

## Rita T. Roy, MD

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### Profile

Dr. Roy has served the medical education and communication sectors as a seasoned professional as a physician and entrepreneur. Her education and experiences combine an expertise in medicine and information technology. She has been a serial entrepreneur helping to drive profitable companies through successful acquisitions and mergers. She has an extensive background in interactive multimedia, and medical education and communication. Previously, she served as Partner, Co-Founder and President of Astute Technology for twelve years until its acquisition in 2016 by Echo 360, Inc. Prior to that, she cofounded Medical Consumer Media (MCM) where she served for four years as President until its acquisition by HealthAnswers, Inc. During her time as a general surgery resident, Dr. Roy served as Medical Director for HT Medical, helping to develop virtual reality training tools for procedural medicine which was acquired by Immersion Corporation. Dr. Roy has been invited to give presentations on the ways in which the Internet can be used to advance the state of the art for health information and education throughout the country. Dr. Roy has written and co-authored many publications on software technologies and education. Dr. Roy is currently the CEO of the National Spine Health Foundation.

### Experience

#### **CEO, NATIONAL SPINE HEALTH FOUNDATION, RESTON VA — 2019-PRESENT**

Collaborate with Board of Directors in executing mission. Implement and oversee fundraising activities. Oversee planning and execution of educational content offerings. Direct and manage research activity. Engage advocacy directives in forming key partnerships and collaborations with other nonprofits, foundations, and corporations.

#### **PARTNER, HEALTHCOMM ASSOCIATES, RESTON VA — 2017-2019**

Independent consultancy serving medical associations and patient advocacy organizations. Services include meeting planning, fundraising strategy and implementation, electronic communications strategies, marketing and best practices for optimal content delivery and ROI.

#### **CO-FOUNDER&PRESIDENT, ASTUTE TECHNOLOGY, RESTON VA — 2005-2017**

Founded company to develop cutting edge digital educational and communication strategies and solutions for nonprofits, hospitals, universities, and government agencies. Award winning products to enhance conference and learning environments, serviced over 53 medical and scientific associations until acquisition in 2017 by Echo360. Key products included Conference.Cast and Net.Score e-learning platform. Full patent portfolio, profitable balance sheets from inception until acquisition.

#### **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**

Company is credited with creating the first pharmaceutical sponsored website, GlaxoWellcome's HELIX. Numerous award winning web initiatives include the prestigious Freddie Award in Medicine. Large scale patient awareness program development including the award winning ICRA program for J&J. Designed, developed, deployed and maintained Doctor's Net Access (DNA) an internet service for physicians. Rapid internet growth business in health sector earned a spot on Fairfax County's top 50 to watch list.

**MEDICAL DIRECTOR, HT MEDICAL, ROCKVILLE MARYLAND, MD — 1993-1995**

HT Medical focused on emerging 3D graphics from supercomputers to desktop computing for visualization in medical and science education. HT Medical was an award winning enterprise notable for securing DARPA funding to create surgical simulators using battlefield and flight simulation technology. HT Medical commercialized a vein-puncture simulator prior to its 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

### EDUCATION AWARDS&HONORS

**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

## Research Experience

1994-1995: Resident in General Surgery in The Department of Surgery, The George Washington University Medical Center, Washington, DC

1992- 1995: Surgical Research. GWUMC

- 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. GWUMC

- 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. GWU Biology Department

- 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

- 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. Submitted to Global Spine Journal.
- Jazini E, Thomson AE, Sabet A, Sohail O, Carreon LY, Orosz L, Roy R, Haines CM, Schuler TC, 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. Pending submission to SRS
- 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. Pending submission to Global Spine Journal.
- 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.
- 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 14<sup>th</sup> 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., Merrill, 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., Merrill, J., Merrill, 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.
- Merrill, J., Higgins, G., Raju, R., Millman, A., Roy, R., Merrill, 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., Merrill, J., Allman, S., Merrill, G., "Virtual Heart Surgery: Trade Show and Medical Education." Virtual Reality World, Vol. 2, No. 4, July/August, p. 55-57, 1994.
- Merrill, J., Allman, S., Roy, R., Merrill, G., "Cyber Surgery: Cutting Costs, Sewing Benefits." Virtual Reality Special Report, Summer, p. 39-42, 1994.
- Roy, R., Merrill, 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.
- Merrill, J., Raju, R., Roy, R., "VR Applications in Medical Education." Virtual Reality Special Report; Premier Issue, p. 61-64, 1994.
- Merrill, 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.
- Merrill, J., Roy, R., Merrill, G., Raju, R., 'Revealing the Mysteries of the Brain with VR.' Virtual Reality Special Report, Vol. 1, No. 4, Winter, p. 61-65, 1994.
- Merrill, 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 Ca<sup>2+</sup> 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.

### **Lectures/Presentations**

- **1993** American College of Surgeons Annual Meeting. "Virtual Reality for Surgical Training."
- **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."
- **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."
- **1995** American Academy of Ophthalmology Annual Meeting. "Virtual Tour Through the Eye."
- **1996** National Managed Healthcare Congress: InfoHealth. "Virtual Reality, the World Wide Web and 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."

### **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: October 13, 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

## **Community Involvement**

- 2012-2018 Board Member, The Virginia Foundation for the Humanities
- 2017-2018 Parents Counsel, The University of Virginia
- 2015-2018 Executive Board Member, St. Albans School Parent's Association
- 2014-2016 President, The Women's Board, The Washington Ballet
- 2010-2016 Board Member, The Washington Ballet
- 2006-2012 Trustee, The Langley School
- 2003-2009 Advisory Board Member, The Junior League of Northern Virginia
- 1998-1999 Board Member, World Congress on Information Technology
- 1997-2002 Programs Board Member, OperationSmile