

CURRICULUM VITAE

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Date of Birth: January 1, 1950

Place of Birth: Tripoli, Lebanon

Citizenship: U.S.A.

Family: Married – Sonia, Children – Oliver, Andrew, Scott

Education:

1971 B.Sc.	American University of Beirut
1974 M.Sc.	American University of Beirut
1976 M.D.	American University of Beirut
1998 M.B.A.	Michigan State University

Postdoctoral Training:

Internship and Residency:

1976 – 1977	Intern (Pathology), Emory University, Supervisor – Michael Gravanis, M.D.
1977 – 1978	Intern (Medicine), Emory University, Supervisor – J. Willis Hurst, M.D.
1978 – 1980	Resident (Medicine), Emory University, Supervisor – J. Willis Hurst, M.D.

Cardiology Fellowship:

1980 – 1983	Cardiology Fellow, University of Florida, Supervisor – C. Richard Conti, M.D.
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Licensure and Certification:

1975	ECFMG (247-961-6)
1977	FLEX
1977	Georgia License Registration - Active
1980	Florida License Registration (37775) - Active
1990	Massachusetts License Registration (73557) – Not active
1995	Michigan License Registration (4301066794) - Active
1981	American Board of Internal Medicine (076397)

1987	American Board of Internal Medicine Subspecialty – Cardiovascular Disease
2001	Nuclear Medical Education Program–Academic Completion and Competency Certification
2007	Licensed authorized user, U.S. Nuclear Regulatory Commission (21-00021-29; exp. 11/30/2022)
2012	California License Registration (C55559) – Active

Academic Appointments:

1982 – 1983	Instructor of Medicine, University of Florida, Gainesville, FL.
1983 – 1987	Assistant Professor of Medicine, University of Florida.
1987 – 1990	Associate Professor of Medicine, University of Florida.
1988 – 1990	Tenure, University of Florida, Gainesville, Florida.
1990 – 1995	Associate Professor of Medicine, Harvard Medical School, Boston, Massachusetts.
1990 – 1995	Associate in Pathology, Harvard Medical School, Boston, Massachusetts.
1995 – present	Professor of Medicine with tenure, Michigan State University, East Lansing, MI.
1997 – present	Adjunct Professor of Pathology, Michigan State University, East Lansing, MI.

Hospital Appointments:

1983 – 1990	Attending Physician, University of Florida, Shands Teaching Hospital, Gainesville, Florida.
1983 – 1990	Attending Consultant Physician, University of Florida, Veteran's Administration Hospital, Gainesville, Florida.
1990 – 1995	Attending Physician, Deaconess Hospital, Boston, Massachusetts.
1995 – present	Attending Physician, Sparrow Hospital and McLaren Medical Center, Lansing, Michigan.

Professional Positions:

1983 – 1990	Director of Cardiovascular Laser Laboratory, University of Florida, Gainesville, Florida.
1990 – 1995	Director, Interventional Research, New England Deaconess Hospital, Harvard Medical School, Boston, Massachusetts.

- 1990 – 1995 Director of Photobiology Cardiovascular Laser Laboratory, Deaconess Hospital, Harvard Medical School, Boston, Massachusetts.
- 1990 – 1995 Co-director, Institute for the Prevention of Cardiovascular Disease, Deaconess Hospital, Harvard Medical School, Boston, Massachusetts.
- 1995 – present Chief, Division of Cardiology, Michigan State University, East Lansing, Michigan.
- 1995 – present Director, Cardiology Fellowship Training Program, Michigan State University, East Lansing, Michigan.
- 1995 – present Director of Outpatient Cardiology, Endocrinology, and Infectious Disease Clinics.

Management Positions:

- 1986 – 2010 President Abela Laser Systems, Inc. As the pioneer in developing the method and technology for laser angioplasty, I started a company to develop less invasive laser catheter devices for the treatment of coronary artery disease and abnormal cardiac rhythm. The intellectual property was based on my pioneering work demonstrating the opening up arterial channels in obstructed coronary and peripheral arteries. This work was started at the University of Florida in 1980 and continued at Harvard Medical School. Nineteen patents were issued related to laser angioplasty, delivery of genes to transfect arteries as well as a brush catheter to clear thrombus within the arterial lumen. Other related patents were for fluorescence detection of arterial plaque and direct visualization within the arteries using an angioscope system. The company received NIH-SBIR grants to support the development of prototype catheters for arrhythmia focus ablation and direct myocardial perfusion for patients that could not have standard revascularization therapy.
- 1993 – 2005 Chief Medical Officer and co-founder of CorMedica, Corp. a company established in Natick, Massachusetts to commercialize the patents and inventions from Abela Laser Systems. The company was funded by venture capital from private sources and by the arrhythmia division of Bard-USCI, Billerica, MA. The arrhythmia division was subsequently sold to Arterial Vascular Engineering (AVE), Irvine, CA and shortly after to Medtronic, MN. After about four years, CorMedica was closed without bankruptcy. CorMedica had 21 employees including engineers, technologists and legal consultants to FDA. Medical consultants included electrophysiologist, Dr. Jeremy Ruskin at the Massachusetts General Hospital, Drs. Alan Wagshall and Stephan Huang at the University of

Massachusetts (Dr. Huang was the pioneer in radiofrequency application for arrhythmia ablation).

- 1983 – 2005 As Director of the Laser and Photo-Biology Laboratory and Director of Interventional Research at Harvard Medical School my role was to supervise, and direct projects related to lasers in the treatment of various cardiovascular conditions. A special dispensation was granted by the State of Massachusetts to create a clinical catheterization laboratory at Deaconess Hospital to accommodate the laser research. I was also the safety office for lasers at the Deaconess Hospital, Harvard, Medical School.
- 1986 – 2005 As the pioneer in arterial laser angioplasty, I served as consultant to several catheter and laser companies: HGM, Salt Lake City, UT; Control Laser, Orlando, FL; Candela Corp, Wayland, MA; Trimedyne, Lake Forest, CA; Spectranetics, Colorado Springs, CO; CardioGenesis, Irvine, CA; Boston Scientific, Natick, MA.
- 1986 I presented before FDA special panel on laser angioplasty. This was on behalf of Trimedyne Catheter system for arterial revascularization that was subsequently approved for commercialization.
- 1990-1995 As a Co-Director of the Institute for Prevention of Cardiovascular Disease, Harvard Medical School, Boston I was engaged in developing approaches to reduce the risk for cardiovascular disease by understanding the underlying mechanisms. My role was in modeling of heart attacks using an atherosclerotic rabbit model and to obtain research grants. I participated in two NIH program project applications resulting in two site review visits. The Co-Directors at the Institute defined the term of ‘the vulnerable plaque’ now universally used to describe the underlying lesion causing heart attacks and many strokes.
- 1995 – present As Professor and Chief Division of Cardiology at Michigan State University and working in a community-based hospital I integrated the University program with a large community group of cardiologists (Transthoracic Cardiovascular Institute) in Lansing. This resulted in a dynamic interaction with strong fiscal and educational activities that included hospital coverage between the groups as well as enhanced cardiology fellowship education.
- 1995 – present As the Founding Director of the Cardiology Fellowship Training Program, I obtained initial accreditation and re-accreditation for the program numerous times. The program

started with two fellows per year and now has a total of nine fellows per year. I negotiated to have 3 interventional fellows at our affiliate at Borgess Hospital in Kalamazoo. The program has continued to receive consistent ACGME-RRC renewals without citation or with minor citation. The program was selected as one of seven nation-wide to be a test ground for the new ACGME review process.

1995– present

As Director of the Cardiovascular Laboratory at Michigan State University, my lab discovered the mechanism for plaque rupture causing heart attacks. This is based on the observation that cholesterol occupies a greater volume when crystallizing from a liquid to a solid. When this occurs in the confined space of the arterial wall, it can lead to plaque rupture and thrombosis causing a heart attack or stroke. Several publications listed in this CV illustrate these findings. This discovery was made possible by an innovation in tissue processing for scanning electron microscopy by my lab that avoided alcohol in tissue processing and using vacuum instead allowed clear visualization of the role of cholesterol crystals in plaque rupture.

Awards and Honors:

1982 – 1983	Merck Fellow, American College of Cardiology
1982 – 1984	Research Fellow, American Heart Association Florida Affiliate
1983 – 1986	Young Investigator Research Award – National Institutes of Health
1985	First in US to Receive FDA Approval to Conduct Peripheral Vascular Laser Revascularization.
1986 – 1991	Research Career Development Award - National Institutes of Health
1985	Marquis Who's Who in Optical Science and Engineering
1986	Guest Speaker for the British Medical Laser Association's Fourth Annual Conference on Lasers in Medicine and Surgery, London, England
1987	Marquis Who's Who in the World
1988	Invited scientist to the Institute of Spectroscopy, Troitzk, Moscow, Soviet Union
1989	Governor's Award for Outstanding Contribution to Science and Technology - State of Florida
1991	Invited Speaker at the Cardioscopy and Laser Cardioangioplasty, University of Tokyo, Japan
1993	Distinguished Guest Speaker Middle East Medical Assembly, American University of Beirut, Beirut, Lebanon
1993	Invited Representative from Harvard Medical School to Keio University, Japan
1997	The 14 th Avery Lecture “Plaque Rupture and Thrombosis” Blodgett Hospital, Grand Rapids, MI

1998	Mark B. Award: American Society for Lasers in Medicine and Surgery
1998	Keynote Speaker: 6th Japanese Society of Intracardiovascular Imaging
1999	Libraries, Computing, and Technology Award, Michigan State University
2000	The Ellet Drake Lectureship Award, American Society for Lasers in Medicine and Surgery
2001	Distinguished Lectureship in Cardiovascular Seminar 2000, Michigan State University
2004	Certificate of Recognition by Sparrow Hospital as IRB Chair
2002 , 2005	Libraries, Computing, and Technology Award, Michigan State University
2003	Strathmore's Who's Who for Individuals with Leadership and Achievement in their Field
2004	Empire Who's Who Among Executives and Professionals
2005 – 2006	America's Top Physicians, Consumer's Research Council of America Award
2005	Excellence as Division Chief Award
2006	Man of the Year Award
2007 – 2009	America's Top Cardiologists, Consumer's Research Council of America Award
2008	Shining Star Recognition by Department of Medicine, MSU
2008	Madison Who's Who
2009	Distinguished Research Mentor Award – Graduate Medical Education Council, Lansing, MI
2009 – 2010	Best Doctors in America
2009	The Leading Physicians of the World, International Association of Cardiologists
2011 – 2014	Best Doctors in America
2011	America's Top Cardiologists, Consumer's Research Council of America Award
2011	Cambridge Who's Who
2011	Marquis Who's Who in Medicine and Healthcare
2011	Outstanding Mentor Award, GMEI Lansing
2011	Mid-West Lipid Association Award
2012	Excellence in Teaching Award–Cardiology Fellows, MSU
2012, 2014, 2017-19	America's Top Cardiologists, Consumer's Research Council
2014, 2017	Nominated, Antonio Gotto Award in Atherosclerosis Research
2015, 2018	Nominated, Distinguished Faculty Award, Michigan State University
2017	Fellow, Royal Society of Medicine – United Kingdom
2017	Marquis Who's Who in America
2017	Marquis Lifetime Award
2017	Visiting Professor and Invited Guest speaker to China Innovations in Cardiology meeting in Nanjing, China
2019	Outstanding Clinician Award, Michigan State University

Editorial Boards:

1989 – 1993	Journal of the American College of Cardiology
1989 – 1998; 2005 – present	Clinical Cardiology
1989 – present	Journal of Interventional Cardiology (assistant editor 1989-2006)
1986 – present	Lasers in Medical Science
1995 – present	Lasers in Surgery and Medicine
2008 – present	American Journal of Cardiology
2015 – present	Cardiovascular Innovations and Applications
2020 – present	American Heart Journal – open access: Associate editor Cardio-Oncology.

Reviewer:

Nature (cardio); Circulation; J Am Coll Card, Am J Cardiol, New England Journal of Medicine; The Lancet; Abstract reviewer for American College of Cardiology; American Heart Association; American Society for Lasers in Medicine and Surgery; Hospital Practice; European Society of Cardiology; Catheter and Cardiovasc Intervention; Circulation; Heart; Alcohol; Atherosclerosis; Circulation Research, Thrombosis and Thrombolysis.

National Institutes of Health special grant reviews including site visit reviewer at Mass. Inst. Tech., George Harrison Fluorescence Lab (twice and Chair of one committee) and twice reviewer of the Beckman Institute at Univ. of California, Irvine, and grant reviewer for the AHA – Michigan Chapter. Reviewer for NHLBI SBIR (5/17/2016) and R35 EIA/OIA grants (6/16/2017).

Professional Societies:

1983	Research Fellow, American Heart Association
2005	Fellow, American Heart Association – Atherosclerosis Council
1987	Member, American Federation for Clinical Research
1987, 1990	The New York Academy of Sciences
1988 – present	Fellow, American College of Cardiology
1983 – 2008	Fellow, American Society for Laser Medicine and Surgery; - Elected Vice President of the Society (1993-1994)
1990	American Association for the Advancement of Science
1991 – 1995	Member, Laser Institute of America
1992 – 1997	Member, Biomedical Optics Society (SPIE)
1990 – 2008	Member, Massachusetts Medical Society
1990 – 2012	Fellow, Society for Vascular Medicine and Biology
1990	American Society for the Advancement of Science
1995 – present	Association of Professors of Cardiology
1995 – 2004	Member, American College of Physicians

1998 – 2010	Central Society for Clinical Research
1998 – 2010	Sigma-Xi Scientific Society
2002 – present	Alpha Omega Alpha, Medical Honors Society
2004 – 2008	Association for Lipid and Atherosclerosis Research in Medicine (ALARM)
2006 – 2008	– President of ALARM
2006 – present	Fellow, National Lipid Association
2009 – 2011	Member American Chemical Society
2017	Fellow, Royal Society of Medicine – United Kingdom
2019	

Major Research Interests

1. Atherosclerotic plaque rupture and thrombosis inducing acute ischemia.
2. Effect of cholesterol crystals on vascular and myocardial injury.
3. Role of cholesterol crystals in inflammation, specifically in solid cancer tumors and cardiac oncology.
4. Imaging of atherosclerotic plaque using scanning electron, transmission electron, fluorescence microscopy, angiography, ultrasound, positron emission tomography.

Teaching Experience

Lectures: More than **two hundred and fifty lectures** have been given, including CME and invited speaker lectures both national and international including attendance, presentation and chair at Gordon conferences on lasers and optics.

Conferences:

1992 – 1994 Director of the Annual Harvard Medical School CME Course on Interventional Cardiology.

1990 – 1995 Course chairman for annual SPIE (Inter. Soc. for Optical Engineering) convention on Diagnostic and Therapeutic Cardiovascular Interventions, Los Angeles, California.

Clinical Teaching:

1983 – 1990 Attending Physician, CCU and consult services Shands Teaching Hospital, University of Florida and VA Medical Center, Catheterization laboratory attending, VAMC, Gainesville, Florida.

1990 – 1995 Attending Physician, CCU and consult services at New England Deaconess Hospital, Harvard Medical School, Boston, Massachusetts.

1995 – Attending Physician, CCU/ICU and consult services at Sparrow Hospital and McLaren Hospital, Lansing, Michigan.

Medical School Teaching:

1980 – 1990 Second year medical class (University of Florida) Physical Diagnosis Course.

1995 – 2002 Physical Diagnosis Course and Block II teaching and
2008 – present course lectures for Medical Students at Michigan State University, East Lansing, Michigan.

1995 – present Cardiac physical exam for first year medical students.

2. Principal Clinical and Hospital Service Responsibilities:

Direct patient care and teaching on the coronary care unit, in-patient, consultation service and cardiac intensive care for three month per year; out-patient cardiology 12 half-days per month. I conduct all outpatient testing that includes reading EKGs; SPECT and PET scans; echocardiography studies; vascular studies; and stress testing.

3. Major Administrative Responsibilities:

1983 – 1990 Director of the Cardiovascular Laser Laboratory, University of Florida, Gainesville, FL.

1983 – 1999 Principal investigator on several grants from National Institute of Health and other national organizations.

1989 – 1990 Internal Review Board (IRB) committee member, University of Florida.

1990 – 1995 Director, Cardiovascular Photobiology Laser Laboratory, Deaconess Hospital, Harvard Medical School, Boston, Massachusetts.

1990 – 1995 Co-Director, Institute for the Prevention of Cardiovascular Disease, Harvard Medical School, Boston, Massachusetts.

1990 – 1995 Director, Interventional Research, Harvard Medical School, Deaconess Hospital, Boston, Massachusetts.

1995– present Chief Division of Cardiology, Michigan State University East Lansing, Michigan.

1995– present Program Director of Cardiology Fellowship, Michigan State University, East Lansing, Michigan.

1995– present Chair, Institutional Research Review Committee, Sparrow Hospital, Lansing, Michigan.

4. Committees:

1988 – 1989 American College of Cardiology: Committee on peripheral vascular disease

1992 – 1995 Chairperson, Laser Oversight Committee, Deaconess Hospital, Harvard Medical School, Boston, Massachusetts

1992 – 1995 Member, Nutrition Committee, Deaconess Hospital, Harvard Medical School Boston, Massachusetts

1992 – 1994 Member Curriculum Committee, Harvard/MIT, MD/PhD program.

1990 – 1991 Chairperson, Ethics Committee, American Society for Lasers in Medicine and Surgery

1995– present Advisory committee to the Chairperson, Department of Medicine, Michigan State University, East Lansing, Michigan

1995 – 2000 Cardio-pulmonary Committee (Sparrow Hospital) East Lansing, Michigan

1995 – 2003 Education Committee Sparrow Hospital, East Lansing, Michigan

1996 – 2000 Chairperson, Internal Medicine Residency Oversight Committee Michigan State University, East Lansing, Michigan

1996– present Chairperson, Training and Education Committee for Cardiology Fellowship, Michigan State University, East Lansing, Michigan

1996 – 1997 Chairperson, Steering Committee for Cardiology Fellowship Program, Michigan State University, East Lansing, Michigan

1996 – 1998 Research and Graduate Committee for Michigan State University, College of Human Medicine, Michigan State University, East Lansing, Michigan

1999– present Graduate Medical Education Committee for the College of Human Medicine Michigan State University, East Lansing, Michigan

1999 – 2000 Chair, Promotions and Tenure Committee, Department of Medicine
1996 – 1997 Department of Medicine, Michigan State University, East Lansing,
2014 – 2016 Michigan

- 1997 – 1998 Selected as one of three faculty members at Michigan State University to act as Champion for the Provost's program on "The Future of Biomedical Research"
- 1999 – 2000 Faculty Work-Environment Improvement Committee to the President of Michigan State University, East Lansing, Michigan
- 2009 – 2010 Chair, Executive Committee, Department of Medicine, Michigan State University, East Lansing, Michigan
- 2014 – 2016
- 2009 – 2011 Board Member, National Lipid Association, Mid-Western Chapter
- 2019 –
- 2014 – 2016 Chair, Peer Review Committee, Department of Medicine
- 2019 - Member Student Grievance Committee, Dean's Office MSU.

PUBLICATIONS

Original Reports

1. **Abela, GS**, Majmudar B, Felner JM. Myocardial Abscesses Unassociated with Infective Endocarditis *Southern Medical Journal* 74;432-434, 1981.
2. **Abela, GS**, Mehta J, Conti CR. The Effect of Propranolol on Mortality and Morbidity after Acute Myocardial Infarction *J Fl Med Assn* 69;453-457, 1982.
3. **Abela, GS**, Normann SJ, Cohen D, Feldman FL, Geiser EA, Conti CR. Effects of Carbon Dioxide, Nd:Yag and Argon Laser Radiation on Coronary Atheromatous Plaques *Am J Cardiol* 50;1199-1205, 1982.
4. **Abela GS**, Conti CR. Laser Revascularization: What are its Prospects? *J Cardiovasc Med* 8;977-984, 1983.
5. **Abela GS**, Staples ED, Conti CR, Pepine CJ, Faro RS, Knauf DC, Alexander JA, Hay DA, Roberts AJ. Immediate and Long-term Effects of Laser Radiation on the Arterial Wall: Light and EM Observations *Surgical Forum* 34;454-456, 1983.
6. **Abela GS**, Conti CR, Normann SJ, Feldman RL, Pepine CJ. A New Model for Investigation of Transluminal Recanalization: Human Atherosclerotic Coronary Artery Xenografts *Am J Cardiol* 54;200-205, 1984.
7. **Abela GS**, Crea F, Smith W, Pepine CR, Conti CR. In Vitro Effects of Argon Laser Radiation on Blood: Quantitative and Morphologic Analysis *J Am Coll Cardiol* 5;231-237, 1985.
8. **Abela GS**, Normann SJ, Cohen DM, Franzini D, Feldman RL, Crea F, Fenech A, Pepine CJ, Conti CR. Laser Recanalization of Occluded Atherosclerotic Arteries: An *in vivo* and *in vitro* Study *Circulation* 71;403-411, 1985.

9. Fenech A, **Abela GS**, Crea F, Smith W, Feldman R, Conti CR. A Comparative Study of Laser Beam Characteristics in Blood and Saline Media *Am J Cardiol* 55;1389-1392, 1985.
10. **Abela GS**, Fenech A, Crea F, Conti CR. "Hot-Tip": Another Method of Laser Vascular Recanalization *Lasers Surg Med* 5;327-335, 1985.
11. Crea F, Fenech A, Smith W, Conti CR, **Abela GS**. Laser Recanalization of Acutely Thrombosed Coronary Arteries in Live Dogs: Early Results *J Am Coll Cardiol* 6;1052-56, 1985.
12. **Abela GS**, Crea F, Seeger JM, Franzini D, Fenech A, Normann SJ, Feldman RL, Pepine CJ, Conti CR. The Healing Process in Normal Canine Arteries and in Atherosclerotic Monkey Arteries after Transluminal Laser Irradiation *Am J Cardiol* 56;983-88, 1985.
13. Crea F, **Abela GS**, Pepine CJ. Multi-Vessel Coronary Spasm without Electrocardiographic Changes *Am Heart J* 110;1064-67, 1985.
14. Crea F, **Abela GS**, Fenech A, Smith W, Pepine CJ, Conti CR. Transluminal Laser Irradiation of Coronary Arteries in Live Dogs: An Angiographic and Morphologic Study of Acute Effects *Am J Cardiol* 57;171-174, 1986.
15. **Abela GS**, Seeger JM, Barbieri E, Franzini D, Fenech A, Pepine CJ, Conti CR. Laser Angioplasty with Angioscopic Guidance in Humans *J Am Coll Cardiol* 8;182-194, 1986.
16. McVicker JH, Day AL, Savage DF, **Abela GS**, Roberts AJ, Watson RL, Mehta JL. Laser Endarterectomy: A Comparison of Thrombotic Potential Following CO₂ Laser vs. Surgical Endarterectomy *Stroke* 17;266-278, 1986.
17. Seeger JM, **Abela GS**. Angioscopy as an Adjunct to Arterial Reconstructive Surgery *J Vasc Surg*; 4;315-20, 1986.
18. Seeger JM, **Abela, GS**, Klingman N. Laser Radiation in the Treatment of Prosthetic Graft Stenosis: A Study of Prosthesis Damage by Laser Energy *J Vasc Surg* 6;221-225, 1987.
19. Kim LYS, Day AL, **Abela GS**, Mehta J, Normann SJ, Roxey TE. The Argon Contact Laser Scalpel Study: A Study of Its Effect on Atherosclerosis *Neurosurgery* 21;861-866, 1987.
20. **Abela GS**, Seeger JM, Pry RS, Akins EW, Siragusa RJ, Barbieri E, Jablonski S. Percutaneous Laser Recanalization of Totally Occluded Peripheral Arteries: A Technical Approach *Dyn Cardiovas Imag* 1;302-308, 1988.
21. Silverman SH, Khoury AI, **Abela GS**, Seeger JM. The Effects of Blood Flow on Laser Probe Temperature in Human Arteries *Lasers Surg Med* 8;555-561, 1988.

22. Silverman SH, Khoury AI, Mladinich CJ, **Abela GS**, Seeger JM. Laser Angioplasty with Real Time Ultrasound *Surg Forum* 39;321-323, 1988.
23. Seeger, JM, **Abela GS**, Silverman SH, Jablonski SK. Initial Results of Laser Recanalization in Lower Extremity Arterial Reconstruction *J Vasc Surg* 9;10-17, 1989.
24. Curtis AB, **Abela GS**, Griffin J, Hill JA, Normann SJ. Transvascular Argon Laser Ablation of Atrioventricular Conduction in Dogs: Feasibility and Morphologic Results *Pace* 12;347-357, 1989.
25. Silverman SH, Khoury AI, Seeger JM, Tomaru T, Hawkins IF, **Abela GS**. The Effect of CO₂ and Blood Media on Laser Probe Temperature *Lasers Surg Med* 9;17-21, 1989.
26. Giacomino P, **Abela GS**, Barbeau GR, Seeger JM, Tomaru T, Akins EW, Friedl S. Angioscopy: Current Techniques *Dyn Cardiovasc Imag* 2;178-187, 1989.
27. Seeger JM, Kaelin LD, Barbeau GR, **Abela GS**. Laser Recanalization in High Risk Patients *Lasers Surg Med* 10;105-111, 1990.
28. Kaelin LD, Werts SG, Smith S, **Abela GS**, Seeger JM. The Effect of Plaque Composition on Laser Recanalization *J Surg Res* 48;363-367, 1990.
29. Barbeau GR, **Abela GS**, Seeger JM, Friedl SE, Tomaru T, Giacomino P. Temperature Monitoring During Peripheral Thermo-Optical Laser Recanalization in Humans *Clin Cardiol* 13;690-697, 1990.
30. Conti CR, Barbeau GR, Seeger JM, **Abela GS**. Laser Thermo-Optical Angioplasty in totally occluded peripheral arteries: Immediate and short-term results *Transactions of the American Clinical and Climatological Association* CI;83-90, 1990.
31. **Abela GS**, Barbieri E, Friedl SE, Normann SJ. Direct Laser and Laser-Thermal Irradiation of Normal Canine Coronary Arteries: Implications for Laser Delivery Methods *J Clin Laser Med Surg* 8;63-71, 1990.
32. **Abela GS**, Barbeau GR, Seeger JM, Giacomino P, Friedl SE: Combined Thermal-Optical Laser Arterial Recanalization *Sem Interven Rad* 8;111-125, 1991.
33. Ye B, **Abela GS**. Effect of Spectral Absorption of HbO₂ and Hb on Human Arterial Fluorescence *Lasers in Life Sci* 5;31-47, 1992.
34. Tomaru T, **Abela GS**, Gonzalez J, Giacomino P, Friedl SE, Barbeau GR. Laser Recanalization of Thrombosed Arteries Using Thermal and/or Modified Optical Probes; Angiographic and Angioscopic Study *Angiology* 43: 412-420, 1992.
35. Ye B, **Abela GS**. Fluorescence Behavior of Human Arterial Tissue *Lasers Med Sci* 7;311-318, 1992.

36. **Abela GS.** Abrupt Closure After Pulsed Laser Angioplasty: Spasm or a "Mille-Feuilles" Effect? *J Interv Cardiol* 5:259-262, 1992.
37. Bittl JA, Sanborn TA, **Abela GS**, Isner JM. Wire-Guided Excimer Laser Coronary Angioplasty: Instrument Selection, Lesion Characterization, and Operator Technique *J Interv Cardiol* 5:275-291, 1992.
38. **Abela GS.** Innovations in Laser Applications in Cardiovascular Field *Keio J Med* 42:164, 1993.
39. Ye B, **Abela GS.** Beta Carotene Decreases Total Fluorescence from Human Arteries *Opti Engin* 32;326-33, 1993.
40. Ye B, **Abela GS.** β -Carotene Enhances Plaque Detection by Fluorescence Attenuation in an Atherosclerotic Rabbit Model *Lasers Surg Med* 13:393-404, 1993.
41. Sassower MA, **Abela GS**, Koch M, Manzo KM, Friedl SE, Vivino PG, Nesto RW. Angioscopic Evaluation of Peri-procedural and Post-procedural Abrupt Closure Following PTCA *Am Heart J* 126;444-450, 1993.
42. Curtis AB, Barbeau GR, Friedl SE, Kunz WF, Mansour M, **Abela GS.** Modification of AV Conduction using a Percutaneous Combined Laser-Electrode Catheter *Pace* 17;337-348,1994.
43. Bittl JA, Sanborn TA, Yardley DE, Tcheng JE, Isner JM, Chokshi SK, Strauss BH, **Abela GS**, Walter PD, Schmidhofer M, Power JA for the PECLA Registry. Predictors of Outcome of Percutaneous Excimer Laser Coronary Angioplasty of Saphenous Vein Bypass Graft Lesions *Am J Cardiol* 74;144-148, 1994.
44. **Abela GS**, Picon PD, Friedl SE, Gebara OC, Federman M, Tofler GH, Muller JE. Triggering of Plaque Disruption and Arterial Thrombosis in an Atherosclerotic Rabbit Model *Circulation* 91;776-784, 1995.
45. Friedl SE, Mathews ED, Miyamoto A, **Abela GS.** Intravascular Ultrasound can be used to Evaluate Pulsed Ho:YAG Laser Ablation of Arterial Tissue *Lasers Surg Med* 16;156-163, 1995.
46. Barbeau GR, Seeger JM, Kaelin LD, Friedl S, Jablonski S, **Abela GS.** Peripheral Artery Recanalization in Humans Using Balloon and Laser Angioplasty *Clin Cardiol* 19;232-238, 1996.
47. **Abela GS**, Cohen MC, Cornelius JG. A new Method for Isolation of Viable Cardiac Myocytes from Percutaneous Endomyocardial Biopsy *Cather Cardiovasc Diag* 37;227-230, 1996.
48. Waxman S, Sassower MA, Mittleman M, Zarich S, Myiamoto A, Manzo KM, Muller JE, **Abela GS**, Nesto RW. Angioscopic Predictors of Early Adverse

- Outcome Following Coronary Angioplasty in Patients with Unstable Angina and Non-Q wave Myocardial Infarction *Circulation* 93:2106-2113, 1996.
49. Foster G, Mittleman MA, Koch M, **Abela GS**, Zarich S. Variability in the Measurement of Intracoronary Ultrasound Images: Implications for the identification of atherosclerotic plaque regression *Clin Cardiol* 20;11-15, 1997.
 50. **Abela GS**, Eisenberg JD, Mittleman M, Nesto RW, Leeman D, Zarich S, Waxman S, Prieto A, Manzo KS. Detecting and Differentiating White from Red Coronary Thrombus by Angiography in Angina Pectoris and in Acute Myocardial Infarction *Am J Cardiol* 83:94-97, 1999.
 51. Myiamoto A, **Abela GS**, Mizuno K. Vulnerable Plaques Assessed by Quantitative Colorimetric Analysis during Angioscopy *J Jap Coll Angiology* 39:747-751, 1999.
 52. Christov A, Dai E, Drangova M, Liu L, **Abela GS**, Nash P, McFadden G, Lucas A. Optical Detection of Triggered Atherosclerotic Plaque Disruption by Fluorescence Emission Analysis *J Photochem Photobiol* 72; 242-252, 2000.
 53. **Abela GS**, Hage-Korban E, Tomaru T, Barbeau GR, Friedl SE, Kaelin LD, Seeger JM. A Model for Evaluation of Arterial Thrombosis Following Interventional Procedures *Lasers Med Sci* 16:141-147, 2001.
 54. **Abela GS**, Hage-Korban EE, Tomaru T, Barbeau GR, Abela OG, Friedl SE. Vascular Procedures that Thermo-coagulate Collagen Reduce Local Platelet Deposition and Thrombus Formation: Laser and Laser-thermal vs. Balloon Angioplasty *Lasers Surg Med* 29:455-463, 2001.
 55. Insull W, Kafonek S, Goldner D, and Zieve F on behalf of the ASSET Investigators (**Abela GS**). Comparison of Efficacy and Safety of Atorvastatin (10 mg) with Simvastatin (10 mg) at Six Weeks *Am J Cardiol* 87:554-559, 2011.
 56. Prieto AR, Ma H, Huang R, Khan G, Schwartz KA, Hage-Korban EE, Schmaier AH, Hasan AAK, **Abela GS**. Thrombostatin, a Bradykinin Metabolite, Reduces Platelet Activation in a Model of Arterial Wall Injury *Cardiovasc Res* 53:984-992, 2002.
 57. Wagshall A, **Abela GS**, Maheshwari A, Gupta A, Bowden R, Huang S. A Novel Catheter Design For Laser Photocoagulation of the Myocardium to Ablate Ventricular Tachycardia *J Interv Card Electrophysiol* 7:13-22, 2002.
 58. **Abela GS**, Huang R, Prieto AR, Ma H, Schmaier AH Schwartz DA, Davis, JM Laser-light Scattering (LLS) as a New Method for Continuous Monitoring of Platelet Activation in Circulating Fluid *J Lab Clin Med* 141:50-57, 2003.
 59. Waxman S, Mittleman MA, Zarich SW, Fitzpatrick PJ, Lewis SM, Leeman, DE, Shubrooks SJ, **Abela GS**, Nesto RW. Plaque Disruption and Thrombus in Ambrose's Angiographic Coronary Lesion Types *Am J Cardiol* 92:16-20, 2003.

60. Miyamoto A, Prieto AR, Friedl SE, Lin FC, Muller JE, Nesto RW, **Abela GS**. Atheromatous Plaque Cap Thickness can be Determined by Quantitative Color Analysis During Angioscopy: Implications for Identifying the Vulnerable Plaque *Clin Cardiol* 27: 9-15, 2004.
61. **Abela, GS**, Aziz, K. Cholesterol Crystals Cause Mechanical Damage to Biological Membranes: A Proposed Mechanism of Plaque Rupture and Erosion Leading to Arterial Thrombosis *Clin Cardiol* 28:413-420, 2005.
62. Cholia A, Voice RA, **Abela GS**, Quadricuspid Aortic Valve: A Rare Entity *Clin Cardiol* 28:395, 2005.
63. **Abela, GS**, Aziz, K. Cholesterol Crystals Rupture Biological Membranes and Human Plaques During Acute Cardiovascular Events: A Novel Insight into Plaque Rupture by Scanning Electron Microscopy (Figures Displayed on Journal Cover) *Scanning* 28:1-10, 2006.
64. Ma H, Aziz KS, Huang R, **Abela G**. Arterial Wall Cholesterol Content is a Predictor of the Development and Severity of Arterial Thrombosis *J Thromb Thrombol* 22;5-11, 2006.
65. Huang R, Patel R, Ma H, Taylor K, **Abela GS**. Aspirin Reduces Platelet Aggregation during High Energy Excimer Laser *Lasers Surg Med* 38:875-879, 2006.
66. Khunnawat C, Mukerji S, **Abela GS**, Thakur RK. Unusual Complications of Coronary Artery Bypass Surgery *Am J Cardiol* 98:1665-1666, 2006.
67. Punnam SR, Holiday J, Janes R, Touma R, Li H, Patel M, **Abela GS**, Thakur RK. Hemodynamic Collapse During Left Ventricular Lead Implantation *PACE* 30:1112-1115, 2007.
68. Johnstone E, Friedl SE, Maheswari A, **Abela GS**. Distinguishing Characteristics of Erythrocyte-Rich and Platelet-Rich Thrombus by an Intravascular Ultrasound Catheter System *J Thromb Thrombol* 24:233-239, 2007.
69. Tonelli A, Khasnis A, **Abela GS**. Peaked T-waves and sinus arrhythmia before prolonged sinus pauses and atrioventricular block in Guillain-Barré syndrome *Indian Pacing Electrophysiol J* 7:249-252,2007.
70. Patel R, Mukerji S, **Abela GS**. Crossing Atrial Thrombus in a Patient with Pulmonary Embolism *Clin Cardiol* E17, 2007. DOI: 10.1002/clc.20271.
71. Huang R, Karve A, Shah I, Bowers MC, DiPette DJ, Supowit SC, **Abela GS**. Detection of the Mouse α -Calcitonin Gene-Related Peptide Gene Increases the Vulnerability of the Heart to Ischemia/Reperfusion Injury *Am J Physiology Circ Physiol* 294:H1291-H1297:2008.

72. Aziz K, Berger K, Claycombe K, Huang R, Patel R, **Abela GS**. Non-Invasive Detection and Localization of Vulnerable Plaque and Arterial Thrombosis using CTA/PET *Circulation* 117:2061-2070, 2008.
73. McCullough PA, Agrawal V, Ewa Danielewicz, **Abela GS**. Accelerated Atherosclerosis Calcification and Monckeberg's sclerosis: A Continuum of Advanced Vascular Pathology in Patients with Chronic Kidney Disease *Clin J Am Soc Nephrol* 6:1585-1598, 2008.
74. McCullough PA, Chinnaiyan KM, Agrawal V, Danielewicz E, **Abela GS**. Amplification of atherosclerotic calcification and Mönckeberg's sclerosis: a spectrum of the same disease process *Adv Chronic Kidney Dis* 4:396-412, 2008.
75. Punnam S, Hadid TT, Franklin PP, Gandhi DB, **Abela GS**, Shah DD, Prieto AR. Shaft aneurysm of a femoropopliteal expanded Polytetrafluoroethylene graft treated with covered stent *Vascular and Endovascular Surgery* 42:386-390, 2008.
76. Vedre A, Pathak DR, Crimp M, Lum C, Koochesfahani M, **Abela GS**. Physical Factors that Trigger Cholesterol Crystallization Leading to Plaque Rupture *Atherosclerosis* 203:89-96, 2009.
77. **Abela GS**, Aziz K, Vedre A, Pathak D, Talbott JD, DeJong J. Effect of Cholesterol Crystals on Plaques and Intima in Arteries of Patients with Acute Coronary and Cerebrovascular Syndromes *Am J Cardiol* 103:959-968, 2009.
78. Dhoble A, Patel M, Abdelmoneim SS, Puttarajappa C, **Abela GS**, Thakur RK. Porphyria and Atrial Fibrillation Study *Am J Cardiol* 104:373-376, 2009.
79. Dhoble A, Patel M, Shah I, Thakur RK, **Abela GS**. Cor-triatriatum Sinister with Bicuspid Aortic Valve – A rare association *Clin Cardiol* 32:11, E88, 2009 (DOI:10.1002/clc.20368).
80. Rubinstein J, Aloka F, **Abela GS**. Statin Therapy Decreases Myocardial Function as Evaluated via Strain Rate Imaging *Clin Cardiol* 32:684-689, 2009.
81. Rubinstein J, Pelosi A, Vedre A, Kotaru P, **Abela GS**. Hypercholesterolemia and myocardial function evaluated via tissue doppler imaging. *Cardiovascular Ultrasound* 7:1-7, 2009.
82. Düewell P, Kono H, Rayner KJ, Sirois CM, Vladimer G, Bauernfeind F, **Abela GS**, Franchi L, Nunez G, Schnurr M, Espevik T, Lien G, Fitzgerald KA, Rock KL, Moore KJ, Wright SD, Hornung V, Latz E. NLRP3 Inflammasomes are required for atherogenesis and activated by cholesterol crystals that form early in disease *Nature* 464:1357-1362, 2010.
83. Gadeela N, Rubinstein J, Tamhane U, Huang R, Pathak DR, Hosein H-A, Rich M, Dhar G, **Abela GS**. The Impact of Circulating Cholesterol Crystals on Vasomotor Function: Implications for No-Reflow Phenomenon *J Am Coll Cardiol-Intv* 4:521-529, 2011.

84. **Abela GS**, Vedre A, Janoudi A, Huang R, Durga S, Tamhane U. Effect of Statins on Cholesterol Crystallization and Atherosclerotic Plaque Stabilization *Am J Cardiol* 107:1710-1717, 2011.
85. Pelosi A, St John L, Gaymer J, Ferguson D, Goyal SK, **Abela GS**, Rubinstein J. Cardiac tissue Doppler and tissue velocity imaging in anesthetized new zealand white rabbits *J Am Assoc Lab Anim Sci* 50:317-321, 2011.
86. Patel R, Janoudi A, Vedre A, Aziz K, Tamhane U, Rubinstein J, Abela O, Berger K, **Abela GS**. Plaque Rupture and Thrombosis is Reduced by Lowering Cholesterol Levels and Crystallization with Ezetimibe and is Correlated with FDG-PET *Arterioscler Thromb Vasc Biol* 31:2007-2014, 2011.
87. Lather N, Efevbokhan N, Hakeem A, Kotaru P, **Abela GS**, Burger AJ, Rubinstein J. Advanced echocardiographic imaging to predict exercise capacity in relatively healthy women *Int J Cardiol* 151:369-71, 2011.
88. Dhoble A, Peddi P, Vedre A, Qin Y, Marinas E, **Abela GS**, Karve M. Rapidly Progressive Infective Endocarditis without Features of Systemic Inflammation Resulting in Perforation of the Native Aortic Valve *J Heart Valve Dis* 2011 20:109-11, 2011.
89. Li H, El-Dakdouki MH, Zhu DC, **Abela GS**, Huang X. Synthesis of β -Cyclodextrin conjugated superparamagnetic iron oxide nanoparticles for selective binding and detection of cholesterol crystals *Chem Commun* 48:3385-3387, 2012.
90. Raju M, Mood G, Laird-Fick H, Shah D, **Abela GS**. Cerebrovasuclar Steal Phenomenon in a Patient undergoing Dipyridamole Nuclear Perfusion Cardiac Imaging *J Cardiol Cases* 5:2125-2127, 2012.
91. Alsara O, Rayamajhi S, Ghanem F, Skaf E, **Abela GS**. Atypical initial presentation of primary cardiac pleomorphic sarcoma as a nagging back pain in a teenager *Tex Heart Inst J* 40:339-342, 2013.
92. Raju, MG, Pachika A, Punnam SR, Gardiner JC, Shishehbor MH, Kapadia SR, **Abela GS**. Statin therapy in the reduction of cardiovascular events in patients undergoing intermediate-risk non-cardiac, non-vascular surgery *Clin Cardiol* 36:456-461, 2013.
93. Kim J, Yadava M, An IC, Sayeed A, Laird-Fick HS, Gourineni V, **Abela GS**. Coagulopathy and Extremely Elevated PT/INR after Dabigatran Etexilate Use in a Patient with End-Stage Renal Disease *Case Rep Med* 2013;2013:131395. doi: 10.1155/2013/131395. Epub 2013 Sep 18.
94. El-dakdouki MH, El-boubbou K, Kamat M, Huang R, **Abela GS**, Kiupel M, Zhu DC, Huang X. CD44 targeting magnetic glyconanoparticles for atherosclerotic plaque imaging *Pharm Res* 31:1426-1437, 2014.

95. Alsara O, Alsara A, Kalavakunta JK, Laird-Fick H, **Abela GS**. Isolated Left Main Coronary Artery Stenosis after Thoracic Radiation Therapy: To Operate or Not to Operate. *Case Rep Med* DOI: 10.1155/2013/834164.
96. Kim J, Laird-Fick HS, Alsara O, Gourineni V, **Abela GS**. Pericarditis in Takotsubo Cardiomyopathy: A Case Report and Review of the Literature. *Case Rep Cardiol* DOI: 10.1155/2013/131395.
97. Vemula P, Kalavakunta J, **Abela GS**, Karve M. A Rare and Serious Unforeseen Complication of Cutting Balloon Angioplasty *Case Rep Cardiol* DOI:10.1155/2014/246784.
98. Vemula P, Abela OG, Narisetty K, Rhine D, **Abela GS**. Potassium Toxicity at Low Serum Potassium Levels with Refeeding Syndrome *Am J Cardiol* 115:147-149, 2015.
99. Nasiri M, Huang R, Janoudi A, Vanderberg A, Flegler C, Flegler S, **Abela GS**. Unraveling the Role of Cholesterol Crystals in Plaque Rupture by Altering the Method of Tissue Preparation *Microsc Res Tech* 78:969-974, 2015.
100. Aldasouqi S, Corser W, **Abela G**, Mora S, Shahar K, Krishnan P, Bhatti F, Hsu A, Gruenebaum D. Fasting for Laboratory Tests Poses a High Risk of Hypoglycemia in Patients with Diabetes: A Pilot Prevalence Study in Clinical Practice *Intern J Clin Med* 7:653-667, 2016.
101. Pervaiz MH, Durga S, Janoudi A, Berger K, **Abela GS**. PET/CT Detection of Muscle Inflammation Related to Cholesterol Crystal Emboli without Arterial Obstruction *J Nucl Cardiol* 25:433-440, 2018.
102. **Abela GS**, Kalavakunta JK, Janoudi A, Leffler D, Dhar G, Salehi N, Cohn J, Shah I, Karve M, Kotaru P, Gupta V, David S, Narisetty K, Rich M, Vanderberg A, Pathak DR, Shamoun F. Frequency of Cholesterol Crystals in Culprit Coronary Artery Aspirate during Acute Myocardial Infarction and their Relation to Inflammation and Myocardial Injury *Am J Cardiol* 120:1699-1707, 2017.
103. Aldasouqi S, Mora S, Bhalla G, Kakumanu N, Corser W, **Abela G**, Dlewati M, Estrada K, Almounajed A, Tabbaa T, Hammoud J, Newkirk C. Fasting-evoked en-route hypoglycemia in diabetes (FEEHD): An overlooked form of hypoglycemia in clinical practice. *Inter J EndoVolume* 2018, Article ID 1528437, 6 pages <https://doi.org/10.1155/2018/1528437>.
104. Hurley DM, Williams ER, Cross JM, Riedinger BR, Meyer RA, **Abela GS**, Slade JM. Aerobic Exercise Improves Microvascular Function in Older Adults. *Med Sci Sports Exerc.* 2018 Nov 26. doi: 10.1249/MSS.0000000000001854.
105. Atti V, Turagam MK, Garg J, Alratroot A, **Abela GS**, Rayamajhi S, Lakkireddy D. Efficacy and safety of Figure-of-Eight Suture Versus Manual Pressure for Venous Access Closure: a Systematic Review and Meta-analysis. *Journal of Interventional Cardiac Electrophysiology:an International Journal of Arrhythmias and Pacing.* DOI: 10.1007/s10840-019-00547-6

106. Edla S, Atti V, Kumar V, Tripathi B, Neupane S, Nalluri N, **Abela G**, Rosman H, Mehta RH. Comparison of nationwide trends in 30-day readmission rates after carotid artery stenting and carotid endarterectomy. *J Vasc Surg*. 2019 Sep 26. pii: S0741-5214(19)31784-7.
107. Atti V, Turagam MK, Garg J, Velagapudi P, Patel NJ, Basir MB, Mujer MTP, Rayamajhi S, **Abela GS**, Koerber S, Gopinnathanair R, Lakkireddy D. Efficacy and Safety of Single versus Dual Antiplatelet Therapy in Patients on Anticoagulation Undergoing Percutaneous Coronary Intervention: A Systematic Review and Meta-analysis. *Journal of cardiovascular electrophysiology*, 2019 Apr 18. doi: [10.1007/s10840-019-00547-6](https://doi.org/10.1007/s10840-019-00547-6).
108. Randhawa MS, Vishwanath R, Rai MP, Wang L, Randhawa AK, **Abela GS**, Dhar G. Association Between Use of Warfarin for Atrial Fibrillation and Outcomes Among Patients With End-Stage Renal Disease A Systematic Review and Meta-analysis. *JAMA Netw Open*. 2020;3(4):e202175. doi:10.1001/jamanetworkopen.2020.2175.
109. Elkhatib L, De Feijter-Rupp H, Janoudi A, Fry L, Kehdi M, **Abela GS**. Cholesterol Induced Heart Valve Inflammation and Injury: Efficacy of Cholesterol Lowering Treatment. *Open Heart* 2020;7:e001274. doi:10.1136/openhrt-2020-001274.
110. Al-abcha A, Saleh Y, Mujer M, Boumegouas M, Herzallah K, Charles L, Elkhatib L, Abdelkarim O, Kehdi M, **Abela GS**. Metanalysis Examining the Usefulness of Angiotensin Receptor Blockers for the Prevention of Aortic Root Dilation in Patients with the Marfan Syndrome. *Am J Cardiol* 2020;128:101-106.
111. Al-abcha A, Saleh Y, Mujer M, Herzallah K, **Abela GS**. Long-term Outcomes of Left Main Coronary Artery Disease Treated with Drug-eluting Stent vs Coronary Artery Bypass Grafting: a meta-analysis and systematic review. *Cardiovascular Revascularization Medicine*. <https://doi.org/10.1016/j.carrev.2020.07.013>.
112. Al-abcha A, Saleh Y, Charles L, Prasad R, Baloch ZQ, Hasan MA, **Abela GS**. Clinical outcomes of the self-expandable Evolut R valve versus the balloon-expandable SAPIEN 3 valve in Transcatheter Aortic Valve Implantation; A Meta-analysis and Systematic Review. *Cardiovascular Revascularization Medicine*. <https://doi.org/10.1016/j.carrev.2020.10.002>.
113. Al-abcha A, Herzallah K, Saleh Y, Mujer M, Abdelkarim O, Abdelnaby M, Almaghraby A, **Abela GS**. The Role of Direct Oral Anticoagulants Versus Vitamin K Antagonists in the Treatment of Left Ventricular Thrombi: A Meta-analysis and Systematic Review. *Am J Cardiovasc Drugs*. <https://doi.org/10.1007/s40256-020-00458-2>.
114. Al-abcha A, Saleh Y, Boumegouas M, Prasad R, Herzallah K, Baloch ZQ, Abdelkarim O, Rayamajhi S, **Abela GS**. Meta-analysis of Valve-in-valve Transcatheter Aortic Valve Replacement versus Redo-surgical Aortic Valve Replacement in Failed Bioprosthetic Aortic Valve. *Am J Cardiol* (in press).

In Review/In Preparation:

1. Fry L, Khan S, Vedre, Huang R, **Abela GS**. Aspirin Prevents Cholesterol Crystallization: A Potential Mechanism of Plaque Stabilization (in preparation).
2. **Abela GS**, , Katkooori V, Bumpers H, De Feijter-Rupp H, Leja M, Perry D, Richard JE, Barnaba C, Medina Meza IG. Relationship between Solid Cancers and Atherosclerosis: Cholesterol Crystal Induced Neovascularization and Stemness in Breast Cancer (in preparation).
3. Mallory Davis, **Abela GS**, Nigel Paneth. Changes in Maternal Cholesterol During Pregnancy and How They Vary Based on Maternal Demographics (in preparation).

Thesis:

Master's Thesis in Pharmacology by **GS Abela**: The Release of Norepinephrine by Electrical Stimulation and Tyramine in the Reserpinized Dog Heart under the Influence of Nialamide. American University of Beirut, 1974.

Review Articles, Proceedings, Letters and Editorials

1. Mehta J, Mehta P, Roy L, **Abela GS**, Conti CR. Role of Platelets and Prostaglandins in Coronary Heart Disease. *L'information Cardiologique*; 261-278, April,1982.
2. **Abela GS**, Pepine CJ. Emerging Applications of Laser Therapy for Occlusive Vascular Disease. *Cardiovascular Reviews and Reports*; 6:269-278, 1985.
3. Barbieri E, Roxey T, Khoury A, **Abela GS**. Evaluation of Optical Properties and Laser Effects on Arterial Tissue Using a Microlens Tipped Optical Fiber. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Engineering); II 713:166-169, 1986.
4. Council on Scientific Affairs. Council Report: Lasers in Medicine and Surgery; *J Am Med Assoc* 256: 900-907, 1986.
5. **Abela GS**. Laser Recanalization: Preliminary Clinical Experience, ed. JW Hurst, *Chest Pain*. (McGraw Hill, Inc., New York, NY); 3(4), 1987.
6. **Abela GS**. Laser Arterial Recanalization: A Current Perspective. *J Am Coll Cardiol* (Editorial); 12:1:103-105, 1988.
7. **George S. Abela, M.D.** Laser Recanalization: A Basic and Clinical Perspective: *Thorac Cardiovasc Surgeon* (Ger) 36 (supplement II):137-141, 1988.
8. Friedl SE, **Abela GS**, Tomaru T, Barbeau G, Haley RA. Quantitative Endovascular Angioscopy: *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Engineering); 1067:197-202, 1989.

9. Hoffman RG, **Abela GS**, Friedl SE, Hojjatie B, Barbeau GR. Dosimetry of Plaque Ablation Using Thermal and Thermal-Optical Probe Systems. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Engineering); 1067:120-126, 1989.
10. Ye B, **Abela GS**. Changes in Total Fluorescence Intensity Resulting From Laser Penetration Depth in Human Arteries. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Engineering); 1201:27-37, 1990.
11. Caravello JW, **Abela GS**, Barbeau GR, Friedl SE. The Effect of Mechanical Force on the Vaporization of Atherosclerotic Plaque. *Optical Fibers in Medicine*; SPIE (Inter. Soc. for Optical Eng); 1201:114-129, 1990.
12. **Abela GS**, Barbieri E, Friedl SE, Normann SJ. Direct Laser and Laser-Thermal Irradiation of Normal Canine Coronary Arteries: Implications for Laser Delivery Methods. *Journal of Clinical Laser Medicine and Surgery*, June 1990.
13. Seeger J, **Abela GS**. Current Status of Laser Angioplasty *Surg Annu* 22: 299-315, 1990.
14. Ye B, **Abela GS**, Decrease of Total Fluorescence from Human Arteries with Increasing Beta-Carotene Content. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Eng.); 1425:45-54 1991.
15. Friedl SE, Kunz WF, Mathews ED, **Abela, GS**. Integral Prism Tipped Optical Fibers. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Eng.); 1425:134-141, 1991.
16. Abela GS. Restenosis and Temperature Data in Human Peripheral Arteries. Proceedings of the 5th Annual Meeting of Japanese Society of Cardioangiography and Laser Cardioangioplasty, 77-78, 1991.
17. Ye B, **Abela GS**. Variation in Optical Performance of b-Carotene Stained Rabbit Aorta. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Eng.); 1642:34-41, 1992.
18. Friedl SE, Weng Y-S, Mathews ED, **Abela GS**. Detection and Quantification of Thermal Injury to the Myocardium Using Ultrasound. *Optical Fibers in Medicine*, SPIE (Inter. Soc. for Optical Eng.); 1642:42-51, 1992.
19. Muller JE, **Abela GS**, Nesto RW, Tofler GH. Triggers, Acute Risk Factors, and Vulnerable Plaques: The Lexicon of a New Frontier. *J Am Coll Cardiol* 23:809-813, 1994.
20. Emerging Technologies Workshop. Evaluation of Emerging Technologies for Coronary Revascularization. National Heart, Lung and Blood Institute Conference, Evaluation of Emerging Coronary Revascularization Technologies; *Circulation* 1994.

21. Jansen ED, Pfefer TJ, Asshauer T, Frenz M, Delacretaz G, **Abela GS**, Welsh AJ. Effect of Pulse Duration on Photomechanical Response of Soft Tissue during Ho:YAG Ablation. *Diagnostic and Therapeutic Cardiovascular Interventions V*, SPIE (Inter. Soc. for Optical Eng.); 2395: 459-465, 1995.
22. Hartnell GG, **Abela GS**, Rosenschein U. Thrombectomy par ultrasons: quelles utilisations intra-vasculaire et intra-coronaire? *Le Mouvement Cardio Vasculaire* 211-214, March, 1995.
23. Christov A, Dai E, Yan WD, Drangova M, Liu L, **Abela GS**, Nash P, McFadden G, Modry D, Gelfand E, Lucas A: Optical detection of unstable atherosclerotic plaque. *International Journal of Cardiovascular Medicine and Science* 2000.
24. Christov A, Dai E, Drangova M, Liu L, **Abela GS**, Nash P, McFadden G, Lucas A: Laser-induced fluorescence spectroscopy (LFS): detection of unstable thrombogenic atherosclerotic plaque formation in a rabbit model - a first look diagnostic approach *SPIE* 2000.
25. **Abela GS**: Atherosclerosis as an Inflammatory Arterial Disease “Déjà vu”? *American College of Cardiology: Current Journal Reviews* 12;23-25, 2003.
26. Khasnis A, Veerareddy S, Jongnarangsin K, Ip JH, **Abela GS**, Thakur RK. Evolution of curative Therapies for atrial fibrillation review. *Indian Pacing Electrophysiol J* 4;10-25;2004.
27. Khasnis A, Jongnarangsin K, Abela G, Veerareddy S, Reddy V, Thakur R. Tachycardia Induced Cardiomyopathy: A review of literature. *PACE* 28;1-12, 2005.
28. Ishibashi F, Aziz K, Abela GS, Waxman S. Update on Coronary Angioscopy: Review of a 20-Year Experience and Potential Application for Detection of Vulnerable Plaque. *J Interven Cardiol* 19;1-9, 2006.
29. Rubinstein J, Abela GS. Sinoatrial Nodal Reentry Tachycardia: An Unusual Type of Sinus Tachyarrhythmia. *Resident and Staff Physician* 54;14-19, 2008.
23. Shamoun F, Sural N, **Abela GS**. Peripheral Arterial Disease: Advances in Medical Therapy *Expert Rev Cardiovasc Ther* 6:539-553, 2008.
24. Khunnawat C, Mukerji S, Daniel Havlichek, Jr, Rabih Touma, **Abela GS**. Cardiovascular Manifestations in Human Immunodeficiency Virus-Infected Patients. *Am J Cardiol* 102:635-642, 2008.
25. Dhoble A, Punnam SR, **Abela GS**. Likelihood of Ventricular Arrhythmias Due to Myocardial Fibrosis in Hypertrophic Cardiomyopathy as Detected by Cardiac Magnetic Resonance Imaging. *J Am Coll Card* 52:969, 2008 (Letter to Editor).
26. Dhoble A, Vedre A, Abdelmoneim SS, Sudini SR, Ghose A, **Abela GS**, Karve M. Prophylaxis to Prevent Infective Endocarditis: To Use or Not to Use? *Clin Cardiol* 32:429-433, 2009.

27. Mukerji S, Aloka F, Farooq MU, Kassab MY, **Abela GS**. Cardiovascular Complications of Guillian-Barré. *Am J Cardiol* 104:1452-1455, 2009.
28. Dhoble A, **Abela GS**, Thakur RK. Porphyria and Cardiac Arrhythmias. *Asia-Pacific Journal of Cardiology* joc210021, 2009.
29. Punnam SR, Goyal SK, Kotaru VP, Pachika AR, Abela GS, Thakur RK. Amiodarone - A 'Broad Spectrum' Antiarrhythmic Drug. 1871-529X (Electronic), 2009.
30. AbouRjaili G, Shtaynber N, Wetz R, Costantino T, **Abela GS**. Current Concepts in Triglyceride Metabolism, Pathophysiology and Treatment. *Metabolism Clinical and Experimental* 59:1210-1220, 2010.
31. **Abela GS**. The Role of Cholesterol Crystals in Myocardial Infarction and Stroke: A Review. *Clinical Lipidology* 5:57-69, 2010.
32. **Abela GS**. Cholesterol Crystals Piercing the Arterial Plaque and Intima Triggers Local and Systemic Inflammation. *J Clin Lipidology* 4:156-164, 2010.
33. Lather N, Efevbokhan N, Hakeem A, Kotaru P, **Abela GS**, Burger AJ, Rubinstein J. Advanced echocardiographic imaging to predict exercise capacity in relatively healthy women. *Int J cardiol* (letter) 2011.
34. Mughal MM, Khan MM, DeMarco K, Majid A, Shamoun F, **Abela GS**. Symptomatic and Asymptomatic Carotid Artery Plaque. *Expert Rev Cardiovasc Ther* 9:1315-1330, 2011.
35. Ghanem FA, **Abela GS**. Overtures of Takotsubo's Cardiomyopathy. *Clin Cardiol* 34:651-652, 2011.
36. Lather N, Efevbokhan N, Hakeem A, Kotaru P, **Abela GS**, Burger AJ, Rubinstein J. Advanced echocardiographic imaging to predict exercise capacity in relatively healthy women. *Inter J Cardiol* (letter to editor) 151;369-371, 2011.
37. **Abela GS**, Shamoun F, Vedre A, Pathak DR, Shah I, Dhar G, Leffler D. The Effect of Ethanol on Cholesterol Crystals during Tissue Preparation for Scanning Electron Microscopy. *J Am Coll Cardiol* (Letter to Editor) 59:93, 2012.
38. Kalavakunta JK, **Abela GS**. Piercing of fibrous cap by cholesterol crystals: the trigger for acute coronary syndromes? *International Coronary Advances*. No. 21, p7, 2012.
39. Vemula P, Gautam B, **Abela GS**, Wang DH. Myocardial ischemia/reperfusion injury: Potential of TRPV1 agonists as cardioprotective agents. *Cardiovascular & Haematological Disorders-Drug Targets*. 13:1-8, 2013.

40. Aldasouqi S, Abela GS. A call to Eliminate the Fasting pre-requisite for Lipid Testing in Patients with Diabetes and Beyond. (letter) *Circulation* 131:e471, 2015.
41. Janoudi A, Shamoun FE, Kalavakunta JK, **Abela GS**. Cholesterol crystal induced arterial inflammation and destabilization of atherosclerotic plaque. *Euro Heart J* 37:1959-1967, 2016.
42. Abela OG, Ahsan CH, Alreefi F, Salehi N, Baig I, Janoudi A, **Abela GS**. Plaque Rupture and Thrombosis: The Value of the Atherosclerotic Rabbit Model in Defining the Mechanism. *Cur Atheroscler Rep* 18:29, 2016.
43. Ghanem F, Vodnala D, Kalavakunta JK, Durga S, Thormeier N, Subramaniyam P, Abela S, **Abela GS**. Cholesterol crystal embolization following plaque rupture: a systemic disease with unusual features. *J Biomed Res.* 31:82-94, 2017.
44. Kalavakunta JK, Mittal MK, Janoudi A, Abela OG, Fadi Alreefi, **Abela GS**. Role of Cholesterol Crystals during Acute Myocardial Infarction and Cerebral Vascular Accident. *Cardio Innov Appli* doi.10.15212/CVIA.2017.0007.
45. **Abela GS**. Cardiovascular Injury Induced by Phase Change of Cholesterol from the Liquid to Crystalline Form. *Lipid Spin.* 16:26-30, 2018.
46. **Abela GS**. Member Spotlight. *Lipid Spin.* 16:33-34, 2018.
47. Abdelfattah OM, Aldasouqi SA, Hassanein MH, Saad AM, **Abela GS**. Fasting-Evoked En route Hypoglycemia in Diabetes (FEEHD): From guidelines to clinical practice. *Curr Diabetes Rev.* 2020 Jan 6. doi: 10.2174/1573399816666200107103829.
48. Saleh Y, Abdelkarim O, Herzallah K, **Abela GS**. Anthracycline Induced Cardiotoxicity: Mechanisms of Action, Incidence, Risk Factors, Prevention and Treatment. *Heart Failure Reviews* <https://doi.org/10.1007/s10741-020-09968-2>.
49. Nidorf SM, Fiolet A, **Abela GS**. Viewing atherosclerosis through a crystal lens: How the Evolving Structure of Cholesterol Crystals in Atherosclerotic Plaque Alters its Stability. *J Clin Lipidol.* July 10, 2020DOI:<https://doi.org/10.1016/j.jacl.2020.07.003>
50. Kehdi M, Dahbur BA, Mitra S, **Abela GS**. Covid19 in acute cardiovascular care. (*Clin Cardiol*) (in preparation).

Books

1. **Abela, GS**. (Editor) Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques. Martinus Nijhoff, (Kluwer), Boston. 1990.
2. **Abela, GS**. (Editor) Proceedings of Diagnostic and Therapeutic Cardiovascular Interventions. *Progress in Biomedical Optics*, SPIE, volume 1425, Los Angeles, CA, 1991.

3. **Abela GS.** (Editor) Proceedings of Diagnostic and Therapeutic Cardiovascular Interventions II. Progress in Biomedical Optics, SPIE, volume 1642, Los Angeles, CA, 1992.
4. **Abela GS.** (Editor) Proceedings of Diagnostic and Therapeutic Cardiovascular Interventions III. Progress in Biomedical Optics, SPIE, Volume 1878, Los Angeles, CA, 1993.
5. **Abela GS.** (Editor) Proceedings of Diagnostic and Therapeutic Cardiovascular Interventions IV. Progress in Biomedical Optics, SPIE, Volume 2130, Los Angeles, CA, 1994.
6. **Abela GS.** (Editor) Proceedings of Diagnostic and Therapeutic Cardiovascular Interventions V. Progress in Biomedical Optics, SPIE, San Jose, CA, 1995.
7. Whittaker P and **Abela GS** (Editors) Direct Myocardial Revascularization: History, Methodology, Technology Kluwer, Boston, 1999.
8. **Abela GS** (Editor) Myocardial Revascularization: Novel Percutaneous Approaches John Wiley and Sons, Inc. New York, NY, 2001.
9. **Abela GS** (Editor) Peripheral Vascular Disease: Diagnostic and Therapeutic Approaches Lippincott Publisher, Inc. New York, NY, 2004.
10. Aziz K and **Abela GS** (Editors) Nuclear Cardiology and Cardiac CT Handbook Lippincott Publisher, Inc. New York, NY, 2008.
11. **Abela GS** and Stephan Mark Nidorf (Editors) Cholesterol Crystals in Atherosclerosis and Other Related Diseases Springer Nature, Inc. New York (in preparation).

Chapters

1. **George S Abela**, and C. Richard Conti: The Use of the Laser in the Treatment of Coronary Artery Obstruction. The Heart: Arteries and Veins, 6th Edition, (Ed. J.W. Hurst). McGraw Hill, New York, 119:1922-25, 1985.
2. **George S. Abela**, Enrico Barbieri, C. Richard Conti: Laser Therapy in Cardiovascular Disease. Progress in Cardiology, Volume 15. (Ed. Paul N. Yu). Lea and Febiger, Philadelphia, 8:155-168, 1987.
3. **George S. Abela**, and G. Michael Vincent: Cardiovascular Applications of Lasers. Surgical Applications of Lasers, 2nd Edition, (Ed. John A. Dixon). Yearbook Medical Publishers, Chicago, 225-274, 1987.
4. Seeger JM, **Abela GS**: Current Status of Laser Angioplasty: Surgery Annal, 1988.

5. **George S. Abela:** Laser Catheters for Cardiovascular Recanalization. (Ed. Jeffrey Isner and Richard Clarke). Cardiovascular Laser Therapy, Raven Press, New York: 163-175, 1989.
6. **George S. Abela** and C. Richard Conti: The Use of the Laser in the Treatment of Coronary Artery Obstruction. The Heart: Arteries and Veins, 7th Edition, (Ed. J.W. Hurst). McGraw Hill, New York 132: 2156-2162, 1989.
7. **George S. Abela:** Other Catheter based Techniques for Treatment of Coronary Artery Disease. In Diagnostic Techniques and Therapeutic Cardiac Catheterization, (Ed. C.J. Pepine). Williams & Wilkins, Baltimore, MD. 256-266, 1989.
8. **George S. Abela**, and James M. Seeger. Angioplasty Using Argon Energy and Fiberoptic Laser Probes. Endovascular Surgery. (Ed. W. Moore) Saunders, Philadelphia, PA 408-418, 1989.
9. Tomaru, T, **Abela GS**, Seeger JM: Cardiovascular Application of Continuous Wave Laser Systems. Lasers in Cardiovascular Disease, (Ed. R. White, W. Grundfest) Yearbook Medical Publisher, Chicago, IL 8:107-129, 1989.
10. Seeger JM, **Abela GS**: "Hot Tip" Facilitated Balloon Angioplasty: One Year Results and Impact on Lower Extremity Arterial Reconstruction. Current Critical Problems in Vascular Surgery, (Ed. FJ. Veith) Quality Medical Publishing, Inc., Missouri 33:180-187, 1989.
11. Barbeau GR, **Abela GS**: Laser Recanalization: The Hybrid Probe. (Ed. T. Sanborn) Laser Angioplasty, Alan R. Liss, New York. 7:47-57, 1989.
12. **Abela GS**, Barbeau GR: Laser Angioplasty: Potential Effects and Current Limitations. Interventional Cardiology, (Ed. E. J. Topol). W. B. Saunders Company, PA Sec V, 37:724-737, 1989.
13. Seeger JM, **Abela GS**: Laser Angioplasty of Iliofemoral and Distal Arteries. Techniques in Arterial Surgery, (Ed. JJ Bergan and JST Yao) W. B. Saunders Company, PA 40:399-405, 1990.
14. **Abela GS**: Historical Background, Development, and Future Trends of Lasers in Cardiovascular Disease. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 2: 9-17, 1990.
15. **Abela GS**: Immediate and Chronic Effects of Laser Angioplasty. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 9:113-141, 1990.
16. Vincent GM, **Abela GS**, Barbieri E: Photosensitizer-Enhanced Laser Angioplasty. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 10:143-152, 1990.

17. Curtis AB, Vincent GM, **Abela GS**: Laser Catheter Ablation of Arrhythmias. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 13:189-200, 1990.
18. Friedl SE, Ye B, **Abela GS**: Optical Fibers. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 14:203-207, 1990.
19. **Abela GS**, Barbeau GR: Catheter Systems for Laser Angioplasty. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 16:229-254, 1990.
20. Barbeau GR, **Abela GS**: Clinical Experience with Laser Angioplasty. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 17:257-271, 1990.
21. Seeger JM, **Abela GS**: Laser Recanalization and Treatment of Peripheral Atherosclerosis: A Vascular Surgeon's Perspective. Lasers in Cardiovascular Medicine and Surgery: Fundamentals and Techniques (Ed. GS Abela) Kluwer Academic Publishers, MA 18:273-282, 1990.
22. Seeger JM, **Abela GS**: Long Term Arterial Responses to Laser Angioplasty: Evaluation of Late Results and Restenosis. Current Critical Problems in Vascular Surgery, (Ed. FJ. Veith 2nd Edition) Quality Medical Publishing, Inc., Missouri 25:155-163, 1990.
23. Enrico Barbieri, M.D. and **George S. Abela, M.D.** Laser Angioplasty. Text Atlas of Laser Surgery. UTET, Turin, Italy, 162-167, 1992.
24. **Abela GS**, Barbeau GR, Giacomino P: Laser Angioplasty With Thermal-Optical Probe. Percutaneous Revascularization Techniques, (Ed. W. Castaneda) Thieme Medical Publisher, September, 1992.
25. Koch JM, Friedl SE, Seeger JM, Barbeau GR, **Abela GS**. Restenosis Following Laser Angioplasty. Restenosis After Intervention with New Mechanical Devices. (Ed. PW Surreys, B Strauss, SB King III). Kluwer Academic Publishers, the Netherlands, 1992.
26. **Abela GS**, and Conti CR. The Use of Laser in the Treatment of Coronary and Peripheral Arterial Obstruction. The Heart: Arteries and Veins, 8th Edition. (Ed. J.W. Hurst). McGraw Hill, New York, Chapter 132, 1993.
27. Seeger JM, **Abela GS**. The Use of Angioscopy in Laser Angioplasty. Technologies in Vascular Surgery. (Ed. JST Yao, WH Pearce). W.B. Saunders Company, Orlando, FL.
28. Seeger JM, **Abela GS**. Laser Assisted Balloon Angioplasty using Argon Laser Energy and Hybrid Laser Probes. Endovascular Surgery, Second Edition. (Ed. WS Moore, SS Ahn). W.B. Saunders Company, Orlando FL, Chapter 41, 1992.

29. Bittl JA, Barbeau G, **Abela GS**. Laser Angioplasty: Potential Effects and Current Limitations. Interventional Cardiology, 2nd Edition. (Ed. E. J. Topol). W. B. Saunders Company, PA.
30. Bittl JA, **Abela GS**. Laser Angioplasty Techniques for Coronary Artery Intervention. Diagnostic and Therapeutic Cardiac Catheterization, Second Edition. (Ed. CJ Pepine). William & Wilkins, Baltimore MD, Chapter 28, 1994.
31. Bittl JA, **Abela GS**. Complications Induced by Laser Angioplasty. Complications of Interventional Cardiac Procedures. (Ed. Hurst JW and Lutz JF). Igaku-Shoin, Japan, Chapter 18, 1995.
32. **Abela GS**, Eisenberg JD. Plaque Disruption and Thrombosis: Models to Evaluate Acute Cardiovascular Events. Textbook of Coronary Thrombosis and Thrombolysis, Ed. RC Becker. Kluwer, Boston, Chapter 13, 1998.
33. Eisenberg JD, **Abela GS**. Angioscopy for Interventional Cardiovascular Diagnosis. Diagnostic and Therapeutic Cardiac Catheterization, Third Edition. (Ed. CJ Pepine). William & Wilkins, Baltimore MD, Chapter 19, 326, 1998.
34. Eisenberg JD, Topaz O, **Abela GS**. Laser Wavelengths for Percutaneous Endomyocardial Revascularization (Whittaker P and Abela GS Editors) Direct Myocardial Revascularization: History, Methodology, Technology, Kluwer, Boston Chapter 6, 97-119, 1999.
35. Hage-Korban, E, Arora RC, Ghosheh K, Ma H, Huang R, Abela O, **Abela GS**. Potential Mechanisms of Myocardial Revascularization Techniques: Channels, Functional and Structural Remodeling, Angiogenesis, Denervation, or Placebo (GS Abela Editor) Myocardial Revascularization: Novel Percutaneous Approaches John Wiley and Sons, Inc. New York, NY, Chapter 6, 81-98, 2001.
36. Eisenberg JD, Hage-Korban E, Ghoshe K, **Abela GS**, Oesterle SN. Percutaneous Myocardial Revascularization (PMR): Indications and Clinical Experience (GS Abela Editor) Myocardial Revascularization: Novel Percutaneous Approaches John Wiley and Sons, Inc. New York, NY, Chapter 8, 107-123, 2001.
38. Woodward T, **Abela GS**, Briefs N. Percutaneous Myocardial Revascularization: Financial Potential and Market Acceptance (GS Abela Editor) Myocardial Revascularization: Novel Percutaneous Approaches John Wiley and Sons, Inc. New York, NY, Chapter 19, 263-268, 2001.
39. DeFranco AC, Ma H, Kantipudi SC, **Abela GS**. Anatomy, Physiology and Response to Injury in Peripheral Vascular Disease: Basic Diagnostic and Therapeutic Approaches Lippincott, Inc. New York, NY, Chapter 1 p.1-22, 2004.
40. **Abela GS**, Maheshwari A, Kantipudi SC. Atherosclerotic Vascular Disease as a Systemic Process in Peripheral Vascular Disease: Basic Diagnostic and Therapeutic Approaches Lippincott, Inc. New York, NY, Chapter 2 p.23-36, 2004.

41. Hage-Korban E, Cohn JM, **Abela GS**. Technical Requirements for Cardiovascular Training in Peripheral Vascular Disease in Peripheral Vascular Disease: Basic Diagnostic and Therapeutic Approaches Lippincott, Inc. New York, NY, Chapter 2 p.442-47, 2004.
42. Maheshwari A, Mehrotra A, Henry R, **Abela GS**, Prieto AR. Deep Vein Thrombosis: Risks and Management in Peripheral Vascular Disease: Basic Diagnostic and Therapeutic Approaches Lippincott, Inc. New York, NY, Chapter 37 p.452-460, 2004.
43. Rubinstein J and **Abela GS**. Risk Stratification using Inflammatory Markers and other Risk Factors in Nuclear Cardiology and Cardiac CT Handbook Lippincott, Inc. New York, NY, Chapter 7 p164-174, 2008.
44. Shah I, Berger K, **Abela GS**. Radiocontrast Agents in Nuclear Cardiology and Cardiac CT Handbook Lippincott, Inc. New York, NY, Chapter 5 p137-146, 2008.
45. Shamoun F and **Abela GS**. Peripheral Vascular Disease in Cardiology Specialty Board Review (Ed.Ragavendra Baliga) McGraw-Hill, Inc. New York, Chapter 84 p981-987, 2012.
46. Kalavakunta JK, Ahmado I, Abela OG, Abela GS. Myocardial infarction imaging. In: *Advances in Myocardial Infarction Management*. Ottervanger JP (Ed.). Future Medicine, London, UK. DOI: 10.2217/EBO.12.473 (2013).
47. Ahmado I, Abela O, Saffia A, Janoudi A, Abela GS. Lipid and Inflammation in Atherosclerosis. Lipid Management: From Basics to Clinic; Hussain Y (Ed.). Springer Science, New York, NY, USA. p37-79, 2015.
48. Kalavakunta J, Hajjar MA, Subramaniym P, **Abela GS**. Landmarks Along the Application of Laser Energy for Cardiovascular Therapy. Topaz O (Ed.) Springer, New York, NY Chapter 27; p349-360, 2015.
49. Lamichhane M, Salehi N, Ahmadjee A, **Abela GS**. Pathology of arterial thrombosis: characteristics and thrombus types in Cardiovascular Thrombus: From Pathology and Clinical Presentation to Imaging, Pharmacotherapy and Interventions. Topaz O (Ed.) Elsevier, London, UK Chapter 2; p15-30, 2018.
50. Abela O, Singh D, **Abela GS**. The resistant atherosclerotic plaque : pathologic features and their impact on revascularization. Debulking Cardiovascular Interventions and Revascularization Strategies: Topaz O (Ed.) Elsevier, London, UK (in press).
51. Abdallah O, Aldasouqi S, Abdeldayem J, Saad AM, Hassanein MH, **Abela GS**. The New Generation Anti-diabetic and Lipid Lowering Agents and their Cardioprotective Effect. *Frontiers in Clinical Drug Research-Diabetes & Obesity Advances in diabetes* (in preparation).

Electronic Publications:

1. Ghanem FA, Abela GS: Takotsubo cardiomyopathy (TCM) TCM-Dynamed (2010)

Abstracts:

1. **Abela GS**, Conti CR, Geiser EA, Normann SJ, Grenier M. The Effect of Laser Radiation on Atheromatous Plaques: A Preliminary Report. *Am J Cardiol* 49:1008, 1982.
2. **Abela GS**, Cohen D, Feldman RL, Geiser EA, Normann SJ, Conti CR. Use of Laser Radiation to Recanalize Stenosed Arteries in a Live Animal Model. *Circulation* 66:II-366, 1982.
3. **Abela GS**, Normann SJ, Hay DA, Feldman RL, Faro RS, Pepine CJ, Conti CR. Immediate and Long-Term Effects of Laser Radiation on the Arterial Wall: Light and EM Observations. *J Am Coll Cardiol* 1:(2)691, 1983.
4. **Abela GS**, Feldman RL, Normann SJ, Cohen D, Conti CR. Use of Laser Radiation to Recanalize Totally Obstructed Coronary Arteries. *J Am Coll Cardiol* 1:(2)691, 1983.
5. **Abela GS**, Cohen D, Feldman RL, Normann SJ, Conti CR, Pepine CJ. Use of Laser Radiation to Recanalize Stenosed Arteries in Live Rabbits. *Clinical Research* 31:456A, 1983.
6. **Abela GS**, Normann SJ, Feldman RL, Conti CR, Pepine CJ. A New Model for Evaluation of Transluminal Recanalization: Human Atherosclerotic Coronary Artery Heterografts. *Circulation* 68:III-5, 1983.
7. **Abela GS**, K, Griffin JC, Hill JA, Normann S, Conti CR. Transvascular Argon Laser-Induced Atrioventricular Conduction Ablation in Dogs. *Circulation* 68:111-145, 1983.
8. Hill JA, **Abela GS**, Feldman RL, Pepine CJ. Beneficial Effect on Coronary Hemodynamics during Exercise attributed to a Beta-Blocker with ISA (Carteolol). *Clinical Research* 31:(5)823. 1983.
9. Hill JA, **Abela GS**, Feldman RL, Pepine CJ. Does Intrinsic Sympathomimetic Activity prevent Depression of Left Ventricular Function by Beta Blockade? *Clinical Research* 31:(5)823, 1983.
10. **Abela GS**, Pepine CJ, Conti CR. Effects of Laser Radiation on Human Blood: Relation between Exposure and Debris Formation. *J Am Coll Cardiol* 3:(2)489, 1984.
11. Crea F, **Abela GS**, Fenech A, Smith W, Pepine CJ, Conti CR. Transluminal Laser Irradiation of Coronary Arteries in Live Dogs. *Circulation* 70:II-36, 1984.

12. **Abela GS**, Franzini D, Crea F, Pepine CJ, Conti CR. No Evidence for Accelerated Atherosclerosis Following Laser Irradiation. *Circulation* 70:II-323, 1984.
13. **Abela GS**, Franzini D. Laser Radiation: The Long-Term Effects on Atherosclerotic Arteries. *Lasers in Surgery and Medicine* 3(4):357, 1984.
14. **Abela GS**, Mehta JL, Mehta P, Conti CR. Regeneration of Endothelium and Prostacyclin Biosynthesis following Laser Radiation of Atherosclerotic Monkey Arteries. *J Am Coll Cardiol* 5:(2)544, 1985.
15. Fenech A, **Abela GS**, Crea F, Smith W, Conti CR. Blood Enhances the Thermal Effects of Argon Laser Energy on the Arterial Wall. *J Am Coll Cardiol* 5:(2)408, 1985.
16. Crea F, Fenech A, Smith W, Conti CR, **Abela GS**. Acute Coronary Thrombosis in Dogs: A Model to Investigate Laser Coronary Recanalization. *Lasers in Surgery and Medicine* 5(2):170, 1985.
17. **Abela GS**, Seeger JM, Fenech A, Pepine CJ, Conti CR. Laser Recanalization of Peripheral Arteries in Man: A Preliminary Report. *Circulation* 72:III-303, 1985.
18. **Abela GS**, Seeger JM, Barbieri E, Pepine CJ, Conti CR. Angioscopy for Guidance of Laser Recanalization in Man. *J Am Coll Cardiol* 7:153A, 1986.
19. Barbieri E, **Abela GS**, Roxey T. A Dosimetry Matrix Study of the Surgical Laser Probe. *Lasers in Surgery and Medicine* 6:221, 1986.
20. **Abela GS**, Barbieri E, Roxey T, Conti CR. Tetracycline Enhanced Laser Atherolysis of Plaque. X World Congress of Cardiology Abstract Book 213, 1986. Presented at X World Congress of Cardiology Conference, September 14-19, 1986.
21. **Abela GS**, Barbieri E, Franzini D, Conti CR. Human Intra-operative Laser Angioplasty with Angioscopy. X World Congress of Cardiology Abstract Book 309, 1986 (read only).
22. **Abela GS**, Barbieri E, Roxey T, Conti CR. A Method of Quantitative Plaque Ablation Using Power-Time Matrix Laser Application *Circulation* 74:116, 1986.
23. **Abela GS**, Barbieri E, Roxey T, Conti CR. Laser Enhanced Plaque Atherolysis with Tetracycline. *Circulation* 74:II7, 1986.
24. Kim L, Day A, **Abela GS**, Mehta J. Laser Versus Surgical Endarterectomy in Atherosclerotic Rabbits: Relationship between Thrombotic Potential and Prostacyclin Biosynthesis. *Circulation* 74:II203, 1986.
25. **Abela GS**, Barbieri E, Roxey T, Conti CR. Guided Laser Thermal Angioplasty in Coronary Arteries of Live Dogs without Perforation. *Circulation* 74:II457, 1986.

26. **Abela GS**, Barbieri E, Khoury A, Roxey T, Conti CR. Coronary Artery Laser Angioplasty without Perforation using a Sapphire Lens Tipped Optical Fiber. *J Am Coll Cardiol* 9:222A, 1987.
27. Barbieri E, Khoury A, Roxey T, **Abela GS**. Arterial Tissue Effect of Microlens Optical Fiber. *Lasers in Surgery and Medicine* 7:82, 1987.
28. **Abela GS**, Seeger JM, Khoury AI, Jablonski SK, Conti CR. Laser Recanalization of Peripheral Arteries in Humans: Acute and Long Term Effects. *Circulation* 76:IV409, 1987.
29. Barbieri E, **Abela GS**, Khoury AI, Conti CR. Temperature Characteristics of Laser Thermal Probes in the Coronary Circulation of Dogs. *Circulation* 76:IV 409, 1987.
30. Copeland EM, Seeger JM, **Abela GS**. Laser Recanalization in the Treatment of High Risk Patients with Limb Threatening Ischemia. Southern Surgical Association meeting in December, 1987.
31. Barbieri E, **Abela GS**, Khoury A, Roxey T, Conti CR. Coronary Laser Angioplasty in Live Dogs without Perforation: Immediate and Long Term Effects. *European Heart Journal* 8(2)244, 1987.
32. **Abela GS**, Seeger JM, Khoury AI, Jablonski S, Conti CR. Peripheral Artery Laser Recanalization: A Clinical Experience. *J Am Coll Cardiol* 11:107A, 1988.
33. Khoury AI, Silverman SH, Seeger JM, Tomaru T, Hawkins IF, **Abela GS**. The Effects of CO₂ and Blood Medium on Laser Probe Temperature. *Lasers in Surgery and Medicine* 8:154, 1988.
34. Silverman SH, Khoury AI, **Abela GS**, Seeger JM. The Effect of Blood Flow on Laser Probe Temperature in Human Arteries. *Lasers in Surgery and Medicine* 8:155, 1988.
35. Silverman SH, Haley RA, **Abela GS**, Seeger JM. The Effect of Plaque Composition of Laser Recanalization Using a Thermal Probe. *Circulation* 78:1 1-504, 1988.
36. **Abela GS**, Seeger JM, Akins EW, Friedl SE, Tomaru T, Barbeau G, Haley RA, Jablonski S. Laser Recanalization Under Thermal Monitoring in Human Peripheral Arteries. *Lasers in Surgery and Medicine* 9:628, 1989.
37. Jablonski S, **Abela GS**, Seeger JM. Patient Selection in the Treatment of Lower Extremity Arterial Disease Using Laser Angioplasty. *Lasers in Surgery and Medicine* 9: 629, 1989.
38. Barbeau GR, **Abela GS**, Curtis A, Friedl S, Tomaru T, Giacomino P, Caravello J. Laser-Catheter Ablation of Atrioventricular Conduction in Dogs: Early Results. *Clinical and Investigative Medicine* 12(5):76, 1989

39. Barbeau GR, **Abela GS**, Seeger JM, Atkins S, Friedl S, Tomaru T, Giacomino P, Jablonski S. Laser Thermo-Optical Angioplasty in Totally Occluded Peripheral Arteries: Immediate and Chronic Results. *Clinical and Investigative Medicine* 12(5):93, 1989.
40. Barbeau GR, **Abela GS**, Seeger JM, Friedl S, Tomaru T, Giacomino P, Jablonski S, Caravello J. Thermal Monitoring of Laser Recanalization in Human Peripheral Arteries. *Clinical and Investigative Medicine*. 12(5):93, 1989.
41. Barbeau GR, **Abela GS**, Curtis A, Friedl S, Tomaru T, Giacomino P, Jablonski S. Laser Thermo-Optical Angioplasty in Totally Occluded Peripheral Arteries: Immediate and Intermediate Results. *Circulation* Suppl II; 80:227,1989.
42. Kaelin LD, Normann SJ, Silverman SH, Haley RA, **Abela GS**, Seeger JM. Histology After Arterial Recanalization Using a "Hybrid" Laser Probe. *Lasers in Surgery and Medicine*, Suppl 2; 59(249), 1990.
43. **Abela GS**, Tomaru T, Barbeau GR, Kaelin LD, Seeger JM, Caravello JW, Friedl SE. Laser Angioplasty: Reduced Platelet Deposition Compared to Balloon Angioplasty. *Lasers in Surgery and Medicine*, Suppl 2; 14(47), 1990.
44. Caravello JW, **Abela GS**, Barbeau GR, Friedl SE. The Effect of Mechanical Force on the Vaporization of Atherosclerotic Plaque. *Lasers in Surgery and Medicine*, Suppl 2; 15(51), 1990.
45. **Abela GS**, Tomaru T, Mansour M, Barbeau GR, Kaelin LD, Seeger JM, Caravello JW. Reduced Platelet Deposition With Laser Compared to Balloon Angioplasty. *J Am Coll Cardiol* 15:(2):245A, 1990.
46. Mansour M, Curtis AB, **Abela GS**, Barbeau GR, Friedl SE, Kunz W, Caravello J, Lombard CW. Modification of A-V Conduction Using A Percutaneous Combined Laser-Electrode Catheter. *J Am Coll Cardiol* 15:(2):102A, 1990.
47. Barbeau GR, Friedl SE, **Abela GS**. Quantitative Angioscopy: A New Technique for Evaluation of Residual Lumen Area. *J Am Coll Cardiol* 15:(2): Suppl A,105, 1990.
48. Cerda J, Sullivan MP, Robbins FL, **Abela GS**, Norman S, Vathada S, Webb AL. Efficacy of Angiography in Presence of Atherosclerosis in Yucatan Microswine. *FASEB Journal* 4(4):5556, 1990
49. **Abela GS**, Barbeau G, Franzini D, Seeger JM, Friedl SE. Protection of the Arterial Wall from Platelet Adhesion Following Laser-Thermal Angioplasty. *Arteriosclerosis* 10(5):932A, 1990.
50. **Abela GS**, Barbeau G, Tomaru T, Franzini D, Seeger JM. Thermal Coagulation of Vascular Collagen Reduces Platelet Adhesion following Balloon Angioplasty. *J Am Coll Cardiol* 17(2): Suppl A, 205, 1991.

51. Barbeau GR, Friedl SE, Saxton JM, Federman M, **Abela GS**. Rupture of Internal Elastic Lamina is Essential for Restenosis Following Balloon Angioplasty. *Circulation* 48(2):II-603, 1991.
52. Barbeau GR, **Abela GS**, Tomaru T, Franzini D, Seeger J. Thermal Coagulation of Vascular Collagen Reduces Platelet Adhesion Following Balloon Angioplasty. *Canadian J Cardiol* 7 (Suppl A):107A, 1991.
53. Barbeau G, **Abela GS**, Tomaru T, Franzini D, Seeger J. Laser-Thermal Coagulation of Vascular Collagen Reduces Platelet Adhesion Following Balloon Angioplasty. *Lasers in Surgery and Medicine*, Suppl. 3, 14, 1991.
54. Ye, B, **Abela GS**. Fluorescence Quenching of Arterial Plaque Stained with β -Carotene. *IEEE/EMBS* 13(4):1772, 1991.
55. Friedl SE, Mathews ED, Weng Y-S, Curtis AB, **Abela GS**. Ultrasonic Measurement of Myocardial Thermal Coagulation. *J Am Coll Cardiol* 19(3):994, 1992.
56. Hartnell GG, Saxton JM, Friedl SE, **Abela GS**. Rapid Ablation of Fresh Thrombus by a New Ultrasonic Device-In Vitro Assessment. *J Am Coll Cardiol* 19(3): Suppl A, 108, 1992.
57. Friedl SE, Mathews ED, Weng Y-S, Saxton JM, **Abela GS**. Characteristics of Acoustic Trauma Induced by Ho:YAG Ablation of Arterial Tissue. *Lasers in Surgery and Medicine*; Suppl 4, 16, 1992.
58. Friedl SE, Mathews ED, Weng Y-S, Saxton JM, **Abela GS**. Ultrasonic Measurement of Pulsed Ho:YAG Acoustic Trauma in Arterial Tissue. *Lasers in Surgery and Medicine*; Suppl 4, 15-16, 1992.
59. Manzo KS, Friedl SE, Horton CA, **Abela GS**. Special Requirements for Starting a Coronary Laser Angioplasty Program. *Lasers in Surgery and Medicine*; Suppl 4, 45, 1992.
60. Ye B, **Abela GS**. β -Carotene Attenuates Laser-Induced Fluorescence by Atherosclerotic Plaque. *Lasers in Surgery and Medicine*; Suppl 4, 13, 1992.
61. Gebara O, Johnstone E, Friedl SE, Mittleman M, Picon PD, Tofler GH, **Abela GS**. Ultrasonic Differentiation of Red From White Thrombi. *Circulation* 86(4):I-366, 1992.
62. Nesto RW, Sassower M, Koch JM, Manzo K, **Abela GS**. Angioscopic Features of Ruptured Plaques in Patients with Unstable Coronary Syndromes. *Circulation* 86(4):I-651, 1992.
63. Hartnell GG, Friedl S, Saxton J, **Abela GS**, Rosenschein U. Coronary Ultrasonic Thrombus Ablation-Assessment of a New Transcatheter Device for Coronary Thrombolysis. *European Heart J* 10 Abs Suppl:14, 1992.

64. Hartnell GG, Friedl S, Saxton J, Rosenschein U, **Abela GS**. Intravascular Thrombus Ablation - Evaluation of a New Percutaneous Ultrasonic Device. *Clinical Radiology* 46(6):431, 1992.
65. Picon PD, Friedl SE, Ye B, Gebara O, Johnstone E, Saxton J, Federman M, Aretz T, Tofler GH, Muller JE, **Abela GS**. Pharmacological Triggering of Plaque Rupture and Arterial Thrombosis in an Atherosclerotic Rabbit Model. *J Am Coll Cardiol* 21(2):Suppl A, 435, 1993.
66. Nesto RW, Sassower MA, Manzo KS, Byrnes CM, Friedl SE, Muller JE, **Abela GS**. Angioscopic Differentiation of Culprit Lesions in Unstable Versus Stable Coronary Artery Disease. *J Am Coll Cardiol* 21(2): Suppl A, 195, 1993.
67. Bittl JA, Yardley D, Tchong JE, Isner JM, Power JA, **Abela GS**, Strauss B, Sanborn TA, and the PELCA Registry. Excimer Laser Angioplasty of Saphenous Vein Graft Lesions: Relation Between Lesion Type and Outcome. *J Am Coll Cardiol* 21(2): Suppl A, 386, 1993.
68. Friedl SE, Curtis AB, Mansour M, **Abela GS**. Intracardiac Conduction Modification with a Unique Laser-Electrode Catheter. *Lasers in Surgery and Medicine*; Suppl 5, 52, 1993.
69. Manzo KS, Zenni M, Shubrooks S, Byrnes C, Friedl SE, Gebara OC, **Abela GS**, Tchong JE. Use of Crystalloid Infusion to Reduce Dissection During Excimer Laser Coronary Angioplasty. *Lasers in Surgery and Medicine*; Suppl 5, 59, 1993.
70. Foster GP, Zarich SW, Mittleman MA, Manzo K, Koch MJ, Werner CS, **Abela GS**. Measurement Variability with Intracoronary Ultrasound: A Model for the Determination of Plaque Regression. *Journal of the American Society of Echocardiography* 6(3):S10, 1993.
71. Bittl JA, Strauss BH, Tchong JE, Isner JM, Power JA, **Abela GS**, Sanborn TA. Excimer Laser Angioplasty of Saphenous Vein Graft Lesions: Acute Success, Complications and Restenosis Rates. *European Heart Journal* 1993.
72. Manzo K, Nesto R, Sassower M, Leeman D, Fitzpatrick P, Mittleman M, Zarich S, **Abela G**. Coronary Lesion Morphology by Angioscopy vs Angiography: The Ability of Angiography to Detect Thrombi. *J Am Coll Cardiol Supp A*, 406, 1994.
73. Miyamoto A, **Abela GS**, Mathews ED, Johnstone ES, Friedl SE, Ye B. Acute Effects of Low-Grade Temperature (60°C) on Vasoreactivity. *Lasers in Surgery and Medicine*; Suppl 6, 45, 1994.
74. Waxman S, Sassower M, Zarich S, Miyamoto A, Manzo K, **Abela G**, Mittleman M, Nesto R. Angioscopy can Identify Lesion-Specific Predictors of Early Adverse Outcome Following PTCA in Patients with Unstable Angina. *Circulation* 90(4), I-490, 1994.

75. Zarich SW, Foster G, Fitzpatrick P, Byrnes CM, Manzo K, Nesto RW, **Abela GS**. Plaque Density Predicts Dissection Following Coronary Angioplasty: An Intravascular Ultrasound Study. *Circulation* 90(4), I-550, 1994.
76. Ulrich F, Canto E, **Abela GS**. Heat Shock Increases In Vitro Gene Transfection Into Bovine Aorta Smooth Muscle Cells. *Lasers in Surgery and Medicine* Suppl 7, 12(50), 1995.
77. Miyamoto A, Friedl SE, Lin FC, Nesto RW, **Abela GS**. Plaque Cap Thickness Can be Detected by Quantitative Color Analysis of Angioscopic Images in a Plaque Model, *Diagnostic and Therapeutic Cardiovascular Interventions V, SPIE* (Inter. Soc. for Optical Eng.), vol 2395, p 429, 1995.
78. Wagshal AB, Lin FC, Mathews ED, Hennigan C, Huang SKS, **Abela GS**. Percutaneous Ablation of the Ventricular Myocardium Using Laser Energy: A Potential Energy Source for Ventricular Tachycardia Ablation. *European Heart Journal*, 1995.
79. Wagshal AB, Lin FC, Mathews, Weiner BH, Hennigan C, Huang S-KS, **Abela GS**. Photocoagulation of the myocardium using laser energy: A potential energy source for ventricular tachycardia (VT) ablation. (NASPE abstracts) *PACE* 19:245;627, 1996.
80. Luu, H, Dai E, Hah M, Liu L-y, Nash P, **Abela G**, McFadden G, Tulip J, Lucas A. Laser-induced fluorescence (LIF): Detection of Changes in Atherosclerotic Plaque after anti-inflammatory therapy in rabbits. *Lasers in Surgery and Medicine*; Suppl 9, no.39; p10, 1997.
81. Miyamoto A, **Abela GS**, Mizuno K. Quantitative evaluation of vulnerable plaque by angioscopy. *J Jpn Coll Angiol* 38:517, 1998.
82. Prieto A, Huang R, **Abela G**. Predicting atheromatous plaque vulnerability by fluorescence analysis, *Lasers in Surgery and Medicine*; Suppl 10, p9, 1998. *Received First Prize Award at American Society for Lasers in Medicine and Surgery.*
83. Miyamoto A, Prieto AR, **Abela GS**. Detection of plaques vulnerable to disruption with quantitative colorimetry during angioscopy of human plaque. *J Am Coll Cardiol*, 33; Suppl A, 323,1999.
84. Khan GR, Ma H, Huang R, Prieto AR, Hage-Korban EE, Schwartz KA, **Abela GS**. Inhibition of Platelet Adhesion by thrombostatin, a PAR1 activation inhibitor, in a model of arterial wall injury using balloon angioplasty. *J Am Coll Cardiol* 33; Suppl A, 401,1999.
85. Huang R, Ma H, Prieto AR, Khan GR, Hage-Korban EE, Schwartz KA, Davis JM, **Abela GS**. Laser-light scattering as a new model for measuring platelet aggregate formation in arteries following balloon injury. *Lasers in Surgery and Medicine*; Suppl 11, 8:30, 1999.

86. Hage-Korban EE, Ma H, Prieto AR, Qiao X, Akharas F, Huang R, **Abela GS**. β -carotene preserves endothelium dependent relaxation in an atherosclerotic model of plaque disruption and thrombosis, *National Meetings of the Am Coll Phys*, New Orleans, 1999.
87. Ma H, Guniganti U, Prieto A, Huang R, **Abela GS**. Elevated glucose concentration inhibits normal vasomotor function following vascular crush injury. *FASEB, Experimental Biology: Program Addendum (Late Breaking Abstracts)*, LB1, 1999.
88. Ma H, Huang R, Prieto AR, Kahn G, Hage-Korban EE, Davis JD, Schwartz KA, **Abela GS**, Schmaier AH, Hasan A. Thrombostatin, a PAR1 Inhibitor, Reduces Both Platelet Aggregation and Adhesion After Arterial Wall Injury With Balloon Angioplasty. *J Am Coll Cardiol* 35;281A, 2000.
89. Hage-Korban EE, Ma H, Huang R, Whiteman T, Al-Hamwy M, Ghosheh K, Eisenberg J, Abela OG, **Abela GS**. Effect of transmyocardial laser on heart function. *Lasers in Surgery and Medicine* 28; (suppl 13) 46,2001. *Received First Prize Award at American Society for Lasers in Medicine and Surgery*.
90. Hage-Korban E, Ma H, **Abela GS**. Elevated Glucose Concentration Exaggerates the Inhibitory Effects of Balloon Angioplasty on Arterial Vasoreactivity. American Heart Association, Seattle, WA, Aug. 9, 2001.
91. Schwartz KA, Schwartz DE, Davis JM, Galbreath AD, Sami A, Pittsley RA, Patel B, Ghosheh K, Kleiber G, **Abela G**. Variation in the Amount of Platelet Inhibition in Patients on Long Term Cyclooxygenase Inhibitors, ASA and NANS AIDS. *Blood* 98;271a, 2001.
92. Ma H, Huang R, Khosravi M, Hage-Korban EE, Abela OG, **Abela G**. In the Whole Heart Preparation the Number of Transmyocardial Laser Channels Defines Myocardial Function *Lasers in Surgery and Medicine* (Suppl 14)175, 2002.
93. Ma H, Huang R, Prieto A, **Abela GS**. Pravastatin Preserves Vasomotor Response in Atherosclerotic Arteries After Balloon Angioplasty. *FASEB, Experimental Biology: Program Addendum (Late Breaking Abstracts)*, LB244, 2002.
94. Ma H, Huang R, Shah I, **Abela GS**, Katki KA, DiPette D, Supowit S. Coronary Flow Rate is Decreased in Calcitonin Gene-Related Peptide (CGRP) Knockout Mouse. 56th AHA-Council on High Blood Pressure Research. 32(34),2002 .
95. Ma H, Huang R, Hage-Korban E, Maheshwari A, Qiao X, **Abela GS**. Arterial Wall Cholesterol Content Directly Correlates with the Extent of Arterial Thrombosis *FASEB*, April 2003.
96. Ma H, Huang R, Abela O, Kantipudi S, **Abela GS**. Ischemia Does Not Alter Myocardial Function After Transmyocardial Revascularization. *Lasers in Surgery and Medicine* (Suppl 16)32, 2004.

97. Ma H, Huang R, **Abela GS**. Excimer Laser Irradiation Alters Platelet Aggregation Based on Total Energy *Lasers in Surgery and Medicine* (Suppl 16)16, 2004.
98. Ma H, Huang R, Abela O, Maheshwari A, **Abela GS**. Heat Shock Protein 70 Expression is Reduced in Rat Myocardium Following Transmyocardial Laser Revascularization. *J Invest Med* 53:36;2004.
99. Ma H, Chi C, **Abela GS**. Increased Ambient Temperature Enhances Human Interleukin-2 Gene Transfer Cultured Myocytes. *J Invest Med* 53:79;2004.
100. Berger KL, Eisenberg J, Benali K, Bridge W, **Abela GS**. Optimization of Fusion PET-CT Imaging Protocol for Combined PET Myocardial Perfusion and CT Coronary Angiography. *Am J Roentgenol* 2004; 182(4S):38-9.
101. Ma H, Claycombe K, **Abela GS**. C-reactive protein Rise is Associated with the Development of Acute Events in a Model of Plaque Rupture and Thrombosis. *The FASEB Journal* (IUBMB/ASBMB MEETING – Boston) 18:C193;2004.
102. Ma H, Chi C, **Abela GS**. Increase in Ambient Temperature Enhances Gene Transfer into Human Smooth Muscle Cells. *The FASEB Journal* (IUBMB/ASBMB MEETING – Boston) 18:C293;2004.
103. Virk IS, Claycombe K, Ma H, Huang R, Abela A, Patel R, **Abela GS**. Rising Levels of CRP and PAI-1 After Plaque Disruption Are Associated with Thrombosis. *Circulation* 110:1486, 2004.
104. Ma H, Huang R, Karve A, Shah I, Supowit SC, DiPette DJ, **Abela GS**. Gender Specific Effects of Calcitonin Gene-Related Peptide and Substance P Gene Knockout Mice on Coronary Blood Flow Rates. *J Am Coll Cardiol* 45:828,2005.
105. Patel R, Ma H, Huang R, Karve A, Taylor K, **Abela G**. Aspirin Significantly Reduces Excimer Laser Induced Platelet Aggregation. *Lasers in Surgery and Medicine Suppl* 17;180:2005.
106. Ma H, Patel R, Huang R, Kantipudi C, Taylor K, **Abela G**. Excimer Laser Energy Induces Thrombolysis with less Debris at Lower Energies. *Lasers in Surgery and Medicine Suppl* 17;180:2005.
107. **Abela GS**, Huang R, Ma H, Haut RC, Martin L. Laser Stabilization of Atherosclerotic Plaques Reduces Arterial Thrombosis. *Lasers in Surgery and Medicine Suppl* 18;180:2006.
108. Aziz K, Berger K, Ma H, Huang R, Patel R, **Abela GS**. Positron Emission Tomography Can Identify Arterial Segments with Vulnerable Plaque Leading to Arterial Thrombosis. *J Am Coll Cardiol Suppl* A,106;47,2006.
109. Ma H, Huang R, Karve A, Shah, I, Supowit SC, DiPette DJ, **Abela, GS**. Myocardial Ischemia Causes Higher Creatinine Kinase Release in Calcitonin Gene-Related Peptide Knockout Male Mouse Hearts. *J Invest Med* S349:34;2006.

110. **Abela GS**, Aziz K. Plaques are Ruptured by Cholesterol Crystals during Myocardial Infarction. *Scanning* 28:59,2006.
111. **Abela GS**, Aziz K. Cholesterol Crystals Cause Acute Coronary Syndrome by Plaque Rupture. Cardiostim Meetings, Nice, France. *Europace* 8/1: 222/6, 2006.
112. **Abela GS**, Aziz K. Cholesterol Crystals Rupture Plaques during Myocardial Infarction. XIV International Symposium on Atherosclerosis – Rome, Italy. *Atherosclerosis* 7/3:22-W6:7, 2006.
113. **Abela GS**, Aziz K, DeJong J. Cholesterol Crystals Cause Acute Coronary Events by Perforating the Arterial Intima. *Circulation* 114:249, 2006.
114. Aziz K, Berger K, Claycombe K, Ma H, Huang R, Patel R, **Abela G**. The Combination of Serum Inflammatory Markers (CRP and PAI-1) and Positron Emission Tomography Can Identify Vulnerable Plaques Leading to Arterial Thrombosis. *Circulation* 114:2198, 2006.
115. **Abela GS**, Aziz K, Huang R, DeJong J. Statins inhibit Cholesterol Crystallization and Prevent Perforation of Biological Membranes and Intima in Human Coronary Arteries of Patients with Acute Coronary Syndrome. *J Am Coll Card* 49; Suppl A, 358, 2007.
115. **Abela GS**, Rosen B, Huang R. Effects of Ultraviolet and Infrared Laser on Cholesterol Crystals: Implications for Heart Attacks and Strokes. *Lasers in Surg and Med* Suppl 19;150:2007.
116. **Abela GS**, Aziz K, Danielewicz D, Huang R, DeJong J, Pridjian AK, Talbott JD. Cholesterol Crystallization Induces Volume Expansion to Cause Plaque Rupture while Statins or Ethanol Interrupt this Process to Stabilize Plaques. *J Clin Lipidol* 1;162 (301), 2007.
117. Katki KA, Huang R, Karve A, Shah I, Bowers MC, Chiasson VL, Supowit SC, DiPette DJ, **Abela GS**. Deletion of the Mouse Alpha Calcitonin Gene-Related Peptide Gene Increases the Vulnerability of the Heart to Ischemia/Reperfusion Injury (AHA Council on HBP 2007).
118. Rubinstein J, Abela OG, Vedre A, **Abela GS**. Ezetimibe is protective from Myocardial Effects of Thrombus Triggering in an Atherosclerotic Model (ACC-MI, 2007).
119. Patel R, Vedre A, Rubinstein J, Huang R, Abela AJ, **Abela GS**. Cholesterol Lowering with Ezetimibe Inhibits Intimal Injury by Cholesterol Crystallization and Reduces Arterial Thrombosis. (ACC-MI, 2007). Recipient of second prize.
120. Vedre A, Rubinstein J, Abela AJ, St. John L, Gaymer J, Ferguson D, Huang R, **Abela GS**. Increasing Myocardial Cholesterol Causes Left Ventricular Systolic Dysfunction while Lipid lowering with Ezetimibe Preserves Systolic Function (ACC-MI, 2007).

121. Vedre A, Aziz K, Huang R, **Abela GS**. Aspirin Prevents Cholesterol Crystallization: A Potential Mechanism of Plaque Stabilization. *J Am Coll Cardiol* 51; Suppl A, 318, 2008.
122. **Abela GS**, Vedre A, Pathak DR, Martin CJ, Huang R, Lum C, Koochesfahani M. Physical Conditions that can Trigger Cholesterol Crystallization leading to Plaque Rupture. *J Clin Lipidol* 2:207 (200), 2008.
123. Rubinstein J, Vedre A, Huang R, **Abela GS**. Hypercholesterolemia Causes Systolic and Diastolic Dysfunction. *Euro Congress Cardiol* 2008.
124. Gadeela N, Rubinstein J, Vedre A, Huang R, Abela A, **Abela GS**. Cholesterol Crystals Cause Endothelial Damage and Impair Vasoreactivity. *Circulation* 118:952, 2008.
125. Shamoun F, Tamhane U, Vedre A, **Abela GS**. Cholesterol Crystals Disrupt Atherosclerotic Plaques in Several Arterial Beds. *Vascular Med* 14:172; 2009.
126. Patel R, Vedre A, Rubinstein J, Shamoun F, Tamhane U, **Abela GS**. Cholesterol Lowering Inhibits Crystal Formation with Associated Plaque Disruption, Thrombosis and Inflammation. *Atherosclerosis* 2009;10:(suppl 2): P156.
127. **Abela GS**. The role of Cholesterol Crystals in Acute Cardiovascular Events: Identifying the Cause for Gender Differences in Clinical Presentation. 21st Annual International Conference on Magnetic Resonance Angiography. Sept 29, 2009 East Lansing, MI.
128. **Abela GS**, Shamoun F, Farooq MU, Berger K, Pathak D, Kassab M. A Novel Method of Identifying Unstable Plaque by Simultaneous Carotid Ultrasound and Trans-Cranial Doppler. *J Am Coll Cardiol* 55; Suppl A, 161,2010.
129. **Abela GS**, Shamoun F, Vedre A, Pathak DR, Shah I, Dhar G, Leffler D. Extent of Cholesterol Crystals in Coronary Artery Aspirates During Acute Myocardial Infarction. *J Am Coll Cardiol* 55;Suppl A, 109,2010.
130. Tamhane U, Vedre A, Huang R, Narisetty K, DeJong J, **Abela GS**. The Potential Role of Cholesterol Crystals in the Mechanical Injury of Heart Valves. *J Am Coll Cardiol* 55; Suppl A,149,2010.
131. Pervaiz MH, Huang R, Narisetty K, Vedre A, Berger K, **Abela GS**. Effects of Showering of Cholesterol Crystals on Muscle Injury. *Arterioscler Thromb Vasc Biol*. Nov 2010; 30(11);e183-e321.
132. Narisetty K, Janoudi A, Abela OG, Khan SR, Huang R, **Abela GS**. The Effect of High Density Lipoprotein on Solubility of Cholesterol Crystals. *J Am Coll Cardiol* 57; Suppl A,276, 2011.
133. Durga S, Vodnala D, Xie Y, **Abela GS**. Effect of Stress Related Catecholamine Levels on Cholesterol Crystallization and Plaque Rupture. *J Am Coll Cardiol* 57; Suppl A113, 2011.

134. Zhu DC, El-Boubbou K, **Abela GS**, Huang R, Kamat M, Huang X. Atherosclerotic MR Molecular Imaging Strategy with Superparamagnetic Iron Oxide on a Human Clinical Scanner – Rabbit Model. ISMRM Meeting, Motreal, Canada, 2011.
135. **Abela GS**, Michael Rich. Composition of crystals extracted from coronary arteries during acute coronary syndrome. *Arterioscler Thromb Vasc Biol.* 147:141, 2011.
136. Khan S, Durga S, **Abela GS**. Effect of Valsartan, aspirin and Aliskiren on Cholesterol Crystallization and Plaque Rupture. *Vascular Med* 16(3):220;2011.
137. Kalavakunta JK, Janoudi A, Huang R, Narisetty K, **Abela GS**. Macrophages in Coronary Arteries and Serum Inflammatory Markers are Related During Acute Myocardial Infarction. *J Am Coll Card* 59: Suppl A104;2012.
138. Jildeh TR, Janoudi A, **Abela GS**. Vitamin D3 Alters the Crystallization and Volume Expansion of Cholesterol. *J Clin Lipidol* 6 Suppl A154; 2012.
139. Abrar SR, Muslehuddin F, Nasiri J, Sayeed E, Huang R, Abela GS. Stabilizing Effect of Metoprolol on Cholesterol Crystallization and Vulnerable Plaques. *Circulation* #12271; Los Angeles, CA, 2012.
140. Janoudi A, Opreanu M, Parameswaran N, Nasiri M, **Abela GS**. Extracellular Cholesterol Crystals Induce an Inflammatory Response in Macrophages. *J Am Coll Card* 61:Suppl A17; 2013.
141. Kotaru P, Janoudi A, Huang R, **Abela GS**. Cholesterol Lowering with Simvastatin and Ezetimibe Inhibits Cholesterol Crystal Formation and Associated Inflammation. *J Am Coll Card* 63:A398; 2014.
142. Raju M, Kalra A, Gardiner J, Janoudi A, **Abela GS**. Interaction between Cholesterol Crystals and Bacteria: Implications for Atherosclerosis. *J Clin Lipidol* 8:A346; 2014.
143. Rao D, Bhavasar B, Hebdon F, Aldasouqi S, **Abela GS**, Gossain V. Course of Subclinical Hyperthyroidism in an Academic Center and Effect on Ventricular Function. ICE/Endo (Chicago, June 2-24) 2014.
144. Baig I, Janoudi A, Huang R, **Abela GS**. The Effect of Sirolimus on Cholesterol Crystal Volume Expansion: Implications for Plaque Stabilization. *Cardiology* (Basel, Switzerland) 2014.
145. Abrar SR, Nasiri J, Sayeed E, Huang R, **Abela GS**. The Direct Effects of Nifedipine on Cholesterol Crystallization and Vulnerable Plaque's. *J Am Coll Card* 65:A410; 2015.

146. Raju M, Kalra A, Gardiner J, Janoudi A, Abela GS. Cholesterol Crystals Interaction with *Pseudomonas aeruginosa*: Implications for Atherosclerosis. *J Clin Lipidol* 9:A179; 2015.
147. Subramaniyam P, **Abela G**, Dhar G. Transcatheter Closure of a Postinfarction Ventricular Septal Defect and Left Ventricular Free Wall Perforation Using Two Amplatzer Muscular Ventricular Septal Defect Occluders. *Am Coll Cardiol* 724 – ACC.i2:2016.
148. Baig I, Kalra A, Scharmen A, Raju M, Gardiner J, De Feijter-Rupp H, Janoudi A, **Abela GS**. Atherosclerotic Arteries with Cholesterol Crystals Enhance Bacterial Growth: Risk for Plaque Destabilization. *J Clin Lipidol* 10:A177; 2016. (received first prize for basic research at the National Lipid Association Meetings in New Orleans, 5/20/2016).
149. Slade JM, Hurley D, Riedinger B, Cross J, Williams E, **Abela GS**, Meyer RAAerobic Exercise Improves Microvascular Function in Older Adults. *Med Sci Sports Exerc* 2016;48(5 Suppl 1):1031.
150. Slade JM, Hurley D, Riedinger B, Williams E, **Abela GS**, Meyer RA. Aerobic Exercise Improves Microvascular Function in Older Adults. Boston, MA. *Med Sci Sport Exerc* 46(S5), 2016. American College of Sports Medicine
151. Slade JM, Tonson T, Hurley D, Rozman M, **Abela GS**, Meyer RA. Increased muscle BOLD following exercise training in older adults. *Proc Intl Soc Mag Reson Med*, 2017, Honolulu. International Society for Magnetic Resonance in Medicine.
152. Aldasouqi S, Bhalla G, Kakumanu N, Bill C, **Abela G**, Dlewati M, Estrada K, Almounajed A, Tabbaa T, Newkirk C, Hammoud J. Fasting-Evoked En-route Hypoglycemia in Diabetes (FEEHD): An Overlooked Iatrogenic form of Hypoglycemia in Clinical Practice. Am Assoc Clin Endocrinol, 2017. Austin, Tx.
153. Boumegouas M, Gardiner J, Janoudi A, De Feijter-Rupp H, Pridjian, A, **Abela GS**. Human Atherosclerotic Carotid Artery Plaques with Cholesterol Crystals Enhance Bacterial Growth: Risk for Plaque Destabilization. *J Clin Lipidol* 12;244;2018.
154. Gozdzor J, Janoudi A, De Feijter-Rupp H, Huang R, Alsherbini A, Boumegouas M, **Abela GS**. The Presence and Potential Role of Monosodium Urate Crystals in Atherosclerosis. *J Am Coll Card* 73 (9 Suppl 1) 149, 2019.
155. **Abela GS**, Leja M, Janoudi A, Perry D, Richard J, De Feijter-Rupp H, Vanderberg A. Relationship between Atherosclerosis and Certain Solid Cancer Tumors. *J Am Coll Card* 73 (9 Suppl 1) 156, 2019.
156. **Abela GS**, Katkoori V, Bumpers H. The Association Between Cancer and Atherosclerosis: Cholesterol Crystal Induced Neovascularization in Breast Cancer. *J Clin Lipidol* 604(207);14,2020.

157. Fry L, DeFeijter-Rupp H, Upham B, Janoudi A, Barnaba C, Medina Meza I, Ketner A, **Abela GS**. Effect of cholesterol crystals on gap junction intercellular communication in human umbilical vein endothelial cells. *J Clin Lipidol* 564(142);14:2020.
158. Boumegouas M, Grondal B, Fry L, De Feijter-Rupp H, Janoudi A, **Abela GS**. Metformin Inhibition of Volume Expansion with Cholesterol Crystallization May Contribute to Reducing Plaque Rupture and Improved Cardiac Outcomes. *J Clin Lipidol* 579(171);14:2020.
159. Hammer SS, McFarland D, Vieira CP, Bornemann N, **Abela GS**, Grant MB, Busik JV. Cholesterol crystals in the pathogenesis of diabetic retinopathy. ARVO (in press).
160. Ketner AB, Blum PC, Fry L, De-Feijter-Rupp H, Medina Meza IG, Barnaba AC, Janoudi A, **Abela GS**, Lockwood L, Upham BL. Dysregulation of Gap Junctional Intercellular Communication by Cholesterol and Oxysterols. Society of In Vitro Biology. Virtual Conference. 2020 (in press)
161. Al-abcha A, Wang L, Boumegouas M, Baloch Z, Do S, Mujer M, Charles L, Ip R, **Abela GS**, Ip J. Hypertension and Clinical Outcomes in Hospitalized Patients with Covid-19; a Multicenter Analysis. *Circulation* 142 (suppl 3) 2020.
162. Elshafie A, Al-abcha A, Prasad R, Radwan Y, **Abela GS**. Meta-analysis of Intravascular Ultrasound-guided versus Angiography-guided Stent Implantation. (in review).
163. Al-abcha A, Osman H, Wang L, Oladeji A, Boumegouas M, Fry L, **Abela GS**. The Role of Estrogen and Testosterone on Cholesterol Crystallization. *J Am Coll Cardiol* (in review).

Summary of Grants Awarded:

National Institutes of Health: Ten grants including Young Investigator Award; Research Career Development award; R01; and SBIR grants.

American Heart Association: Six grants-in-aid and a Fellowship Award.

Others: Twenty-three grants including the Merck Fellowship award, The High Technology fund for the State of Florida, Whittaker Foundation Grant, and the A.W. Ford Memorial fund.

Grants Awarded:

1981 – 1982 Principal Investigator: George S. Abela
 "Effect of Laser Radiation on Atheromatous Plaque"
 Biomedical Research Support Grant (NIH), project #81-116

- 1981 – 1982 Principal Investigator: George S. Abela
"The Effects of Laser Radiation on Atheromatous plaque"
Southern Medical Association
- 1982 – 1983 Principal Investigator: George S. Abela
"The Effect of Laser Radiation on Atherosclerotic Plaque"
American College of Cardiology, Merck Fellow
- 1982 – 1983 Principal Investigator: George S. Abela
"The Effects of Laser Radiation on Atheromatous Vascular Disease"
Biomedical Research Support Grant (NIH), Project
- 1982 – 1983 Principal Investigator: George S. Abela
"The Use of Laser Radiation for Construction of Vascular Anastomosis"
Biomedical Research Support Grant (NIH)
#82-145
- 1982 – 1984 Principal Investigator: George S. Abela
"Effect of Laser Radiation on Atherosclerotic Plaque"
American Heart Association, Florida Affiliate
Fellowship Award
- 1982 – 1984 Principal Investigator: George S. Abela
"Evaluation of Laser Radiation on Atherosclerotic Disease"
American Heart Association, Florida Affiliate
Grant in Aid
- 1983 – 1984 Principal Investigator: George S. Abela
"Immediate and Long Term Effects of Laser Radiation on Atherosclerotic Arteries: Light and Electron Microscopic Observations"
University of Florida Development Fund
- 1983 – 1985 Principal Investigator: George S. Abela
"Effect of Laser Radiation on Atherosclerotic Plaque"
Trimedyne, Inc.
- 1983 – 1986 Principal Investigator: George S. Abela
"Evaluation of Laser Radiation on Atherosclerosis"
NIH (NHLBI) Young Investigator Award (R23:HL30957)
- 1984 – 1985 Principal Investigator: George S. Abela
"Effect of Laser Radiation on Atheromatous Plaque"
Dean of Sponsored Research/Research Support for New Faculty
- 1984 – 1986 Principal Investigator: George S. Abela
"Enhanced Laser Absorption to Destroy Atherosclerotic Plaque"

- American Heart Association, National Grant in Aid
- 1985 – 1988 Principal Investigator: George S. Abela
"Evaluation of Optical Fibers and Laser Systems for Arterial Recanalization"
Whitaker Foundation
- 1986 – 1988 Principal Investigator: George S. Abela
"Laser Angioplasty: A Basic and Clinical Study"
Florida High Technology and Industry Council
- 1986 – 1987 Principal Investigator: George S. Abela
"Development of Coronary Artery Laser Catheter"
HGM, Inc.
- 1986 – 1989 Principal Investigator: George S. Abela
"Evaluation of Laser Angioplasty in Humans: Phase II"
American Heart Association, Florida Affiliate Grant in Aid
- 1986 – 1991 Principal Investigator: George S. Abela
"Evaluation of Lasers in the Cardiovascular System"
NIH (NHLBI, K04:HL1817)
- 1986 – 1991 Principal Investigator: George S. Abela
"Evaluation of Lasers in the Cardiovascular System"
National Institutes of Health NIH (NHLBI, ROI:HL36320)
- 1987 – 1989 Principal Investigator: George S. Abela
"Investigative Laser Angioplasty and Angioscopic Catheters"
Boston Scientific Corporation
- 1987 – 1988 Co-investigator: George S. Abela
Principal Investigator: James M. Seeger
"Evaluation of Laser Angioplasty in the Recanalization of Occluded Prosthetic Grafts"
W.L. Gore Associates
- 1987 – 1988 Co-investigator: George S. Abela
Principal Investigator: James Cerda
"The Role of Citrus Fruits in Health and Disease"
Florida Citrus Commission
- 1988 – 1990 Principal Investigator: George S. Abela
"Quantitative and Qualitative Endovascular Angioscopy for Laser Angioplasty"
American Heart Association, Florida Affiliate Grant in Aid

- 1988 – 1990
Principal Investigator: George S. Abela
"Laser Angioplasty: An Investigational and Developmental Study"
Florida High Technology and Industry Council
- 1989 – 1991
Principal Investigator: George S. Abela
"Enhanced Laser Ablation Using Optical and Fluorescence Feedback Guidance"
A. Ward Ford Memorial
- 1989 – 1990
Principal Investigator: George S. Abela
"Quantitative Endovascular Angioscopy System"
Florida High Technology and Industry Council
- 1989 – 1992
Co-investigator: George S. Abela
Principal investigator: James M. Seeger
"Laser Plaque Ablation and Endothelial Cell Seeding"
Veterans Administration Merit Review
- 1990 – 1991
Principal Investigator: George S. Abela
Acting Principal Investigator: Stephan E. Friedl
"Laser-Electrode Catheter for AV Node-His Bundle Ablation"
NIH (NHLBI - SBIR, R43-HL44273)
- 1990 – 1991
Principal Investigator: George S. Abela
"Modification and Ablation of Cardiac Conduction"
AHA, Florida Affiliate Grant in Aid, \$30,000
- 1991 – 1992
Principal Investigator: George S. Abela
"Enhanced Laser Ablation Using Optical and Fluorescence Feedback Guidance, Research Continuation"
A. Ward Ford Memorial Institute
- 1991 – 1993
Principal Investigator: George S. Abela
"Department of Medicine Research Development Fund"
New England Deaconess Hospital
- 1992 – 1993
Co-Investigator: George S. Abela
Principal Investigator: James E. Muller
"Utilization of an Atherosclerotic Model to Study Stress-Induced Triggering of Cardiovascular Disease"
John D. and Catherine T. MacArthur Foundation
- 1992 – 1993
Principal Investigator: George S. Abela
"Enhanced Laser ablation Using Optical and Fluorescence Feedback Guidance, Research Continuation"
A. Ward Ford Memorial Institute
- 1993 – 1995
Co-Investigator: George S. Abela
Principle Investigator: Stephan E. Friedl

- "Laser Electrode Catheters in Electrophysiology"
NIH (SBIRII, 2R44-HL44273-02A2)
- 1993 – 1994 Principal Investigator: George S. Abela
"Enhanced Laser ablation Using Optical and Fluorescence Feedback Guidance, Research Continuation"
A. Ward Ford Memorial Institute
- 1994 – 1995 Principal Investigator: George S. Abela
"Enhanced Laser ablation Using Optical and Fluorescence Feedback Guidance, Research Continuation"
A. Ward Ford Memorial Institute
- 1992 – 1997 Principal Investigator: George S. Abela
"Reduced Thrombosis and Restenosis After Laser Treatment"
NIH (NHLBI, RO1:HL36320-07 A2 Continuation)
- 1996 – 1997 Principal Investigator: George S. Abela
"Laser Enhanced Gene Transfection for Prevention of Restenosis Following Angioplasty"
A. Ward Ford Memorial Institute
- 1997 – 1999 Principal Investigator: Ahmed Hasan, Ph.D.
Sub-contract to George S. Abela, M.D. at MSU
"Thrombostatin-A Thrombin Receptor Inhibitor"
National Institutes of Health (Phase II SBIR, R44 HL55907)
- 1997 – 1998 Principal Investigator: George S. Abela
"Laser facilitated gene transfection to alter the phenotype of cardiac myocytes"
A. Ward Ford Memorial Institute
- 1998 – 1999 Principal Investigator: George S. Abela
"Laser Light Scattering for Detection of Platelet Aggregation"
A. Ward Ford Memorial Institute
- 1999 – 2000 Principal Investigator: George S. Abela
"Laser Light Scattering for Detection of Platelet Aggregation"
continuation grant
A. Ward Ford Memorial Institute
- 1999 – 2003 Principal investigator: Thomas Haddock; Subcontractor: George S. Abela
"Catheters to Thermally Classify Atherosclerotic Plaque" State of Michigan Corridor Grant, ACUMED Systems, Inc. Ann Arbor , MI
- 2001 – 2002 Principal Investigator: George S. Abela
"PMR/TMR: What is the Number of Laser Channels that will Cause Myocardial Failure?"

- American Society for Lasers in Medicine and Surgery
- 2002 – 2003 Principal Investigator: George S. Abela
 “Laser Stabilization of Vulnerable Plaque to Prevent Heart Attacks”
 American Society for Lasers in Medicine and Surgery
- 2000– 2004 Principal Investigator: George S. Abela
 “Excimer Laser Induced Thrombolysis”
 Spectranetics Inc.- Colorado Springs, Colorado
- 2003 – 2008 Co-investigator: George S. Abela
 Principal Investigator: Donald DiPette
 “Calcitonin Gene-Related Peptide and Hypertension”
 NHLBI
- 2004 – 2005 Principal Investigator: George S. Abela
 “Laser Stabilization of Vulnerable Plaque to Prevent Heart Attacks” – Additionally funded with \$30,000
 American Society for Lasers in Medicine and Surgery
- 2005 – 2006 Principal Investigator: George S. Abela
 “Non-Invasive Detection and Localization of Vulnerable Plaque Using CT/PET and Serological Markers”
 IRGP Michigan State University
- 2005 – 2006 Principal Investigator: George S. Abela
 “Laser Stabilization of Arterial Injury to Prevent Thrombosis in Stents”
 American Society for Lasers in Medicine and Surgery
- 2006 – 2007 Principal Investigator: George S. Abela
 “Evaluation of Ezetimibe in Reducing Arterial Wall Cholesterol and Plaque Inflammation to Prevent Thrombosis in a Model of Plaque Disruption”
- 2006 –2008 Principal Investigator: George S. Abela
 “Evaluation of Ezetimibe in Reducing Diastolic Dysfunction in the Myocardium”
 MERCK Schering/Plough.
- 2008 – 2009 Principal Investigator: Jill Slade
 “Noninvasive assessment of skeletal muscle integrity and function with statin use” NIH/PHS 1 R21 AR054117-01A2
- 2009 – 2011 Principal Investigator: George S. Abela
 “Evaluation of Ezetimibe and Simvastatin in Preventing Arterial Thrombosis and Damage to the Myocardium”
 Merck/Schering/Plough

- 2010 – 2011 Principal Investigator: George S. Abela
 “Aliskiren and Valsartan can block Cholesterol Crystallization to reduce Acute Cardiovascular Events”
 Novartis
- 2012 – 2014 Principal Investigator: Jill Slade
 “Noninvasive assessment of microvascular function in aging”
 NIH/PHS 1R21AG042041
- 2014 – 2015 Principal Investigator: George S. Abela
 “Therapeutic Effects of Moderate Alcohol Consumption on Atherosclerosis in a Rabbit Model”
 Clinical and Translational Science Institute, Michigan State Univ.
- 2014 – 2015 Principal Investigator: George S. Abela
 “Prevention of Heart Attacks and Strokes Triggered by Cholesterol Crystallization”
 Jean P. Schultz Biomedical Research Endowment
- 2015 – 2017 Principal Investigator: George S. Abela
 “PAR-1 Inhibition with Vorapaxar for Platelet Aggregation and Adhesion With and Without Other Antiplatelet Inhibitors”
 Merck

Pending/Submitted Grants:

- 2020 “Effect of Cholesterol Crystals on Cancer Angiogenesis in Breast Cancer”
 R21 National Institutes of Health
 PIs: George Abela/Harvey Bumpers
- 2020 “Cholesterol homeostasis in pathogenesis of diabetic retinopathy.”
 R01 National Institutes of Health
 PI: Maria Grant Co-PI: George Abela
- 2019 “Determine structure activity relationships among a select group of physiologically relevant oxysterol on the disruption of gap junctional intercellular communication using in vitro cell models.”
 R03 National Institutes of Health
 PI: Brad Upham Co-PI: George Abela
- 2019 “High-resolution MRI of atherosclerotic plaques with a sensitivity-enhanced swallowable detector”
 R21 NIH
 PI Zhen Qiu Co-PI: George Abela

- 2019 “Department of Medicine and College of Medicine bridge funding. Pending Grants Macrophage-specific nanotherapies for vascular disease”
(Bio Med Engr) NIH
PI Bryan Smith George Abela (consultant)
- 2019 “Optimizing exercise prescription for older adults to improve endothelial health
(Kinesiology) NIH
PI Jill Slade George Abela (consultant)

Clinical Trials/Pharmaceutical Studies:

Principal Investigator:

1. Evaluation of the Safety/Tolerability of Long-Term with Dual Metalloprotease Inhibitor BMS-186716 or Lisinopril in Subjects with Heart Failure -- Bristol-Myers Squibb (completed).
The SAGE Study-Lipid lowering in the elderly population – Pfizer (completed).
2. A Double-blind, Randomized, Placebo-controlled, Multicenter Study Assessing the Impact of Additional LDL-Cholesterol Reduction on Major Cardiovascular Events when AMG 145 is used in Combination with Statin Therapy in Patients with Clinically Evident Cardiovascular Disease – Amgen (closed).

Sub-Investigator:

1. VALUE -- Novartis -- Comparison of Valsartan with/without HCTZ to Amlodipine with/without HCTZ in Essential Hypertion.
2. A Phase 3, Open-Label, Multicenter Study for the Assessment of Myocardial Perfusion using Positron Emission Tomography Imaging of Fulpiridaz F 18 Injection in Patients with Suspected or Known Coronary Artery Disease (closed).

Consulting: Speaker for Amgen

Patents Issued:

U.S. Patent # Ninteen patents have been issued to G.S. Abela related to various angioplasty devices and cardiac diagnostic and therapeutic systems.

- 7,731,731 Catheter for clearing passages in a patient
- 6,389,307 Fluorescence sensing of tissue
- 6,190,380 Cell transfection apparatus and method
- 6,071,276 Cell transfection apparatus and method

5,586,982	Cell transfection apparatus and method
5,330,467	Cell treatment apparatus and method
5,246,437	Cell treatment apparatus and method
5,895,400	Catheter with bristles
5,782,824	Cardiac Catheter anchoring
5,769,843	Percutaneous endomyocardial revascularization
5,651,786	Mapping catheter and method
5,575,787	Cardiac ablation catheters and method (expired)
5,464,404	Cardiac ablation catheters and method (expired)
5,651,785	Optical fiber catheter and method
5,620,439	Catheter and technique for endovascular myocardial revascularization
5,036,463	Angioscopic system and method for dimensional measurement including measurement of the distance from angioscopic ends to designated planes (expired)
4,860,743	Laser method and apparatus for the recanalization of vessels and the treatment of other cardiac conditions (expired)
5,041,109	Laser apparatus for the recanalization of vessels and the treatment of other cardiac conditions
5,061,265	Laser treatment apparatus and method (expired)

Fellow Trainees:

Over sixty five clinical fellows have trained with Dr. Abela as mentor and program director. An additional six research fellows have been trained. Nine fellows have gone into academic careers. Two are Chiefs of cardiology (one at the University of Rome, Italy); one is director of the catheterization lab at Laval University, Quebec, Canada; one is director in the Red Cross in Tokyo, Japan; two are full time faculty at Michigan State University and one is full time faculty at University of Cincinnati.

1. Filippo Crea, M.D. (University of Florida; 1984-1985): Chief of Cardiology, University of Rome, Italy.
2. Albert Fenech, M.D. (University of Florida; 1984-1985): Consultant, London, England.
3. Enrico Barbieri, M.D. (University of Florida; 1985-1986): Chief Cardiology, Private Hospital near Verona, Italy.

4. Takanoubu Tomaru, M.D. (University of Florida; 1988-1989): Chief Cardiology, Red Cross, Tokyo, Japan.
5. Philippe Giacomino, M.D. (University of Florida; 1988-1989): Radiology practice, France.
6. Gerald Barbeau, M.D. (University of Florida; 1988-1990): Director of Cath lab, Laval University, Quebec, Canada.
7. Stephan Friedl, M.E.E. (University of Florida and Harvard Medical School; 1987-1995): Computer company, North Carolina.
8. Akira Miyamoto, M.D. (Harvard Medical School; 1992-1993): National Defense Medical College, Saitama, Japan.
9. Paulo Picon, M.D. (Harvard Medical School; 1992-1994): Rio Grande de Sul, Brazil.
10. Otavio Gebara, M.D. (Harvard Medical School; (1992-1994): Sao Paulo, Brazil.
11. Amrita Karve, B.Sc. (Michigan State University; 2007): George Washington School of Medicine.
12. Ameeth Vedre, MBBS. Michigan State University; 2006-2007.
13. Umesh Tamhane, MBBS. Michigan State University; 2007-2008.
14. Keerthy Narisetty, MBBS. Michigan State University; 2009.
15. Jack Rubinstein, M.D. (Michigan State University; 2007-2009) Associate Professor, University of Cincinnati; 2009.
16. Toufic Jildeh, BS (Michigan State University; 2011-2012) Wayne State University Medical School; 2012.
17. Sayeed Abrar (Michigan State University; 2011-2012) Dayton Hospital, Cardiologist.
18. Manju Raju, MD (Michigan State University; 2014-2016), Cardiologist, Oregon.
19. Imran Baig (Michigan State University, Flint Campus; 2013-2014) Cardiology Fellow
20. Ludovic Clavette-Lachapelle (Michigan State University, undergrad 2015-2016.
21. Manel Boumegouas, MD (University of Algeria); Resident in Internal Medicine, Michigan State University (2017-2019).

PhD Dissertation Committee:

1. Ho-Yin Chan “Polycrystalline CVD Diamond Probes for use *in vivo* and *in vitro* Neural studies” Dept. of Electrical and Computer Engineering, MSU, 2008
2. Mallory Doan “Changes in Maternal Cholesterol Levels during Gestation and Relations with Fetal Growth” Dept. of Epidemiology and Biostatistics, MSU 2012