

---

## BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.  
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

---

NAME Stuart O. Schechter, M.D.	POSITION TITLE Principal Investigator		
eRA COMMONS USER NAME			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	YEAR(s)	FIELD OF STUDY
Tulane School of Engineering, New Orleans, LA	B.S.E	1981-1985	Biomedical Engineering
Univ. of So. Fl School of Medicine, Tampa, FL	M.D.	1985-1989	Medicine
Mount Sinai School of Medicine		1989--1995	Int. Medicine, Cardiology

### A. Personal Statement

I am currently an Associate Professor of Cardiology, Mount Sinai Medical Center and Director of the Mount Sinai Manhasset Associates Cardiac Device Remote Monitoring System. I maintain a busy private cardiology practice and actively manage complex cardiology / arrhythmia patients and have personally implanted over 8000 devices including pacemakers and defibrillators. Over the past ten years I have been issued 27 patents, primarily in the field of Cardiac Rhythm Management (“CRM”), many of which relate to touch feedback for cardiovascular interventions, and innovations used for heart failure monitoring and pacemaker timing found in implantable devices currently available for commercial use. I am Faculty of the American College of Cardiology and Faculty of American Society of Echocardiography, member-author of the IEEE. I am a Clinical Cardiac Device Specialist and was recently designated as an Ambassador of the International Board of Heart Rhythm Examiners. I have had the novel experience of both inventing technologies and presenting / publishing data on these technologies and was co-investigator for a number of landmark trials on implantable Cardiac Rhythm Management devices and Congestive Heart Failure. In 1985 I received a B.S.E. in Biomedical Engineering from Tulane University School of Engineering, New Orleans, LA and as an alumnus continue to mentor engineering students. I earned my medical degree from University of South Florida, Tampa, Florida having completed residency and cardiology training at Mount Sinai Medical Center in New York, NY in 1989. I am currently focusing on the development and commercialization of haptic (tactile and force) feedback technologies for percutaneous cardiovascular procedures including ablation of atrial fibrillation and catheter-based valve repair in conjunction with New York based hospital networks; SUNY Stony Brook’s Dept. of Bioengineering and Cardiac Electrophysiology Laboratory, Northwell Hospital Network. I have completed bench work and animal studies validating haptic feedback innovations and had this data accepted for publication / presentation at four international conferences, as well as, a manuscript in a peer review journal. I have also developed a software algorithm designed to oversee and improve health care compliance for patients including those implanted with CRM devices capable of wireless telemetry / remote cardiac device monitoring. I am jointly working on the commercialization of this algorithm in partnership with Mount Sinai Innovation Partners and a third party and have recently partnered with NLC Health (<https://nlc.health/>) as a start-up venture for haptic feedback technologies. In addition to providing personal care to patients suffering from a variety of cardiovascular disorders, my mission is to invent and develop technologies to improve patient care and procedural outcome worldwide.

### B. Positions and Honors

#### Positions and Employment

1989-1990	Intern in Medicine, Mount Sinai Medical Center, New York
1990-1992	Resident in Medicine, Mount Sinai Medical Center, New York
1992-1995	Fellow in Cardiology, Mount Sinai Medical Center, New York
1995-2014	Full time Attending, St. Francis Arrhythmia Center, Roslyn, New York
2002-2014	Electrocardiographic Interpretation, St. Francis Hospital, Roslyn, New York
2003-2006	Echocardiographic Interpretation, Multiscan Portable Imaging, Merrick, NY
2006-2010	Inventing and Consulting, Pacesetter / St. Jude Medical CRMD, Sylmar, CA

2010	Academic Collaboration, MILI Carlson School of Management, Univ. of Minnesota, MN
2005-present	Founder, CTO, <b>CardiaTact</b> Control Systems, Great Neck, New York
2014	Academic Collaboration, Fundamentals Class, Center for Biotechnology, SUNY, Stony Brook, NY
2014-present	Associate Professor in Cardiology, Mount Sinai Health Network, New York, NY
2014-present	Director, Cardiac Device Remote Monitoring, Mount Sinai Health Network, New York, NY
2014-present	Member, Interdisciplinary Zena & Michael A. Weiner Cardiovascular Institute, NY
2016-present	National Mentor, Tulane Univ. Graduate School of Science and Engineering, New Orleans, LA
2017-present	Ambassador, International Board of Heart Rhythm Examiners
2019-present	Test Writing Committee, International Board of Heart Rhythm Examiners
2020-2021	Consultant, Preventice Solutions
2022	Partnered with NLC Health as venture start up <a href="https://nlc.health/">https://nlc.health/</a>
2023	Mentor, Tulane University School of Science and Engineering, Senior BME Capstone Project
2023	Co-Founder, HapticHeart Solutions
2023	Judge, Tulane University Innovation Institute

### **Other Experience and Professional Memberships**

2017-present	Ambassador, International Board of Heart Rhythm Examiners
2014-present	Faculty, American Society of Echocardiography
2007-present	IHRBE, Clinical Cardiac Device Specialist
1997-present	Faculty, American College of Cardiology
1995	Institute of Nuclear Medical Education, Affidavit in Radiopharmaceuticals and Chemistry
1992	Diplomat National Board of Medical Examiners
Membership:	American Society of Echocardiography, Heart Rhythm Society, American College of Cardiology, Institute of Electrical and Electronics Engineers

### **Honors**

1981-1985	Dean's List, Tulane University School of Engineering, – 5 semesters
1982, 1985	Engineering Honor Society, Tulane University School of Engineering
1981, 1985	Pre-Medical Honor Society, Tulane University School of Engineering
1982, 1985	Omicron Delta Kappa Honor Society
1989	American College of Physicians Award, Outstanding Medical Student in Internal Medicine
1993	Heart Research Foundation Jeff deLange Memorial Award


### **C. Peer-reviewed publications / presentations**

1. Schecter S, Jermyn R. Effect of Covid19 on Defibrillator Thoracic Impedance Measurements. **Heart Rhythm Society 2021** (abstract).
2. Schecter S, Jermyn R. Utility of device based thoracic impedance measurements. **Heart Rhythm Society 2020** (abstract).
3. Schecter S, Jermyn R. How Acute Changes In Pacing Influences Cardiac Hemodynamics. **Transcatheter Cardiovascular Therapeutics 2019** (abstract).
4. Schecter S, Lin W, Gopal A, Fan R, Rashba E. Haptics and the heart: Force and tactile feedback system for cardiovascular interventions. **Cardiovasc Revasc Med. – Valve and Structural Heart 2018**. September. Vol. 19; No 6S p 36S.
5. Schecter S, Lin W, Fan R, Koruth J, Reddy V, Rashba E. Transeptal Epicardial Puncture Tactile Feedback System. Abstract and presentation at **Cardiovascular Research Technologies 2018**.
6. Schecter S, Zeiner L, Weiss Jane. Thoracic Impedance Abnormalities Due to Left Shoulder Surgery. Publication and presentation at **Heart Rhythm Society 2018** (abstract).
7. Schecter S., Reill S. Thoracic Impedance Monitoring Of Pericardial Effusion and Superior Cava Syndrome. Publication and presentation at **Heart Rhythm Society 2017** (abstract).
8. Schecter S, Lin Wei, Koruth Jacob, Lambert Hendrik, Eggert Charles, Reddy Vivek. Tactile Feedback Provides Real Time In Vivo Tissue: Catheter Contact Force Information During Cardiac Radiofrequency Ablation. Presented at Atrial Fibrillation Symposium 2016. **Journal of Cardiovascular Electrophysiology** (abstract).
9. Schecter S, Koruth J, Reddy V, Lin W. Novel Haptic System for Palpation of Catheter Tissue Contact Force During Atrial Fibrillation Ablation. Presented at the **IEEE EMBC 2016**.

10. Schecter S, Liu L, Lin W, Gopal A. Palpation of Intra-cardiac Blood Flow, Pressure, Contact Force and Motor Reaction Time of Subjects Using a Novel Haptic Feedback System. **JACC March 2015**. 1115-248-A71.
11. Greenberg, S., et al. Does the Riata Lead Deliver Adequate Defibrillation Shocks? A Single Center Experience in 289 patients; presented at **Heart Rhythm Society 2013**
12. Schecter, S, et. al., Regional Myocardial Strain During Hemodynamically Stable Ventricular Tachycardia. **Heart Rhythm Society 2013** abstract.
13. Gopal, A, et al., Utility of Real Time 3D Echocardiography for Predicting Adverse Events in the MADIT II Post-Myocardial Infarction Patient Population: (**American College of Cardiology** presentation and abstract **March 2006**)
14. Schecter, S. et. al., The Effects of Atrial Flutter on Left Ventricular Rotation: A Tissue Doppler Study. **Heart Rhythm Society 2005**; 2(1S): S134.
15. Greenberg, S. et al., Obtaining Surface ECGs from Device Electrograms, abstract, **CardioStim 2003**
16. Schecter, S., et. al. Inappropriate Discharges of an Implantable Cardioverter Defibrillator Secondary to Automatic Adjustable Gain of Atrial Tachycardia. **PACE 1997**; 20(6): 1151.
17. Greenberg, S., et al., Clinical Comparison of the Evoked Response Signal to the R-wave Signal in a Single Chamber Pacemaker with Automatic Capture Confirmation. **PACE 1997**; 20: 2316.
18. Schecter, S, Goldman, M, Klig V, Teichholz, L Ultrasonic Tissue Characterization: review of a non-invasive technique for assessing myocardial viability. **Echocardiography 1996**; 13: 4.
19. Schecter, S, et al., Intramural Left Atrial Hematoma, a complication of Mitral Annular Calcification. **Am Heart J 1996**; 132: 455-447A
20. Schecter S, Ambrose J., Guiding Catheters with Side Holes Relieve Pressure Damping and Improve Coronary Blood Flow: Assessment with the Doppler Flowwire. Schecter et. al. **Circulation 1994**; 90: 4, part 2: I-164
21. Schecter S, et al. Quinidine: A Double Edged Sword. **Cardiovascular Reviews and Reports 1993**. February: 62-66.
22. Schecter S, Packer, M, et al., Is the Erythrocyte Sedimentation Rate a useful marker of the response to therapy in heart failure? **JACC 1991**; 17: 11-16.
23. Schecter S, Gorlin R, et al. Clinical Dilemma in Acute Myocardial Infarction. **Primary Cardiology 1991**; 17: 11-16

#### **D. Issued Patent List**

PAT. NO.	Title
1	<a href="#">8,214,039</a> <u>Individually adapted cardiac electro-mechanical synchronization therapy</u>
2	<a href="#">8,211,032</a> <u>Cardiomechanical assessment for cardiac resynchronization therapy</u>
3	<a href="#">8,209,012</a> <u>Mechanical indicators for individually adapting therapy in an implantable cardiac therapy device</u>
4	<a href="#">8,090,444</a> <u>Optimization of cardiac pacing therapy based on paced propagation delay</u>
5	<a href="#">8,014,864</a> <u>Cardiomechanical assessment for cardiac resynchronization therapy</u>
6	<a href="#">7,970,469</a> <u>Closed loop programming for individual adjustment of electro-mechanical synchrony</u>
7	<a href="#">7,963,925</a> <u>Method and apparatus for defining the effect of atrial arrhythmias on cardiac performance and directing therapy using a plurality of intrinsically and extrinsically derived signals</u>
8	<a href="#">7,805,194</a> <u>Matrix optimization method of individually adapting therapy in an implantable cardiac therapy device</u>
9	<a href="#">7,751,889</a> <u>Closed loop programming for individual adjustment of electro-mechanical synchrony</u>
10	<a href="#">7,751,888</a> <u>Systems and methods for delivering stimulation pulses using an implantable cardiac stimulation device</u>
11	<a href="#">7,720,529</a> <u>Implantable therapeutic device control system</u>
12	<a href="#">7,689,283</a> <u>Diastolic mechanical algorithm for optimization of AV timing using a plurality of sensors</u>
13	<a href="#">7,653,436</a> <u>Global cardiac performance</u>

- 14 [7,426,412](#) [Evoked potential and impedance based determination of diaphragmatic stimulation](#)
- 15 [7,010,347](#) [Optimization of impedance signals for closed loop programming of cardiac resynchronization therapy devices](#)
- 16 [7,065,400](#) [Method and apparatus for automatically programming CRT devices](#)
- 17 [8,328,728](#) [Implantable hemodynamic monitor and methods for use therewith](#)
- 18 [8,663,122](#) [Cardiovascular haptic handle system](#)
- 19 [8,942,828](#) [Minimally invasive cardiovascular support system with true haptic coupling](#)
- 20 [8,956,304](#) [Cardiovascular haptic handle system](#)
- 21 [8,972,011](#) [Individually adapted cardiac electro-mechanical synchronization therapy](#)
- 22 [9,101,374](#) [Method for guiding an ablation catheter based on real time intracardiac electrical signals and apparatus for performing the method](#)
- 23 [9,446,246](#) [Identification of electro-mechanical dysynchrony with a non-cardiac resynchronization therapeutic device](#)
- 24 [10,013,082](#) [OPERATING SYSTEM WITH HAPTIC INTERFACE FOR MINIMALLY INVASIVE, HAND-HELD SURGICAL INSTRUMENT](#)
- 25 [10,045,701](#) [Implantable hemodynamic monitor and methods for use therewith](#)
- 26 [10.886.011](#)  [Systems and methods for optimizing management of patients with medical devices and monitoring compliance](#)
- 27 [11,551,793](#) [Systems and methods for optimizing management of patients with medical devices and monitoring compliance.](#) <https://patents.google.com/patent/US11551793B2/en?q=11551793>

**LINK to USPTO web site for published patent applications:**

<http://appft.uspto.gov/netacgi/nph-Parser?Sect1=PTO2&Sect2=HITOFF&p=1&u=%2Fnetacgi%2FPTO%2Fsearch-bool.html&r=0&f=S&l=50&TERM1=schecter+stuart&FIELD1=&co1=AND&TERM2=&FIELD2=&d=PG01>

**F. Research Support and Protocols**

**Grant from Manufacturing and Technology Resource Consortium (MTRC)** at Stony Brook University; 2022

**Grant from NY State Research Foundation:** 2012-2013, 2013-2014; Palpation Of Cardiac Ultrasonic Blood Flow Velocity, Intracardiac Pressure And Force Signals Using Novel Haptic Feedback System.

**IRB Protocol at SUNY Stony Brook:** Development of A Novel Haptic System for Palpation of Biophysical Signals During Transeptal Puncture.

**IRB Protocol at Northwell Hospital Network, North Shore Electrophysiology Lab:** Development of A Novel Haptic System for Palpation of Biophysical Signals During Transeptal Puncture.

**IRB Protocol:** Evaluation of Acute Changes Observed with CardioMEMS During CRT Programming. Feinstein Institute for Medical Research at Northwell Health. IRB # HS16-0327

**DETERMINE** trial co-investigator (DEfibrillators To REduce Risk by Magnetic ResoNance Imaging Evaluation)  
<http://www.radnet.ucla.edu/radweb/sections/dcvi/news/determine.jsp>

**DEFINITE** trial co-investigator (Defibrillators in Non-ischemic Cardiomyopathy Treatment Evaluation)

**MADIT II** trial co-investigator (Multicenter Automatic Defibrillator Implantation Trial)  
<http://www.nejm.org/doi/full/10.1056/NEJMoa013474>

**COMPANION** trial co-investigator (Comparison of Medical Therapy, Pacing, and Defibrillation in Heart Failure)  
<http://www.nejm.org/doi/pdf/10.1056/NEJMoa032423>

**Left Ventricular Structure and Function as Determinants of Arrhythmic Risk** co-investigator

**Breath Trial** Base Rest Rate Elevation for Apnea Therapy, Pacesetter, Sylmar, CA

Research on the Angstrom Defibrillator, Ventritex 1997, Pacesetter, Sylmar, CA