Non-Opioid Therapies" (Moderator), *American Academy of Pain Medicine 26th Annual Meeting*, San Antonio, TX., February 2010.
28. "Intrathecal Drug Delivery Systems: History, Patient Selection, Evidence, and Complications" (Faculty), *American Academy of Pain Medicine 26th Annual Meeting*, San Antonio, TX., February 2010.
29. "Overview: Nerve Blocks, Implantations, Non-Operative Management of Neck & Low Back Pain", *Spinal Disorders: Updates in Diagnosis and Management for the Primary Care Physician*, The Johns Hopkins University School of Medicine, Baltimore, MD., April 2010
30. "An Overview of Nerve Blocks, Pain Pumps, and Other Interventions for Severe Pain", *The 55th Annual Tumulty Topics in Clinical Medicine*, The Johns Hopkins University School of Medicine, Baltimore, MD., May 2010.
31. Case Study Mentor/Small Group Discussion Facilitator; *Fundamentals of Pain Management: A Primer for Residents and Fellows*, *American Pain Society Annual Meeting*, Baltimore, MD., May 2010.
32. "Common Pain Syndromes in Older Adults", *PAINWEEK*, Las Vegas, NV., September 2010
33. "Treatment Considerations in Relation to Concurrent Pharmacology for Older Adults", *PAINWEEK*, Las Vegas, NV., September 2010
34. "An Overview of Nerve Blocks, Pain Pumps, and Other Anesthesia Interventions for Severe Pain", *Current Clinical Issues in Primary Care*, Pri-Med Mid Atlantic Conference and Exhibition, Baltimore Convention Center, 2010
35. "Common Pain Syndromes in Older Adults", *American Academy of Pain Medicine 27th Annual Meeting (Essentials Course)*, National Harbor, MD (Washington, DC), March, 2011.
36. "Complex Regional Pain Syndrome", *American Academy of Pain Medicine 27th Annual Meeting (Essentials Course)*, National Harbor, MD (Washington, DC), March, 2011.
37. "Controlling Pain in the 21st Century: The Quest for Pain Relief", *University of Louisville School of Medicine*,

Department of Anesthesiology and Perioperative Medicine Grand Rounds, May 2011.

38. "Complex Regional Pain Syndrome", *University of Louisville School of Medicine, Department of Anesthesiology and Perioperative Medicine Resident Conference, May 2011.*
39. "Pain Management for the Primary Care Physician", *Dannemiller Memorial Educational Foundation, Orlando, FL., June 2011.*
40. "Risk Assessment and Management of Pain Patients on Opioid Therapy", *American Academy of Family Practice Scientific Assembly, Orlando, FL, Sept., 2011*
41. "Spinal Cord Stimulation and Peripheral Nerve Stimulation: Indications and Outcomes", *International Pain and Palliative Care Meeting, Department of Pain and Palliative Medicine at the National Health Institute of Medical Sciences and Nutrition, Mexico City, Mexico, Sept., 2011.*
42. "Effective Pain Treatments for Older Adults", *International Pain and Palliative Care Meeting, Department of Pain and Palliative Medicine at the National Health Institute of Medical Sciences and Nutrition, Mexico City, Mexico, Sept., 2011.*
43. "Innovations in Pain Care for the 21st Century: From X-Rays to Radio Waves", *Department of Medicine Grand Rounds, King Edward VII Memorial Hospital, Hamilton, Bermuda, June 2012*
44. "Common Pain Syndromes in Older Adults", *PAINWEEK, Las Vegas, NV., September 2012*
45. "Treatment Considerations in Relation to Current Pharmacology in Older Adults", *PAINWEEK, Las Vegas, NV., September 2012*
46. "Urine Drug Testing", *PAINWEEK, Las Vegas, NV., September 2012*
47. "Recommendations for Urine Drug Monitoring as a Component of Opioid Therapy in the Treatment of Chronic Pain: A Panel Discussion", *PAINWEEK, Las Vegas, NV., September 2012*
48. "X-Rays to Radio Waves", *University of Notre Dame College of Science and Engineering: Engineering, Science, and Technology Entrepreneurship Graduate Program, South Bend, IN., October 2013*
49. "An Update on Complex Regional Pain Syndrome", *American Academy of Pain Management 24th Annual Clinical Meeting, Orlando, FL., October 2013*
50. "New Perspectives on Neurogenic Thoracic Outlet Syndrome", *American Academy of Pain Management 24th Annual Clinical Meeting, Orlando, FL., October 2013*
51. "Advanced Techniques in Pain Medicine: Spinal Cord Stimulation, Intrathecal Therapy, Botulinum Toxin for Thoracic Outlet Syndrome", *American Academy of Pain Medicine 30th Annual Meeting, Phoenix, AZ., March 2014*
52. "Managing Risk, Pain, and Addiction", *American Academy of Pain Medicine 30th Annual Meeting, Phoenix, AZ., March 2014*
53. "Interventional Approaches to Pain", *Pain Care for Primary Care Annual Meeting, American Pain Society and The Journal of Family Practice, Orlando, FL, July 2015*
54. "Visceral Pain", *PAINWEEK, Las Vegas, NV., September 2015*
55. "Neuromodulation", *American Academy of Pain Management Annual Meeting, Washington, DC., September 2015*
56. "Future Possibilities for Treatment of Complex Regional Pain Syndrome", *Complex Regional Pain Syndrome Advisory Board Meeting, Grunenthal, Inc., April 2016*

57. "Interventional Approaches for Pain: Traditional and Emerging", *Pain Care for Primary Care Annual Meeting*, American Pain Society and The Journal of Family Practice, Orlando, FL, July 2016
58. "Debate: Opioids for Chronic Pain? No", *Pain Care for Primary Care Annual Meeting*, American Pain Society and The Journal of Family Practice, Orlando, FL, July 2016
59. "The Medical Stasi: Is Risk Management for Controlled Substances Destroying the Provider-Patient Relationship?" *PAINWEEK*, Las Vegas, NV., September 2016
60. "Interventional Pain Management: Injections, Nerve Blocks, Pumps, and Spinal Cord Stimulation", *PAINWEEK*, Las Vegas, NV., September 2016
61. "Opioids: Risks and Remedies", *American Academy of Pain Management 27th Annual Meeting*, San Antonio, TX., September 2016
62. "Update on Complex Regional Pain Syndrome", *American Academy of Pain Management 27th Annual Meeting*, San Antonio, TX., September 2016
63. "Overcoming Pain", **22nd annual A Women's Journey**, Johns Hopkins Medicine, Baltimore, MD. November 2016

SPECIAL MEDIA

1. Host, Creator, Executive Producer: ***Aches and Gains***
 - a. SIRIUS XM Radio –Family Talk 131, April 2013-Present
 - b. First weekly talk show on pain and pain relief (www.paulchristomd.com)
2. "Ask the Expert" for live ***Web Chat Series on Pain Management, Tribune Newspapers*** (Los Angeles Times, Chicago Tribune, Hartford Courant, Baltimore Sun). December 2010-Present (<http://www.baltimoresun.com/health/bs-hs-cancer-pain-chat,0,7265361.htmlstory>)

MEDIA SCHOLARSHIP

Broadcast media:

1. Expert on-camera video on "Pain Management Following Traumatic Injury". Traumapedia. Online self-management program for traumatic injury, *American Trauma Society, Trauma Survivors Network, and the Centers for Disease Control*. (<http://www.traumasurvivorsnetwork.org/traumapedias>), March 2009
2. Consultant/Contributor for ABC Medical Website, Expert Patient Educational Videos: *ABC OnCall +Pain Management* (<http://www.abcnews.go.com/Health/PainManagement>), December 2007
3. Medical Expert (Pain) and Top Responder for all *ABC News Medical Unit/ Web and On-Air programs*, February 2009
4. Educational video interview (40 min.) with a pain patient for *Multidrug Therapy for Chronic Pain, Scientific and Clinical Considerations*, Satellite Symposium, 27th Annual Scientific Meeting of the American Pain Society (APS), Tampa, FL, May 2008
5. Educational on-camera interview with Dr. Timothy Johnson on "The Pain Questionnaire: Tips for talking to your doctor about pain", *Good Morning America Health, ABC News*, June 16, 2009.
6. "[Botox Eliminates Pain Of Thoracic Outlet Syndrome](#) Without Surgery", WUSA9 Television, Washington, DC, July 2010.

Electronic Media:

1. Consultant for creation of online pain questionnaire (Print Out Your Pain), *ABC News OnCall/Pain Management Section* (<http://www.abcnews.go.com/Health/PainManagement>)
2. "Ask the Expert" for live *Web Chat Series on Pain Management, Tribune Newspapers* (Los Angeles Times, Chicago Tribune, Hartford Courant, *Baltimore Sun*). December 2010-Present (<http://www.baltimoresun.com/health/bal-health-chats,0,3625121.storygallery>)
3. *PainPathways Magazine* Facebook Chat – Guest Pain Expert, Low Back Pain, November 2013
4. *PainPathways Magazine* Facebook Chat – Guest Pain Expert, Autoimmune Disease, April 2016

Print Media (consulted, interviewed, and quoted):

1. "Battling Chronic Pain", *Baltimore Sun*, October 14, 2007, Chris Emery (Reporter)
2. "In Constant Pain, but in the Game", *Washington Post*, November 1, 2008, Katie Carrera (Reporter)
3. "When Your Pain Has No Name", *ABC News.Com, ABC News Medical Unit*, November 5, 2008, Dan Childs (Reporter)
4. "Finding Effective Treatment for Your Chronic Pain", *US News and World Report* (<http://health.usnews.com/articles/health/pain/2009/02/10/finding-effective-treatment-for-your-chronic-pain.html>), February 11, 2009, January Payne (Associate Editor)
5. "Strassels, Christo & Stevens: Speak up about pain", *Austin American Statesman*, February 28, 2009, Opinion-Editorial
6. "Pain Medications: What You Need to Know About Acetaminophen, Darvon, and Darvocet", *US News & World Report*, July 24, 2009, January Payne (Associate Editor)
7. "Docs cringe at the thought of painkillers taken off the market", *Medill News Service-Washington (Northwestern University Wire)* <http://news.medill.northwestern.edu/washington/news.aspx?id=138449>, August 20, 2009, Melissa Suran (Reporter)
8. "Crossing The Line: Recent Celebrity Deaths Highlight a Tragic Outcome of Prescription Drug Abuse", *Pain Pathways Magazine*, Fall 2009, Cindy Hodnett (Contributing writer).
9. "Managing Your Pain, Minus Addiction", *US News & World Report*, December 2009, January Payne (Associate Editor)
10. "Botox offers a shot of pain relief", *Baltimore Sun* <http://www.baltimoresun.com/health/bs-hs-botox-for-pain-20100630,0,6674251.story>, June 2010, Meredith Cohn (contributing writer)
11. "Boy Suffers Through Multiple Broken Bones to Rescue Kitten". 9-Year Old Fell From a Tree, but is Remarkably Able to Endure Pain from his Injuries. *ABC News.Com, ABC News Medical Unit*, July 2010, Kim Carollo (Reporter)
12. "Ask the Expert" Web Chat Series on Pain Management Reprint, Health and Style Section, *Baltimore Sun*, December 2010-Present
13. "Prepared Patient-Living with Chronic Pain", *Center for Advancing Health website* <http://www.cfah.org/hbns/preparedpatient/index.cfm>, 2011, Maia Szalvitz (Health Writer)
14. "Colorado medical community tries to slow flood of painkiller misuse", *The Denver Post*, 2012, Michael Booth (Health Writer) http://www.denverpost.com/news/ci_20199285/medical-community-tries-slow-flood-painkiller-misuse
15. "The Dirt on Gardening", *Grandparents.com*, 2012, Deborah Long (Health Writer)
16. "Aches and Gains", *PainPathways Magazine* (Physician Spotlight), 2012, Tammy Holoman (Health Writer)
17. "Natural Pain Remedies", *Caring.com*, 2013, Paula Spencer Scott (Senior Editor)

18. "Aches and Gains", Short Stories, *Notre Dame Magazine*. Pg 58 (Summer 2013).
19. "Pain drug abuse fuels competition, legal battles for companies", *Baltimore Sun.com*, 2013, Scott Dance (The Baltimore Sun)
20. "Addiction to Painkillers confronts Physicians with U.S. Administration (La adiccion a los analgesicos enfrenta a medicos y Administratacion de EE.UU)", *La Opinion*, 2013, Adria Calatayud (Writer)
21. "6 Things More Painful Than Childbirth", *Men's Health*, April 2015
22. "What Doctors Tell Their Friends About Pain", *Redbook*, April 2015
23. "Pain. How to understand (and manage) your body's most important warning system-and what to do when it goes awry", *Real Simple*, July 2015
24. "Things Only Someone With Chronic Pain Understands", *Prevention.com*, August 2015
25. "Would You Pay Someone to Walk on You?", *Dr. Oz The Good Life*, August 2015
26. "Rules I Live By. Dodging Mankillers" Top nutrition, fitness, and medical experts reveal how they shaped up their habits, *Men's Health*, February 2016
27. "What's Killing White Middle-Aged Men?", *Men's Health*, March 2016
28. "Caution: Opioid Addiction. What Dentists Should Know about America's Prescription Opioid Problem", *Academy of General Dentistry Impact Magazine*, June 2016
29. "Can Chronic Pain be Prevented?" *Boston Globe*, July 2016
30. "New (And Old) Ways to Battle Pain", *U.S. News & World Report Best Hospitals*, September 2016

Invited Guest Appearances:

1. "Pain Medicine", Dr. Mehmet Oz's *Oprah and Friends XM Satellite Radio Show*, Health and Medicine Segment, New York City, January 2007
2. "Pain Management", Retirement Living Television: *Healthline*, hosted by Dr. Kevin Soden, Baltimore, MD, June 2007
3. "Chronic Pain", *Voices in the Family Radio Program*, hosted by Dr. Dan Gottlieb, WHYY (NPR), Philadelphia, PA, November 2007
4. "Pain Expert", *ABC News On-Call Pain Project*, video footage for ABC news website, 2007
<http://www.abcnews.go.com/Health/PainManagement>
 - a. *Diagnosing Pain: Can Blood Tests Confirm My Pain? What are Nerve Conduction Studies? What is an EMG, When Do I Need One? Difference between an MRI, CAT scan? What is a Functional MRI?*
5. "Low Back Pain", Interview with Donna Hamilton, *WBAL News*, Baltimore, MD, April 2008
(<http://www.wbaltv.com/video/16130457/index.html>)
6. "Are Prescriptions Underprescribed or Overprescribed for the Treatment of Pain", Guest Interview with Neil Conan, *NPR's (WAMU) Talk of the Nation* (<http://www.npr.org/templates/story/story.php?storyId=106215510>), July 2009
7. "Celebrities, Prescription Drugs and the Candy Man", Guest Interview with Warren Olney, *NPR's (KCRW-Santa Monica) To the Point* (http://www.kcrw.com/news/programs/tp/tp100416celebrities_prescrip), April 2010

8. "Pain", Guest interview with Tom Hall, *NPR's (WYPR-Baltimore) Maryland Morning with Sheilah Kast* (<http://mdmorn.wordpress.com/2010/06/28/629103-a-not-so-pain/>), June 2010
9. "Use and Abuse of Prescription Painkillers", *NPR's (WAMU-Washington, DC) The Diane Rehm Show*, April 2011 (<http://thedianerehmshow.org/shows/2011-04-21/use-and-abuse-prescription-painkillers>)
10. "Expert Panelist for "The Addiction Performance Project", National Institute on Drug Abuse, Washington, D.C., Debra Winger, featured actress, August 2011
11. "Relieving your Aches and Pains", *Circles of Change, KQTH Radio, Tucson's News Talk Radio*, September 2011. (<http://www.thelarsengroup.com/2011season/guests2011julysep.html>)
12. "Diagnosis and Treatment of Chronic Pain", *Today with Pat Kenny, RTE Radio, Ireland*, December 2011 (<http://www.rte.ie/radio1/todaywithpatkenny/2011-12-02.html>)
13. "Upping the Dose on Pain Meds", *NPR's (KPCC-Southern California) Airtalk with Larry Mantle*, December 2011
14. "Is it Pain or Dependency? A Doctor's Dilemma", *NPRs (WAMU) Talk of the Nation with Neil Conan*, January 2013 (<http://www.npr.org/2013/01/07/168806376/is-it-pain-or-dependency-a-doctors-dilemma>)
15. "Elvis Presley: Head Trauma, Autoimmunity, and Agonizing Pain", *SIRIUS XM Elvis Radio* with George Klein, January 2014
16. "Doctor found guilty of murder for overprescribing opioids raises new questions about abuse", *NPR's (KPCC-Southern California) Airtalk with Larry Mantle*, November 2015