MEIR S. SILVER, PH.D.
Mobile : +972 54 633 5855 ♦ Email : mssphd613@gmail.com

Education

Ph.D. Electrical Engineering and Computer Science, The Johns Hopkins University
M. A. Biophysics, The Johns Hopkins University
B.S. Physics (Honors), Lafayette College

Accomplishments

- Executed and completed a pivotal 1200 patient PMA study for Breast imaging device on time, within budget.
- Designed a clinical trial of an innovative upright imaging-guided radiotherapy device, and obtained approval from the Ministry of Health (Israel)
- Fundamental research on MRI selective inversion published in Nature

Experience

- Thirty years in the pharmaceutical/biotechnology and medical device industries (ten years total international experience with Siemens and Philips Medical Systems), expertise in clinical and pre-clinical research and regulatory strategy.
- Experience in clinical trials of Oncology, CNS, and Cardiovascular Therapeutics, and Image-Guided Radiotherapy
- Expertise in tumor assessment criteria, including RECIST 1.0, 1.1., (MR, CT, FDG-PET), WHO, RANO, (Glioblastoma), and RECIST for Hepatocellular Carcinoma (HCC)

Pre-clinical research

Program Director, Pre-Clinical Imaging, Aspect Imaging, Ltd. Shoham, Israel 01/2014 to 02/2015

- Reorganized and defined the pre-clinical MRI products and the pre-clinical product plan; designed pre-clinical MR-Radiation Therapy system

Pharmaceutical Business Development, Clinical Research, Regulatory Strategy

Director Business Development, Scientific Client Services, Bioclinica 06/1996 to 12/2004

- Led the development of Neurology as a new service and therapeutic area of that resulted in nine neurology clinical trials and over $10M in revenues through agreements with nine pharma companies.

President and Scientific Director, Mazal Plant Pharmaceuticals, Inc. 01/2010 to 10/2013

- Reorganized and restarted clinical research plans and regulatory process

Consultant, Oramed, Ltd., Jerusalem, Israel 08/2011to present

- Provide guidance on protocol and regulatory issues, design of CRF's IVRS.

Medical Devices

Vice President, Clinical Affairs and Business Development, Azimuth Therapy, Ltd 06/2008 to 02/2014

- Managed radiotherapy distributors worldwide. Designed clinical trials, Regulatory Strategy for innovative Radiation Oncology Applications and devices

Consultant (Chief Scientist), TopSpin Medical, Ltd. 07/2006 to 06/2007

- Provides regulatory and pre-clinical strategy and guidance.

Vice President, DOBI Medical International, Inc 01/2005 to 04/2006

- Design and organize, and execute breast cancer clinical trial for PMA submission to FDA

Project Coordinator, Philips Medical Systems – Shelton, CT; The Netherlands, 07/1989 to 11/1994

- Developed new technique (Magnetization Transfer) for Gyroscan® product line that improved lesion conspicuity in CNS applications by 40%.

Manager, Research Collaborations, Siemens Medical Systems, Inc – Iselin, NJ 06/1988 to 07/1989

- Led a team of three scientists and the development of new MRI applications resulting in a 20% increase in research sites.

Scientist, Research and Development, Siemens Medical Systems, Inc. - Iselin, NJ 08/1984-1988

- Lead Research Collaboration with Princeton University on Design of selective RF pulses for MRI

Academia

Research Assistant Professor, New York University School of Medicine Lectures The Nathan Kline Institute – Orangeburg, NY 01/1996 to 01/2009

- Provided lectures on MRI physics and Neuroimaging to medical students and professional staff

MEIR S. SILVER, PH.D.
Mobile : +972 54 633 5855 ♦ Email : mssphd613@gmail.com

PUBLICATIONS

Journals

MR PULSE SEQUENCES, RF PULSES, AND METHODS

1. **M. S. Silver,** R. I. Joseph, and D.I. Hoult, Highly Selective π/2 and π Pulse Generation, *J. Magn. Reson.* 1984; **58**: 347

2. **M. S. Silver,** R. I. Joseph, *et. al.* , Highly Selective Spin Inversion in NMR, *Nature*, 1984; **310**:681

3. **M. S. Silver,** R. I. Joseph, and D.I. Hoult, Selective Spin Inversion in nuclear magnetic resonance and coherent optics, *Phys. Rev. A*, 1985:**31:** 2753

4. F. Loaiza, K. T. Lim, W. S. Warren **M. S. Silver**, H. Egloff, B. Kiefer, and G. Laub, Crafted Pulses and Pulse sequences for MR Imaging, *Heath Care Instr.* 1986;**1:**188

5. M. L. Wood, **M. S. Silver**, and V. M. Runge, Optimization of Spoiler Gradients in Flash MRI, *Magn. Reson. Imag.*, 1987; **5:**455

6. F. Loaiza, M. McCoy, M. H. Levitt, **M. S. Silver**, and W. S. Warren, Excitation in Inhomogeneously broadened systems, J. Magn. Reson. 1988; **76:**504

7. R. R. Edelman, D. Atkinson, **M. S. Silver**, F. Loaiza, and W. S. Warren, Frodo Technique: A New method for artifact reduction, Radiology, 1988; **166:**231

8. F Loaiza, MA McCoy, WS Warren, **MS Silver**, H Egloff *Crafted Pulses For Imaging and in-Vivo NMR Spectroscopy*, *Ann. NY Acad. Sci.* **508** (1), 483-487 1987

MR SPECTROSCOPY (ONCOLOGY)

9. W. Wolf, M. J. Albright, **M. S. Silver**, H. Weber, U. Reichhart, and R. Sauer, Flourine-19 NMR spectroscopic studies of 5-Fluorouracil in the liver of patients undergoing chemotherapy, Magn. Reson. Imag., 1987; **5:**165

10. W Wolf, **MS Silver**, MJ Albright, H Weber, U Reichardt, R Sauer A Noninvasive Study of Drug Metabolism in Patients as Studied by 19F NMR Spectroscopy of 5Fluorouracil Ann. NY Acad. of Sci. **508** (1), 491-493 **4** 1987

CLINICAL APPLICATIONS (CNS, CARDIOVASCULAR)

11. V. M. Runge, M. L. Wood, and **M. S. Silver,** Improvement in lesion detection using Slice profile optimization, *Radiology*, 1988; **167**:382

12. R.R. Edelman, H.P. Mattle, J. Kleefeld, and **M. S. Silver**, Quantification of blood flow with MR imaging and presaturation bolus tracking, *Radiology*, 1989; **171(2):**551

13. E. K. Yucel, **M. S. Silver**, and A. P. Carter. MR angiography of normal pelvic arteries: comparison of contrast for three different inflow techniques. Am. J .*Roentgenol*. 1994; **163**:197

14. A.R. Gillams, **M. S. Silver**, and A. P. Carter. *New contrast alternatives from MTC. J. Mag. Res. Imag.* 1995;

15. J Gieseke, B Ostertun, L Solymosi, F Trּber, P van Dijk, **M Silver**, M Reiser *MR arterio-and venography: strategies for using 2D and 3D inflow procedures].Biomedizinische Technik. Biomedical engineering* **35**, 247 1990

16. J Gieseke, B Ostertun, L Solymosi, F Trחber, P van Dijk, **M Silver,** M Reiser ,MR-Arterio-und Venographie: Strategien zum Einsatz von 2D-und 3D-lnflow Verfahren Biomedizinische Technik/Biomedical Engineering **35** (s3), 247-248 1990

Books and Monographs

17. W. S. Warren and **M. S. Silver**, The art of Pulse crafting: Applications to Magnetic Resonance and Laser Spectroscopy, In: Waugh, J S, ed., *Adv. Magn. Reson*., New York: Academic Press, 1988:**12** 365

18. W. Wolf, **M. S. Silver**, M. J. Albright, H. Weber. U. Reichardt and R. Sauer. *A Non-Invasive Study of Drug Metabolism in Patients as Studied by F-19 NMR Spectroscopy of 5-Fluorouracil.* pp. 491-493, in "Physiological NMR Spectroscopy: From Isolated Cells to Man", Sheila M. Cohen and Jeffery R. Alger, ed.. New York Academy of Sciences, New York, 1988.

Dissertation

19. **Silver, M. S.** Selective Pulse Analysis: Generation of Highly Selective π/2 and π pulses for NMR Imaging and Spectroscopy Applications. Baltimore, Maryland: The Johns Hopkins University 1985. 99p.

Magazine Article

20. AR. Gillams and **M. S. Silver**. *Magnetization Transfer Offers Improved Brain Contrast*, MR Magazine Nov/Dec 1993.

21. DI Hoult, **MS Silver**, CN Chen, Nuclear Magnetic Resonance Imaging in Medicine ,J. of Comp. Assis. Tom. **6** (4), 862 1982

Abstracts of Presentations

22. **M. S. Silver,** R. I. Joseph, and D. I. Hoult, Selective pulse creation by inverse solution of the Bloch-Riccati Equation. Magn. Reson. Med. 1984; **1**:294

23. **M. S. Silver**, W. Schajor, and H. Hedwig, Improvement in Image Quality through application of special selective pulses. SMRM Fourth Annual Meeting, Book of Abstracts, 1985; 1058

24. F. Loiaza, **M. S. Silver**, and W. S. Warren, Optimized 90° and 180° pulses for fast imaging and spectroscopy- a new generation of RF pulses. SMRM Fifth annual meeting, Book of Abstracts, 1986; **1**,:480,

25. W. Wolf, J, R. Griffiths, **M, Silver** and H. Bruckner, Can NMR Contribute to the Radiopharmacokinetics of 5-Fluorouracil (5-FU) in Man?. , Presented at the Symposium on Metabolic Imaging with NMR, SPECT and PET, held in Palm Beach, Florida March 3-5, 1986.
26. W. Wolf, **M. Silver**, M. Albright, H- Weber. U- Reichardt and R. Sauer, NMR Spectroscopy Studies of Fluorinated Drugs. Presented at the conference on "Physiological Spectroscopy: From Isolated Cells to Man, New York Academy of Sciences

27. **M. S. Silver**, W. Wolf , M. J. Albright, F-19 NMR spectroscopy of Fluorouracil metabolism in the liver. International Symposium on In vivo composition studies, October 1, 1986.

28. **M. S. Silver**, A. Shetty, R. D. White, and C. Paschal, Optimization of Flow Enhancement and suppression techniques in Cardiac Magnetic Resonance Imaging, SMRM Eighth Annual Meeting, 848 1989

29. **M. S. Silver** and A. Shetty, Improvement in visualization of the fine structures of the heart , Society of Magnetic Resonance in Medicine Eighth Annual Meeting, Book of Abstracts, WIP-642, 1989

30. **M. S. Silver,** B. Ostertun, J. Gieseke, et. al., Improvement in MR Angiography of the Abdomen and extremities using very fast FFE sequence and segmented k space acquisition, Society of Magnetic Resonance in Medicine Tenth Annual Meeting, Book of Abstracts, 133, 1991.
31. B. Ostertun, E. Keller, P. van Dijk, **M. S. Silver**, and M. Reiser, Magnetic Resonance Angiography in postoperative control of peripheral bypass surgery. Proceedings of the Society of Magnetic Resonance in Medicine Annual Meeting, August 1991

32. **M. S. Silver**, Invited lecture on New Angio techniques, Annual Angio meeting L'Aquila, Italy, October 1991.

33. **M. S. Silver**, 3D Fast Imaging of the Abdomen: Improvement in segmented k space acquisition, Society of Magnetic Resonance in Medicine Eleventh Annual Meeting, Book of Abstracts, 3243, 1992.

34. J. J. van Vaals, G. van Iperen, **M. S. Silver**, M. E. Bernardino, R. Nelson, and J. Chesmar, Optimization of T2 - weighted Turbo Spin Echo in Breathhold imaging at 1.5 T and 0.5 T., Society of Magnetic Resonance in Medicine Eleventh Annual Meeting, Book of Abstracts, 3207, 1992

35. AR. Gillams, **M. S. Silver**, and A. P. Carter, Magnetization Transfer contrast: The Solution for Dark CSF and T2 contrast in the Brain, SMRM Twelfth Annual Meeting, Book of Abstracts, 1433 (1993)

36. **M. S. Silver** and A. R. Gillams, Clinical Applications of MTC: a Technical Assessment. IEEE symposium on Nuclear Science and Medical Imaging, Proceedings, (1993)

37. R. Gillams, **M. S. Silver**, and A. P. Carter, Can MTC Provide New Insight into Intervertebral Disc Pathology ? Presented MT Workshop SMRI/SMRM July 1993.

38. AR Gillams, **M. S. Silver**, and A. P. Carter, MTC and Spin-echo Imaging: A Time Efficient Method for Producing Both T2 lesion Contrast and Dark CSF. Presented MT Workshop, SMRI/SMRM July 1993.

39. AR. Gillams, **M. S. Silver**, and A. P. Carter. Magnetization Transfer Contrast; methods and clinical utility, Presented at the European Congress of Radiology, 1993

40. **M. S. Silver**, A. R. Gillams, Magnetization Transfer in Clinical Practice. Radiology , **189**, (P) 289 (1993).

41. **M. S. Silver,** A. R. Gillams. Utility of magnetization transfer contrast. Presented at The Institute of Electrical and Electronic Engineers, Conference on Medical Imaging, November 1993

42. AR. Gillams, M. Benjamin, **M. S. Silver**, and A. P. Carter. Vessel diameter as a functional of MRA technique. Am. J. Radiol. **162,** (3) 53, (1994).

43. AR. Gillams and **M. S. Silver**. On versus off resonance MT in clinical practice. Accepted for presentation at the Radiological Society of North America Annual Meeting, 1994.

44. D. T. Gibbens, A. I. Ahmed, **M. S. Silver**, E. K. Yucel. Comparison of five techniques for renal MR angiography. ARRS 94th Annual Meeting Proceedings 102 (1994),

45. F. A. Alameddine , E. K. Yucel, R. D'Agostino, L. Skibo, P. Hentzen, **M. S. Silver**, Carter AP, Accuracy of MRA in aorto-iliac occlusive disease: prospective comparison of three techniques.

Association of University Radiologists 42nd Annual Meeting, 1-6 (1994)

Invited Lectures

46. Invited lecture: Advance MRI and Spectroscopy, NJ Chapter of the American Association of Physicists in Medicine, 16 May, 1988.

47. Fast MR Imaging Techniques presented at Montefiore Hospital Department of Radiology, 24 May, 1994.

48. Facing Challenges and Seizing Opportunities: Applications of Diagnostic Imaging to Pharmaceuticals Development and Neuro Science., presented at NIDA, Neuroimaging Section, Baltimore, MD, 1 March, 1995.

49. Lecture series on Medical Physics to Albert Einstein School of Medicine, Bronx, NY 1994

50. Lecture series on Medical Physics to St. Vincent's Medical Center, Department of Radiology, Staten Island, NY 1995.

MEIR S. SILVER, PH.D.
Mobile : +972 54 633 5855 ♦ Email : mssphd613@gmail.com

Number of Citations per publication.

	All	Since 2012
Citations	1888	315
h-index	12	7
i10-index	13	7

	Title / Author(s)	No. of Citations	Year
1.	Highly selective π/2 and π pulse generation **MS Silver**, RI Joseph, DI Hoult J. Magn. Reson. 59 (2), 347-351	**577**	1984
2.	Selective spin inversion in nuclear magnetic resonance and coherent optics through an exact solution of the Bloch-Riccati equation **MS Silver**, RI Joseph, DI Hoult Phys. Rev. A 31 (4), 2753	**403**	1985
3.	Selective population inversion in NMR MS Silver, RI Joseph, CN Chen, VJ Sank, DI Hoult Nature 310 (5979), 681-683	**189**	1984
4.	Quantification of blood flow with dynamic MR imaging and presaturation bolus tracking. RR Edelman, HP Mattle, J Kleefield, **MS Silver** Radiology **171** (2), 551-556	**158**	1989
5.	The art of pulse crafting: applications to magnetic resonance and laser spectroscopy WS Warren, **MS Silver** Adv. Magn. Reson. **12**, 247-384	**133**	1988
6.	Fluorine-19 NMR spectroscopic studies of the metabolism of 5fluorouracil in the liver of patients undergoing chemotherapy W Wolf, MJ Albright, **MS Silver**, H Weber, U Reichardt, R Sauer Mag. Res. Imag. **5** (3), 165-169	**131**	1987
7.	FRODO pulse sequences: a new means of eliminating motion, flow, and wraparound artifacts. RR Edelman, DJ Atkinson, **MS Silver**, FL Loaiza, WS Warren Radiology **166** (1), 231-236	**110**	1988
8.	MR angiography of normal pelvic arteries: comparison of signal intensity and contrast-to-noise ratio for three different inflow techniques. EK Yucel, **MS Silver**, AP Carter Am. J. of Roent. **163** (1), 197-201	**40**	1994
9.	Optimization of spoiler gradients in FLASH MRI ML Wood, **M Silver**, VM Runge Mag. Res. Imag. **5** (6), 455-463	**35**	1987
10.	MR imaging section profile optimization: improved contrast and detection of lesions. VM Runge, ML Wood, DM Kaufman, **MS Silver** Radiology **167** (3), 831-834	**32**	1988

11.	Selective pulse creation by inverse solution of the Bloch-Riccati equation **M Silver**, R Joseph, D Hoult Proc. 2nd SMRM, Works in Progress, 22	**18**	1983
12.	Clinical utility of a new contrast option from magnetization transfer contrast AR Gillams, MS Silver, AP Carter J. of Mag. Res. Imag. **5**, 545-545	**13**	1995
13.	Excitation performance in inhomogeneously broadened systems F Loaiza, MA McCoy, MH Levitt, **MS Silver**, WS Warren J. of Magn. Reson. (1989) **76** (3), 504-527	**5**	1988
14.	A Non-invasive Study of Drug Metabolism in Patients as Studied by 19F NMR Spectroscopy of 5-Fluorouracil W Wolf, **MS Silver**, MJ Albright, H Weber, U Reichardt, R Sauer Ann. NY Acad. of Sci. **508** (1), 491-493	**7**	1987
15.	MR arterio-and venography: strategies for using 2D and 3D inflow procedures]. J Gieseke, B Ostertun, L Solymosi, F Trnber, P van Dijk**, M Silver**, M Reiser Biomedizinische Technik. Biomedical engineering 247 ,35	4	1990
16.	MR-Arterio-und Venographie: Strategien zum Einsatz von 2Dund 3D-lnflow Verfahren J Gieseke, B Ostertun, L Solymosi, F Trnber, P van Dijk, **M Silver**, M Reiser Biomedizinische Technik/Biomedical Engineering **35** (s3), 247-248	4	1990
17.	Pulse sequence optimization for T2-weighted MR imaging of the brain EC Unger, JS McGlone, **MS Silver** Mag. Res. Imag. **7** (2), 119-125	3	1989
18.	Crafted Pulses For Imaging and in-Vivo NMR Spectroscopy F Loaiza, MA McCOY, WS Warren, **MS Silver**, H Egloff Ann. NY Acad. Sci. **508** (1), 483-487	3	1987
19.	Dissertation: Selective Pulse Analysis: Generation of Highly Selective π/ 2 and π Pulses for Nuclear Magnetic Resonance Applications **MS Silver** The Johns Hopkins University		1985
20.	Nuclear Magnetic Resonance Imaging in Medicine DI Hoult, **MS Silver**, CN Chen J. of Comp. Assis. Tom. **6** (4), 862		1982