



1994	Student Internship, Medicine, Obstetrics, Pediatrics and Surgery, Baragwanath Hospital, South Africa
1/1995-12/1995	Internship, Obstetrics and Gynaecology, General Medicine, Surgery, Grootte Schuur Hospital, Cape Town, South Africa
2/1996-8/1997	Senior House Officer Residency, Medicine, Oncology, Cardiology, North Staffordshire Royal Infirmary, Stoke-on-Trent Royal Free Hospital / St Bartholomew's Hospital, London Northern General Hospital, Sheffield
8/1997-8/1998	Senior House Officer Residency, Anaesthesia and Intensive Care, Royal Surrey County Hospital, Guildford
8/1998-2/1999	Senior House Officer Residency, Anaesthesia and Intensive Care, St Peter's Hospital, Chertsey
2/1999-5/1999	Senior House Officer Residency, Anaesthesia and Intensive Care, Queen Square Hospital, London
5/1999-8/1999	Senior House Officer Residency, Anaesthesia and Intensive Care, Guy's and St Thomas' Hospital, London
9/1999-10/2000	Specialist Registrar Residency, Anaesthesia and ICU, South West School of Anaesthesia, UK, Royal Devon & Exeter Hospital, Exeter
11/2000-10/2001	Specialist Registrar Residency, Anaesthesia and ICU, South West School of Anaesthesia, UK, Derriford Hospital, Plymouth
10/2001-9/2002	Obstetric Anesthesia Fellowship, Department of Anesthesia, Stanford University, Stanford, CA

**Board Certification:**

2014-	Diplomate, American Board of Anesthesiology, USA
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**Licensure:**

10/2001-	Californian Medical License
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**III. EMPLOYMENT**

**Academic Appointments:**

10/2002-1/2004	Clinical Instructor, Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine, Stanford, CA
2/2004-12/2010	Assistant Professor, University Medical Line Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine

- 1/2011-12/2015 Associate Professor, University Medical Line Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine
- 12/2015- Professor, University Medical Line Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine

**Other Appointments:**

- 3/2013- Chief, Division of Obstetric Anesthesiology and Maternal Health, Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine
- 3/2022- Vice Chair, Faculty Development, Department of Anesthesiology, Perioperative and Pain Medicine, Stanford University School of Medicine

**IV. HONORS AND AWARDS**

- 1988 Full academic colors, Greenside High School, South Africa
- 1989-1991 Distinctions (honors) in: Hematology, Pharmacology, Forensic Medicine, Anatomy, Physiology and Community Medicine., University of Witwatersrand, South Africa
- 1992-1994 Distinctions (honors) in: Medicine, Obstetrics, Gynecology, Orthopedics, Pediatrics, University of Witwatersrand, South Africa
- 1994 Noristan Prize: The most distinguished student in the final year of Obstetrics study, University of Witwatersrand, South Africa
- 1994 Smith & Nephew Prize: Highest graduating mark in Orthopedics, University of Witwatersrand, South Africa
- 2003 Gertie Marx Symp. 3rd place (Presenting Author), Society for Obstetric Anesthesia and Perinatology
- 5/2003, 8/2007 Attending of the Month Award, Stanford University Hospital
- 2004 Gertie Marx Symp.: 2nd place (Co-Author), Society for Obstetric Anesthesia and Perinatology
- 2006 Best abstract of Meeting (Senior Author), Obstetric Anaesthetists Association of Great Britain
- 2006, 2014 Gertie Marx Symp.: 1st place (Senior Author), Society for Obstetric Anesthesia and Perinatology
- 5/2006 Attending of the Year Award, Stanford University Anesthesiology Department
- 9/2006 Best Protocol, SPCTRM Intensive Clinical Research Course, Stanford University

2007	Gertie Marx Symp.: 3rd place (Senior Author), Society for Obstetric Anesthesia and Perinatology
2009, 2015	Gertie Marx Symp.: 2nd place (Senior Author), Society for Obstetric Anesthesia and Perinatology
2010, 2015	Best Paper Finalist (Presenting Author), Society for Obstetric Anesthesia and Perinatology
2011	Best Paper Finalist (Senior Author), Society for Obstetric Anesthesia and Perinatology
2012	Best Paper in Obstetric Anesthesia Award (Senior Author), Canadian Anesthesiologists' Society
2012	Gertie Marx Symp.: 3rd place (Co-Author), Society for Obstetric Anesthesia and Perinatology
2012	Oral Finalist (Senior Author), Obstetric Anaesthetists Association of Great Britain
2012	Teacher of the Year <10 years, Society for Obstetric Anesthesia and Perinatology
2012	Transthoracic Echo Curriculum for Obstetric Anesthesia, Stanford University Teaching Scholar Award
2012, 2014, 2016	Won Best Paper of Meeting (Presenting Author), Society for Obstetric Anesthesia and Perinatology
2014	Best Clinical Abstract (Presenting Author), Stanford University Anesthesiology Department
2014	Best Paper Finalist (Presenting Author), Obstetric Anaesthetists Association of Great Britain
2014	Cornerstone Society Rising Star, Lucile Packard Foundation for Children's Health
5/2014	Plenary Bruce Scott lectureship, Obstetric Anaesthetists Association (OAA)
9/2014	Robert Abraham Endowed Lecture, Johns Hopkins University
2015	Best Clinical Abstract (Co-Author), Stanford University Anesthesiology Department
2016, 2017	Gertie Marx Symp. Finalist (Co-Author), Society for Obstetric Anesthesia and Perinatology
2016	Poster Best in Category: Analgesia (Co-Author), Obstetric Anaesthetists Association of Great Britain
2016	Zuspan Award (Presenting Author), Society for Obstetric Anesthesia and Perinatology

2017 Best Paper Oral Presentation (Co-Author), American Society of Anesthesiology Annual Meeting

2017 Best Paper of Meeting (2nd place, Senior Author), Society for Obstetric Anesthesia and Perinatology

4/2017 Honorary Sheila Cohen Lectureship, Stanford

2018 Best Paper Finalist (Co-Author), Obstetric Anaesthetists Association of Great Britain

2018 Best Paper of Meeting Finalist (Co-Author), Society for Obstetric Anesthesia and Perinatology

3/2018 Duffy Lectureship, UT Southwestern

2019 Center of Excellence Designation, Society for Obstetric Anesthesia and Perinatology

2019 Gertie Marx Symp. Finalist (Senior Author), Society for Obstetric Anesthesia and Perinatology

2019 Zuspan award: 2nd place (Co-Author), Society for Obstetric Anesthesia and Perinatology

2019 Zuspan award: 3rd place (Senior Author), Society for Obstetric Anesthesia and Perinatology

2020 Best Basic Science Study Finalist (Co-Author), Society for Obstetric Anesthesia and Perinatology

2020 Best Clinical Study: 2nd place (Senior Author), Society for Obstetric Anesthesia and Perinatology

2020, 5/2022 Gertie Marx Symp. Winner (Co-Investigator), Society for Obstetric Anesthesia and Perinatology

2020 Oral presentation (Senior Author), Society for Maternal Fetal Medicine Annual Meeting

2020 Society for Obstetric Anesthesia and Perinatology, Obstetrics Professional Practice Evaluation Committee OB Anesthesia Exceptional Clinical Care

5/2021, 5/2023 Best Paper finalist (Co-Author), Society for Obstetric Anesthesia and Perinatology

5/2021 Best Paper finalist: (Senior Author), Society for Obstetric Anesthesia and Perinatology

5/2021 Teacher of the Year >10 years, Society for Obstetric Anesthesia and Perinatology

6/2021 Ellis N. Cohen Achievement Award, Department of Anesthesiology, Stanford

6/2021	Fellow of the American Society of Anesthesiologists (FASA), American Society of Anesthesiologists
6/2021	Harry & Mitzie Cohen Lectureship, Northwestern Memorial Hospital
5/2023	Distinguished Service Award, Lucile Packard Children's Hospital Stanford
5/2023	Zuspan award, Society for Obstetric Anesthesia and Perinatology

## V. BIBLIOGRAPHY

\* Co-author, \*\* Mentee

### Peer-Reviewed Publications: (236 total)

1. **Carvalho B.** Hidden hazards of scavenging. *Br J Anaesth.* 1999 Sep;83(3):532-533. PMID: 10655938
2. **Carvalho B,** Quiney NF. 'Near-miss' hyperkalaemic cardiac arrest associated with rapid blood transfusion. *Anaesthesia.* 1999 Nov;54(11):1094-1096. PMID: 10540099
3. **Carvalho B,** Smith M. Viagra: are anaesthetists rising to the challenge?. *Anaesthesia.* 2001 Jan;56(1):91-93. PMID: 11167459
4. **Carvalho B,** Benton JI, Vickery PJ, Sneyd JR, Davies PRF, Langton JA. Long term functional recovery following day-case laparoscopic sterilization: inhalational versus TIVA maintenance. *Ambulatory Surgery* 2002; 10(1):45-51.
5. Feldman M, James U, **Carvalho B,** M Underwood. Single session hypnotherapy for smoking cessation. A cost-effective alternative? *European Journal of General Practice* 2002; 8(6):75-6.
6. **Carvalho B,** Sanders D. The output of two sevoflurane vaporizers in the presence of helium. *Br J Anaesth.* 2002 May;88(5):711-713. PMID: 12067011
7. **Carvalho B,** Ridler BM, Thompson JF, Telford RJ. Myocardial ischaemia precipitated by acute normovolaemic haemodilution. *Transfus Med.* 2003 Jun;13(3):165-168. PMID: 12791085
8. **Carvalho B,** Mirikitani EJ, Lyell D, Evans DA, Druzin M, Riley ET. Neonatal chest wall rigidity following the use of remifentanyl for Cesarean Delivery in a Patient with Autoimmune Hepatitis and Thrombocytopenia. *Int J Obstet Anesth.* 2004 Jan;13(1):53-56. PMID: 15321443
9. **Carvalho B,** Coghill J. Obstetric anaesthesia workload and time of day. *Int J Obstet Anesth.* 2004 Apr;13(2):126-128. PMID: 15321423
10. **Carvalho B,** Riley E, Cohen SE, Gambling D, Palmer C, Huffnagle HJ, Polley L, Muir H, Segal S, Lihou C, Manvelian G, DepoDur Study Group. Single-dose, sustained-release epidural morphine in the management of postoperative pain after elective cesarean delivery:

- results of a multicenter randomized controlled study. *Anesth Analg.* 2005 Apr;100(4):1150-1158. PMID: 15781537, <https://doi.org/10.1213/01.ANE.0000149544.58230.FF>
11. **Carvalho B**, Cohen SE, Giarrusso K, Durbin M, Riley ET, Lipman S. "Ultra-light" patient-controlled epidural analgesia during labor: effects of varying regimens on analgesia and physician workload. *Int J Obstet Anesth.* 2005 Jul;14(3):223-229. PMID: 15935646
  12. **Carvalho B**, Durbin M, Drover DR, Cohen SE, Ginosar Y, Riley ET. The ED50 and ED95 of intrathecal isobaric bupivacaine with opioids for cesarean delivery. *Anesthesiology.* 2005 Sep;103(3):606-612. PMID: 16129987
  13. **Carvalho B**, Cohen SE, Lipman SS, Fuller A, Mathusamy AD, Macario A. Patient preferences for anesthesia outcomes associated with cesarean delivery. *Anesth Analg.* 2005 Oct;101(4):1182-1187. PMID: 16192541, <https://doi.org/10.1213/01.ane.0000167774.36833.99>
  14. Fuller AJ, **Carvalho B**, Brummel C, Riley ET. Epidural anesthesia for elective cesarean delivery with intraoperative arterial occlusion balloon catheter placement. *Anesth Analg.* 2006 Feb;102(2):585-587. PMID: 16428566
  15. **Carvalho B**, Wang P, Cohen SE. A survey of labor patient-controlled epidural anesthesia practice in California hospitals. *Int J Obstet Anesth.* 2006 Jul;15(3):217-222. PMID: 16798447
  16. **Carvalho B**, Chu L, Fuller A, Cohen SE, Riley ET. Valdecoxib for postoperative pain management after cesarean delivery: A randomized, double-blind, placebo-controlled study. *Anesth Analg.* 2006 Sep;103(3):664-670. PMID: 16931678
  17. **Carvalho B**, Angst MS, Fuller AJ, Lin E, Mathusamy AD, Riley ET. Experimental heat pain for detecting pregnancy-induced analgesia in humans. *Anesth Analg.* 2006 Nov;103(5):1283-1287. PMID: 17056970
  18. Butwick A, **Carvalho B**. The effect of colloid and crystalloid preloading on thromboelastography prior to Cesarean delivery. *Can J Anaesth.* 2007 Mar;54(3):190-195. PMID: 17331930
  19. **Carvalho B**, Fuller A, Brummel C, Cohen SE. Local infiltration of epinephrine-containing lidocaine with bicarbonate reduces superficial bleeding and pain during labor epidural catheter insertion: a randomized trial. *Int J Obstet Anesth.* 2007 Apr;16(2):116-121. PMID: 17276670
  20. Butwick AJ, **Carvalho B**. Neuraxial anesthesia for cesarean delivery in a parturient with type 1 von Willebrand disease and scoliosis. *J Clin Anesth.* 2007 May;19(3):230-233. PMID: 17531735
  21. **Carvalho B**, Roland LM, Chu LF, Campitelli VA 3rd, Riley ET. Single-dose, extended-release epidural morphine (DepoDur) compared to conventional epidural morphine for post-cesarean pain. *Anesth Analg.* 2007 Jul;105(1):176-183. PMID: 17578973
  22. **Carvalho B**, Fuller AJ, Brummel C, Durbin M, Riley ET. Fetal oxygen saturation after combined spinal-epidural labor analgesia: a case series. *J Clin Anesth.* 2007 Sep;19(6):476-478. PMID: 17967682

23. Riley ET, **Carvalho B**. The Episure syringe: A Novel Loss of Resistance Syringe for Locating the Epidural Space. *Anesth Analg*. 2007 Oct;105(4):1164-6, table of contents. PMID: 17898406
24. Butwick AJ, Lipman SS, **Carvalho B**. Intraoperative forced air-warming during cesarean delivery under spinal anesthesia does not prevent maternal hypothermia. *Anesth Analg*. 2007 Nov;105(5):1413-9, table of contents. PMID: 17959975
25. Cohen SE, Andes LC, **Carvalho B**. Assessment of Knowledge Regarding Cardiopulmonary Resuscitation of Pregnant Women. *Int J Obstet Anesth*. 2008 Jan;17(1):20-25. PMID: 18162200
26. **Carvalho B**, Saxena A, Butwick A, Macario A. Vaginal twin delivery: a survey and review of location, anesthesia coverage and interventions. *Int J Obstet Anesth*. 2008 Jul;17(3):212-216. PMID: 17881218
27. **Carvalho B**, Clark DJ, Angst MS. Local and systemic release of cytokines, Nerve Growth Factor, prostaglandin E2, and substance P in incisional wounds and serum following cesarean delivery. *J Pain*. 2008 Jul;9(7):650-657. PMID: 18394968, <https://doi.org/10.1016/j.jpain.2008.02.004>
28. **Carvalho B**. Labor and Cesarean Delivery Patterns. *Anesthesiology*. 2008 Jul;109(1):161-162. PMID: 18580198, <https://doi.org/10.1097/ALN.0b013e31817be989>
29. Angst MS, Clark JD, **Carvalho B**, Tingle M, Schmelz M, Yeomans DC. Cytokine profile in human skin in response to experimental inflammation, noxious stimulation, and administration of a COX-inhibitor: a microdialysis study. *Pain*. 2008 Sep 30;139(1):15-27. PMID: 18396374, <https://doi.org/10.1016/j.pain.2008.02.028>
30. **Carvalho B**. Respiratory Depression after Neuraxial Opioids in the Obstetric Setting. *Anesth Analg*. 2008 Sep;107(3):956-961. PMID: 18713913, <https://doi.org/10.1213/ane.0b013e318168b443>
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41. Landau R, Kraft JC, Flint LY, **Carvalho B**, Richebé P, Cardoso M, Lavand'homme P, Granot M, Yarnitsky D, Cahana A. An experimental paradigm for the prediction of Post-Operative Pain (PPOP). *J Vis Exp.* 2010 Jan 27;1671. PMID: 20107427, PMCID: PMC2818706, <https://doi.org/10.3791/1671>
42. **Carvalho B**, Aleshi P, Horstman DJ, Angst MS. Effect of a preemptive femoral nerve block on cytokine release and hyperalgesia in experimentally inflamed skin of human volunteers. *Reg Anesth Pain Med.* 2010;35(6):514-519. PMID: 20975465, <https://doi.org/10.1097/AAP.0b013e3181faa107>
43. Aiono-Le Tagaloa L, Butwick AJ, **Carvalho B**. A survey of perioperative and postoperative anesthetic practices for cesarean delivery. *Anesthesiol Res Pract.* 2009;2009:510642. PMID: 21217809, PMCID: PMC2915619, <https://doi.org/10.1155/2009/510642>
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- 2010;2010:356789. PMID: 20721286, PMCID: PMC2915618, <https://doi.org/10.1155/2010/356789>
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  38. Van de Velde M, **Carvalho B**. Author reply: Remifentanil for Labor Analgesia Reply. *Int J Obstet Anesth.* 2016 Aug;27:92-3.
  39. Sultan P, Habib AS, Cho Y, **Carvalho B**. Author reply: The effect of patient warming during Caesarean delivery on maternal and neonatal outcomes: a meta-analysis. *Br J Anaesth.* 2016 Nov;117(5):676-677.
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  43. **Carvalho B**, Weiniger CF. A Perspective on Hypercapnia Events After Cesarean Delivery in Women Receiving Intrathecal Morphine. *Anesth Analg.* 2017 Jul;125(1):355-356. PMID: 28614130, <https://doi.org/10.1213/ANE.0000000000002146>
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  45. Weiniger CF, **Carvalho B**, Einav S. In Response. *Anesth Analg.* 2017 Aug;125(2):696-697. PMID: 28632530, <https://doi.org/10.1213/ANE.0000000000002209>
  46. Weiniger CF **Carvalho B**, Landau R. Optimal and timely triggers for vital signs-controlled, patient-assisted intravenous analgesia (VPIA) using remifentanil for labour and delivery analgesia. *Anaesthesia* 2017 Sep;72(9):1155-1156

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48. Sutton C, **Carvalho B**. Author reply: Title Similarities between obstetric anesthesia and the service industry. *Int J Obstet Anesth*. 2017 Nov;32:93-94.
49. Riley ET, Dyer RA, **Carvalho B**. Left Uterine Tilt for Cesarean Delivery Significantly Improves Maternal Hemodynamics and Should Not Be Considered Outdated Dogma. *Anesthesiology*. 2018 Apr;128(4):858-859. PMID: 29533299, <https://doi.org/10.1097/ALN.0000000000002093>
50. Sultan P, **Carvalho B**. Author reply: Does the addition of active body warming to in-line intravenous fluid warming prevent maternal hypothermia during elective caesarean section? *Int J Obstet Anesth*. 2018 Aug;35:115-116.
51. Lozada J, Weiniger CF, **Carvalho B**, Bauchat JR. Taking a RESPITE from using remifentanyl for labour analgesia. *The Lancet* 2019, 394(10198): e12.
52. Lozada MJ, Weiniger CF, **Carvalho B**, Bauchat JR. Pain relief during labour. *Lancet*. 2019 Aug 17;394(10198):e12. PMID: 31262493, [https://doi.org/10.1016/S0140-6736\(19\)30710-X](https://doi.org/10.1016/S0140-6736(19)30710-X)
53. Komatsu R, **Carvalho B**, Flood PD. Re: Association between opioid use after intrapartum cesarean delivery and repeat cesarean delivery: a retrospective cohort study. *Int J Obstet Anesth*. 2020 Aug;43:30. PMID: 32570048, <https://doi.org/10.1016/j.ijoa.2020.05.009>
54. Kleiman AM, Chisholm CA, **Carvalho B**, Tiouririne M. Reply to: Re: Enhanced Recovery for Cesarean Section: Beyond Pain Control. *Int J Obstet Anesth*. 2020 Nov;44:52. PMID: 32799065, <https://doi.org/10.1016/j.ijoa.2020.07.004>
55. Ansari J, **Carvalho B**, Weiniger CF, Riley ET. Confounders Not General Anesthesia Likely Explain Greater Postpartum Depression. *Anesth Analg*. 2020 Dec;131(6):e248-e250. PMID: 33196470, <https://doi.org/10.1213/ANE.0000000000004850>
56. Sultan P, **Carvalho B**, Halpern S. Comment on the editorial relating to: Transversus abdominis plane block compared with wound infiltration for postoperative analgesia following Cesarean delivery: a systematic review and network meta-analysis. *Can J Anaesth*. 2021 Apr;68(4):581-582. PMID: 33403553, <https://doi.org/10.1007/s12630-020-01872-5>
57. Sultan P, Patel SD, Jadin S, **Carvalho B**, Halpern SH. Correction to: Transversus abdominis plane block compared with wound infiltration for postoperative analgesia following Cesarean delivery: a systematic review and network meta-analysis. *Can J Anaesth*. 2021 Jul;68(7):1104-1105. PMID: 33089415, <https://doi.org/10.1007/s12630-020-01839-6>

**Book Chapters: (16 total)**

1. **Carvalho B.** Anaesthesia considerations in Down's syndrome. In Allman KG, Wilson IH (eds) Oxford Handbook of Anaesthesia, 1st edition. Oxford University Press, New York: 2001.
2. **Carvalho B,** Cohen SE. Laparoscopy in pregnancy. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 3rd edition. Lippincott Williams & Wilkins, Philadelphia: 2004.
3. **Carvalho B,** Cohen SE. Obstetric Procedures Chapter. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 3rd edition. Lippincott Williams & Wilkins, Philadelphia: 2004.
4. Faculty Reviewer of the Obstetric and Regional Anesthesia Section in Chu LF (Ed) Clinical Anesthesiology Board Review: A Test Simulation and Self-Assessment Tool. 1st edition. McGraw Hill, New York: 2005.
5. **Carvalho B,** Butwick AJ. Postoperative Analgesia: Epidural and Spinal. In Chestnut DH, Tsen L, Wong C, Polley L (Eds) Obstetric Anesthesia: Principles and Practice. 4th edition Mosby, 2008.
6. **Carvalho B,** Coleman LM. Obstetric Procedures Chapter. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 4th edition. Lippincott Williams & Wilkins, Philadelphia: 2008.
7. **Carvalho B,** Jackson E. Structural Heart Disease Chapter. In Gambling DR, Douglas JM, McKay RSF (Eds) Obstetric Anesthesia and Uncommon Disorders. 2nd edition. Cambridge University Press, Cambridge:2008 Finalist 2009 British Medical Association (BMA) Book Competition Awards
8. **Carvalho B.** Laparoscopy in pregnancy. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 4th edition. Lippincott Williams & Wilkins, Philadelphia: 2008.
9. **Carvalho B,** Butwick AJ. Postoperative Analgesia: Epidural and Spinal. In Chestnut DH, Tsen L, Wong C, Polley L (Eds) Obstetric Anesthesia: Principles and Practice. 5th edition Mosby, 2014
10. **Carvalho B,** Coleman L. Laparoscopy in pregnancy. In Jaffe RA, Schmiesing C (Eds) Anesthesiologist's Manual of Surgical Procedures. 5th edition. Lippincott Williams & Wilkins, Philadelphia: 2014
11. **Carvalho B,** Coleman LM. Obstetric Procedures Chapter. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 5th edition. Lippincott Williams & Wilkins, Philadelphia: 2014
12. Abir G, Seligman K, Chu L. Obstetric Anesthesia Emergency Manual, Stanford. Reviewer. AIM Lab, Stanford 2019
13. **Carvalho B,** Coleman LM. Obstetric Procedures Chapter. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 6th edition. December 2019, Wolters Kluwer.

14. **Carvalho B.** Laparoscopy in pregnancy. In Jaffe RA, Schmiesing CA, Golianu B (Eds). Anesthesiologist's Manual of Surgical Procedures. 6th edition. December 2019, Wolters Kluwer.
15. George RB, **Carvalho B**, Butwick AJ, Flood P. Postoperative Pain: Systemic and Regional Analgesic Techniques. In Chestnut DH et al. (Eds) Obstetric Anesthesia: Principles and Practice. 6th edition, Elsevier, April 2019
16. Ottestad E, Butwick AJ, **Carvalho B**. Anticoagulation Guidelines for Neuraxial Procedures. In Jaffe RA, Samuels SI (Eds) Anesthesiologist's Manual of Surgical Procedures. 6th edition. December 2019, Wolters Kluwer.

**Digital Publications: (1 total)**

1. California Society of Anesthesiologists (CSA) Podcast Vital Times: SOAP Centers of Excellence Designation

**VI. GRANT FUNDING**

**Unfunded:**

9/2023- Title: Leveraging immune system dynamics to predict medical induction of labor outcomes  
Role: Co-Investigator (PI: Kazuo Ando)

**Current:**

1/2020- Funder: National Institutes of Health  
Title: K12 Women's Reproductive Health Research at Stanford (WRHRS) Program  
Role: Faculty Mentor (PI: Subak, Leslie)

1/2020- Funder: Maternal & Child Health Research Institute (MCHRI) Harman Scholar  
Title: Development and validation of a new global outpatient postpartum quality of recovery patient-reported outcome measure.  
Role: Co-Investigator (PI: Sultan, Pervez)

1/2021- Funder: Maternal and Child Health Research Institute (MCHRI) Clinician Educator Grant  
Title: Standardized uterine tone assessments to predict hemorrhage during Cesarean Delivery  
Role: Co-Investigator (PI: Ansari, Jessie)

- 1/2021- Funder: AMOSO Innovation Fund, Canada  
Title: Quality of Recovery Scores in Parturients with Obesity: A Prospective Observational Study  
Role: Co-Investigator (PI: Sebbag, Ilana)
- 1/2022- Title: Evaluation of Objective Pain Measurement Device: CereVue  
Role: PI
- 2/2022-2/2024 Funder: Foundation for Anesthesia Education and Research (FAER) MRTG  
Title: Calcium Chloride for the Prevention of Blood Loss During Intrapartum Cesarean Delivery: A Single Center Randomized Controlled Trial  
Role: Co-investigator/mentor (PI: Ansari, Jessie)
- 5/2022- Funder: Society for Obstetric Anesthesia and Perinatology  
Title: SOAP/Kybele International Outreach Grant  
Role: Mentor (PI: Moris Baluku)
- 6/2023- Funder: Stanford Maternal and Child Health Research Institute (MCHRI)  
Title: Adverse Childhood Experiences and Pain After Cesarean Section  
Role: Co-Investigator (PI: Danielle Panelli)

**Completed:**

- 1/2004 Funder: LPCH Patient Innovations Award  
Title: Grant Obstetric-Anesthesia Simulator: Training in Obstetric Crisis Management  
Role: Co-Investigator (PI: Lipman, Steve)
- 1/2004 Funder: Pfizer Pharmaceuticals and Department of Anesthesiology, Stanford  
Title: Valdecoxib For Postoperative Pain Management After Cesarean Section: A randomized, double-blinded, placebo-controlled study.  
Role: PI
- 1/2004 Funder: Dynatherm Medical, Inc.  
Title: Effect of a New Handwarming Device (Vitalheat) on Maternal Temperature during Regional Anesthesia for Cesarean Delivery.  
Role: Co-Investigator (PI: Brock-Utne, John)
- 1/2004 Funder: Indigo Orb, Inc.  
Title: AutoDetect Syringe: An investigational spring-loaded “loss-or resistance” epidural syringe.  
Role: PI
- 1/2005 Funder: Endo Pharmaceuticals  
Title: DepoDur for Postoperative Pain Management after Cesarean Section: A randomized, double-blinded, active-controlled study.  
Role: PI
- 1/2005 Funder: Iris Litt Grant  
Title: Coagulation effects of a crystalloid compared to a colloid preload prior

- to Cesarean delivery under regional anesthesia  
Role: PI
- 1/2006-12/2008 Funder: NIH K12 award (BIRCWH scholarship mentored research training grant)  
Title: Acute and Chronic Persistent Pain Following Cesarean Delivery: The role of cytokines  
Mentors: M Angst and D Clark  
Role: PI
- 1/2007 Funder: I Flow  
Title: Incisional Wound and Systemic Cytokines, Nerve Growth Factor, Prostaglandin E2 and Substance P Release Following Cesarean Delivery  
Role: PI
- 1/2008-12/2010 Funder: The Institute for Immunity, Transplantation and Infection, Stanford  
Title: A Systems Biology Approach for Discovery of Biomarkers for Inflammatory Pain  
Role: Co-Investigator (PI: Angst, Martin)
- 1/2009 Funder: Epimed International, Inc.  
Title: Continuous intrathecal cesarean anesthesia  
Role: PI
- 1/2009-12/2011 Funder: EKR Therapeutics  
Title: A Study to Evaluate the Effects of Epidural Lidocaine Administration on the Pharmacokinetic and Pharmacodynamic Profiles of Extended-Release Epidural Morphine (DepoDur) in Patients Undergoing Cesarean Delivery  
Role: PI
- 1/2011-12/2012 Funder: Department of Anesthesiology, Stanford University  
Title: Continuous Femoral Nerve Block for the Management of Fracture Neck of Femur  
Role: Co-Investigator (PI: Peltz, David)
- 1/2011-12/2013 Funder: Australian and New Zealand College of Anaesthetists (ANZCA)  
Title: Methylnaltrexone to prevent intrathecal morphine-induced pruritus after caesarean delivery: Multicenter MEAN ITCH Trial  
Role: Co-Investigator (PI: Paech, Mike)
- 1/2011-12/2013 Funder: Pacira Pharmaceuticals  
Title: Continuous Vs. Single-shot Local Anesthetic Wound and Nerve Administration  
Role: PI
- 1/2012-12/2015 Funder: Child Health Research Institute (CHRI) Harman Faculty Scholar Award  
Title: Pharmacokinetic and Pharmacodynamic Modeling of Magnesium Sulfate In the Mother and Exposed Neonate  
Role: PI



1/2012-12/2018 Funder: R01 HD070795-01A1  
Title: Preventing the Neonatal Narcotic Abstinence Syndrome  
Role: Co-Investigator (PI: Drover, Peltz)

1/2013-12/2014 Funder: Child Health Research Institute (CHRI) Innovations in Patient Care Award  
Title: Sepsis Surveillance in Obstetric Patients  
Role: Co-Investigator (PI: Abir, Gill)

1/2013-12/2015 Funder: National Institutes of Health (NIH) Clinical Loan Repayment Program (LRP) Award  
National Institute of Child Health and Human Development (NICHD)  
Title: Pharmacokinetics, Pharmacodynamics and Placental Transfer of Magnesium Sulfate in Pregnant Women  
Role: Senior Investigator/Mentor (PI: Brookfield, Kathleen)

1/2015-12/2017 Funder: Covidien Ltd.  
Title: Respiratory depression in women undergoing cesarean delivery with neuraxial opioids  
Role: PI

1/2015-12/2017 Funder: WHO and Merck Pharmaceuticals  
Title: A Study to Identify an Alternative Dosing Regimen of MgSO<sub>4</sub> for the Treatment of Pre-Eclampsia using Pharmacokinetic/Pharmacodynamic Modeling and Simulation  
Role: PI

1/2015-12/2017 Funder: UCLH Hospital Charity Fund  
Title: Transthoracic echocardiography performed by obstetric anaesthetists on outcomes following postpartum haemorrhage  
Role: Co-Investigator (PI: Sultan, Pervez)

1/2016-12/2018 Funder: NIH Grant 1R41HD088137-01  
Title: Non-Invasive, Highly Specific Detection of Oxytocin in Biological Fluids  
Role: Co-Investigator (PI: Avni Argun, Giner Inc.)

1/2016-12/2018 Funder: Gauss Surgical  
Title: Study Assessing Blood Loss Measurement During Cesarean Delivery with Triton Device  
Role: Co-Investigator (PI: Butwick, Alexander)

1/2016-12/2018 Funder: Rivanna  
Title: Neuraxial Ultrasound Device Evaluation On Laboring Women  
Role: PI

1/2017-12/2018 Funder: SOAP Young Investigator Award  
Title: Evaluation of the Effects of Intravenous Ketorolac on Platelet Function Post-Cesarean  
Role: Mentor and Co-investigator (PI: Kowalczyk, John)

- 1/2017-12/2019 Funder: Pacira Pharmaceuticals  
Title: Safety and Efficacy of EXPAREL Versus Bupivacaine: Transversus Abdominis Plane (TAP) Blocks in Subjects Undergoing Elective Cesarean Section  
Role: Co-PI (Co-PI: Horn, Jean-Louis)
- 1/2018-12/2019 Funder: OAA Small Research Grant  
Title: Prediction of prolonged length of stay after delivery using an Obstetric Quality of Recovery scoring tool (ObsQoR-11): a multi-centre study  
Role: Co-Investigator (PI: Sultan, Pervez)
- 1/2019-12/2020 Funder: CereVu Medical  
Title: ROPA System for labor pain detection and analgesic technique comparison  
Role: PI
- 1/2019-12/2020 Funder: OAA grant  
Title: National Obstetric Anaesthesia Health Audit Research and patient-centred outcomes project (NOAH's ARC): Regional Anaesthesia for Caesarean Section  
Role: Co-Investigator (PI: Sultan, Pervez)
- 1/2019-12/2020 Funder: Pacira Pharmaceuticals  
Title: EXPAREL Transversus Abdominis Plane (TAP) Blocks Versus Intrathecal Morphine For Cesarean Section Choice Study  
Role: Co-PI (Co-PI: Horn, Jean-Louis)
- 1/2020-12/2021 Funder: SOAP/Kybele International Outreach Grant  
Title: Prevalence of cardiac dysfunction and its association with brain natriuretic peptide in eclamptic women  
Role: Mentor and Co-investigator (PI: Ortner, Clemens)
- 5/2020-5/2022 Funder: SOAP Young Investigator Grants  
Title: Calcium Chloride for Prevention of Uterine Atony during Intrapartum Cesarean Delivery  
Role: Mentor and Co-investigator (PI: Ansari, Jessie)

## VII. EDITORIAL SERVICE

### Editorial Positions:

- 2011-2014 Editorial Board, ISRN Anesthesiology
- 1/2011-12/2021 Editorial Board, International Journal of Obstetric Anesthesia
- 2011- Editorial Board, Open Journal of Anesthesiology
- 2011- Editorial Board, Journal of Pain and Relief
- 2012-2016 Editorial Board, Journal of Anesthesiology and Clinical Science

2012-2017	Editorial Board, Case Reports in Anesthesiology
2012-2017	Editorial Board, The Open Anesthesiology Journal
2015-	Sub-Editor and Editorial Board, Southern African Journal of Anaesthesia and Analgesia
2019-	Editorial Board, Special Edition Editor, Best Practice & Research Clinical Anaesthesiology
8/2021-5/2022	Guest Editor: OB Anesthesia Edition, Best Practice & Research Clinical Anaesthesiology

**Ad hoc Reviewer:**

2010	Acta Anaesthesiologica Belgica
2010	AGOG MFM
2010	American Journal of Obstetrics and Gynecology
2010	American Journal of Perinatology
2005	Anesthesia and Analgesia
2005	Anesthesiology
2015	Anesthesiology Research and Practice
2015	Annals of Surgery
2015	BMJ Quality & Safety
2010	British Journal of Anaesthesia
2015	British Medical Bulletin
2015	British Medical Journal (BMJ)
2015	Canadian Journal of Anesthesia
2015	Case Reports in Anesthesiology
2015	Cochrane Pregnancy and Childbirth
2015, 2015	Current Medical Research & Opinion
2015	Dove Medical Press
2015	Drug Safety
2015	European Journal of Anaesthesiology
2015	European Journal of Pain
2015	First Consult

2005	International Journal of Obstetric Anesthesia
2015	Journal of Anesthesiology and Clinical Science
2010	Journal of Clinical Anesthesia
2010	Journal of Research in Medical Sciences
2015	Lancet
2015	Medicina
2015	Minerva Anestesiologica
2010	Obstetrics and Gynecology
2010	PLOS ONE

#### **VIII. SERVICE AS GRANT REVIEWER**

2007-	Annual Scientific Meeting Abstract Reviewer, Society for Obstetric Anesthesia and Perinatology
2009-2010	Annual Scientific Meeting Abstract Reviewer, American Society of Anesthesiologists
2011, 2014	Masters in Research Thesis Review, University of Western Australia
2016	Masters in Research Thesis Review, University of the Witwatersrand, South Africa
2016	Masters in Research Thesis Review, University of Cape Town, South Africa
1/2021	Study protocol review, World Health Organization (WHO)

#### **IX. UNIVERSITY ADMINISTRATIVE SERVICE**

2010-2011	Incentives and Compensation Committee, Anesthesiology Department, Stanford
2011-2012	Clinical Commitment Committee, Anesthesiology Department, Stanford
2011-2014	Technology Assessment Committee, Stanford Hospital and Clinics
2012-2014	Education Committee, Anesthesiology Department, Stanford
2012-2018	Departmental Faculty Senator, Stanford University School of Medicine
2013-2013	Development and Mentoring Workgroup, Anesthesiology Department, Stanford
2013-2013	Future of Anesthesiology Workgroup, Anesthesiology Department, Stanford

2013-2020	Committee on Quality, Efficiency and Patient Satisfaction (QEP), Anesthesiology Department, Stanford
2013-2020	Professional Practice Evaluation Committee (PPEC), Obstetrics and Gynecology Department, Stanford
2013-5/2022	Appointments and Promotions Committee, Anesthesiology Department, Stanford
2013-	Governance Committee, Anesthesiology Department, Stanford
2013-	Johnson Center Executive Committee, Lucile Packard Children's Hospital
2018-2019	Chair, Pediatric Anesthesia Chief Search Committee, Anesthesiology Department, Stanford
2018-2019	Member, Adult Cardiothoracic Anesthesia Chief Search Committee, Stanford University
1/2019-	Faculty Practice Organization (FPO) Clinical Chiefs Committee, Lucile Packard Children's Hospital Stanford
8/2019-7/2020	Anesthesia Mentorship Program (AMP) Mentor/Sponsor, Anesthesiology Department, Stanford
9/2019	Faculty Practice Organization (FPO) Ops and Quality Committee, Lucile Packard Children's Hospital Stanford
8/2020-7/2021, 8/2022-7/2023, 8/2022-7/2023, 8/2023-	Anesthesia Mentorship Program (AMP) Mentor/Sponsor, Anesthesiology Department, Stanford
1/2021-	Johnson Center Operations Committee, Lucile Packard Children's Hospital Stanford
5/2021-8/2022	Chair, Cardiothoracic Anesthesia Chief Search Committee, Anesthesiology Department, Stanford
6/2022-	Faculty Mentoring Champion, Office of Academic Affairs, Stanford University
7/2022-	Stanford Enhanced Early Development (SEED) Program Founder/Co-director, Anesthesiology Department, Stanford
10/2022-	Stanford Children's Opioid Crisis Taskforce, Lucile Packard Children's Hospital Stanford
7/2023-	Reproductive Endocrinology and Infertility Faculty Search Committee, Department of Obstetrics and Gynecology, Stanford
9/2023-	Leadership Education in Anesthesia Program (LEAP): Founder/Co-director, Anesthesiology Department, Stanford

## **X. SERVICE TO PROFESSIONAL ORGANIZATIONS**

1992-1994	University of Witwatersrand, South Africa, Medical school graduation magazine - Editor-in-chief
1992-1994	University of Witwatersrand, South Africa, Medical school newsletter, the Haemorrhoid - Founder and editor
1992-1994	University of Witwatersrand, South Africa, The official university medical journal, the Leech - Editorial committee
2000-2001	Royal College of Anaesthetists, UK, Specialist Training Committee Trainee Representative.
2000-2001	Association of Anaesthetists, UK, Trainee Linkman
2005-2006	Society for Obstetric Anesthesia and Perinatology (SOAP), Scientific Program Committee (Transatlantic SOAP-OAA Symposium)
2005-2007	Foundation for Anesthesia Education and Research (FAER), Medical Student Research Fellowship Mentor
2005-2007	Society for Obstetric Anesthesia and Perinatology (SOAP), Obstetric anesthesiology fellowship training ACGME accreditation committee
2006-2008	International Anesthesia Research Society (IARS), Mentorship Initiative Mentor
2006-2011	Society for Obstetric Anesthesia and Perinatology (SOAP), Membership Committee Member
2007-2009	American Society of Anesthesiologists (ASA), Obstetric Anesthesia Practice Parameter Consultant
2007-5/2021	Society for Obstetric Anesthesia and Perinatology (SOAP), Research Committee Member
2007-	Association of University Anesthesiologists (AUA), Elected Faculty
2008-2013	American Board of Anesthesiology, ABA Alternative Pathway Program Enrollment
2008-2016	Faculty of 1000 Medicine, Evaluation Board Faculty Member and Reviewer, Obstetrical Anesthesia and Pain Management Section
2009-2010	American Society of Anesthesiologists (ASA), Obstetric Anesthesia Research Subcommittee
2011-2012	Society for Obstetric Anesthesia and Perinatology (SOAP), Annual Meeting Planning Committee
2011-2012	California Society of Anesthesiologists (CSA), District 4 Alternate Delegate
2011-2013	American Society of Anesthesiologists (ASA), Obstetric Anesthesia Simulation Development

2011-2014	Society for Obstetric Anesthesia and Perinatology (SOAP), Director-at large (Board member position)
2011-2019	Society for Obstetric Anesthesia and Perinatology (SOAP), Sol Shnider Annual Meeting Planning Committee
2012-2013, 2013-2014	American Society of Anesthesiologists (ASA), Obstetric Anesthesia Educational Track Subcommittee
2012-2013	Society for Obstetric Anesthesia and Perinatology (SOAP), Webcast Taskforce Member
2012-2014	Society for Obstetric Anesthesia and Perinatology (SOAP), CPR Pregnancy Consensus Statement Taskforce, Chair
2012-2015, 2015-2017, 2018-2020	California Society of Anesthesiologists (CSA), District 4 Delegate
2013-2015	American Heart Association (AHA), Cardiac Arrest in Pregnancy Scientific Statement Writing Group
2013-2015	American Society of Regional Anesthesia and Pain Medicine (ASRA), Regional Anesthesia ACGME Fellowship Exploratory Committee
2013-2019	Society for Obstetric Anesthesia and Perinatology (SOAP), Bylaws Committee
2013-	California Society of Anesthesiologists (CSA), Educational Programs Division Committee
2014-2015	Society for Obstetric Anesthesia and Perinatology (SOAP), 2nd VP (SOAP president succession position)
2014-2015	Society for Obstetric Anesthesia and Perinatology (SOAP), Anesthesia and Breastfeeding Consensus Statement Committee
2014-2019	Society for Obstetric Anesthesia and Perinatology (SOAP), Executive board committee
2015-2016	Society for Obstetric Anesthesia and Perinatology (SOAP), 1st VP
2015-2017	Society for Obstetric Anesthesia and Perinatology (SOAP), East Coast Meeting Planning Committee
2015-2017	California Society of Anesthesiologists (CSA), Fall Meeting Program Chair
2016-2017	World Congress of Anesthesia, 1st World Congress of Anesthesia for Obstetrics Planning Committee
2016-2017	Society for Obstetric Anesthesia and Perinatology (SOAP), President-Elect
2016-2017	California Maternal Quality Care Collaborative (CMQCC), Task Force to Support Vaginal Birth and Reduce Primary Cesareans: Advisory Group

2016-2018	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Venous Thromboembolism Prophylaxis Consensus Statement Committee
2016-2019	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Intrathecal Morphine Respiratory Depression Consensus Statement Committee, Chair
2017-2018, 2018-	American Society of Anesthesiologists (ASA), Committee on Obstetric Anesthesia
2017-2018	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP President
2017-2018	American Society of Anesthesiologists (ASA), Sub-Specialty Committee
2017-6/2023	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Centers of Excellence Committee, Chair
2018-2019	American Society of Anesthesiologists (ASA), Committee on Specialty Societies member
2018-2019	World Health Organization (WHO), External Review Group: WHO recommendations for Uterotonics for the prevention of postpartum haemorrhage
2018-2019	Society for Obstetric Anesthesia and Perinatology (SOAP), Immediate-Past President
2018-	Society for Obstetric Anesthesia and Perinatology (SOAP), Past President Committee
2019-2020	World Health Organization (WHO), WHO Technical Consultation: Treatment of pre-eclampsia and eclampsia
2019-5/2021	Society for Obstetric Anesthesia and Perinatology (SOAP), International Outreach Committee
2019-5/2021	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Enhanced Recovery after Cesarean Delivery (ERAC) Committee Member
2019-10/2023	American Society of Anesthesiologists (ASA), Obstetric Anesthesia Education Committee, Vice Chair
1/2020-12/2021	World Health Organization (WHO), Technical Advisor: WHO Recommendations for Prevention and Treatment of Postpartum Hemorrhage
2020-3/2022	California Society of Anesthesiologists (CSA), Innovations EPD Subcommittee Member
2020-3/2022	California Society of Anesthesiologists (CSA), Pain Medicine Committee Member
2020-4/2022	California Society of Anesthesiologists (CSA), Annual Meeting Oversight Committee Member
2020-6/2023	Society for Obstetric Anesthesia and Perinatology (SOAP), Intersociety Steering Committee Member



2020-12/2023	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP/ASRA/SMFM Peri-delivery Pain Management in Women with Opioid Use Disorder Taskforce
2020-	California Society of Anesthesiologists (CSA), Committee on Professional and Public Communication Member
2020-	Society for Obstetric Anesthesia and Perinatology (SOAP), Multicenter Research Network Subcommittee Member
2020-	American College of Obstetricians and Gynecologists (ACOG), Voluntary Review of Quality of Care program reviewer
1/2021-6/2022	Society for Obstetric Anesthesia and Perinatology (SOAP), Minimum Care Standards for Anesthesiology Services Adhoc Committee
1/2021-	Premier Inc., ASA Premier Inc's Maternal/Infant Advisory Panel
3/2021-	California Society of Anesthesiologists (CSA), District 3 Delegate
1/2022-10/2022	American Society of Anesthesiologists (ASA), ASA Committee on Obstetric Anesthesia: Statement on Quality Metrics Taskforce
9/2022-	Global Enteral Device Supplier Association (GEDSA), NRFit (neuraxial) Clinical Advisory Board
9/2022-	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Mentoring Academy Mentor
11/2022-	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Outreach California State Obstetric Anesthesiologist Representative
1/2023-	American College of Obstetricians and Gynecologists (ACOG), Alliance for Innovation on Maternal Health (AIM) Severe Maternal Morbidity (SMM) Review Form Committee
2/2023-	World Health Organization (WHO), External Advisor: Steering Committee of the WHO REACH trial
5/2023-	Society for Obstetric Anesthesia and Perinatology (SOAP), Recovery after childbirth SIG: Chair
7/2023-	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Capital Campaign Committee: Member
7/2023-	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP Center of Excellence Committee: Member
8/2023-	Society for Obstetric Anesthesia and Perinatology (SOAP), SOAP SPEAKS! Reviewer Task Force

## **XI. INVITED PRESENTATIONS (240 PRESENTATIONS)**

### **Grand Rounds: (19 presentations)**

- 3/2006 Grand Rounds: Non-obstetric surgery during pregnancy  
Santa Teresa Hospital, San Jose, California
- 11/2006 Grand Rounds: Advances in Labor and Cesarean Analgesia  
Santa Teresa Hospital, San Jose, California
- 3/2009 Pain Management for Labor and Delivery in the 21st Century  
St. Rose Hospital Grand Rounds, Hayward, California
- 7/2011 Prevention and Management of High Spinal Block for Cesarean Delivery  
Grand Rounds Presentation, Stanford University, Stanford
- 1/2013 Strategies to optimize cesarean analgesia  
Stanford University Obstetric Department Grand Rounds
- 2/2014 Visiting Professor Grand Rounds: Optimizing Labor Analgesia  
Highland Hospital, California
- 11/2016 Cesarean Delivery Pain Management: Past, Present and Future  
Grands Rounds, Stanford University
- 4/2017 Point of Care Neuraxial and Gastric Ultrasound for the Anesthesiologist  
Annual Honorary Sheila Cohen Lectureship, Anesthesia Grand Rounds,  
Stanford
- 6/2017 Cesarean Delivery Pain Management: Opioid-sparing Strategies  
Obstetric Grands Rounds, Stanford University
- 11/2017 Caesarean Delivery Anaesthesia: Update on Optimal Techniques  
Grand Rounds: Department of Anaesthesia, General Intensive Care and Pain  
Management, Medical University of Vienna, Austria
- 12/2018 Labor Analgesia Management  
Grand Rounds: Department of Obstetrics and Gynecology, Stanford  
University
- 9/2019 Changing Opioid Prescription Patterns After Vaginal and Cesarean Delivery  
Grand Rounds Obstetrics and MFM, Stanford University
- 6/2020 Patient-Selected and Personalized Postoperative Pain Management  
Grand Rounds (Virtual), Stanford University, Department of Anesthesiology
- 1/2021 Evidence-based Strategies to Optimize Post-Cesarean Delivery Analgesia  
UPMC Grand Rounds, University of Pittsburgh
- 6/2021 Personalizing Postoperative Pain Management  
13th Annual Dr. Harry and Mitzie P. Cohen Lectureship in Obstetrics and  
Anesthesiology Department of Anesthesiology, Northwestern Memorial  
Hospital, Chicago

- 7/2021                      Ultrasound Guided Neuraxial Anesthesia: Evidence and Trends in the United States and Beyond  
Grand Rounds: Tokyo Women's Hospital, Japan
- 1/2023                      Ultrasound-Guided Neuraxial Anesthesia: Why and How  
University of Cape Town, South Africa
- 9/2023                      Standardized cesarean delivery analgesic protocols in an era of personalize patient-centered care  
UTMB, Galveston
- 9/2023                      Standardized enhanced recovery after cesarean delivery protocols in an era of personalize patient-centered care: Ezzat Abouleish Endowed Lectureship  
University of Texas Health Science Center, Memorial Hermann Hospital, Houston

**Local Meetings: (37 presentations)**

- 10/2004, 10/2005,      Regional Anesthesia Workshop  
10/2007, 9/2008,      Stanford University Resident's Regional Anesthesia Workshop, Stanford  
10/2009, 3/2013
- 6/2007                      Obstetric Anesthesia Hot Topics  
Stanford University Resident's Refresher Course, Stanford
- 8/2007                      Pain Management for Labor and Delivery in the 21st Century  
Womens' Health Medical Forum, Stanford University
- 6/2010                      Obstetric Anesthesia Key Points  
Stanford University Resident's Refresher Course, Stanford
- 11/2011                    Regional Anesthesia Workshop  
Stanford University CME Regional Anesthesia Workshop, Stanford
- 6/2012, 6/2013,      Key Obstetric Anesthesia Topics for the Boards  
6/2014, 4/2017,      Stanford University Resident's Refresher Course, Stanford  
4/2022, 4/2023
- 2013                        Labor analgesia: Why we do what we do  
OB Resident Lecture Series 2013: Program Coordinator and Speaker
- 4/2016, 5/2017        Pregnancy, Birth, and Infancy: Anesthesia Provider Role  
OBGYN 282: Medical Students lecture series, Stanford University
- 4/2017                      Neuraxial Ultrasound  
Stanford University Resident's Regional Anesthesia Workshop, Stanford
- 7/2017-8/2017        Cesarean Delivery Pain Management  
Postpartum Hemorrhage Recognition and Management  
Nursing Professional Development, Stanford University

4/2019, 6/2022 Key Obstetric Anesthesia Topics for the Boards  
Stanford University Resident's OSCE and Refresher Course, Stanford

7/2020 Labor Analgesia Management  
Department of Obstetrics and Gynecology (Virtual), Stanford University

10/2020 Postpartum Hemorrhage Review  
Stanford University MSD Faculty covering OB Anesthesia

4/2021 Key Obstetric Anesthesia Topics for the Boards  
Stanford University Resident's Refresher Course, Stanford,

6/2021 Speaker and moderator: How to present masterfully  
Anesthesia Mentorship Program (AMP) Lecture series, Stanford

9/2021, 10/2022 Central Neuraxial and Peripheral Nerve Anatomy  
Regional Anesthesia Fellowship Lecture Series, Stanford

6/2022 Welcome and Faculty Development Opportunities  
Stanford Enhanced Early Development (SEED) Orientation Program, Stanford

7/2022 Epidurals and Labor Pain Management  
Obstetric Anesthesia Lecture Series, Stanford

8/2022 Faculty Development Opportunities  
Resident and Fellow Recruitment Program, Stanford

9/2022 How to be a great mentor  
AMP Lecture Series, Stanford

2/2023 Epidural Labor Analgesia Refresher  
Stanford University MSD Faculty covering OB Anesthesia

5/2023 Annual Review Workshop  
AMP Lecture Series, Stanford

7/2023 Postpartum (cesarean and vaginal delivery) pain management  
Department of Obstetric and Gynecology, Stanford

10/2023 Faculty development and career opportunities at Stanford  
Department of Anesthesiology, Perioperative and Pain Medicine, Stanford

**National and Regional Meetings: (92 presentations)**

2/2004 Spinal Cocktails for Cesarean Section: Which Drugs and How Much?  
Systemic Opioids: Is There a Place for Remifentanyl PCA in Current Obstetric Practice?  
Ultra-low PCEA for Labor Analgesia  
New Options: Management of Post Cesarean Pain  
Texas Anesthesia Conference for Obstetrics (TACO) Meeting, Houston, Texas

- 3/2004 Spinal Cocktails for Cesarean Section: Which Drugs and How Much?  
Post Cesarean Section Analgesia: Breastfeeding Considerations  
The Sol Shnider Obstetric Anesthesia Meeting, San Francisco
- 5/2004 “Breakfast with the Experts” Case Discussion  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific Meeting, Florida
- 6/2004 Obstetric Anesthesia Refresher Lecture  
Stanford University Resident’s Refresher Course, Stanford
- 3/2005 Long-acting neuraxial opioids for labor and post-cesarean analgesia  
Texas Anesthesia Conference for Obstetrics (TACO) Meeting, Houston
- 3/2006 Non-obstetric surgery during pregnancy (review course lecture)  
SOAP session: Panel on the management of high risk patients in obstetrics  
International Anesthesia Research Society (IARS) Clinical and Scientific Conference, San Francisco
- 4/2006 Cardiac disease in the pregnant patient (Expert panel on pregnancy and coexisting diseases)  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific Meeting, Miami
- 10/2006 Peripartum cardiomyopathy and HIV in the pregnant patient (Clinical Forum Panel)  
American Society of Anesthesiologists (ASA) Annual Scientific Meeting, Chicago
- 3/2007 New Options for Post Cesarean Delivery Analgesia  
PCEA: The Time Has Come  
The Sol Shnider Obstetrical Anesthesia Meeting, San Francisco
- 3/2007 New options to optimize postcesarean analgesia  
Patient-controlled epidural analgesia for labor analgesia: Good medicine or good marketing?  
Stanford University / MCW Anesthesia Update Meeting, Colorado
- 5/2007 “Breakfast with the Experts” Case Discussion  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific Meeting, Banff
- 6/2007 Optimizing Post Cesarean Delivery Analgesia  
PCEA for Labor Analgesia: Pro vs. Con Debate  
Cardiac Disease in the Pregnant Patient  
Canadian Anesthesiologists’ Society Annual Meeting, Calgary, Canada
- 10/2007 SOAP Breakfast Panel: Obstetric Anesthesia: Lessons Learned From the Past  
American Society of Anesthesiologists (ASA) Annual Scientific Meeting, San Francisco

- 3/2008 Is Fluid Preloading Necessary Prior to Neuraxial Anesthesia  
Optimizing Post Cesarean Delivery Analgesia  
Texas Anesthesia Conference for Obstetrics (TACO) Meeting, Houston, Texas
- 3/2008 SOAP Panel: Optimizing Post Cesarean Delivery Analgesia  
International Anesthesia Research Society (IARS) Clinical and Scientific  
Conference, San Francisco
- 5/2008 Advances in Obstetric Anesthesia and Analgesia  
Non-obstetric surgery during pregnancy  
Californian Society of Anesthesiology (CSA) Annual Meeting, Los Angeles
- 5/2008 General anesthesia is acceptable for elective cesarean section (Moderator)  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific  
Meeting, Chicago
- 10/2008 Poster Discussion Moderator  
American Society of Anesthesiologists (ASA) Annual Scientific Meeting,  
Orlando
- 5/2009 Minimizing Risks with Neuraxial Techniques: Respiratory Depression  
Following Neuraxial Opioids  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific  
Meeting, Washington DC
- 8/2009 Preventing Hypotension During Cesarean Delivery Under Spinal Anesthesia  
Failed Epidural Top-Up for Cesarean Delivery in a Patient with an Existing  
Labor Epidural  
20th Annual UC Davis Anesthesiology Update, Napa, CA
- 10/2009 Poster Discussion Moderator  
American Society of Anesthesiologists (ASA) Annual Scientific Meeting,  
New Orleans
- 11/2009 Evidence-based Approach to the Prevention of Spinal Hypotension During  
Cesarean Delivery  
Optimizing Labor Analgesia with Patient-Controlled Epidural Analgesia  
15th Annual Advances in Physiology and Pharmacology in Anesthesia and  
Critical Care Wake Forest University School of Medicine, Winston-Salem,  
NC
- 11/2009 Non-obstetric surgery and anesthesia during pregnancy  
New options to optimize labor and cesarean delivery analgesia  
Prevention and treatment of spinal hypotension during cesarean delivery  
Managing the pregnant patient with cardiac disease  
California Society of Anesthesiologists' Fall Seminar, Kauai, Hawaii
- 12/2009 The role of ultrasound in obstetric anesthesia  
Invited Presentation: Brigham and Women's Hospital, Boston

- 3/2010 Spinal Anesthesia for Cesarean Delivery: Evidence Based Prevention of Hypotension  
Postoperative Analgesia: New Options  
Respiratory Depression after Neuraxial Opioids  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco
- 4/2010 Strategies to Optimize Analgesia for Labor  
Kaiser Permanente Annual Anesthesiology Symposium, San Francisco
- 5/2010 Pearls and Pitfalls Session; Resident and Medical Student Forum (moderator)  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific Meeting, San Antonio Texas
- 10/2010 Labor Analgesia: Strategies to Optimize Maternal and Fetus Outcomes  
Non-obstetric surgery and anesthesia during pregnancy  
Providing the Ideal Cesarean Delivery Anesthetic  
Managing the pregnant patient with cardiac disease  
California Society of Anesthesiologists' Fall Seminar, Kona, Hawaii
- 10/2010 Point-Counterpoint Debate: Phenylephrine should replace ephedrine for the routine treatment of post-spinal hypotension in obstetric anesthesia  
American Society of Anesthesiologists (ASA) Scientific Meeting, San Diego
- 3/2011 Predicting Pain and Analgesic Requirements Before Surgery  
Obstetric Hemorrhage Panel: Management of Antepartum Hemorrhage  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco
- 5/2011 Failed Epidural For Unplanned Cesarean: Spinal Anesthetic (Pro/Con Debate)  
Society for Obstetric Anesthesia and Perinatology (SOAP) Annual Scientific Meeting, Lake Las Vegas, Nevada
- 9/2011 Multimodal Analgesic Options to Minimize Post-Cesarean Pain  
Changing Practice of Anesthesia Conference, San Francisco
- 9/2011 Strategies to Optimize Post-Cesarean Delivery Analgesia  
An Evidence-Based Approach to Fluids and Vasopressors to Prevent and Treat Cesarean Delivery Spinal Hypotension  
Non-obstetric Surgery and Anesthesia During Pregnancy  
Duke CME meeting, Laguna Beach California
- 2/2012 Keynote Lecture: New Options to Optimize Labor and Cesarean Analgesia  
PBLD: Failed Cesarean Blocks  
New Mexico Society of Anesthesiologists (NMSA) Annual Education Meeting, Albuquerque, New Mexico
- 3/2012 TAP Block and Lumbar Spine Ultrasound: Clinical Pearls  
Failed Epidural For Unplanned Cesarean: Spinal Anesthetic (Pro/Con Debate)  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California

- 7/2012 Defining a “Successful” Academic Career and Achieving It: Starting a Research Career  
Faculty Development Retreat, VA Palo Alto Health Care System, Palo Alto
- 11/2012 Keynote Speaker: Labor and Cesarean Delivery Analgesia  
Risk Management Symposium, John Muir Hospital Walnut Creek Campus, Walnut Creek, California
- 11/2012 Strategies to optimize labor analgesia, vaginal delivery, and fetal outcomes  
Morbid obesity in pregnancy: anesthetic challenges and management strategies  
Prevention and treatment of spinal-induced hypotension during Cesarean delivery  
Anesthesia during pregnancy: optimizing maternal and fetal well-being  
California Society of Anesthesiologists' Fall Seminar, Kona, Hawaii
- 1/2013 Various topics covering Obstetric Anesthesia  
International Anesthesia Research Society (IARS) OpenAnesthesia.org Ask the Experts
- 3/2013 Neuraxial Techniques and Dosages to Provide Optimum Anesthesia for Cesarean Delivery  
Post-operative Pain Management following Cesarean Delivery: State of the Art  
CPR in Pregnancy  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 4/2013 Transthoracic Echocardiography For The Obstetric Anesthesiologist Workshop  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, San Juan, Puerto Rico
- 5/2013 Lecture: Update on Labor and Post-Cesarean Analgesia  
PBLD: Failed Regional Anesthetic For Cesarean Section: What Do I Do Now?  
Lecture: Acute Pain Medicine in Pregnant Patients  
Workshop Instructor: Truncal Blocks  
PBLD: Management of Post-Dural Puncture Headache  
American Society of Regional Anesthesia and Pain Medicine (ASRA) 38th Annual Meeting, Boston
- 5/2013 SOAP Panel Lecture: Analgesics in the Breast Feeding Parturient  
International Anesthesia Research Society (IARS) Clinical and Scientific Conference, San Diego
- 10/2013 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Panel Speaker and Moderator: Role of Ultrasound Guidance and Echocardiography in Obstetric Anesthesia  
American Society of Anesthesiologists (ASA) Scientific Meeting, San Francisco



- 1/2014 Strategies to Optimize Post-Cesarean Delivery Analgesia  
OpenAnesthesia OB Anesthesia Fellows' Webinar
- 3/2014 Moderator: Clinical Optimization and Resuscitation  
Speaker: Postoperative Analgesia  
Speaker: Ultrasound: An Essential Tool for the Obstetric Anesthesia Provider  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 4/2014 Lecture: The Role of Echocardiography in Peripartum Management  
PBLD: Non-Obstetric Surgery in the Pregnant or Breastfeeding Patient  
California Society of Anesthesiologists' Annual Meeting, April 2014, San Francisco
- 5/2014 SOAP Panel Moderator and Speaker: Techniques and drugs to optimize labor analgesia  
PBLD: Non-Obstetric Surgery During Pregnancy  
International Anesthesia Research Society (IARS) Scientific Conference, Montreal Canada
- 5/2014 Transthoracic Echocardiography for the Obstetric Anesthesiologist Workshop  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Toronto, Canada
- 9/2014 Post-Cesarean Delivery Pain Management: Past, Present and Future  
Robert Abraham Endowed Annual Lecture and Visiting Professor, Johns Hopkins University
- 11/2014 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Moderator: Cutting-edge technologies and point-of-care devices to improve care of the obstetric patient  
Panel Speaker: Technology to Assess Blood Loss and Hemodynamics During Obstetric Hemorrhage  
American Society of Anesthesiologists (ASA) Scientific Meeting, New Orleans
- 3/2015 Speaker: Prevention and treatment of spinal-induced hypotension during cesarean delivery  
Moderator: Managing Your Practice  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 4/2015 Lecture: Management of the Morbidly Obese Parturient  
California Society of Anesthesiologists' Annual Meeting, San Francisco
- 5/2015 Transthoracic Echocardiography for the Obstetric Anesthesiologist Workshop  
Breakfast with the Experts Speaker  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Colorado
- 6/2015 Key Obstetric Anesthesia Topics for the Boards  
Stanford University Resident's Refresher Course, Stanford,

- 10/2015 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Moderator: Labor and Delivery in the High-Risk Cardiac Patient  
Moderator: Title of Session: Cesarean Delivery Pain Management for the Breastfeeding Mother  
American Society of Anesthesiologists (ASA) Scientific Meeting, San Diego
- 11/2015 Program Chair, Faculty and Speaker  
Ultrasound Imaging for the Anesthesiologist: Vascular, Spine, Gastric, Heart, Lung and Beyond  
Cutting-edge Analgesia Techniques to Optimize Labor Analgesia  
Advanced Intraoperative Management for Cesarean Delivery: From Local Anesthetics to Vasopressors  
Strategies to Optimize Cesarean Delivery Analgesia in Breastfeeding Parturient  
California Society of Anesthesiologists' Fall Seminar, Kauai, Hawaii
- 3/2016 Labor Analgesia: Modern Technology and Strategies to Enhance Maternal and Fetus Outcomes  
Management of the Morbid Obesity Parturient: Special Techniques and Drug Doses  
Strategies to Optimize Cesarean Delivery Anesthesia and Analgesia  
Duke CME meeting, Palm Springs, California
- 3/2016 Speaker: Labor Analgesia: Modern Technology and Strategies to Enhance Maternal and Fetal Outcomes  
Moderator: Making the Most Out of Labor Analgesia  
Speaker: Cesarean Delivery Pain Management for the Breastfeeding Mother  
Pro/Con Debate: Spinal Anesthesia in the Morbidly Obese Primigravida  
Sol Shnider Obsteric Anesthesia Meeting, San Francisco, California
- 4/2016 Keynote Speaker: Ultrasound Imaging for the Perioperative Physician  
2016 TPMG Annual Anesthesiology and POM Symposium, San Francisco
- 4/2016 Modern Epidural Technology and Strategies to Enhance Maternal and Fetal Outcomes  
Management of Cardiac Arrest in the pregnant Patient (PBLD)  
California Society of Anesthesiologists (CSA) Annual Anesthesia Meeting, San Francisco
- 5/2016 Best Practice Panel Presenter  
Moderator: Scientific Poster Presentations  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Boston
- 8/2016 Cutting-Edge Techniques to Optimize Labor Analgesia  
Prevention and Treatment of Cesarean Delivery Spinal Hypotension  
Cesarean Delivery Analgesia Strategies in Breastfeeding Parturient  
Ultrasound for the Obstetric Anesthesiologist

- Anesthetic Management Strategies for the Obesity in Pregnancy  
The Dannemiller Hawaiian Anesthesia Seminar, Kauai, Hawaii
- 10/2016 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Moderator: Peripartum Surgical Home  
Panel Speaker: High-Risk for the Non-Obstetric Anesthesiologists  
American Society of Anesthesiologists (ASA) Scientific Meeting, San Diego
- 3/2017 Neuraxial Ultrasound: Time to Learn and Not Get Left Behind  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 4/2017 Programmed Intermittent Epidural Boluses for Epidural Labor Analgesia Maintenance  
42nd Annual American Society of Regional Anesthesia and Pain Medicine Meeting, San Francisco
- 5/2017 Program and Scientific Chair  
Moderator  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Bellevue
- 9/2017 Patient-directed pain management after surgery  
Stanford Medicine X, Stanford University
- 10/2017 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Moderator: Programmed Intermittent Epidural Boluses for Epidural Labor Analgesia Maintenance  
American Society of Anesthesiologists (ASA) Scientific Meeting, Boston
- 3/2018 General session: Neuraxial analgesia techniques to optimize analgesia and obstetric outcomes  
General session: Severe Pre-Eclamptic Patient: Anesthetic Management  
California Society of Anesthesiologists (CSA) Annual Anesthesia Meeting, Palm Springs
- 3/2018 Prescribing Analgesics to Breastfeeding Moms  
Preeclampsia: Role of Obstetric Anesthesiologist  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 4/2018 Hypertensive Disorders of Pregnancy  
CCM Specialty Conference, Stanford
- 5/2018 Gertie Marx Education Lecture: SOAP's 50th Anniversary Present Day  
Business Meeting President's Report  
Moderator: Pro-Con Debate - Obstetric Patients Do Need Respiratory Monitoring After Neuraxial Morphine  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Miami
- 8/2018 Reducing Opioids in Post-Op Obstetrics  
EPIC UGM 2018 Meeting, Verona, WI

- 10/2018 Refresher Course Speaker: Strategies to Optimize Post-Cesarean Delivery Analgesia  
Panel: Maternal Cardiac Arrest: SOAP Consensus Statement Recommendations  
FAER Resident Scholar Poster Moderator  
American Society of Anesthesiologists (ASA) Scientific Meeting, San Francisco
- 3/2019 Meeting Program Chair, Moderator, and Lecturer  
Lecture: PIEB, CEI, PCEA: Is there an Optimal Labor Analgesic Maintenance Technique?  
Sol Shnider Obstetric Anesthesia Meeting, San Francisco, California
- 5/2019 SOAP Panel Moderator and Speaker: Attaining the Opioid-Free Cesarean Delivery  
Talk: Changing Opioid Prescription Patterns After Cesarean Delivery  
International Anesthesia Research Society (IARS) Scientific Conference, Montreal Canada
- 5/2019 Talk: The Role of Truncal Blocks to Optimize Cesarean Delivery Analgesia  
Talk: SOAP Centers of Excellence for Anesthesia Care of Obstetric Patients  
Talk: Accuro Handheld Spinal Navigation Device to Assist Neuraxial Anesthesia  
Moderator and Panel Speaker: Defining, Evaluating and Influencing Recovery After Cesarean Delivery  
Moderator: Panel: Obstetric Hemorrhage Detection and Management  
Society for Obstetric Anesthesia and Perinatology Annual Meeting, Phoenix
- 6/2019 Neuraxial Techniques to Optimize Labor Analgesia  
Virtual Grand Rounds Webinar SOAP and Open Anesthesia
- 10/2019 Elevator Pitch: Best Articles in Obstetric Anesthesia from the Past Year  
The Path to Excellence SOAP COE  
American Society of Anesthesiologists (ASA) Scientific Meeting, Orlando
- 5/2020 Incorporating ultrasound for neuraxial block placement in mothers with difficult backs  
IARS 2020 Annual Meeting, San Francisco
- 5/2020 SOAP Center of Excellence Workshop  
Controversies: Uterotonics and Tranexamic Acid - Moderator  
SOAP 52nd Annual Meeting, Halifax, Canada
- 4/2021 Opioidfree Cesarean Delivery: Optimal Multimodal Analgesia and Prescribing Practices  
CSA Annual Meeting
- 7/2021 Talk and Panel Moderator: Centers of Excellence for Anesthesia Care of Obstetric Patients  
SOAP Webinar

- 10/2021            What's the Point of POCUS for the Anesthesiologist Covering L&D?  
Neuraxial Ultrasound  
American Society of Anesthesiologists Annual Scientific Meeting, San Diego
- 2/2022            Obstetric Recovery  
AWHONN Annual Meeting, California
- 5/2022            Moderator: SOAP Centers of Excellence  
Gertie Marx Symposium Judge  
SOAP 54th Annual Meeting, Chicago
- 7/2022            Meeting Chair and Speaker  
Enhanced Recovery and Analgesia after Cesarean Delivery: Evidence-based  
recommendations  
Ultrasound-assisted neuraxial placement and management of obesity  
parturients  
Anesthesia and analgesia for pregnant or breastfeeding women  
Labor Analgesia: Strategies to optimize analgesia and enhance obstetric and  
fetal outcomes  
California Society of Anesthesiologists (CSA) Summer Conference 2022,  
Oahu, Hawaii
- 10/2022           Regional Blocks for Cesarean Delivery: What, Why, How and Everything else  
you need to know  
Preventing/Rescuing Acute Pain after Cesarean Delivery  
American Society of Anesthesiologists (ASA) Annual Meeting, New Orleans
- 5/2023            Moderator: Oral Scientific Research Session  
Gertie Marx Symposium Judge  
SOAP Centers of Excellence Presentation  
SOAP 55th Annual Meeting, Chicago
- 10/2023           Intrathecal opioids: 360-degree discussion  
American Society of Anesthesiologists (ASA) Annual Meeting, San Francisco
- 10/2023           Summary of the latest recommendations from SOAP for optimal clinical  
obstetric anesthesiology management  
American Society of Anesthesiologists (ASA) Annual Meeting, San Francisco

**International Meetings: (67 presentations)**

- 4/2005            Is there a place for remifentanyl in current obstetric anesthesia?  
Ultra-low PCEA for Labor Analgesia: Good medicine, good marketing or  
both?  
New options in the management of post-cesarean pain  
Santa Joana Hospital Obstetric Anesthesia Meeting, Sao Paulo, Brazil
- 8/2006            Post-Cesarean Analgesia: Making a choice  
Joint Society for Obstetric Anesthesia and Perinatology (SOAP) and Obstetric

- Anaesthetists Association (OAA) Summer Update on Obstetric Anesthesia Meeting, Trinity College, Dublin, Ireland
- 4/2007 Advances in Obstetric Anesthesia and Analgesia  
Choice of Neuraxial Anesthesia and Local Anesthetics in Parturient Undergoing Stat C-Section  
American Society of Regional Anesthesia and Pain Medicine (ASRA) 32nd Annual Meeting and Workshops, Vancouver, Canada
- 11/2007 Post-Cesarean Analgesia: New Options to Optimize Pain Management  
Patient-Controlled Epidural Analgesia for Labor Analgesia: Shouldn't Everyone Use It?  
The North of Anesthesia Meeting, Porto, Portugal
- 3/2008 Patient controlled epidural analgesia (PCEA) - The gold standard?  
WCA Satellite Meeting: Obstetric Anaesthetists' Association (OAA)  
Refresher Course in Obstetric Anaesthesia, Cape Town, South Africa
- 3/2008 Post Cesarean Delivery Analgesia  
World Congress of Anaesthesia (WCA) Meeting, Cape Town, South Africa
- 9/2008 Cardiac Disease in the pregnant patient  
High Dose Vs Low Dose Bupivacaine for LSCS  
First National Conference on Obstetric Anesthesia (Association of Obstetric Anesthesiologists), Chennai, India
- 11/2008 Patient-Controlled Epidural Analgesia (PCEA) for Labour Analgesia  
Preventing Hypotension During Spinal Anaesthesia  
Optimizing Post Caesarean Section Analgesia  
Obstetric Anaesthetists Association (OAA) 3 Day Course, London, UK
- 1/2010 Analgesia for Labor: Strategies to Optimize Maternal and Fetus Outcomes  
Post-Cesarean Section Analgesia  
Annual Wintersymposium Leuven, Belgium
- 2/2010 Optimizing Post-Cesarean Analgesia  
Invited Presentation: Combined Anaesthesia and Obstetric Academic Meeting, Groote Schuur Hospital, Cape Town, South Africa
- 10/2010 New Options to Minimize Post-Cesarean Pain  
Spinal Hypotension Prevention During Cesarean Delivery: An evidence-based Approach  
Predicting the mother and baby [Plenary Lecture]  
Australian Society of Anaesthetists, Melbourne, Australia,
- 5/2011 Strategies to Optimize Labour Analgesia  
Combined Scientific Meeting of the Australia and New Zealand College of Anaesthetists (ANZCA) and Hong Kong College of Anaesthesiology, Hong Kong, China

- 3/2012                    Optimizing Analgesia After C-Section  
15th World Congress of Anaesthesiologists, Buenos Aires, Argentina
- 9/2012                    Lecture: Non-obstetric Surgery and Anesthesia During Pregnancy  
National Anaesthesia Training Program for Advanced Specialist Training,  
Singapore
- 9/2012                    Plenary Lecture: New techniques in anaesthesia for caesarean section  
Lecture: Morbid obesity in Pregnancy: anaesthetic challenges and dilemmas  
Lecture: Managing the pregnant woman with cardiac disease  
Free Communication Session: Accidental dural puncture  
Pro-Con debate: All Obese patients in labour should always receive an  
epidural catheter  
KK Hospital Obstetric Symposium, Singapore,
- 10/2012                  Workshop: TAP block for postoperative pain  
Workshop: Ultrasound-guided Neuraxial Placement  
Lecture: Labor Analgesia: Strategies to Optimize Maternal and Fetus  
Outcomes  
Lecture: Prevention and Managing Failed Blocks for Cesarean Delivery  
Lecture: Resuscitation of the Pregnant Patient  
Congress on Anesthesia in Obstetrics, Ho Chi Minh City, Vietman
- 2/2013                    Are we doing a good job in the management of post-CS pain?  
World Congress of Regional Anaesthesia and Pain Therapy, Sydney, Australia
- 2/2013                    Post CS and post VD analgesia in the breast feeding parturient  
Combined OASAO-SOAP Symposium, Sydney, Australia
- 4/2013                    Anesthetic Management Strategies for the Morbidly Obese Pregnancy Patient  
Ultrasound for the Obstetric Anesthesiologist  
Post-Cesarean Analgesia in the Breast Feeding Parturient  
Santa Joana Hospital Obstetric Anesthesia Meeting, Sao Paulo, Brazil
- 10/2013                  1. New Techniques to Provide Ideal Cesarean Anesthesia and Analgesia  
2. Strategies to Optimize Labor Analgesia  
3. Morbid Obesity in Pregnancy: Anesthetic Challenges and Management  
Strategies  
4. Ultrasound for the Obstetric Anesthesiologist  
17th Annual Alexandria Anaesthesia and Intensive Care Conference,  
Alexandrina, Egypt
- 5/2014                    Plenary Bruce Scott lecture: The customer is always right: Understanding our  
role in the obstetric pain experience  
Transthoracic echocardiography: An essential tool for the obstetric  
anaesthetist?  
Most influential papers of the past 10 years  
Obstetric Anaesthetists Association (OAA) Annual Meeting, Dublin Ireland,  
UK

- 11/2014 Placental perfusion and the anesthetist  
World Congress of Regional Anaesthesia and Pain Therapy, Cape Town, South Africa
- 2/2015 Post-Cesarean Section Analgesia  
Annual Wintersymposium, Leuven, Belgium
- 6/2015 Ultrasound and Transthoracic Echocardiography: An Essential Tool for the Obstetric Anesthesia Provider?  
Pregnant Patient Resuscitation: Simulation and Operational Reality  
2nd Latin America Symposium on OB Anesthesia, Cali, Colombia,
- 2/2016 Refresher Course Lecture: Obstetric Anesthesia in the Obese Patient  
Symposium Lecture: Strategies to Optimize Cesarean Delivery Analgesia in Breastfeeding Parturient  
IndoAnesthesia 2016, Jakarta, Indonesia
- 6/2016 Refresher course: Strategies to Optimize Cesarean Section Analgesia in Breastfeeding Parturient  
Symposium/Debate Panel: When HELLP Arrives: Managing Complications of Hypertensive Disorders of Pregnancy  
Canadian Anesthesiologists' Society Annual Meeting, Vancouver, Canada
- 10/2016 Strategies to optimize cesarean delivery analgesia in breast feeding parturient. Morbid obesity parturient, neuraxial techniques and drug dose.  
Modern epidural techniques to enhance labor analgesic efficacy.  
Ultrasound imaging for the perioperative anesthesiologist.  
20th Alexandria Anaesthesia and Intensive Care Conference, Alexandrina, Egypt
- 2/2017 Patient-centered, individualized analgesic treatment protocols for cesarean delivery  
Cutting-edge techniques to optimize labor epidural analgesia maintenance  
1st World Congress of Anesthesia for Obstetrics, Bali
- 4/2017 Cesarean Delivery Pain Management for the Breastfeeding Mother  
Modern Technology and Strategies to Optimize Epidural Labor Analgesia  
4th Annual Meeting of Japanese Society of Regional Anesthesia, Nagoya, Japan
- 4/2017 Programmed Intermittent Epidural Boluses (PIEB) for Labor Analgesia  
Japanese Smiths Medical Presentation, Tokyo, Japan
- 8/2017 Cutting-Edge Technology and Strategies to Optimize Epidural Labor Analgesia  
11th Annual Obstetric Anesthesia Conference, Xinxiang City, China
- 8/2017 Update on Labour Analgesia  
Optimal Pain Management after Caesarean Delivery  
Neuraxial Ultrasound: You really should be using it!  
Edinburgh Anaesthesia Festival, Edinburgh, Scotland



- 11/2017 Morbid obesity parturient: Optimal neuraxial techniques and drug dosages  
Austrian Society of Anesthesia National Meeting, Vienna, Austria
- 11/2017 Optimizing Cesarean Delivery Pain Management in Breastfeeding Mothers  
Neuraxial Blocks with Ultrasound For the Difficult or for All?  
Programmed Intermittent Epidural Boluses (PIEB) for Labor Analgesia  
24th International Congress of the Israeli Society of Anesthesiology and  
Critical Care, Tel Aviv, Israel
- 2/2018 Neuraxial Ultrasound: An Essential Tool to Optimize Care  
Latest Techniques to Facilitate Labor Analgesia  
IndoAnesthesia 2018, Jakarta, Indonesia
- 5/2018 Oxytocin and Beyond: An evidence-based approach to pharmacological  
treatment of uterine atony  
Moderator: Best Poster Session  
Obstetric Anaesthetists' Association Annual Scientific Meeting, Belfast
- 6/2018 Analgesia for labour and postcaesarean delivery  
Moderator: Poster Session  
ESA Euroanaesthesia 2018, Copenhagen, Denmark
- 6/2018 Labor Analgesia: Modern Technology and Strategies to Enhance Maternal  
Outcomes  
Ultrasound-assisted Neuraxial Placement: Why and How?  
Ganga Anaesthesia Refresher Course, Coimbatore, India
- 8/2018 Neuraxial Ultrasound: An Essential Tool to Optimize Obstetric Anesthesia  
Care  
12th National High-Risk Obstetric Analgesia and Anesthesia Symposium,  
Beijing, China
- 9/2018 PBLD: Major Obstetric Hemorrhage  
Lecture: Epidural-related maternal fever (ERMF)  
Lecture: Labor analgesia: Non-pharmacological methods  
PBLD: My patient is 38 weeks pregnant, has 30,000 platelets and requires  
labor analgesia  
European Society of Regional Anesthesia (ESRA) Annual Congress, Dublin,  
Ireland
- 11/2018 Accuro: A Novel Ultrasound Device to Assist Neuraxial Anesthesia  
15th Asian and Australasian Congress of Anaesthesiologists and Chinese  
Society of Anesthesiology Annual Meeting, Beijing, China
- 11/2018 State-of-the-art Techniques to Ensure Optimal Labor and Cesarean Delivery  
Analgesia  
Neuraxial Ultrasound to Optimize Obstetric Anesthesia Care  
52nd National Congress on Anesthesiology and Reanimation of Turkish  
Society of Anesthesiology and Reanimation (TARK 2018), Antalya, Turkey

- 4/2019 Keynote Lecture: Regional Anesthesia in Obstetrics  
15th Asian and Oceanic Society of Regional Anesthesia and Pain Medicine Congress, Kochi, Japan
- 8/2019 Plenary lecture: Cesarean Delivery Analgesia: Minimizing Postoperative Pain and Opioid Use  
Questions and Answers Panel Discussion  
National High Risk Obstetric Anesthesia and Analgesia Annual Meeting, Beijing
- 10/2019 Breastfeeding after anaesthesia  
Pain and post-operative nausea and vomiting (PONV) after caesarian section: how can we prevent and treat?  
European Society of Anesthesiology (ESA) Focus Meeting “Mother and Child” Rome, Italy
- 11/2019 Incheon, Korea November 2019  
Cutting-edge techniques to optimize labor epidural analgesia  
Ultrasound-assisted neuraxial placement in labor & delivery  
96th Korean Society of Anesthesiologists Annual Scientific Meeting “KoreAnesthesia 2019”
- 11/2019 The ideal regimen for uterotonics at caesarean delivery - a consensus view  
Saturday 23  
Debate: Vasopressors for spinal hypotension - time for a paradigm shift?  
International Congress of Obstetric Anaesthesia, Cape Town, South Africa
- 12/2019 Effective Opioid-Reduction Strategies After Cesarean Delivery  
Moderator: The Severely Ill Pregnant Patient  
Debate: Neuraxial Ultrasound Should be Routine Before Neuraxial Procedures  
Personalized postoperative pain management: Does patient engagement improve outcomes?  
2nd Anesthesiology Alive Conference. Porto, Portugal
- 2/2020 Postoperative analgesia after C-section  
35th International Winter Symposium. Leuven, Belgium
- 6/2020 Pain Management After Cesarean Delivery  
5th Annual Virtual Obstetric Anesthesia Meeting, Monterrey, Mexico
- 6/2020 Recommendations for the Prevention and Detection of Respiratory Depression Associated with Neuraxial Morphine Administration (Virtual Presentation)  
67th Virtual Annual Meeting Japanese Society of Anesthesiologists, Kobe, Japan
- 10/2020 Neuraxial techniques to optimize labour analgesia  
Primer Congreso Virtual Peruano de Anestesiología, Peru
- 1/2021 Memorial Lecture: The Impact of Obstetric Anesthesiologists on Peripartum Care and Outcomes  
Japanese Association for Perinatal Anesthesiology (JAPA), Japan

- 2/2021                    Techniques to Optimize Your Labor Epidural Analgesia  
Indoanesthesia 2021, Indonesia
- 3/2021                    The ideal uterotonics and doses for cesarean delivery  
Ultrasound: An essential tool to assist spinals and epidurals  
Santa Joana Obstetric Anesthesia Meeting, San Paulo, Brazil
- 5/2021                    Talk: SOAP Centers of Excellence for Anesthesia Care of Obstetric Patients:  
US Experience; Panel Discussion: SOAP COE for Anesthesia Care of  
Obstetric Patients  
Joint SOAP and Japanese (JSOAP, JALA, JAPA) Symposium, Virtual
- 7/2021                    SOAP Centers of Excellence for Anesthesia Care of Obstetric Patients  
Colombian Society of Anesthesia
- 9/2021                    Guidelines on respiratory monitoring after neuraxial opioids  
World Congress of Anesthesiologists, Prague
- 9/2021                    Ultrasound for Central Neuraxial Blocks in the Obstetric Population  
International Symposium on Spine and Paravertebral Sonography (ISSPS) for  
Anaesthesia and Pain Medicine 2021 Live Webinar Series, Hong Kong
- 10/2021                    Modern neuraxial labour analgesia: options for initiation  
Regional nerve blocks (TAP, QBL, ESP, rectus) for cesarean delivery  
Providing enhanced recovery after cesarean delivery  
ESRA Spring Monothematic Conference, Algarve, Portugal
- 11/2021                    Strategies to optimize pain management after cesarean delivery  
Neuraxial techniques for the obesity parturient  
KoreAnesthesia 2021, Busan, South Korea
- 12/2021                    EpiFaith Syringe in the Labor Epidural Setting  
Taiwan Society of Anesthesiologists 65th Annual Meeting
- 2/2022                    Enhanced Recovery After Cesarean Delivery  
19th Indoanesthesia Meeting, Jakarta, Indonesia
- 10/2022                    Good Anesthetics Practices for Cesarean Delivery  
Portuguese National Meeting of Anesthesiology Trainees, Portugal
- 11/2022                    Modern technology to enhance labor epidural analgesia  
67th Brazilian Congress of Anesthesiology Scientific Meeting, Rio de Janeiro,  
Brazil
- 11/2022                    Regional blocks for Cesarean Delivery: TAP, QBL, ESP, IL/IH, Rectus  
Sheath  
16th Asian Australasian Congress of Anaesthesiologists (AACA), Seoul,  
Korea
- 2/2023                    Neuraxial labour analgesia: Drugs, adjuvants, volume and concentration  
37th International Winter Symposium, Leuven, Belgium

**Visiting Professorships: (25 presentations)**

3/2009	Visiting Professor University of California San Diego (UCSD)
4/2009	Visiting Professor University of Washington Medical Center, Seattle
5/2009	Visiting Professor UC Davis, California
12/2009	Visiting Professor Beth Israel Deaconess Medical Center, Boston
2/2010	Visiting Professor Al Wasl Hospital, Dubai, UAE
3/2010	Visiting Professor University of New Mexico, Albuquerque
1/2011	Visiting Professor University of British Columbia, Vancouver, Canada
12/2011	Visiting Professor and Presentation, TAP Block and Lumbar Spine Ultrasound Groote Schuur Hospital, Cape Town, South Africa
2/2013	Visiting Professor and Presentation, Strategies to optimize cesarean delivery analgesia Perth, Australia
2/2014	Visiting Professor Anesthesia Department Presentation: Providing Optimal Cesarean Delivery Analgesia Obstetric Department Presentation: Labor Analgesia: Strategies to Enhance Maternal and Fetus Outcomes University of Witwatersrand, South Africa
11/2014	Visiting Professor, Cesarean Delivery Pain Management: Past, Present and Future University of Virginia (UVA)
9/2016	Visiting Professor Grand Rounds: Cesarean Delivery Pain Management: Past, Present and Future Division Presentation: Ultrasound imaging for the perioperative anesthesiologist. Duke University
6/2017	Visiting Professor, Postoperative Pain Management: Past, Present and Future Massachusetts General Hospital

- 8/2017 Visiting Professor, Cutting-Edge Technology and Strategies to Optimize Epidural Labor Analgesia  
Zhengzhou Hospital, China
- 2/2018 Visiting Professor, State-of-the-art Techniques to Ensure Optimal Epidural Labor Analgesia  
Asan Medical Center, Seoul, South Korea
- 3/2018 Visiting Professor  
Duffy Lecture: Perioperative Pain Management: Past, Present and Future  
The Anesthesiologist's Role in Pre-Eclampsia Management  
UT Southwestern, Texas
- 4/2018 Visiting Professor  
Journal Club: Enhanced recovery after Cesarean Delivery  
Grand Rounds: Surgical Pain Management: Past, Present and Future  
Resident Lecture: Pre-Eclampsia Management  
Wake Forest
- 6/2018 Visiting Professor  
Modern Techniques and Strategies to Optimize Epidural Labor Analgesia  
Management of Major Obstetric Hemorrhage  
Profound hypotension after spinal anesthesia for cesarean delivery  
University of Leven, Leuven, Belgium
- 6/2018 Visiting Professor, Management of Major Obstetric Hemorrhage  
University of Antwerp, Leuven, Belgium
- 8/2019 Visiting Professor: Techniques to optimize labor epidural analgesia  
Beijing Obstetric Hospital, Beijing
- 8/2019 Visiting Professor: The role of ultrasound to assist spinal and epidural placement  
Southern Medical University Shenzhen Hospital, Shenzhen
- 8/2019 Visiting Professor: The role of ultrasound to assist spinal and epidural placement  
Zhongshan No.1 Hospital, Guangzhou
- 8/2019 Visiting Professor: The role of ultrasound to assist spinal and epidural placement  
Peking Union College Hospital, Beijing
- 1/2020 Visiting Professor: Personalized Cesarean Delivery Pain Management  
SUNY Downstate Medical Center
- 3/2020 Visiting Professor: Personalized Postoperative Pain Management  
Washington University, St Louis

## **XII. TRAINEES**

**Graduate students:**

**Sherri Rohlf, Marie Durbin**, OB Anesthesia Postgraduate Fellowship, 2002-2003  
**Cathy Brummel, Andrea Fuller**, OB Anesthesia Postgraduate Fellowship, 2003-2004  
**Leslie Andes, Alexander Butwick**, OB Anesthesia Postgraduate Fellowship, 2004-2005  
**Vince Campitelli, Laura Roland**, OB Anesthesia Postgraduate Fellowship, 2005-2006  
**Damian Horstman**, Research Electives, 2006-2006  
**Jonathan Tang**, FAER Medical Student Anesthesia Research Fellow Program, 2006-2006  
**Amy Evers, Sachin Mehta**, OB Anesthesia Postgraduate Fellowship, 2006-2007  
**Daniel Broderick**, FAER Medical Student Anesthesia Research Fellow Program, 2007-2007  
**Javier Lorenzo**, Research Electives, 2007-2007  
**Pedram Aleshi, Lee Coleman, Leinani Aiono-Le Tagalao**, OB Anesthesia Postgraduate Fellowship, 2007-2008  
**Lindsey Atkinson, Scott Harter, Vicki Ting**, OB Anesthesia Postgraduate Fellowship, 2008-2009  
**Carolann Hass**, FAER Medical Student Anesthesia Research Fellow Program, 2009-2009  
**Phil Rubin, Gill Hilton, Sebastian Ruehlmann**, OB Anesthesia Postgraduate Fellowship, 2009-2010  
**Pervez Sultan, Cristina Gutierrez**, OB Anesthesia Postgraduate Fellowship, 2010-2011  
**Louise Wen**, FAER Medical Student Anesthesia Research Fellow Program, 2011-2011  
**Y Al-Tamimi**, Thesis Examination, University of Western Australia, 2011-2011  
**Farheen Mirza, Gill Hilton**, OB Anesthesia Postgraduate Fellowship, 2011-2012  
**Tomás Lazo**, FAER Medical Student Anesthesia Research Fellow Program, 2012-2012  
**Kulsum Akbar**, OB Anesthesia Postgraduate Fellowship, 2012-2013  
**Yuri Cho, Naola Austin, Adrienne Duffield**, OB Anesthesia Postgraduate Fellowship, 2013-2014  
**Kathleen Brookfield**, MFM Postgraduate Fellowship, 2013-2015  
**Kevin Mangum**, FAER Medical Student Anesthesia Research Fellow Program, 2014  
**R Brownino**, Thesis Examination, University of Western Australia, 2014  
**Rachel Wang**, Research Electives, 2014  
**Ryu Komatsu, Ben Cobb, Christine Piascik**, OB Anesthesia Postgraduate Fellowship, 2014-2015  
**Seden Akdagli**, Research Electives, 2014-2016

**Phi Ho**, FAER Medical Student Anesthesia Research Fellow Program, 2015

**Amy Judy**, MFM Postgraduate Fellowship, 2015-2016

**Claire Miller**, Research Electives, 2015-2016

**Katherine Seligman, Caitlin Sutton, Allison McDonald**, OB Anesthesia Postgraduate Fellowship, 2015-2016

**Adrain Chow**, FAER Medical Student Anesthesia Research Fellow Program, 2016

**L du Toit**, Thesis Examination, University of Cape Town, 2016

**S Chetty**, Thesis Examination, University of the Witwatersrand, 2016

**Amanda Yeaton-Massey**, MFM Postgraduate Fellowship, 2016-2017

**Kelly Fedoruk, John Kowalczyk, Mary Yurashevich**, OB Anesthesia Postgraduate Fellowship, 2016-2017

**Kazuo Ando**, Research Electives, 2016-2018

**Jessie Ansari, Jalal Nanji, Paul Macias**, OB Anesthesia Postgraduate Fellowship, 2017-2018

**Brian Tse**, Research Electives, 2018

**Neil Kalariya, Amy Willett, Waseem Athar**, OB Anesthesia Postgraduate Fellowship, 2018-2019

**Sapna Satyanarayan-Victor, Maria Sheikh, Cedar Fowler**, OB Anesthesia Postgraduate Fellowship, 2019-2020

**Emily Stockert, Dan Hoang, Mary Im, Erin Loeliger**, OB Anesthesia Postgraduate Fellowship, 1/2020-8/2021

**Liz Ozery, Alla Yarmosh, Leziga Obiyo**, OB Anesthesia Postgraduate Fellowship, 8/2021-12/2022

**Alix Baycraft, Nada Ismaiel**, OB Anesthesia Postgraduate Fellowship, 8/2022

**Lydi Martinez, Daniel Conti**, OB Anesthesia Postgraduate Fellowship, 1/2023

#### **Undergraduate students:**

**Amit Saxena**, Undergraduate/Medical Student Research Elective, 2004-2004

**Surbi Sarna**, Undergraduate/Medical Student Research Elective, 2004-2004

**Phillip Wang**, Undergraduate/Medical Student Research Elective, 2005-2005

**Surbi Sarna**, Undergraduate/Medical Student Research Elective, 2005-2005

**Amit Saxena**, Undergraduate/Medical Student Research Elective, 2006-2006

**Christina Danial**, Undergraduate/Medical Student Research Elective, 2007-2007

**Jocelyn Wong**, Undergraduate/Medical Student Research Elective, 2009-2009

**Phillip Wang**, Undergraduate/Medical Student Research Elective, 2009-2009

**Lei Tian**, Undergraduate/Medical Student Research Elective, 2010-2010

**Luo Luo Zheng**, Undergraduate/Medical Student Research Elective, 2013-2013

**Ashley Valentine**, Undergraduate/Medical Student Research Elective, 2014-2014

**Merrick Tan**, Undergraduate/Medical Student Research Elective, 2015-2015

### **XIII. ADDITIONAL INFORMATION**

9/2023

Additional Information

Twitter: @CarvalB

Google Scholar: Citations: 11698; h-index: 62; i10-index: 182 (September 2023)

My Bibliography US National Library of Medicine:

<https://www.ncbi.nlm.nih.gov/myncbi/1LCY82v888j/bibliography/public/>