

CURRICULUM VITAE

JOSE M. DI DIEGO

EDUCATION

School of Medicine
Buenos Aires University
Argentina

Degree: M.D. (1984)

POSITIONS HELD

1985 to 1988: Research Fellow, Favalaro Foundation, Bs As, Argentina.
1988 to 1993: Postdoctoral Fellow, MMRL, Utica, NY, USA.
1993 to present: Research Scientist, MMRL, Utica, NY, USA.

ACADEMIC AND PROFESSIONAL HONORS

Postdoctoral scholarship, Agustin and Enrique Rocca Brothers Foundation (Argentina). 1987
Perez Companc Foundation Fellowship Award (Argentina). 1988-89

Postdoctoral fellowship, American Heart Association. 1990-1992
Grant-In-Aid, American Heart Association. 1996-1998
Grant-In-Aid, American Heart Association. 1999-2002

First Electrophysiology Award, American Heart Association Poster Competition (Chicago, IL). 2002

Invited Speaker at the International Congress on Electrocardiology (Montreal, Canada, June 2002; Helsinki, Finland, June 2003); the International Society of Computerized Electrocardiology (Lihue, Hawaii, USA, April 2005); Guadalajara University (Guadalajara, Mexico, May 2005) and the Ion Channel Symposium (Copenhagen, Denmark, May 2008).

PROFESSIONAL ACTIVITIES

Chairman of the Education Committee, MMRL. 1994 to 1997.
Adjunct Research Professor, Utica College of Syracuse University. 1994 to present

Member of Animal Care and Use Committee, MMRL. 1994 to present.

Member of Safety Committee, MMRL. 1994 to present.

Member of the Cardiac Electrophysiology Society.

Member of the Basic Science Council, American Heart Association.

Manuscript reviewer for American Journal of Physiology, Cardiovascular Research, Journal of Cardiovascular Electrophysiology, Journal of Electrocardiology, Journal of Molecular and Cellular Cardiology, Heart Rhythm Journal, Basic Research in Cardiology, Pacing and Clinical Electrophysiology.

PUBLICATIONS

ABSTRACTS

1. Gimeno G, Quintero R, Di Diego JM: Amiodarone on the ventricular instability of the acute myocardial ischemia. (X National Congress of Cardiology; Rosario, Santa Fe, Argentina, 1986).
2. Gimeno G, Quintero R, Di Diego JM: Effects of amiodarone on the occlusion and reperfusion arrhythmias. (X National Congress of Cardiology; Rosario, Santa Fe, Argentina, 1986).
3. Quintero R, Gimeno G, Di Diego JM: Effects of ischemia and reperfusion on changes in refractoriness and conduction elicited by amiodarone. (Argentina Society of Clinical Research; Mar del Plata, Bs As, Argentina, 1986).
4. Di Diego JM and Antzelevitch C: The electrophysiologic effects of Amiloride in canine ventricular myocardial tissues. FASEB J 4: A-562, 1990.
5. Di Diego JM and Antzelevitch C: Pinacidil-induced reentrant arrhythmias in isolated canine ventricular epicardium. Circulation 1990;82,III-528.
6. Di Diego JM and Antzelevitch C: The role of the ATP-sensitive potassium currents in the genesis of cardiac arrhythmias. Proceeding of the SUNY HSC Fourth Annual Poster Session, pg.112, 1990.
7. Di Diego JM and Antzelevitch C: Antiarrhythmic effects of 4-Aminopyridine (4-AP) and glyburide in isolated canine ventricular myocardium. Pace 14:4, 725, 1991.
8. Di Diego JM and Antzelevitch C: Pinacidil-induced reentrant arrhythmias in isolated canine ventricular epicardium. Proceeding of the American Physiological Society (APS) Conference: From Channels to Cross Bridges; 1991.
9. Lukas A, Di Diego JM and Antzelevitch C: The effects of outward channel current blockers on reentrant arrhythmias induced by simulated ischemia in canine ventricular epicardium. First Annual Meeting of the Upstate New York Cardiac Electrophysiology Society; 1991.
10. Di Diego JM and Antzelevitch C: Amiloride Suppression of Pinacidil-induced Reentrant Arrhythmias in Isolated Canine Ventricular Myocardium. Circulation 84:II-551, 1991.
11. Di Diego JM, Sicouri S, Litovsky S and Antzelevitch C: Two Components of the Transient Outward Current in Canine Ventricular Epicardium: Right versus Left. Circulation 84:II-179, 1991.
12. Di Diego JM, Sicouri S, Litovsky S and Antzelevitch C: Two Components of the Transient Outward Current in Canine Ventricular Epicardium: Right versus Left. Proceedings of the Poster Competition, SUNY Health Science Center at Syracuse, 1991.
13. Di Diego JM and Antzelevitch C: High $[Ca^{2+}]_O$ -induced electrical heterogeneity and ectopic activity in canine ventricular myocardium. Circulation 86:I-301, 1992.

14. Zygmunt AC, Gibbons WR, Heppner T, Di Diego JM: Calcium-activated Cl^- currents in mammalian hearts. *J Mol and Cell Cardiol* 26:S16, 1994.
15. Antzelevitch C, Lukas A, Di Diego J, Sicouri S, Yan GX. Reentry caused by heterogeneities between epicardial, endocardial and midmyocardial sites: Pharmacological modification. Proc 2nd Workshop on Antiarrhythmic Drugs and Self Ventricular Defibrillation, Slovak Republic, 1995.
16. Di Diego JM and Antzelevitch C: I_{Ca} inhibition and I_{K-ATP} activation induce a transmural dispersion of repolarization resulting in ST segment elevation and arrhythmias. *PACE* 20:II-1134, 1997.
17. Di Diego JM and Antzelevitch C: Beat-to-beat alternation of transmural dispersion of repolarization underlies ST-T wave alternans that develops during ischemia. *PACE*, 22:4, 251; 1999.
18. Di Diego JM, Feiner JM, Moussallem CG and Antzelevitch C: Cellular Basis for Ischemia-induced ST-segment Elevation. *PACE* 24:II-599, 2001.
19. Di Diego JM, Cordeiro JM, Goodrow RJ, Fish JM, Zygmunt AC, Pérez GJ, Scornik FS and Antzelevitch C. Ionic and Cellular Basis for the Predominance of the Brugada Syndrome Phenotype in Males. *Circulation* II-21:102, 2002.
20. Fish JM, Di Diego JM, Zygmunt AC, Antzelevitch C. Cellular and ionic basis for the sex-related difference in the manifestation of the Brugada phenotype and progressive conduction defects. *Circulation* II-153:771, 2002.
21. Di Diego JM and Antzelevitch C. Electrophysiologic Basis for Ischemia-induced ST Segment Elevation. *PACE*; April 2003, vol 6, p. 1043.
22. Fish JM, Di Diego JM, Tsuboi M and Antzelevitch C. Epicardial Stimulation Prolongs QT Interval and Amplifies Transmural Dispersion of Repolarization in the Arterially Perfused Canine Left Ventricular Wedge. *PACE*; April 2003, vol 6, p. 1086.
23. Guerchicoff, A, G. D. Pollevick, J. M. Cordeiro, R. Dumaine, M. Mazza, C. Antzelevitch and J. M. Di Diego. Transmural Differences in Expression of SCN5A may Contribute to the Greater Sensitivity of Ventricular Epicardium to Electrical Depression. *Heart Rhythm* 2006; 3(5):S302.
24. A. Burashnikov, J. M. Di Diego, L. Belardinelli and C. Antzelevitch: Ranolazine Suppresses Atrial Fibrillation by Exerting a Marked Use-dependent Block of Sodium Channel Current in Canine Atrium but not Ventricle. *Heart Rhythm* 2006; 3(5):S304.
25. Calloe K, Cordeiro JM, Di Diego JM, Grunnet M, Olesen SP, Antzelevitch C. NS5806 Activates the Transient Outward Potassium Current in the Canine Ventricle and Provides a New Model of the Brugada Syndrome. *Biophysical Journal* 2009; 666a: 3438-Pos.

ORIGINAL PAPERS and INVITED REVIEWS

1. Antzelevitch C, Sicouri S, Litovsky SH, Krishnan SC, Lukas A, Di Diego JM, Gintant GA, Liu D-W: Heterogeneity within the ventricular wall. Electrophysiology and pharmacology of epicardial, endocardial and M cells. *Circ Res* 69: 1427-1449, 1991.
2. Antzelevitch Charles and Di Diego JM: The role of K⁺ channel activators in cardiac electrophysiology and arrhythmias. Invited Editorial Comment. *Circulation* 85:1627-1629, 1992.
3. Di Diego JM and Antzelevitch C: Pinacidil-induced electrical heterogeneity and extrasystolic activity in canine ventricular tissues. Does activation of ATP-regulated potassium current promote phase 2 reentry? *Circulation* 1993;88:1177-1189.
4. Di Diego JM and Antzelevitch C: High [Ca²⁺]_o-induced electrical heterogeneity and extrasystolic activity in canine ventricular epicardium. Phase 2 reentry. *Circulation* 1994;89:1839-1850.
5. Antzelevitch C, Sicouri S, Lukas A, Nesterenko VV, Liu DW, Di Diego JM: Regional differences in the electrophysiology of ventricular cells. Physiological and clinical implications. In: *Cardiac Electrophysiology: From Cell to Bedside*, 2nd ed. D.P. Zipes, J. Jalife, eds. W.B. Saunders Co., Philadelphia, pgs. 228-245, 1995.
6. Antzelevitch C, Sicouri S, Lukas A, Di Diego JM, Nesterenko VV, Liu DW, Roubache JF, Zigmunt AC, Zhang Z-Q, Iodice A: Clinical implications of the electrical Heterogeneity in the heart. The electrophysiology and pharmacology of epicardial, M and endocardial cells. In: *Cardiac Arrhythmias: Mechanism, Diagnosis and Managment*. P.J. Podrid, P.R. Kowey, eds. William Wildkins, Baltimore, pgs. 88-107, 1995.
7. Antzelevitch C, Di Diego JM, Sicouri S, Lukas A: Selective pharmacological modification of repolarizing currents. Antiarrhythmic and proarrhythmic actions of agents that influence repolarization in the heart. *Proceedings of the International Workshop on Antiarrhythmic Drugs. Mechanisms of antiarrhythmic and proarrhythmic actions*. G. Breithardt, Ed. Springer-Verlag, New York, pgs. 57-80, 1995.
8. Di Diego JM, Sun Zhuo-Qian and Antzelevitch C: I_{to} and action potential notch are smaller in left vs right canine ventricular epicardium. *Am. J. Physiol.* 271: H548-H561, 1996.
9. Antzelevitch C, Nesterenko VV, Shimizu W, Di Diego JM: Electrophysiological characteristics of the M cell. In: *Monophasic Action Potentials*. Franz MR, Schmitt C, Zenner B, eds, Springer, New York, pp 212-226, 1997.
10. Antzelevitch C, Shimizu W, Yan G, Sicouri S, Weissenberger J, Nesterenko VV, Burashnikov A, Di Diego JM, Saffitz J, Thomas G. The M Cell: Its contribution to the ECG and to normal and abnormal function of the heart. *Journal of Cardiovascular Electrophysiology*, 10: 1124-1152, August 1999.

11. Di Diego JM, Cordeiro JM, Goodrow RJ, Fish JM, Zygmunt AC, Pérez GJ, Scornik FS and Antzelevitch C. Ionic and Cellular Basis for the Predominance of the Brugada Syndrome Phenotype in Males. *Circulation*, 2002;106:2004-2011.
12. Antzelevitch C, Burashnikov S, Di Diego JM. Cellular and Ionic Mechanisms Underlying Arrhythmogenesis. In: *Cardiac Repolarization: Bridging Basic and Clinical Science*, Gussak I and Antzelevitch C, editors, Human Press Inc, NY, pp 201-251, 2003.
13. Di Diego JM, Belardinelli L, Antzelevitch C. Cisapride-induced transmural dispersion of repolarization and torsade de pointes in the canine left ventricular wedge preparation during epicardial stimulation. *Circulation*, 2003 Aug 26;108(8):1027-33.
14. Di Diego JM and Antzelevitch C. Cellular Basis for ST-segment changes observed during Ischemia. *Journal of Electrocardiology*, 2003; Vol.36 Suppl:1-5.
15. Fish JM, Di Diego JM, Nesterenko VV and Antzelevitch C. Epicardial Activation of Left Ventricular Wall Prolongs QT Interval and Transmural Dispersion of Repolarization. Implications for Biventricular Pacing. *Circulation*, 2004; 109:2136-42.
16. Antzelevitch C, Belardinelli L, Zygmunt AC, Burashnikov A, Di Diego JM, Fish JM, Cordeiro JM, Thomas G. Electrophysiologic Properties of Ranolazine, a Novel Anti-Anginal Agent with Antiarrhythmic Properties. *Circulation*, 2004; 110:904-910.
17. Antzelevitch C, Belardinelli L, Wu L, Fraser H, Zygmunt AC, Burashnikov A, Di Diego JM, Fish JM, Cordeiro JM, Goodrow RJ, Scornik F, Perez G. Electrophysiologic Properties of Ranolazine: A Novel Anti-Anginal Agent. *J Cardiovas Pharmacol Ther*, 9 (Supplement I); S65-S83, 2004.
18. Antzelevitch C, Fish JM, Di Diego JM. Cellular Mechanisms Underlying the Brugada Syndrome. In: *The Brugada Syndrome: From Bench to Bedside*, C. Antzelevitch, P. Brugada, J. Brugada and R. Brugada. Blackwell Futura, NY 5:52-77, 2005.
19. Di Diego JM, Fish JM, Antzelevitch C. Brugada syndrome and ischemia-induced ST-segment elevation. Similarities and differences. *Journal of Electrocardiology* 2005;38; 14-17.
20. Vernoooy K, Delhaas T, Cremer OL, Di Diego JM, Oliva A, Timmermans C., Volders PG, Prinzen FW, Crijns HJGM, Antzelevitch C, Kalkman CJ, Rodriguez LM, Brugada R. Electrocardiographic Changes Predicting Sudden Death Following Long-Term High-Dose Propofol Sedation. *Heart Rhythm* 2006;3:131-137.
21. Antzelevitch C, Burashnikov A, Di Diego JM. Mechanisms of Cardiac Arrhythmia. In: *Electrical Diseases of the Heart and Sudden Cardiac Death –Mechanisms –Treatment –Prevention*. Eds, I. Gussak and C. Antzelevitch. Springer, UK, 2007.
22. Burashnikov A, Di Diego JM, Zygmunt A, Belardinelli L, Antzelevitch C. Atrial-selective sodium channel block as a strategy for suppression of atrial fibrillation. Second ISHNE Atrial Fibrillation World-Wide Internet Symposium; April 2007; <http://www.af-symposium.org>.

23. Burashnikov A, Di Diego JM, Zygmunt AC, Belardinelli L, Antzelevitch C. Atrial-selective Sodium Channel Block as a Strategy for Suppression of Atrial Fibrillation. Differences in Sodium Channel Inactivation between Atria and Ventricles and the Role of Ranolazine. *Circulation* 2007;116:1449-1457.
24. Cordeiro JM, Malone JE, Di Diego JM, Aistrup GL, Antzelevitch C, Wasserstrom JA. Cellular and subcellular alternans in the canine left ventricle. *Am J Physiol Heart Circ Physiol* 293: H3506–H3516, 2007.
25. Rituparna S, Suresh S, Chandrashekhara M, Purvez G, Sunil S, Durairaj M, Yash L, Di Diego JM, Antzelevitch C. Occurrence of "J Waves" in 12-Lead ECG as a Marker of Acute Ischemia and Their Cellular Basis. *PACE*, 30(6):817-9, 2007.
26. Antzelevitch C, Sicouri S, Di Diego JM, Burashnikov A, Viskin S, Shimizu W, Yan GX, Kowey P, Zhang L. Does T(peak)-T(end) provide an index of transmural dispersion of repolarization? *Heart Rhythm*, 2007;4(8):1114-6.
27. Burashnikov A, Di Diego JM, Zygmunt AC, Belardinelli L, Antzelevitch C. Atrial-selective sodium channel block as a strategy for suppression of atrial fibrillation. *Ann. NY Acad Sci*, 1123:105-112, 2008.
28. Cordeiro JM, Mazza M, Goodrow R, Ulahannan N, Antzelevitch C, Di Diego JM. Functionally Distinct Sodium Channels in Ventricular Epicardial and Endocardial Cells Contribute to a Greater Sensitivity of Epicardium to Electrical Depression. *Am J Physiol Heart Circ Physiol* 295: H154–H162, 2008.
29. Burashnikov A, Di Diego JM, Sicouri S, Ferreiro M, Carlsson LG, Antzelevitch C. Atrial-selective effects of chronic amiodarone in the management of atrial fibrillation. *Heart Rhythm*, 2008; 5:1735-1742.
30. Calloe K, Cordeiro JM, Di Diego JM, Hansen RS, Grunnet M, Olesen SP, Antzelevitch C. A novel transient outward potassium current activator recapitulates the electrocardiographic and arrhythmic manifestations of Brugada Syndrome. *Cardiovasc Res.* 2009;81:686-694.
31. Di Diego JM, Leif Carlsson and Charles Antzelevitch. Chronic Amiodarone Does Not Exacerbate Repolarization Delay by Ibutilide or the Combined Ion Channel Blocker AZD1305 in Canine Coronary-Perfused Left Ventricular Wedge Preparations. *Heart Rhythm (in revision, 2009)*.
32. Di Diego JM and Antzelevitch C. Ischemic Ventricular Arrhythmias: Experimental Models and their Clinical Relevance. *Heart Rhythm; Invited Review (in revision, 2009)*.