Rita T. Roy, MD

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Dr. Rita Roy is the Chief Executive Officer of the National Spine Health Foundation**,** where she leads initiatives to advance spinal health through research, education, and advocacy**.** A general surgeon by training**,** Dr. Roy brings more than three decades of leadership experience spanning medical education, technological innovation, and organizational development. She has co-founded and directed several ventures at the intersection of medicine and technology, including Astute Technology and Medical Consumer Media, and previously served as Medical Director for HT Medical, contributing to the development of virtual reality–based surgical training systems. A recognized authority in health innovation and patient engagement, Dr. Roy's career reflects a career-long commitment to advancing academic excellence, translational research, and patient-centered care through strategic leadership and cross-sector collaboration.

Experience

CEO, NATIONAL SPINE HEALTH FOUNDATION, RESTON VA — 2019-PRESENT
Provides strategic leadership across operations, fundraising, research, education, and advocacy; forges high-impact partnerships with nonprofits, foundations, and corporate stakeholders to advance organizational goals.

PARTNER, HEALTHCOMM ASSOCIATES, RESTON VA — 2017-2019
Independent consultancy supporting medical associations and patient advocacy organizations, providing expertise in fundraising strategy, meeting planning, digital communications, and marketing optimization to enhance engagement and ROI.

CO-FOUNDER&PRESIDENT, ASTUTE TECHNOLOGY, RESTON VA — 2005-2017
Founded and scaled a digital education company delivering award-winning learning and communication solutions for nonprofits, hospitals, universities, and government agencies; served 50+ medical and scientific associations before acquisition by **Echo360**.

ASSISTANT RESEARCH PROFESSOR, GWUMC, WASHINGTON, DC — 2001-2005
Responsible for overseeing the distance learning component of a multi-center genomics study between GWU, Johns Hopkins University Medical Center and Children's National Medical Center.

VICE PRESIDENT, MEDICAL AFFAIRS, HEALTHANSWERS, RESTON VA — 1999-2001
Served as corporate VP of Medical Affairs, overseeing operations and integration after merger. Tasks involved overseeing migration of software platforms, legacy systems management, integration of project management.

PRESIDENT & CO-FOUNDER, MEDICAL CONSUMER MEDIA, BETHESDA, MD —1995-1999
MCM launched the first pharmaceutical-sponsored website **(**GlaxoWellcome's HELIX**)** and led multiple award-winning digital health initiatives, including the Freddie Award–winning ICRA program for Johnson & Johnson. Designed and launched Doctor's Net Access (DNA)**,** one of the earliest internet services for physicians. Recognized among Fairfax County's "Top 50 to Watch" for rapid growth and innovation in the health technology sector.

MEDICAL DIRECTOR, HT MEDICAL, ROCKVILLE MARYLAND, MD — 1993-1995
HT Medical pioneered 3D visualization technologies for medical and scientific education; secured **DARPA funding** to develop surgical simulators integrating battlefield and flight simulation technologies. Commercialized a **vein-puncture simulator** prior to acquisition by **Immersion Corporation (IMMR)** in 2000.

Education

1988 B.A. Philosophy, George Washington University, Washington, DC
1988 B.S. Zoology, George Washington University, Washington, DC
1990 M.S. Biological Sciences, George Washington University, Washington, DC
1994 M.D. The George Washington University Medical Center, Washington, DC
1995 General Surgery Internship The George Washington University Medical Center, Washington, DC

Awards, and Honors

2024 Best Paper North American Spine Society (NASS)
2023 Best Healthcare Internet Content
2023 Best Patient Video Program
2023 Best Healthcare Podcast
2023 Best Paper Award, International Society for the Advancement of Spine Surgery (ISASS)
2023 Best Paper Award, Global Spine Journal
2022 Best Healthcare Podcast
2021 Best Poster Award, ISASS
2021 Best Healthcare Communications, e-Healthcare Awards
2021 Best Healthcare Podcast, e-Healthcare Awards
2021 Best Healthcare Social Media, e-Healthcare Awards
1994 Student Leadership Award-ODK, GWUMC
1992 Omicron Delta Kappa, Medical Honor Society, GWUMC
1991 W.T. Gill Summer Research Fellowship Award, GWUMC
1990 University Excellence in Scholarship, Fellowship Award, GWU
1989 Outstanding Graduate Award, Philosophy Department, GWU

Boards, Community, Volunteer Involvement

2023- Virginia Innovation Partnership Authority, State of Virginia
2021- Patient Engagement Advisory Committee, US Food&Drug Administration
2021- **2023** Executive Committee, United States Bone and Joint Initiative
2019-2023 Dean's Corporate Advisory Council, GWU School of Business
2017-2021 Executive Committee, Parents Council, The University of Virginia
2012-2018 Board Member, The Virginia Foundation for the Humanities
2019-2021 Board of Trustees, St. Albans School
2010-2016 Board Member, The Washington Ballet
2006-2012 Board of Trustees, The Langley School
2003-2005 Advisory Board Member, The Junior League of Northern Virginia
1998-1999 Board Member, World Congress on Information Technology
1997-2000 Programs Board Member, OperationSmile

Lectures/Presentations

2024 IOF/ESCEO/World Congress Osteoporosis: Bone Health and the Spine: Opportunities to Drive Public Health
2023 Spine20 Global Conference, New Delhi, India: "How Physical Activity Affects Spine Health"
2022 Spine20 Global Meeting,Bali, Indonesia: **"**Public engagement to strengthen public safety"
2021 The Capital Speakers "Informed decision making for optimal health results"
1996 Nat'l Managed Healthcare Congress: InfoHealth."Virtual Reality, the World Wide Web& the Doctor Patient Relationship."
1996 American Society of Health Systems Pharmacists. "The Web & Pharmacy Education--HELIX."
1996 Interactive Healthcare '96. "Using the WWW to Enhance the Doctor Patient Relationship."
1995 American Academy of Ophthalmology Annual Meeting. "Virtual Tour Through the Eye.
1995 Symposium for Computer Applications in Medical Care. "Disseminating Virtual Reality"
1995 TED-Medical '95. "Virtual Reality, the World Wide Web and Consumer Health Information.
1995 Radiologic Society of North America. "Virtual Reality and Interventional Radiology."
1994 American College of Cardiology Annual Meeting. "Virtual Reality Angioplasty."
1994 American Urologic Association Annual Meeting. "Virtual Reality Ureteroscopy."
1994 Symposium for Computer Applications in Medical Care. "Virtual Reality Medical Education."
1993 American College of Surgeons Annual Meeting. "Virtual Reality for Surgerical Training."

Patent Portfolio

8-Filed: October 23, 2014 Publication date: April 23, 2015
ENHANCED CAPTURE, MANAGEMENT AND DISTRIBUTION OF LIVE PRESENTATIONS
Publication number: 20150112676
7-Filed: August 28, 2012 Date of Patent: December 23, 2014
Enhanced capture, management and distribution of live presentations
Patent number: 8918708
6-Filed: August 28, 2012 Publication date: December 20, 2012
ENHANCED CAPTURE, MANAGEMENT AND DISTRIBUTION OF LIVE PRESENTATIONS
Publication number: 20120324323
5-Filed: March 29, 2010 Date of Patent: October 9, 2012
Enhanced capture, management and distribution of live presentations
Patent number: 8286070
4-Filed: March 29, 2010 Publication date: December 30, 2010
ENHANCED CAPTURE, MANAGEMENT AND DISTRIBUTION OF LIVE PRESENTATIONS
Publication number: 20100328465
3-Filed: October 13, 2006 Date of Patent: March 30, 2010
Enhanced capture, management and distribution of live presentations
Patent number: 7689898
2-Filing Date: October13, 2006 Publication date: February 8, 2007
Enhanced capture, management and distribution of live presentations
Publication number: 20070033528
1-Filing date: 1998 Publication Date: 2006
Method and system for the storage and retrieval of web-based education materials
Publication Number US 6789228 B1 Patent number: US 09073871

Research Positions

2019-2022: *CEO*, National Spine Health Foundation. Serve in the role of Director of Research. See Publication list.
1997-2000*: Assistant Research Professor*, Department of Biochemistry and Molecular Biology, The George Washington University Medical Center, Washington, DC

- Directed the distance learning initiative for multicenter study.

1992- 1995: *Surgical Research Assistant,* The George Washington University Medical Center, Washington, DC

- Studied complication rates of laparoscopic surgical procedures.
- Collaborated with American College of Surgeons and Association of Program Directors in Surgery to assess the role of computer assisted instructional simulators for training and credentialing residents in laparoscopic surgery.

1990-91: *Research Assistant*. Department of Biochemistry, The George Washington University Medical Center, Washington, DC

- Created biochemical experiments for analysis of ionic flux in ischemic neural tissue.
- Utilized state of the art laboratory equipment to perform assays on cortical homogenates
- Performed large and small animal dissection

1988-90: *Fellow and Graduate Teaching Assistant*, Biological Sciences Department , George Washington University

- Taught and developed curricula for laboratory courses in biology and human physiology
- Designed an independent project involving animal dissection, tissue fixation, ultra-microtomy, scanning and transmission electron microscopy.
- Master's Thesis entitled, ***"Characterization of a Modified Gill Structure in the Swordtail Characin, Corynopoma risseii."***

1987-88: *Visiting Scientist*, The Naval Medical Research Institute, Rockville, MD.

- Employed phlebotomy, parasitemia, indirect fluorescent microscopy.
- Presented preliminary data entitled ***"Sensitivity of a Rapid Diagnostic Test for Malaria."***

Publications and Academic Presentations

- Best Paper 2024
  North American Spine Society (NASS) Schuler KA BS, Orosz LD, MSPAC, Yamout T, MD, Allen BJ, BA, Lerebo WT, PhD, Roy RT, MD, Schuler TC, MD, Good CR, MD, Haines, CM, MD, Jazini E, MD "Performance Comparison between Hounsfield Units and DEXA in Predicting Lumbar Interbody Cage Subsidence after Circumferential Lumbar Fusion" *Podium Presentation* at the NASS, Chicago, IL, September 25-28, 2024.
- Fenil R. Bhatt, BS, Lindsay D. Orosz, MSPA-C, Kirsten A. Schuler, BS, Brandon J. Allen, BA, Rita T. Roy, MD, Julia N. Grigorian, BA, Thomas C. Schuler, MD, Christopher R. Good, MD, FACS, Ehsan Jazini, MD, Colin M. Haines, MD, Cervical Hybrid Constructs Reduce Superior Adjacent Segment Burden Compared to Multilevel Anterior Cervical Discectomy and Fusion, Journal of Spine Surgery (2024) doi: 10.21037/jss-23-135
- Glenn A. Gonzalez MD, Ellina Hattar MD, Teleale Fikru MD, Shreya Vinjamuri, Lindsay D. Orosz, MSPA-C, Brandon J. Allen, Daniela A. Perez-Chadid3, Rita Roy, MD², Michael Vo BS and James S. Harrop MD, MSHQS, Public Interest in Cervical Spine Topics Informs Educational Needs: 5,448 Survey Results, Surgical Research (2024) ISSN: 2689-1093
- Best Paper 2023
  Global Spine Journal, June 1, 2023
  Bhatt FR, Orosz LD, Tewari A, Boyd D, Roy R, Good CR, Schuler TC, Haines, CM, Jazini E. Augmented Reality-Assisted Spine Surgery: An Early Experience Demonstrating Safety and Accuracy with 218 Screws. *Global Spine Journal.* January 2022. doi:10.1177/21925682211069321
- Orosz LD, Thomson AE, Yamout T, Bhatt FR, Allen B, Schuler TC, Roy R, Good CR, Haines CM, Jazini E. Opioid Use After Elective Spine Surgery: Do Spine Surgery Patients Consume Less than Prescribed Today? *North American Spine Society Journal*. 23 November, 2022. doi: https://doi.org/10.1016/j.xnsj.2022.100185
- Bhatt FR, Orosz L, Tewari A, Roy R, Good CR, Schuler TC, Haines CM, Jazini E. "Augmented Reality-Assisted Spine Surgery: An Early Experience Demonstrating Safety and Accuracy with 218 Screws." *Podium Presentation* at the International Meeting on Advanced Spine Techniques, Miami, FL, April 9th, 2022.
- Thomson AE, Orosz L, Haines CM, Jazini E, Bhatt FR, Sabet A, Roy R, Schuler TC, Good CR. "Robotic-Guided Thoracolumbar Fusion Experience: A Multi-Surgeon, Single-Center Study of 628 Patients and 3,874 Robotic-Guided Screws from 2012 to 2020." *Poster Presentation* at the Canadian Spine Society, virtual, April 6th, 2022.
- Good CR, Orosz L, Thomson AE, Bhatt FR, Grigorian JN, Schuler TC, Haines CM, Merril JR, Roy R, Jazini E, Wang M. "Comparison of Complications, Revision Rates, and Fluoroscopy Time Using the Latest Technology in Robotic-Guided Surgery to Historic Fluoroscopic-Guided Controls." *Poster Presentation* at the Canadian Spine Society, virtual, April 6th, 2022.
- Bhatt FR, Orosz L, Tewari A, Boyd D, Roy R, Good CR, Schuler TC, Haines CM, Jazini E. "Augmented Reality-Assisted Spine Surgery: An Early Experience Demonstrating Safety and Accuracy with 218 Screws." *Poster Presentation* at the Canadian Spine Society, virtual, April 6th, 2022.
- Bhatt FR, Orosz L, Tewari A, Roy R, Good CR, Schuler TC, Haines CM, Jazini E. "Augmented Reality-Assisted Spine Surgery: An Early Experience Demonstrating Safety and Accuracy with 218 Screws." *Podium Presentation* at the International Society for the Study of the Lumbar Spine, Boston, MA, May 13th, 2022.
- Bhatt FR, Orosz L, Tewari A, Roy R, Good CR, Schuler TC, Haines CM, Jazini E. "Augmented Reality-Assisted Spine Surgery: An Early Experience Demonstrating Safety and Accuracy with 218 Screws." *Podium Presentation* at the Global Spine Congress, Las Vegas, NV, June 4th, 2022.
- Good CR, Orosz LD, Thomson AE, Schuler TC, Haines CM, Bhatt FR, Boyd D, Grossman KM, Roy R, Jazini E. Robotic-guidance allows for accurate S2AI placement without complications. J Robotic Surg. 2021 Dec 1. doi: 10.1007/s11701-021-01345-x
- Jazini E, Thomson AE, Sabet AD, Sohail O, Carreon LY, Orosz L, Bhatt FR, Roy R, Haines CM, Schuler TC, Good CR. Adoption of enhanced surgical recovery (ESR) protocol for adult spinal deformity (ASD) surgery decreases in-hospital and 90-day post-operative opioid

- Haines CM, Gorick C, Thomson AE, Jazini E, Schuler TC, Roy R, Good CR. "Cervical BMP Use is Associated with Increased Fusion Rates Without More Complications in Anterior Cervical Discectomy and Fusion." Podium Presentation at the Global Spine Congress, Paris, France, November 4th, 2021.
- Jazini E, Thomson AE, Sabet A, Carreon LY, Roy R, Haines CM, Schuler TC, Good CR. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Lumbar Fusion Decreases In-Hospital Post-operative Opioid Consumption." *Podium Presentation* at North American Spine Society 36th Annual Meeting, Boston, MA, USA, September 29th, 2021.
- Haines CM, Orosz L, Thomson AE, Schuler TC, Good CR, Grover P, Dreischarf M, Roy R, Jazini E. "Novel Artificial Intelligence Algorithm can Accurately and Independently Measure Spinopelvic Parameters." *Podium Presentation* at the North American Spine Society 36th Annual Meeting, Boston, MA, USA, September 29th, 2021.
- Haines CM, Orosz L, Thomson AE, Schuler TC, Good CR, Grover P, Dreischarf M, Roy R, Jazini E. "Novel Artificial Intelligence Algorithm can Accurately and Independently Measure Spinopelvic Parameters." *Podium Presentation* at the International Society for the Advancement of Spine Surgery 21st Annual Meeting, Miami, FL, USA, May 15th, 2021.
- Best Poster Award - ISASS 2021
- Jazini E, Thomson AE, Sabet A, Carreon LY, Roy R, Haines CM, Schuler TC, Good CR. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Lumbar Fusion Decreases In-Hospital Post-operative Opioid Consumption." Poster Presentation at the International Society for the Advancement of Spine Surgery 21st Annual Meeting, Miami, FL, USA, May 14th, 2021.
- Jazini E, Thomson AE, Sabet AD, Carreon LY, Roy R, Haines CM, Schuler TC, Good CR. Adoption of Enhanced Surgical Recovery (ESR) Protocol for Lumbar Fusion Decreases In-Hospital Postoperative Opioid Consumption. Global Spine Journal. May 2021. doi:10.1177/21925682211015652
- Haines CM, Orosz L, Thomson AE, Schuler TC, Good CR, Grover P, Dreischarf M, Roy R, Jazini E. "Novel Artificial Intelligence Algorithm can Accurately and Independently Measure Spinopelvic Parameters." Podium Presentation at the International Meeting on Advanced Spine Techniques, Dublin, Ireland, virtual, April 22-24th, 2021.
- Haines CM, Orosz L, Thomson AE, Schuler TC, Good CR, Grover P, Dreischarf M, Roy R, Jazini E. "Novel Artificial Intelligence Algorithm can Accurately and Independently Measure Spinopelvic Parameters." Podium Presentation at the Lumbar Spine Research Society 14th Annual Meeting, virtual, April 8th, 2021.
- Jazini E, Thomson AE, Sabet A, Carreon LY, Roy R, Haines CM, Schuler TC, Good CR. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Lumbar Fusion Decreases In-Hospital Post-operative Opioid Consumption." Podium Presentation at the Lumbar Spine Research Society 14th Annual Meeting, virtual, April 10th, 2021.
- Jazini E, Haines C, Schuler TC, Sohail O, Orosz L, Roy R, Carreon LY, Good CR. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Adult Spinal Deformity (ASD) Surgery Decreases In-Hospital and 90-day Post-operative Opioid Consumption." North American Spine Society (NASS), 2020.
- Jazini E, Haines C, Orosz L, Bharara N, Schuler TC, Sohail O, Roy R, Carreon LY, Good C. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Lumbar Fusion Decreases In-Hospital Post-operative Opioid Consumption." North American Spine Society (NASS), 2020.
- Jazini E, Haines C, Orosz L, Bharara N, Schuler TC, Sohail O, Roy R, Carreon LY, Good C. "Adoption of Enhanced Recovery After Surgery (ERAS) Protocol for Lumbar Fusion Decreases In-Hospital Post-operative Opioid Consumption." Lumbar Spine Research Society (LSRS), 2019.
- Roy, R., Merril, J. "The Internet and Healthcare Education: HELIX," The Journal of the Florida. Medical Association, Vol. 83, No.9, November, 1996, p 634-644.
- Roy, R., Merril, J., Merril, G., Raju, R., Millman, A., Meglan, D., Preminger, G., Babayan, R., "Photorealistic Interactive Three-dimensional Graphics in Surgical Simulation," Interactive Technology and the New Paradigm for Healthcare, Vol., 18, p. 244-252, 1995.

- Merril, J., Higgins, G., Raju, R., Millman, A., Roy, R., Merril, G., 'A Virtual Reality Swiss Army Knife: An Authoring System for Developing Everything from Neurosurgical Training Applications to Video Games,' VR World Magazine, March 1995; *in press.*
- Roy, R., Merril, J., Allman, S., Merril, G., "Virtual Heart Surgery: Trade Show and Medical Education." Virtual Reality World, Vol. 2, No. 4, July/August, p. 55-57, 1994.
- Merril, J., Allman, S., Roy, R., Merril, G., "Cyber Surgery: Cutting Costs, Sewing Benefits." Virtual Reality Special Report, Summer, p. 39-42, 1994.
- Roy, R., Merril, J., Millman, A., Raju, R., "Window to the Soul: A High-Tech Look into the Eye." VR World, Vol. 3, No. 1, January/February, p. 51-53, 1994.
- Merril, J., Raju, R., Roy, R., "VR Applications in Medical Education." Virtual Reality Special Report; Premier Issue, p. 61-64, 1994.
- Merril, J., Roy, R., Raju, R., "Virtual Reality for Trade Shows and Individual Physician Training." Virtual Reality Systems, Vol. 1, No. 3 Spring p. 40-44, 1994.
- Merril, J., Roy, R., Merril, G., Raju, R., 'Revealing the Mysteries of the Brain with VR.' Virtual Reality Special Report, Vol. 1, No. 4, Winter, p. 61-65, 1994.
- Merril, J., Preminger, G., Babayan, R., Roy, R., 'Surgical Simulation Using Virtual Reality Technology: Design, Implementation, and Implications.' Surgical Technology International III.
- Hoehner, P., Blanck, T., Roy, R., Rosenthal, R., Fiskum, G., 'Alteration of voltage sensitive Ca2+ channels in canine brain during global ischemia and reperfusion,' Journal of Cerebral Blood Flow and Metabolism, 12(3) 418-24, 1991.
- Hoehner, P., Blanck, T., Roy, R., Rosenthal, R., Fiskum, G. 'Alteration of voltage dependent calcium channels (VDCC) in the brain during global ischemia and reperfusion,' Journal of Cardiothoracic Anesthesia, 1991.