

# George E. Yanulis

M. ENG., M.S., D. ENG.

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## EDUCATION

<b>Doctorate in Engineering</b> <i>Biomedical Engineering</i>	<b>Cleveland State University/Cleveland Clinic</b>	2008
<b>Master of Science</b> <i>Bioengineering</i>	<b>University of Pittsburgh</b>	2002
<b>Master of Engineering</b> <i>Biomedical Engineering</i>	<b>University of Virginia</b>	1981
<b>Bachelor of Arts</b> <i>Premedical Studies/Chemistry</i>	<b>Syracuse University</b>	1977

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## PROFESSIONAL EXPERIENCE

<b>President / Subject Matter Expert</b> <u>Medical Device Consulting, LLC</u> <i>Clinical Engineering</i>	Pinellas Park, FL June 2014 - Present
<b>Adjunct Professor</b> <u>Temple University</u> <i>Bioengineering Department</i>	Philadelphia, PA January 2016 – January 2018
<b>Expert Consultant</b> <u>B. H. Barkalow &amp; Assoc, LLC</u> <i>Clinical Engineering</i>	Newaygo, MI March 2014 – June 2016
<b>Senior Medical Device Consultant</b> <u>Laughlin Engineering Firm, LLC</u> <i>Forensic Engineering Division</i>	Houston, TX November 2011- May 2016
<b>Adjunct Professor</b> <u>College of Staten Island</u> <i>Engineering/Physics Departments</i>	Staten Island, NY August 2009- December 2013
<b>Pre-doctoral Fellow</b> <u>Cleveland Clinic Foundation</u> <i>Biomedical Engineering Department</i>	Cleveland, OH November 2005- May 2008

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## **MEDICAL DEVICE RESEARCH & DEVELOPMENT EXPERTISE/EXPERIENCES**

- Expertise in all types of medical device R&D including surgical forceps
- Expertise in the R&D of orthopedic implants
- Expertise in surgical stapling systems
- Expertise in consulting and the R&D of all types of cardiac systems
- Performing ECG signal detection & cardiac pressure/volume analysis (over 250 sessions)
- Cardiac echo imaging
- Designing pre-clinical device trial formulations for all types of medical devices
- 3 Peer Review Publications in atrial fibrillation and heart failure related to doctoral research; submitting 2 Abstracts, JACC March 11, 2008; and awarded 2 Awarded Innovation Awards (Cleveland Clinic).

### **Ablation Therapy Systems Expertise**

- The NAVISTAR® THERMOCOOL® and EZ Steer THERMOCOOL® Nav Irrigated Deflectable Diagnostic/Ablation Catheter for Treatment of Paroxysmal Atrial Fibrillation (Biosense Webster, Inc.)
- The Arctic Front® Cardiac CryoAblation Catheter for Treatment of Paroxysmal Atrial Fibrillation (Medtronic Cryocath, LP)
- The Therapy Cool Path Duo™ Ablation Catheter, Safire BLU Duo™ Ablation Catheter, and IBI1500T9-CP V1.6 Cardiac Ablation Generator for Treatment of atrial Flutter (Irvine Biomedical, Inc.)
- The R&D of conventional AF ablation used in pulmonary vein isolation (PVI), and those systems used in clinical practice, e.g. units which create circular RF lesions in a point-by-point fashion around the pulmonary valve

### **Expertise in the Mapping Systems used in cardiac mapping systems:**

- The NxT steerable introducer, EnSite Precision™ cardiac mapping system
  - The Carto 3 three-dimensional mapping system
  - Performing ECG signal detection & cardiac pressure/volume analysis (over 250 sessions)
  - Cardiac echo imaging
  - Designing pre-clinical device trial formulations for medical devices;
  - 3 Peer Review Publications in atrial fibrillation and heart failure related to doctoral research; submitting 2 Abstracts, JACC March 11, 2008; and awarded 2 Awarded Innovation Awards (Cleveland Clinic).
  - Review of Urgent Field Safety Notice on orthopedic and cardiac device systems
  - ISO 14937:2009 - Sterilization of health care products
  - MEDDEV 2.7.1 rev 4 and Clinical Evaluation Reports (CER) for Medical Devices
  - ISO/TR 80002-2:2017 - Medical device software -- Part 2: Validation of software for medical device quality systems
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**PUBLICATIONS**

Lim P, **Yanulis GE**, Verhaert D, Greenberg NL, Grimm RA, Tchou PJ, Lellouche N, Wallick DW. Coupled pacing improves left ventricular function during simulated atrial fibrillation without mechanical dyssynchrony. *Europace*. 2010 Mar;12(3):430-6. doi: 10.1093/europace/eup440

**Yanulis GE**, Lim P, Ahmad A, Popović ZB, Wallick DW. Coupled pacing reverses the effects of persistent atrial fibrillation on the left ventricle. *Ann Thorac Surg*. 2008 Sep;86(3):984-7. doi: 10.1016/j.athoracsur.2008.03.085

**Yanulis GE**. A novel cardiac pacing paradigm for atrial fibrillation and heart failure patients [dissertation]. [Cleveland (OH)]: Cleveland State University; 2008 May. 106 p.

Cingoz F, **Yanulis GE**, Ching E, Fukamachi K, Wallick DW. Use of conventional dual chamber pacemakers with custom lead adapters to induce atrial fibrillation or heart failure in dogs. *Ann Thorac*