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Curriculum Vitae

SWENNE, CORNELIS ADRIANUS (1947)



Cees A. Swenne, PhD

**Associate Professor
Cardiology Department
Leiden University Medical Center
PO Box 9600, 2300 RC Leiden, the Netherlands
Phone: +31-71-5261972 / Email: c.a.swenne@lumc.nl**

Website: <http://cees.a.swenne.net>

EDUCATION

Technical University, Eindhoven, the Netherlands (Faculty of Physics)
Degree: MSc (March 26, 1971)

University of Utrecht, the Netherlands (Faculty of Medicine)
Degree: PhD (November 20, 1984)

POSITIONS

1971-1983: Biomedical Engineer, Department of Physiological Signal Processing (head: prof. Jan H. van Bommel, PhD), Institute of Medical Physics TNO, Utrecht, NL

1984-1985: Biomedical Engineer, Biomedical Instrumentation Unit TNO (head: prof. Karel H. Wesseling), Amsterdam Medical Center, Amsterdam, NL

1986-present: Senior Researcher / Associate Professor, Cardiology Department (head: prof. Martin J. Schalij; head till 2010: prof. Ernst E. van der Wall, MD; head till 2000: prof. Albert V.G. Brusckhe, MD), Leiden University Medical Center, Leiden, NL

2017-present: Course Director, Biomedical Engineering Master's Degree Course "Physiological Signal Processing and Modelling in Cardiology", Faculty of Engineering, Università Politecnica delle Marche, Ancona, IT

AREAS OF EXPERTISE and PRIMARY INTERESTS

Teaching and Research Interests

- Electrocardiography/Vectorcardiography: Arrhythmia Prediction, Ischemia
- Neurocardiology: Syncope, Exercise Training & Rehabilitation, Music
- Cardiovascular Physiology, especially Electrocardiology, Electrophysiology and Arrhythmias, Syncope, Baroreflex and Blood Pressure Control, Physical Exercise, Training and Rehabilitation, Neurocardiology
- Computerized physiological signal processing and modelling of physiological processes related to the cardiovascular system
- Psychometrics

MAJOR ACTIVITIES

Teaching

- Course Director, "Physiological Signal Processing and Modelling in Cardiology" (Biomedical Engineering Master's Degree Course, Faculty of Engineering, Università Politecnica delle Marche, Ancona, IT)
- Course director "Heart and Circulation" (Medicine, 1st year)
- Course director "Physiology Basic Concepts" (Biomedical Sciences, 2nd year)
- Course director "Transient Loss of Consciousness" (Electives, Medicine, 2nd and 3rd year)
- Course director "Medicine for High School Students" (Tele-education)
- Lectures in various courses in Medicine, Biomedical Sciences and Biopharmacy
- Secretary of the "Student Education Committee" (Cardiology)
- Coordinator of the weekly scientific meetings (Cardiology)
- Member of the "Scientific Traineeship Committee" (Medicine)
- Chairman of the "Exam Quality Control Committee" (Medicine)
- Member of the "Exam Quality Control Committee" (Biomedical Sciences)

Patient care

- Evaluation of orthostasis (head-up tilt tests) in patients with syncope of unknown origin

Research

- Assessment of ventricular electrical heterogeneity (depolarisation heterogeneity, repolarisation heterogeneity, action potential duration heterogeneity) in the electrocardiogram
- Deep learning in serial ECG analysis
- Electrocardiography and vectorcardiography, various subjects, including modelling and development of research oriented signal processing software
- Measurement and interpretation of baroreflex sensitivity and heart rate variability
- Mechanism of action of biventricular pacing in heart failure
- Mechanism of autonomic improvement by rehabilitation of heart failure patients
- Neurocardiological consequences of active music making
- T-wave alternans and other electrocardiographic predictors of lethal cardiac arrhythmias

Software development

- A system for interactive real-time coronary care unit ECG monitoring (Fortran)
- SENSOR: a system for long-term off-line ECG analysis (Holter monitoring) (Fortran)
- LEADS: a system for vectorcardiography based analysis of standard 12-lead ECGs (Matlab)
- BEATS: a system for vectorcardiography based dynamic analysis (Matlab)
- TABULA: a set of C++ routines for general & statistical spreadsheet manipulation
- SIGNUM: a set of C++ routines for manipulation signals in spreadsheet format
- A model of baroreflex blood pressure control (Simulink)

PROFESSIONAL SERVICE

International Society for Computerized Electrocardiology

Co-Chair 2018 Meeting, Program Chair 2019 Meeting

Journal of Electrocardiology

Executive Editor

Leiden Foundation for ECG Analysis SEAL

Chairman, 1995-2002

Reviewer

Acta Physiologica

American Journal of Cardiology

American Journal of Physiology

Biocybernetics and Biomedical Engineering

Biomedical Signal Processing and Control

BMC Cardiovascular Disorders

British Medical Journal

Brain and Behavior

Canadian Journal of Physiology and Pharmacology

Clinical Autonomic Research

Clinical Interventions in Aging

Clinical Rehabilitation

Computing in Cardiology

European Society of Cardiology

Heart

Heart Rhythm

IEEE Transactions on Biomedical Engineering

International Archives of Occupational and Environmental Health

International Journal of Cardiology

International Journal of Telemedicine and Applications

Journal of Applied Physiology

Journal of Cardiovascular Development and Disease

Journal of Cardiovascular Electrophysiology

Journal of Electrocardiology

Journal of the American College of Cardiology – Clinical Electrophysiology

Netherlands Heart Journal

Netherlands Heart Foundation

Pacing and Clinical Electrophysiology
PeerJ
Physiological Measurement
Physiological Research
Renal Failure
Research Letters in Signal Processing
The Lancet

GRANTS (Netherlands Heart Foundation)

NHS 1989.110
NHS 1990.090
NHS 1993.43.032
NHS 2001.177
NHS 2003.B094
NHS 2009.B097

SOCIETIES

Netherlands Society of Cardiology
Netherlands Heart Rhythm Association
European Society of Cardiology
European Society of Cardiology Working Group on e-Cardiology
Netherlands Society for Biophysics and Biomedical Technology

TRAINEES

(Leiden University, if not otherwise stated)

PhD thesis

Cornelia C. ter Haar (Cardiology Depts., Leiden University Medical Center & Amsterdam Medical Center, ongoing)
Agnese Sbrölline (Università Politecnica delle Marche, Ancona, IT; for her deep learning project, ongoing)
Vivian P. Kamphuis (for the ECG-related subjects, ongoing)
Sum-Che Man (Medicine, 2016)
Stephanie Hillebrand (Medicine, 2015)
Maaïke G.J. Gademan (Medicine, 2009)
Bart Hooft van Huysduynen (Medicine, 2006)
Joost Frederiks (Medicine, 2001)
Marianne Bootsma (Medicine, 1995)
Marc J.A. Janssen (Medicine, 1993)

Master Thesis

Masih Amini (Medicine, ongoing)
Krizia Ciccetti (Università Politecnica delle Marche, Ancona, IT; ongoing)
Hugo Quaak (Medicine, ongoing)
Jeanet de Raaf (Medicine, ongoing)
Nicole Rijnsburger (Medicine, ongoing)
Friso van Bokhorst (Medicine, 2017)
Pierre A.F.M. Grosveld (Medicine, 2017)
Marjolein C. De Jongh (Medicine, 2015)
Vivian P. Kamphuis (Medicine, 2012)
Cornelia C. ter Haar (Medicine, 2012)
Teunis Schuurman (Mechanical Engineering, Technical University of Delft, 2011)
Priscilla V. de Winter (Medicine, 2011)
Elena van den Akker (Medicine, 2010)
Sum-Che Man (Biomedical Sciences, 2007)
Harmen H.M. Draisma (Biomedical Sciences, 2005)
Hedde van de Vooren (Physics, 2004)
Annelies L.S. Schoneveld (Medicine, 2003)
Vanessa J. Valk (Medicine, 2003)
Maura Santunione (Bioengineering, University of Bologna, I, 2002)
Rosalie M.M. Kemps (Medicine, 2002)
Adriaan O. Kraaieveld (Medicine, 2002)
Natasha Dijkstra (Medicine, 2002)
Diana C.G. de Veld (Physics, 1998)
Anwar Ghafoerkhan (Medicine, 1998)
J.M.M. (Hanneke) Veldhuizen (Medicine, 1997)
Caroline A.H. Pfeiffer (Medicine, 1997)
Jeroen V. Levert (Medicine, 1997)
Mona Mazgani (Medicine, 1994)
Harm H. van Bolhuis (Biomedical Sciences, 1993)
Henriëtte ter Heide (Medicine, 1990)
Jan C. Looyen (Electronics, Eindhoven University of Technology, 1973)
Mart Hermans (Physics, Eindhoven University of Technology, 1972)

Bachelor level

Roderick W Treskes (Medicine, 2014)

Berbel B. L. M. IJkema (Medicine, 2013)

Chinar Rahmattulla (Medicine, 2011)

Annemijn M. Algra (Medicine, 2010)

Charlotte A. Schreurs (Medicine, 2010)

E.H. (Eunhyo) Kim (Biomedical Sciences, 2007)

M. Louisa Antoni (Medicine, 2004)

Omar Turhan (Informatics, The Hague University, 1995)

Ronald Baljeu (Informatics, The Hague University, 1993)

C. (Kees) Brobbel (Informatics, The Hague University, 1989)

Dick Hordijk (Electronics, Rotterdam University, 1973)

Pre-university College, Leiden University

Louise I. Burggraaf (2012)

T. (Dorine) W. Elffers (2012)

Floor M. Segeth (2012)

Femke M.C. Austie (2012)

Mariëlle B. Plug (2012)

PUBLICATIONS

According to Google Scholar:

- citations: 4741 (2223 since 2013)
- h-index: 35 (25)
- i10-index: 76 (54)

The Computing in Cardiology (Comput Cardiol) papers in this list can be accessed via <http://www.cinc.org/cinc-papers-on-line/>

*: corresponding author in multi-authored papers; first author in multi-authored papers in which no corresponding author is indicated

1. Kamphuis VP, Blom NA, van Zwet EW, Man S, Ten Harkel ADJ, Maan AC, **Swenne CA**. Normal values of the ventricular gradient and QRS-T angle, derived from the pediatric electrocardiogram. *J Electrocardiol* 2018;51:490-495
2. Lindow T, Pahlm O, Olson CW, Khoshnood A, Ekelund U, Carlsson M, **Swenne CA**, Man S, Engblom H. Diagnostic accuracy of the electrocardiographic decision support - myocardial ischaemia (EDS-MI) algorithm in detection of acute coronary occlusion. *Eur Heart J Acute Cardiovasc Care* 2018 Apr 1:2048872618768081. doi: 10.1177/2048872618768081. [Epub ahead of print]
3. Van den Berg ME, Rijnbeek PR, Niemeijer MN, Hofman A, van Herpen G, Bots ML, Hillege H, **Swenne CA**, Eijgelsheim M, Stricker BH, Kors JA. Normal values of corrected heart-rate variability in 10-second electrocardiograms for all ages. *Front Physiol* 2018;9:424 (9 pp)
4. Atwater BD, Bacharova L, Pahlm O, **Swenne CA***. Special issue of the Journal of Electrocardiology to commemorate Dr. Galen Wagner (1939-2016). *J Electrocardiol* 2017; 50:1-2
5. De Jong MC, Sbröllini A, Maan AC, Van der Velde ET, SchaliJ MJ, **Swenne CA***. Progression towards heart failure after myocardial infarction is accompanied by a change in the spatial QRS-T angle. *Comput Cardiol* 2017;44:292-342
6. Haeck ML, Kapel GF, Scherptong RW, **Swenne CA**, Maan AC, Bax JJ, SchaliJ MJ, Vliegen HW. Detection of elevated pulmonary pressures by the ECG-derived ventricular gradient: A comparison of conversion matrices in patients with suspected pulmonary hypertension. *J Electrocardiol* 2017;50:115-122
7. Lindow T, Olson CW, **Swenne CA**, Man S, Pahlm O. The Olson method for detection of acute myocardial ischemia in patients with coronary occlusion. *J Electrocardiol* 2017;50:74-81
8. Man S, Ter Haar CC, de Jongh MC, Maan AC, SchaliJ MJ, **Swenne CA***. Position of ST-deviation measurements relative to the J-point: Impact for ischemia detection. *J Electrocardiol* 2017;50:82-89
9. Medenwald D, **Swenne CA**, Frantz S, Nuding S, Kors JA, Pietzner D, Tiller D, Greiser KH, Kluttig A, Haerting J. Longitudinal association of short-term, metronome-paced heart rate

variability and echocardiographically assessed cardiac structure at a 4-year follow-up: results from the prospective, population-based CARLA cohort. *Europace* 2017;19:2027-2035

10. Medenwald D, **Swenne CA**, Loppnow H, Kors JA, Pietzner D, Tiller D, Thiery J, Nuding S, Greiser KH, Haerting J, Werdan K, Kluttig A. Prognostic relevance of the interaction between short-term, metronome-paced heart rate variability, and inflammation: results from the population-based CARLA cohort study. *Europace* 2017;1:110-118
11. Nolte IM, Munoz ML, Tragante V, Amare AT, Jansen R, Vaez A, von der Heyde B, Avery CL, Bis JC, Dierckx B, van Dongen J, Gogarten SM, Goyette P, Hernessniemi J, Huikari V, Hwang SJ, Jaju D, Kerr KF, Kluttig A, Krijthe BP, Kumar J, van der Laan SW, Lyytikäinen LP, Maihofer AX, Minassian A, van der Most PJ, Müller-Nurasyid M, Nivard M, Salvi E, Stewart JD, Thayer JF, Verweij N, Wong A, Zabaneh D, Zafarmand MH, Abdellaoui A, Albarwani S, Albert C, Alonso A, Ashar F, Auvinen J, Axelsson T, Baker DG, de Bakker PIW, Barcella M, Bayoumi R, Bieringa RJ, Boomsma D, Boucher G, Britton AR, Christophersen I, Dietrich A, Ehret GB, Ellinor PT, Eskola M, Felix JF, Floras JS, Franco OH, Friberg P, Gademan MGJ, Geyer MA, Giedraitis V, Hartman CA, Hemerich D, Hofman A, Hottenga JJ, Huikuri H, Hutri-Kähönen N, Jouven X, Juntila J, Juonala M, Kiviniemi AM, Kors JA, Kumari M, Kuznetsova T, Laurie CC, Lefrandt JD, Li Y, Li Y, Liao D, Limacher MC, Lin HJ, Lindgren CM, Lubitz SA, Mahajan A, McKnight B, Zu Schwabedissen HM, Milaneschi Y, Mononen N, Morris AP, Nalls MA, Navis G, Neijts M, Nikus K, North KE, O'Connor DT, Ormel J, Perz S, Peters A, Psaty BM, Raitakari OT, Risbrough VB, Sinner MF, Siscovick D, Smit JH, Smith NL, Soliman EZ, Sotoodehnia N, Staessen JA, Stein PK, Stilp AM, Stolarz-Skrzypek K, Strauch K, Sundström J, **Swenne CA**, Syvänen AC, Tardif JC, Taylor KD, Teumer A, Thornton TA, Tinker LE, Uitterlinden AG, van Setten J, Voss A, Waldenberger M, Wilhelmsen KC, Willemsen G, Wong Q, Zhang ZM, Zonderman AB, Cusi D, Evans MK, Greiser HK, van der Harst P, Hassan M, Ingelsson E, Järvelin MR, Kääb S, Kähönen M, Kivimäki M, Kooperberg C, Kuh D, Lehtimäki T, Lind L, Nievergelt CM, O'Donnell CJ, Oldehinkel AJ, Penninx B, Reiner AP, Riese H, van Rooij AM, Rioux JD, Rotter JJ, Sofer T, Stricker BH, Tiemeier H, Vrijkkotte TGM, Asselbergs FW, Brundel BJJM, Heckbert SR, Whitsel EA, den Hoed M, Snieder H, de Geus EJC. Genetic loci associated with heart rate variability and their effects on cardiac disease risk. *Nat Commun* 2017;8:15805. Erratum in: *Nat Commun* 2017;8:16140.
12. Pahlm O, **Swenne CA**, Man S, Fakhri Y, Atwater BD, Bacharova L, Bang L, Birnbaum Y, Carlsson E, Clemmensen P, Engblom H, Gettes LS, Grande P, Hakacova N, Holmvang L, Jurlander B, Loring Z, Pahlm U, Pettersson J, Ringborn M, Risum N, Sejersten-Ripa M, Sörnmo L, Strauss DG, Zusterzeel R, Warren SG. Dr. Galen Wagner (1939-2016) as an academic writer: an overview of his peer-reviewed scientific publications. *J Electrocardiol* 2017;50:47-73
13. Starc V, **Swenne CA**. Spatial distribution and orientation of a single moving dipole computed in 12-lead ECGs of a healthy population using a spherically bounded model. *Comput Cardiol* 2017;44:242-277
14. **Swenne CA***, Pahlm O, Atwater BD, Bacharova L. Galen Wagner, M.D., Ph.D. (1939-2016) as international mentor of young investigators in electrocardiology. *J Electrocardiol* 2017;50:21-46.

15. Burattini L, Man S, Fioretti S, Di Nardo F, **Swenne CA**. Heart Rate-Dependent Hysteresis of T-Wave Alternans in Primary Prevention ICD Patients. *Ann Noninvasive Electrocardiol* 2016;21:460-469
16. Couperus LE, Vliegen HW, Henkens IR, Maan AC, Treskes RW, De Vries JK, Schouffoer AA, **Swenne CA**, Schalij MJ, Scherp tong RW. Electrocardiographic detection of pulmonary hypertension in patients with systemic sclerosis using the ventricular gradient. *J Electrocardiol* 2016;49:60-68
17. De Jongh MC, Maan AC, Van der Velde ET, **Swenne CA**. Serial ECG analysis after myocardial infarction: when heart failure develops, the ECG becomes increasingly discordant. *Comput Cardiol* 2016;43, DOI:10.22489/CinC.2016.131-408
18. Giuliani C, **Swenne CA**, Man S, Agostinelli A, Fioretti S, Di Nardo F, Burattini L. Predictive Power of f99 Repolarization Index for the Occurrence of Ventricular Arrhythmias. *Ann Noninvasive Electrocardiol* 2016;21:152-160.
19. Pahlm O, **Swenne CA**, Ugander M, Warren SG, Wagner GS. Scientific STAFF and MALT meetings—past, present, and future. *J Electrocardiol* 2016;49:259-262.
20. Seibert E, Zohles K, Ulrich C, Kluttig A, Nuding S, Kors JA, **Swenne CA**, Werdan K, Fiedler R, Girndt M. Association between autonomic nervous dysfunction and cellular inflammation in end-stage renal disease. *BMC Cardiovasc Disord* 2016;16:210 (11 pp)
21. **Swenne CA**, Wagner GS. Association between autonomic nervous dysfunction and cellular inflammation in end-stage renal disease. MALT/STAFF 2015 symposium. *J Electrocardiol* 2016;49:752.
22. Ter Haar CC, Man SC, Maan AC, Schalij MJ, **Swenne CA***. Subtraction electrocardiography: Detection of ischemia-induced ST displacement without the need to identify the J point. *J Electrocardiol* 2016;49:316-322.
23. **Swenne CA***. Mechanisms of exercise-recovery hysteresis in the ECG. *J Electrocardiol* 2015;48:1006-1009
24. **Swenne CA***. Atherosclerosis at your fingertips? *Neth Heart J* 2015;23:466-467
25. De Jongh MC, Kamphuis VP, Man S, Maan S, Vliegen HW, Swenne CA*. Electrocardiographic detection and monitoring of pulmonary hypertension. *Comput Cardiology* 2015;42:541-544
26. Giuliani C, **Swenne CA**, Man S, Fioretti S, Di Nardo F. Logistic regression to enhance risk assessment by left ventricular ejection fraction and f99. *Comput Cardiol* 2015;42:657-660
27. Man S, Ter Haar CC, Maan AC, Schalij MJ, **Swenne CA***. The dependence of the STEMI classification on the position of ST-deviation measurement instant relative to the J point. *Comput Cardiol* 2015;42:837-840
28. Burattini L, Man S, Fioretti S, Di Nardo F, **Swenne CA**. T-wave alternans hysteresis on heart rate. *Comput Cardiol* 2015;42:1205-1208
29. Man S, Maan AC, Schalij MJ, **Swenne CA***. Vectorcardiographic diagnostic & prognostic information derived from the 12-lead electrocardiogram: Historical review and clinical perspective. *J Electrocardiol* 2015;48:463-475.
30. Kamphuis VP, Wagner GS, Pahlm O, Man S, Olson CW, Bacharova L, **Swenne CA***. Comparison of model-based and expert-rule based electrocardiographic identification of the culprit artery in patients with acute coronary syndrome. *J Electrocardiol* 2015;48:483-489.

31. De Jongh MC, Ter Haar CC, Man S, Treskes RW, Maan AC, SchaliJ MJ, **Swenne CA***. Intra-individual ECG changes over 25 years: How long can elective ECGs be used as reference for acute ischemia detection? *J Electrocardiol* 2015;48:490-497.
32. Treskes RW, Ter Haar CC, Man S, De Jongh MC, Maan AC, Wolterbeek R, SchaliJ MJ, Wagner GS, **Swenne CA***. Performance of ST and ventricular gradient difference vectors in electrocardiographic detection of acute myocardial ischemia. *J Electrocardiol* 2015;48:498-504.
33. **Swenne CA**. Improved STEMI diagnosis by serial ECG analysis. *J Electrocardiol*. 2015;48:99-100.
34. Hillebrand S, **Swenne CA**, Gast KB, Maan AC, Le Cessie S, Jukema JW, Rosendaal FR, Den Heijer M, De Mutsert R. The role of insulin resistance in the association between body fat and autonomic function. *Nutr Metab Cardiovasc Dis* 2015;25:93-99.
35. Burattini L, Man S, Fioretti S, Di Nardo F, **Swenne CA**. Dependency of exercise-induced T-wave alternans predictive power for the occurrence of ventricular arrhythmias from heart rate. *Ann Noninvasive Electrocardiol* 2014;20:345-354
36. Giuliani C, **Swenne CA**, Man S, Agostinelli A, Burattini L. Ventricular arrhythmias assessment: a new repolarization index of risk. *Comput Cardiol* 2014;41:169-172.
37. T-wave alternans rate of change with exercise for cardiac risk assessment. Burattini L, Man S, Ottaviano G, Fioretti S, Di Nardo F, **Swenne CA**. *Comput Cardiol* 2014;41:177-180.
38. De Jongh MC, Ter Haar CC, Man S, Van de Heide MFJ, Treskes RW, Maan AC, SchaliJ MJ, **Swenne CA***. Changes in the ST- and ventricular gradient vectors over a period of 25 years. *Comput Cardiol* 2014;41:385-388.
39. Treskes RW, Ter Haar CC, Man S, De Jongh MC, Van der Heide MFJ, Maan AC, SchaliJ MJ, **Swenne CA***. Reproducibility of ST and ventricular gradient vectors. *Comput Cardiol* 2014;41:633-636.
40. IJkema BB, Bonnier JJ, Schoors D, SchaliJ MJ, **Swenne CA***. Role of the ECG in initial acute coronary syndrome triage: primary PCI regardless presence of ST elevation or of non-ST elevation. *Neth Heart J* 2014;22:484-490
41. Rijnbeek PR, van Herpen G, Bots ML, Man S, Verweij N, Hofman A, Hillege H, Numans ME, **Swenne CA**, Witteman JC, Kors JA. Normal values of the electrocardiogram for ages 16-90 years. *J Electrocardiol* 2014;47:914-921
42. **Swenne CA***. Diverging opinions about shared decisions. *Neth Heart J* 2014;22:334-335.
43. Ter Haar CC, Maan AC, SchaliJ MJ, **Swenne CA***. Directionality and proportionality of the ST and ventricular gradient difference vectors during acute ischemia. *J Electrocardiol* 2014;47:500-504.
44. Hillebrand S, de Mutsert R, Christen T, Maan AC, Jukema JW, Lamb HJ, de Roos A, Rosendaal FR, den Heijer M, **Swenne CA**; NEO Study Group. Body fat, especially visceral fat, is associated with electrocardiographic measures of sympathetic activation. *Obesity* 2014;22:1553-1559.
45. **Swenne CA***. Psychosocial distress under pressure. *Neth Heart J* 2014;22:70
46. Man S, Rahmattulla C, Maan AC, van der Putten NH, Dijk WA, van Zwet EW, van der Wall EE, SchaliJ MJ, Gorgels AP, **Swenne CA***. Acute coronary syndrome with a totally occluded culprit artery: relation of the ST injury vector with ST-elevation and non-ST elevation ECGs. *J Electrocardiol* 2014;47:183-190

47. Kamphuis VP, Haeck ML, Wagner GS, Maan AC, Maynard C, Delgado V, Vliegen HW, **Swenne CA***. Electrocardiographic detection of right ventricular pressure overload in patients with suspected pulmonary hypertension. *J Electrocardiol* 2014;47:175-182
48. **Swenne CA***. Beyond lipid lowering: pleiotropic effects of statins in heart failure. *Neth Heart J* 2013;21:406-407
49. Ter Haar CC, Maan AC, Warren SG, Ringborn M, Horáček BM, Schalij MJ, **Swenne CA***. Difference vectors to describe dynamics of the ST segment and the ventricular gradient in acute ischemia. *J Electrocardiol* 2013;46:302-311
50. Gademan MG, van Exel HJ, van de Vooren H, Haest JC, van Pelt J, van der Laarse A, Cannegieter SC, Lucas CM, Somer S, Verwey HF, Schalij MJ, van der Wall EE, **Swenne CA***. Exercise-resembling effects of periodic somatosensory stimulation in heart failure. *Int J Cardiol* 2013;168:3327-3333
51. Van der Laarse A, Cobbaert CM, Gorgels AP, **Swenne CA**. Will future troponin measurement overrule the ECG as the primary diagnostic tool in patients with acute coronary syndrome? *J Electrocardiol* 2013;46:312-317
52. Schuurman T, Rixen DJ, **Swenne CA**, Hinnen JW. Feasibility of Laser Doppler Vibrometry as potential diagnostic tool for patients with abdominal aortic aneurysms. *J Biomech* 2013;46:1113-1120
53. Hillebrand S, Gast KB, de Mutsert R, **Swenne CA**, Jukema JW, Middeldorp S, Rosendaal FR, Dekkers OM. Heart rate variability and first cardiovascular event in populations without known cardiovascular disease: meta-analysis and dose-response meta-regression. *Europace* 2013;15:742-749
54. Burattini L, Man S, **Swenne CA**. Response to Dr. Madias' comments on "T-wave alternans by a 16-lead electrocardiogram system". *Ann Noninvasive Electrocardiol* 2013;18:100-101
55. Burggraaf JL, Elffers TW, Segeth FM, Austie FM, Plug MB, Gademan MG, Maan AC, Man S, de Muijnck M, Soekha T, Simonsz A, van der Wall EE, Schalij MJ, **Swenne CA***. Neurocardiological differences between musicians and control subjects. *Neth Heart J* 2013;21:183-188
56. **Swenne CA***. Baroreflex sensitivity: mechanisms and measurement. *Neth Heart J* 2013;21:58-60
57. Van der Voort CT, **Swenne CA**, Van der Hoorn-van Velthoven CA, Belt JH. Online medical literature consultation habits of academic teaching physicians in the EU and CIS countries: a cross-sectional study. *PLoS One* 2012;7:e44302
58. De Bie MK, Koopman MG, Gaasbeek A, Dekker FW, Maan AC, **Swenne CA**, Scherptong RW, van Dessel PF, Wilde AA, Schalij MJ, Rabelink TJ, Jukema JW. Incremental prognostic value of an abnormal baseline spatial QRS-T angle in chronic dialysis patients. *Europace* 2013;15:290-296
59. Burattini L, Man S, Burattini R, **Swenne CA**. Comparison of standard versus orthogonal ECG leads for T-wave alternans identification. *Ann Noninvasive Electrocardiol* 2012;17:130-140
60. Scherptong RW, Henkens IR, Kapel GF, **Swenne CA**, van Kralingen KW, Huisman MV, Schuerwegh AJ, Bax JJ, van der Wall EE, Schalij MJ, Vliegen HW. Diagnosis and mortality prediction in pulmonary hypertension: the value of the electrocardiogram-derived ventricular gradient. *J Electrocardiol* 2012;45:312-318

61. Man S, Rahmattulla C, Maan AC, Holman E, Bax JJ, van der Wall EE, Schalij MJ, **Swenne CA***. Role of the vectorcardiogram-derived spatial QRS-T angle in diagnosing left ventricular hypertrophy. *J Electrocardiol* 2012;45:154-160
62. Man S, De Winter PV, Maan AC, Thijssen J, Borleffs CJ, van Meerwijk WP, Bootsma M, van Erven L, van der Wall EE, Schalij MJ, Burattini L, Burattini R, **Swenne CA***. Predictive power of T-wave alternans and of ventricular gradient hysteresis for the occurrence of ventricular arrhythmias in primary prevention cardioverter-defibrillator patients. *J Electrocardiol* 2011;44:453-459.
63. Man S, Algra AM, Schreurs CA, Borleffs CJ, Scherptong RW, van Erven L, van der Wall EE, Cannegieter SC, Schalij MJ, **Swenne CA***. Influence of the vectorcardiogram synthesis matrix on the power of the electrocardiogram-derived spatial QRS-T angle to predict arrhythmias in patients with ischemic heart disease and systolic left ventricular dysfunction. *J Electrocardiol* 2011;44:410-415
64. Man S, Rahmatulla C, Maan AC, Van der Putten NHJJ, Dijk WA, Van Zwet EW, Van der Wall EE, Schalij MJ, Gorgels AP, **Swenne CA***. The electrocardiogram in total-occlusion ST-elevation and non-ST-elevation acute coronary syndrome patients: role of the ST injury vector. To be submitted
65. Gademan MGJ, Van Exel HJ, Van de Vooren H, Haest JCW, Van Pelt J, Van der Laarse A, Cannegieter SC, Lucas CMHB, Somer S, Verwey HF, Schalij MJ, Van der Wall EE, **Swenne CA***. Exercise-resembling effects of periodic somatosensory stimulation in heart failure. Submitted
66. Gademan MGJ *, Teppema LJ, Haest JCW, Verwey HF, Van Exel HJ, Lucas CMHB, Schalij MJ, Van der Wall EE, **Swenne CA**. The effect of exercise training on the oxygen uptake-work relation in chronic heart failure. *Clin Rehabil*, prov. accepted.
67. Burattini L *, Man S, Burattini R, **Swenne CA**. Comparison of standard vs. orthogonal ECG leads for T-wave alternans identification. *Ann Noninvasive Electrocardiol* 2012, accepted
68. Scherptong RW, Henkens IR, Kapel GF, **Swenne CA**, van Kralingen KW, Huisman MV, Schuerwegh AJ, Bax JJ, Vd Wall EE, Schalij MJ, Vliegen HW. Diagnosis and mortality prediction in pulmonary hypertension: The value of the electrocardiogram-derived ventricular gradient. *J Electrocardiol* 2012 Jan 19 [Epub ahead of print]
69. Maan AC, Dijk WA, Van der Putten NHJJ, Man S, Rahmatullah S, Van Zwet E, **Swenne CA**, Schalij MJ. A vector cardiographic based method to determine the culprit artery in acute coronary syndrome. *Comput Cardiol* 2011;38:409-412
70. Maan AC, Van Zwet EW, Man S, Oliveira-Martens SMM, Schalij MJ, **Swenne CA**. Assessment of signal quality and electrode placement in ECGs using reconstruction matrix. *Comput Cardiol* 2011;38: 289-292
71. Man S, Algra AM, Schreurs CA, Borleffs CJW, Scherptong RWC, Van Erven L, Van der Wall EE, Cannegieter SC, Schalij MJ, **Swenne CA***. Influence of the VCG synthesis matrix on the power of the ECG-derived spatial QRS-T angle to predict arrhythmias in patients with ischemic heart disease and systolic left ventricular dysfunction. *J Electrocardiol* 2011;44:410-415
72. Man S, Burattini L, Thijssen J, Burattini R, De Winter PV, Bootsma M, Van Erven L, Van der Wall EE, Schalij MJ, Maan AC, **Swenne CA***. Prediction of arrhythmias in primary

- prevention ICD patients: resting versus exercise electrocardiogram. *Comput Cardiol* 2011;38:425-428
73. Man S, De Winter PV, Maan AC, Thijssen J, Borleffs CJW, Van Meerwijk WPM, Bootsma M, Van Erven L, Van der Wall EE, Schalij MJ, Burattini L, Burattini R, **Swenne CA***. Predictive power of T-wave alternans and of ventricular gradient hysteresis for the occurrence of ventricular arrhythmias in primary prevention ICD patients. *J Electrocardiol* 2011;44:453-459
 74. Man S, Rahmattulla C, Maan AC, Holman E, Bax JJ, Van der Wall EE, Schalij MJ, **Swenne CA***. Role of the vectorcardiogram-derived spatial QRS-T angle and ventricular gradient in diagnosing left ventricular hypertrophy. *J Electrocardiol* 2011 Nov 9 [Epub ahead of print]
 75. Gademan MG, Sun Y, Han L, Valk VJ, Schalij MJ, van Exel HJ, Lucas CM, Maan AC, Verwey HF, van de Vooren H, Pinna GD, Maestri R, La Rovere MT, van der Wall EE, **Swenne CA***. Rehabilitation: Periodic somatosensory stimulation increases arterial baroreflex sensitivity in chronic heart failure patients. *Int J Cardiol* 2010; Aug 4 [Epub ahead of print]
 76. Kluttig A *, Schumann B, **Swenne CA**, Kors JA, Kuss O, Schmidt H, Werdan K, Haerting J, Greiser KH. Association of health behaviour with heart rate variability: a population-based study. *BMC Cardiovascular Disorders* 2010;10:58
 77. Man SC, De Winter PV, Thijssen J, Maan AC, Van Meerwijk WPM, Van der Wall EE, Schalij MJ, **Swenne CA***. Exercise-recovery hysteresis in the ventricular gradient predicts antiarrhythmic therapy in primary prevention ICD patients. *Comput Cardiol* 2010;37:765-768
 78. Man SC, Maan AC, Van der Wall EE, Schalij MJ, **Swenne CA***. Beats: an interactive research oriented ECG analysis system. *Comput Cardiol* 2010;37:1007-1011
 79. Scherptong RW, Hazekamp MG, Mulder BJ, Wijers O, **Swenne CA**, van der Wall EE, Schalij MJ, Vliegen HW *. Follow-up after pulmonary valve replacement in adults with tetralogy of Fallot: association between QRS duration and outcome. *J Am Coll Cardiol* 2010;56:1486-1492
 80. Schreurs CA, Algra AM, Man SC, Cannegieter SC, van der Wall EE, Schalij MJ, Kors JA, **Swenne CA***. The spatial QRS-T angle in the Frank vectorcardiogram: accuracy of estimates derived from the 12-lead electrocardiogram. *J Electrocardiol* 2010;43:294-301
 81. Van der Wall EE *, Bax JJ, **Swenne CA**, Steendijk P, Schalij MJ. Cardiovascular dynamics in ischemic cardiomyopathy during exercise. *Int J Cardiovasc Imaging* 2010;26:161-164
 82. Borleffs CJ, Scherptong RW, Man SC, van Welsenes GH, Bax JJ, van Erven L, **Swenne CA**, Schalij MJ *. Predicting ventricular arrhythmias in patients with ischemic heart disease: clinical application of the ECG-derived QRS-T angle. *Circ Arrhythm Electrophysiol* 2009;2:548-554
 83. Dijk WA *, Maan AC, van der Putten NHJJ, van der Velde ET, **Swenne CA**, Hoekema R, Dassen WRM, Busman JP. Reliability of the prediction of the location of the culprit lesion from the ECG in totally occluded arteries in case of single vessel disease. *Comput Cardiol* 2009;36:701-704
 84. Gademan MG, van Bommel RJ, Borleffs CJ, Man S, Haest JC, Schalij MJ, van der Wall EE, Bax JJ, **Swenne CA***. Biventricular pacing-induced acute response in baroreflex sensitivity has predictive value for midterm response to cardiac resynchronization therapy. *Am J Physiol Heart Circ Physiol* 2009;297:H233-237

85. Gademan MG, van der Laarse A, **Swenne CA***, van der Wall EE. Oxygen uptake in heart failure: how much, how fast? *Neth Heart J* 2009;17:224-225
86. Gademan MG, **Swenne CA***. Re: "Effects of cardiac resynchronization therapy on heart rate turbulence". *Pacing Clin Electrophysiol* 2009;32:964; author reply 964-965
87. Greiser KH *, Kluttig A, Schumann B, **Swenne CA**, Kors JA, Kuss O, Haerting J, Schmidt H, Thiery J, Werdan K. Cardiovascular diseases, risk factors and short-term heart rate variability in an elderly general population - The CARLA Study 2002-2006. *Eur J Epidemiol* 2009;24:123-142
88. Henkens IR, Van Wolferen SA, Gan CT, Boonstra A, **Swenne CA**, Twisk JW, Kamp O, van der Wall EE, Schalij MJ, Vonk-Noordegraaf A *, Vliegen HW. Relation of resting heart rate to prognosis in patients with idiopathic pulmonary arterial hypertension. *Am J Cardiol* 2009;103:1451-1456
89. Man S, van Zwet EW, Maan AC, Schalij MJ, **Swenne CA***. Individually improved VCG synthesis. *Comput Cardiol* 2009;36:277-280
90. Gademan MG, **Swenne CA***, Verwey HF, van de Vooren H, Haest JC, van Exel HJ, Lucas CM, Cleuren GV, Schalij MJ, van der Wall EE. Exercise training increases oxygen uptake efficiency slope in chronic heart failure. *Eur J Cardiovasc Prev Rehabil* 2008;15:140-144
91. Gademan MG, van Bommel RJ, Ypenburg C, Haest JC, Schalij MJ, van der Wall EE, Bax JJ, **Swenne CA***. Biventricular pacing in chronic heart failure acutely facilitates the arterial baroreflex. *Am J Physiol Heart Circ Physiol* 2008;295:H755-760
92. Henkens IR, Mouchaers KT, Vonk-Noordegraaf A, Boonstra A, **Swenne CA**, Maan AC, Man SC, Twisk JW, van der Wall EE, Schalij MJ, Vliegen HW. Improved ECG detection of presence and severity of right ventricular pressure load validated with cardiac magnetic resonance imaging. *Am J Physiol Heart Circ Physiol* 2008;294:H2150-2157
93. Hooft van Huysduynen B, Henkens IR, **Swenne CA***, Oosterhof T, Draisma HHM, Maan AC, Hazekamp MG, De Roos A, Schalij MJ, Van der Wall EE, Vliegen HW. Pulmonary valve replacement in tetralogy of Fallot improves the repolarization. *Int J Cardiol* 2008;124:301-306
94. Man SC, Maan AC, Kim E, Draisma HH, Schalij MJ, van der Wall EE, **Swenne CA***. Reconstruction of standard 12-lead electrocardiograms from 12-lead electrocardiograms recorded with the Mason-Likar electrode configuration. *J Electrocardiol* 2008;41:211-219
95. Man S, Maan AC, Schalij MJ, Van der Wall EE, **Swenne CA***. T-Wave alternans ranking: striking disagreement between two vectorcardiographic measures of repolarization heterogeneity. *Comput Cardiol* 2008;35:525-528
96. Man SC, van der Wall EE, **Swenne CA***. Gated SPECT: What's the ideal method to measure LVEF? *Int J Cardiovasc Imaging* 2008;24:807-810
97. Scherp tong RW, Henkens IR, Man SC, Le Cessie S, Vliegen HW, Draisma HH, Maan AC, Schalij MJ, **Swenne CA***. Normal limits of the spatial QRS-T angle and ventricular gradient in 12-lead electrocardiograms of young adults: dependence on sex and heart rate. *J Electrocardiol* 2008;41:648-655
98. Gademan MGJ, **Swenne CA***, Verwey HF, Van der Laarse A, Maan AC, Van de Vooren H, Van Pelt J, Van Exel HJ, Lucas CMHB, Cleuren GVJ, Somer S, Schalij MJ, Van der Wall EE. Effect of exercise training on autonomic derangement and neurohumoral activation in chronic heart failure. *J Card Fail* 2007;13:294-303

99. Henkens IR, Mouchaers K, Vliegen HW, van der Laarse WJ, **Swenne CA**, Maan AC, Draisma H, Schalij I, van der Wall EE, Schalij MJ, Vonk-Noordegraaf A: Early changes in rat hearts with developing pulmonary arterial hypertension can be detected with 3-dimensional electrocardiography. *Am J Physiol Heart Circ Physiol* 2007;293:H1300-1307
100. Kors JA *, **Swenne CA**, Greiser KH. Cardiovascular disease, risk factors, and heart rate variability in the general population. *J Electrocardiol* 2007;40:S19-21
101. Man SC, Maan AC, Draisma HHM, Schalij MJ, Van der Wall EE, **Swenne CA***: Reconstruction of standard 12-lead ECGs from 12-lead ECGs recorded with the Mason-Likar electrode configuration. *Comput Cardiol* 2007;34:701-704
102. Scherptong RWC, Maan AC, Man SC, Le Cessie S, Vliegen HW, Schalij MJ, **Swenne CA***: The spatial ventricular gradient and spatial QRS-T angle in young adults: historical context and differences between men and women. *Comput Cardiol* 2007;34:717-720
103. Booij L, **Swenne CA**, Brosschot JF, Haffmans J, Thayer JF, Van der Does AJW: Tryptophan depletion affects heart rate variability and impulsivity in remitted depressed patients with a history of suicidal ideation. *Biol Psychiatry* 2006;60:507-514
104. Draisma HHM, Schalij MJ, Van der Wall EE, **Swenne CA***: Elucidation of the spatial ventricular gradient and its link with dispersion of repolarization. *Heart Rhythm* 2006;3:1092-1099
105. Van de Vooren H, Gademan MGJ, Haest JCW, Schalij MJ, Van der Wall EE, **Swenne CA***: Non-Invasive baroreflex sensitivity assessment in heart failure patients with frequent episodes of non-sinus rhythm. *Comput Cardiol* 2006;33:637-640
106. Draisma HHM, Hooft van Huysduynen B, **Swenne CA***, Maan AC, Van der Wall EE, Schalij MJ: Increased dispersion of ventricular repolarization during recovery from exercise. *Comput Cardiol* 2005;32:85-88
107. Draisma HHM, **Swenne CA***, Van de Vooren H, Maan AC, Hooft van Huysduynen B, Van der Wall EE, Schalij MJ: LEADS: an interactive research oriented ECG/VCG analysis system. *Comput Cardiol* 2005;32:515-518
108. Gilad O, Swenne CA, Davrath LR, Akselrod S *: Phase-averaged characterization of respiratory sinus arrhythmia pattern. *Am J Physiol Heart Circ Physiol* 2005;288:H504-510
109. Greiser KH, Kluttig A, Schumann B, Kors JA, **Swenne CA**, Kuss O, Werdan K, Haerting J: Cardiovascular disease, risk factors and heart rate variability in the elderly general population: Design and objectives of the Cardiovascular disease, Living and Ageing in Halle (CARLA) study. *BMC Cardiovascular Disorders* 2005;5:33
110. Hooft van Huysduynen B, **Swenne CA***, Bax JJ, Bleeker GB, Draisma HHM, Van Erven L, Molhoek SG, Van de Vooren H, Van der Wall EE, Schalij MJ: Dispersion of the repolarization in cardiac resynchronization therapy. *Heart Rhythm* 2005;2:1286-1293
111. Hooft van Huysduynen B, **Swenne CA***, Draisma HHM, Antoni ML, Van de Vooren H, Van der Wall EE, Schalij MJ: Validation of ECG indices of ventricular repolarization heterogeneity: a computer simulation study. *J Cardiovasc Electrophysiol* 2005;10:1097-1103
112. Hooft van Huysduynen B, Van Straten A, **Swenne CA***, Maan AC, Van Eck HJ, Schalij MJ, Van der Wall EE, De Roos A, Hazekamp MG, Vliegen HW: Reduction of QRS duration after pulmonary valve replacement in adult Fallot patients is related to reduction of right ventricular volume. *Eur Heart J* 2005;26:928-932

113. Van der Veek PP, **Swenne CA***, Van de Vooren H, Schoneveld AL, Maestri R, Masclee AA: Viscerosensory-cardiovascular reflexes: altered baroreflex sensitivity in irritable bowel syndrome. *Am J Physiol Regul Integr Comp Physiol* 2005;289:R970-976
114. Van der Veek PPJ, Van Rood YR, **Swenne CA**, Biemond I, Zitman F, Spinhoven P, Masclee AAM: Irritable bowel syndrome: towards an integrated psycho-neurophysiological approach. *Eur J Gastroenterol Hepatol* 2005;17:A5-A6
115. Hooft van Huysduynen B, **Swenne CA***, Ritsema van Eck HJ, Kors JA, Schoneveld AL, Van de Vooren H, Schiereck P, Schalijs M, Van der Wall EE: Hypertensive stress increases dispersion of repolarization. *Pacing Clin Electrophysiol* 2004;27:1603-1609
116. Pinna GD, Maestri R, Gobbi E, Robbi E, **Swenne CA**, La Rovere MT: Standing revised: Assessing baroreflex sensitivity by the modified transfer function method. *Comput Cardiol* 2004; 31: 273-276
117. Bootsma M, **Swenne CA**, Janssen MJA, Manger Cats V, Schalijs MJ: Heart rate variability and sympathovagal balance: pharmacological validation. *Neth Heart J* 11: 250-259, 2003
118. De Koning AE, **Swenne CA***, Agema WRP, Maan AC, Van de Vooren H, Manger Cats V, Schalijs MJ, Van der Wall EE: Average heart rate, atrial fibrillation and R-on-T ventricular ectopy in 24h Holter recordings predict all-cause mortality in healthy middle-aged men. *Comput Cardiol* 30: 93-96, 2003
119. Geelen A, Zock PL, **Swenne CA**, Brouwer IA, Schouten EG, Katan MB: Effect of n-3 fatty acids on heart rate variability and baroreflex sensitivity in middle-aged subjects. *Am Heart J* 146 (2), E4, 2003
120. Gilad O, **Swenne CA**, Akselrod S: Phase averaged characterization of respiratory sinus arrhythmia pattern. *Comput Cardiol* 30: 697-700, 2003
121. Gilad O, **Swenne CA**, Toledo E, Akselrod A: Afferent somatosensory information as a possible cause of cardiac-locomotor coupling? *Comput Cardiol* 30: 797-800, 2003
122. Hooft van Huysduynen B, **Swenne CA***, Ritsema van Eck HJ, Schoneveld AL, Van de Vooren H, Schiereck P, Kors JA, Schalijs MJ, Van der Wall EE: Hypertensive stress induces repolarization changes. *Neth Heart J* 11 Suppl 3: 7-8, 2003
123. Sun Y, Blom NA, Yu Y, Ma P, Wang Y, Han X, **Swenne CA**, Van der Wall EE: The influence of premature ventricular contractions on left ventricular function in asymptomatic children without structural heart disease: an echocardiographic evaluation. *Int J Cardiovasc Imaging* 2003; 19: 295-299
124. Frederiks J, **Swenne CA***, Ghafoerkhan A, Lalmahomed H, Maan AC, Schalijs MJ, Brusckhe AVG: Rhythmic sensory stimulation improves fitness by conditioning the autonomic nervous system. *Netherlands Heart J* 10: 43-47, 2002
125. Geelen A, Brouwer IA, Zock PL, Kors JA, **Swenne CA**, Katan MB, Schouten EG: (N-3) Fatty acids do not affect electrocardiographic characteristics of healthy men and women. *J Nutr* 132: 3051-3054, 2002
126. Halámek J, Jurák P, **Swenne CA**, Kára T, Souček M, Eisenberger M, Nykodým J: Baroreflex sensitivity and heart rate. In: *Proc Biosignal 16, 2002* (J. Jan, J. Kozumplík and I. Provozník, Eds.). Brno University of Technology VUTIUUM Press, Brno, pp 72-74, 2002
127. Melgers MC, **Swenne CA***, Van de Vooren H, Van der Wall EE: Interaction between the arterial baroreflex and a hypertensive stressor: a mathematical model. *Comput Cardiol* 29: 45-48, 2002

128. **Swenne CA**: Neurocardiological basis for intra-individual ECG variability. *J Electrocardiol* 35 Suppl: 239-242, 2002
129. **Swenne CA**: Combining ambulatory ECG and noninvasive ambulatory blood pressure recording: new diagnostic options. In: *Einthoven 2002 — 100 Years of Electrocardiography* (M.J. Schalij, M.J. Janse, A. van Oosterom, H.J.J. Wellens and E.E. van der Wall, Eds.). ISBN: 90-9015912-6. The Einthoven Foundation, Leiden, pp 395-402, 2002
130. **Swenne CA***, Van de Vooren H: Cardiovascular variability as a neurocardiological key to homeostatis. *Primer for students Biomedical Sciences, Internal Regulation II*, Leiden University, pp 26-38, 2002
131. Van de Vooren H, **Swenne CA***, Ten Voorde BJ, Van der Wall EE: Baroreflex sensitivity: estimated closed-loop versus true open-loop values, determined by a mathematical model. In: *Proc Biosignal 16, 2002* (J. Jan, J. Kozumplík and I. Provazník, Eds.). Brno University of Technology VUTIU Press, Brno, pp 78-80, 2002
132. Frederiks J, **Swenne CA***, Kors JA, VanHerpen G, Maan AC, Levert JV, Schalij MJ, Brusckhe AVG: Within-subject differences in the electrocardiographic waveform at equal heart rates: role of the autonomic nervous system. *Pflügers Arch - Eur J Physiol* 441: 717-724, 2001
133. Schoneveld AL, **Swenne CA***, VanDeVooren H, Santunione M, Maan AC, Geelen A, Schouten EG. Trends in heart rate & blood pressure during noninvasive BRS assessment. *Comput Cardiol* 28: 493-495, 2001
134. VanAmelsvoort LGPM, Schouten EG, Maan AC, **Swenne CA**, Kok FJ: 24-hour heart rate variability in shift workers: impact of shift schedule. *J Occup Health* 43: 32-38, 2001
135. VanAmelsvoort LGPM, Schouten EG, Maan AC, **Swenne CA**, Kok FJ: Changes in frequency of premature complexes and heart rate variability related to shift work. *Occup Environm Med* 58: 678-681, 2001
136. VanDeVooren H, **Swenne CA***, TenVoorde BJ, VanDerWall EE. Assessment of Baroreflex Sensitivity by the Closed-Loop Blood Pressure to Interbeat Interval Transfer Function. *Comput Cardiol* 28: 489-492, 2001
137. Dekker JM, Crow RS, Folsom AR, Hannan PJ, Liao D, **Swenne CA**, Schouten EG: Low heart rate variability in a 2-minute rhythm strip predicts risk for coronary heart disease and mortality from several causes. The ARIC study. *Circulation* 102: 1239-1244, 2000
138. Frederiks J, **Swenne CA***, Brusckhe AVG, VanDerVelde ET, Maan AC, TenVoorde BJ, VanRooijen MGC, Mosterd WL, Schiereck P: Correlated neurocardiologic and fitness changes in athletes interrupting training. *Med Sci Sports Exerc* 32: 571-575, 2000
139. Frederiks J, **Swenne CA***, TenVoorde BJ, Honzíkóvá N, Levert JV, Maan AC, Schalij MJ, Brusckhe AVG: The importance of high-frequency paced breathing in spectral baroreflex sensitivity assessment. *J Hypertens* 18: 1635-1644, 2000
140. **Swenne CA**: Heart rate variability: physiological background and why it does not assess the sympathovagal balance. In: *Proc Biosignal 2000* (J. Jan, J. Kozumplík, I. Provazník and Z. Szabó, Eds.). Brno University of Technology VUTIU Press, Brno, p 11, 2000
141. **Swenne CA***, Frederiks J, Fischer PH, Hardeman WFC, Immerzeel-Geerlings MAC, TenVoorde BJ: Noninvasive baroreflex sensitivity assessment in geriatric patients: feasibility, and role of the coherence criterion. *Comput Cardiol* 27: 45-48, 2000
142. **Swenne CA***, Frederiks J, Kors JA, VanHerpen G, Maan AC, Levert JV, Schalij MJ, Brusckhe AVG: Autonomic modulation of the electrical inhomogeneity of myocardial cells and

dispersion of ventricular repolarisation. In: Proc Biosignal 2000 (J. Jan, J. Kozumplík, I. Provazník and Z. Szabó, Eds.). Brno University of Technology VUTIUUM Press, Brno, pp 304-309, 2000

143. Van Amelsvoort LGPM, Schouten EG, Maan AC, **Swenne CA**, Kok FJ: Occupational determinants of heart rate variability. *Int Arch Occup Environ Health* 73: 255-262, 2000
144. Frederiks J, **Swenne CA***, Van der Velde ET, Ghafoerkhan A, Lalmahomed H, Maan AC, Schalijs MJ, Brusckhe AVG: Rhythmic sensory stimulation as a substitute for endurance training. *Comput Cardiol* 26: 225-228, 1999
145. Pluim BM, **Swenne CA**, Zwinderman AH, Maan AC, Van der Laarse A, Van der Wall EE: Correlation of heart rate variability with cardiac functional and metabolic variables in cyclists with training induced left ventricular hypertrophy. *Heart* 81: 612-617, 1999
146. Schuit AJ, Van Amelsfoort LGPM, Verheij TC, Rijnke RD, Maan AC, **Swenne CA**, Schouten EG: Exercise training and heart rate variability in older people. *Med Sci Sports Exerc* 31: 816-821, 1999
147. **Swenne CA**: Clinical guide to cardiac autonomic tests (Boekbespreking). *Cardiologie* 6: 280, 1999
148. **Swenne CA***, Frederiks J, Brusckhe AVG; Furlan R, Piazza S, Dell'Orto S, Barbic F, Bianchi A, Mainardi L, Cerutti S, Pagani M, Malliani A: Cardiac neural changes before vasovagal syncope (Letter). *Circulation* 1999;100:5
149. Frederiks J, **Swenne CA***, Maan AC, TenVoorde BJ, Brusckhe AVG: Short-term stability of baroreflex sensitivity *Comput Cardiol* 25: 341-344, 1998
150. Frederiks J, **Swenne CA***, Maan AC, Kors JA, VanHerpen G, Levert JV, Schalijs MJ, Brusckhe AVG: Dissociation of heart rate and ECG morphology. *Comput Cardiol* 25: 409-412, 1998
151. Dekker JM, Schouten EG, Klootwijk P, Pool J, **Swenne CA**, Kromhout D: Heart rate variability from short electrocardiographic recordings predicts mortality from all causes in middle-aged and elderly men. The Zutphen Study. *Am J Epidemiol* 145: 899-908, 1997
152. Frederiks J, **Swenne CA***, Maan AC, Van Rooyen MGC, Schiereck P, Mosterd WL, Ten Voorde BJ, Brusckhe AVG: Neurocardiologic and fitness changes in marathon skaters during interruption of training after their last competitive contest of the winter season. *Comput Cardiol* 24: 589-592, 1997
153. Frederiks J, **Swenne CA***, Ten Voorde BJ, Honziková N, Levert JV, Maan AC, Schalijs MJ, Brusckhe AVG: Non-baroreflex mediated heart rate variability causes overestimation of baroreflex sensitivity. *Comput Cardiol* 24: 199-202, 1997
154. Hyndman BW, **Swenne CA**, Bootsma M, Voogd J, Brusckhe AVG: Noninvasive measurement of baroreflex sensitivity. A better indicator of cardiac vagal tone than heart rate variability? *Proc 18th Annual Internat Conf of the IEEE Eng in Med and Biol Soc, Amsterdam* 1996: 1582-1583, 1997
155. Bootsma M, **Swenne CA***, Brusckhe AVG: Heart rate variability during repeated incremental head-up tilt discloses time dependence of individual autonomic dynamics. *Clin Cardiol* 19: 62-68, 1996
156. Bootsma M, **Swenne CA***, Lenders JWM, Jacobs MC, Brusckhe AVG: Intravenous instrumentation alters the autonomic state in humans. *Eur J Appl Physiol* 73: 113-116, 1996

157. Dekker JM, De Vries EL, Lengton RR, Maan AC, Schouten EG, **Swenne CA**, Maan A: Reproducibility and comparability of short- and long-term heart rate variability measures in healthy young men. *Ann Noninvasive Electrocardiol* 1: 287-292, 1996
158. Levert JV, Maan AC, **Swenne CA***, Bootsma M, Brusckhe AVG: The relation between QT intervals and heart rate in young healthy males using an incremental head-up tilt protocol. *Comput Cardiol* 23: 285-288, 1996
159. Levert JV, **Swenne CA***, Maan AC, Schalij MJ, Viergever EP, Frederiks J, Pfeiffer CAH, Brusckhe AVG: Similar heart rates, different QT-intervals. *Comput Cardiol* 23: 277-280, 1996
160. **Swenne CA**: Orthostasis and syncope (Editorial). *Cardiologie* 3: 317-318, 1996
161. **Swenne CA***, Bootsma M, Hyndman BW, Voogd J, Brusckhe AVG: Heart rate variability, baroreflex sensitivity, and cardiac vagal tone. *Clin Sci* 91 (Supp): 113-115, 1996
162. Bootsma M, **Swenne CA***, Brusckhe AVG: Similar orthostatic defense in active, healthy young adult and late middle-aged men. *Am J Cardiol* 76: 922-927, 1995
163. Bootsma M, **Swenne CA***, Brusckhe AVG: Heart rate variability and sympathovagal balance: differences between low and high fit subjects. *Comput Cardiol* 22: 441-444, 1995
164. Janssen MJA, **Swenne CA***, Manger Cats V, Van Bommel JH, Brusckhe AVG: Autonomic, ischemic, circadian and rhythmic factors as causes of the spontaneous variability of ventricular arrhythmias. *Eur Heart J* 16: 674-681, 1995
165. **Swenne CA***, Bootsma M: Sympathovagal balance and graded orthostatic tilt (Letter). *Circulation* 91: 2292-2293, 1995
166. **Swenne CA***, Bootsma M, Baur LH: Heart rate variability after a discontinued 1-year period of post-AMI ACE-inhibition. *Comput Cardiol* 22: 277-279, 1995
167. **Swenne CA***, Bootsma M, Van Bolhuis HH: Different autonomic responses to orthostatic and to mental stress in young normals. *Homeostasis* 36: 287-292, 1995
168. Bootsma M, **Swenne CA***, Manger Cats V, Brusckhe AVG: Pharmacological validation of heart rate variability measures that assess sympathetic or vagal tone, or the sympathovagal balance. *Comput Cardiol* 21: 301-304, 1994
169. Bootsma M, **Swenne CA***, Van Bolhuis HH, Chang PC, Manger Cats V, Brusckhe AVG: Heart rate and heart rate variability as indexes of sympathovagal balance. *Am J Physiol* 266 (Heart Circ Physiol 35): H1565-H1571, 1994
170. Janssen MJA, **Swenne CA***, De Bie J, Ter Heide H, Van Bommel JH, Rompelman O: Methods in heart rate variability analysis: may the ventricular or the pulse rhythm be used as a substitute for the atrial rhythm?. *High Blood Pressure and Cardiovascular Prevention* 3: 23-29, 1994
171. **Swenne CA***, Bootsma M, Manger Cats V, Brusckhe AVG: Autonomic impact of venous needling. *Comput Cardiol* 21: 305-308, 1994
172. Van Bolhuis HH, Bootsma M, **Swenne CA***: Is analyse van de hartritmevariabiliteit klinisch toepasbaar?. *Tijdschr Cardiol* 6: 36-48, 1994
173. Van Bolhuis HH, Bootsma M, **Swenne CA***: L'analyse de la variabilit, du rythme cardiaque est-elle cliniquement applicable?. *J Cardiol* 6: 36-48, 1994
174. Bootsma M, **Swenne CA***, Van Ruggie FP, Van der Wall EE: The sympathovagal balance during control and dobutamine stress MRI. *Comput Cardiol* 20: 317-320, 1993

175. Janssen MJA, De Bie J, **Swenne CA***, Oudhof J: Supine and standing sympathovagal balance in athletes and controls. *Eur J Appl Physiol Occup Physiol* 67: 164-167, 1993
176. Janssen MJA, **Swenne CA***, De Bie J, Rompelman O, Van Bommel JH: Methods in heart rate variability analysis: which tachogram should we choose? *Comput Methods Programs Biomed* 41: 1-8, 1993
177. **Swenne CA***, Janssen MJA, Manger Cats V: Heart rate and heart rate variability in patients with frequent ventricular arrhythmias. *Comput Cardiol* 19: 303-306, 1993
178. Van Bolhuis HH, Bootsma M, **Swenne CA***: Is analyse van de hartritmevariabiliteit klinisch toepasbaar?. *Ned Tijdschr Cardiol* 7: 333-345, 1993
179. Van Bolhuis HH, Bootsma M, **Swenne CA***: Reproducibility of heart rate and heart rate variability responses to incremental head-up tilt. *Comput Cardiol* 19: 325-328, 1993
180. Janssen MJA, **Swenne CA***: Advanced arrhythmia interpretation by batch driven postprocessing of QRS annotations and ST-values as obtained with a commercial Holter analyzer. *Comput Cardiol* 18: 449-452, 1992
181. Tuinenburg AE, Bootsma M, Janssen MJA, De Bie J, **Swenne CA***, Jacobs MC, Lenders JWM: Heart rate and heart rate variability during 10- and 30-minute episodes of lower body negative pressure. *Comput Cardiol* 17: 333-336, 1992
182. Janssen MJA, **Swenne CA***, De Bie J, Manger Cats V, Bruschke AVG: Average heart rate, heart rate variability and the sympathovagal balance. *Comput Cardiol* 16: 75-78, 1991
183. Middelkoop HAM, Janssen M, Kemp B, **Swenne CA**, Kamphuisen HAC, Bruschke AVG: Sleep apnoea syndrome as a risk factor for ischaemic heart disease. *Proc 32nd Dutch Federation Meeting. Federation of Medical Scientific Societies*, ISBN 90-70248-115: p148, 1991
184. **Swenne CA***, Antzelevitch C: The characteristics of modulated parasystole under conditions of constant and variable heart rate: a mathematical model. *J Cardiovasc Electrophysiol* 2: 34-44, 1991
185. **Swenne CA***, Janssen MJA, De Bie J, Manger Cats V, Bruschke AVG: Differences in the atrial, the ventricular and the digital cardiac rhythm. *Proc Comput Cardiol* 16: 67-70, 1991
186. **Swenne CA***, Janssen MJA, De Bie J, Manger Cats V: The cardiac rhythm as a measure for the neurohumoral control of the heart. In: *Proc Biosignal '90*. House of Technology, Brno, p 94, 4 pp, 1990
187. **Swenne CA***, Van Hemel NM, Robles de Medina EO: Remembrance: Gordon K. Moe, M.D., Ph.D., 1915-1989. *J Cardiovasc Electrophysiol* 1: 382-383, 1990
188. **Swenne CA***, Van Hemel NM, Robles de Medina EO: Remembrance: Gordon K. Moe (1915-1989). *Neth J Cardiol* 3: 52-53, 1990
189. Saoudi N, Touboul P, Pradel L; reply by Van Hemel NM, Swenne CA, De Bakker JMT, Defauw JJAM, Guiraudon GM: Letter to the editor, and reply (see Van Hemel et al, 1989). *PACE* 12: 505-507, 1989
190. **Swenne CA***, Janssen MJA, De Bie J, Manger Cats V, Bruschke AVG: Assessment of neurohumoral influences on the heart by cardiac cycle time analysis. *Comput Cardiol* 14: 53-56, 1989
191. **Swenne CA***: Entrainment in modulated parasystole. *Comput Cardiol* 13: 249-252, 1988
192. Van der Linden LP, Goos WA, **Swenne CA***: A computer system for the analysis of left ventricular pressure and volume. *Comput Cardiol* 13: 501-505, 1988

193. **Swenne CA***, Janssen MJA, Van Hemel NM: Assessment of arrhythmogenic mechanisms from the ECG. In: Proc Biosignal, Brno, pp 162-167, 1988
194. **Swenne CA***, Janssen MJA, Van Hemel NM: Computerized assessment of arrhythmogenic mechanisms. *Comput Cardiol* 12: 565-568, 1987
195. Van Hemel NM, **Swenne CA**, De Bakker JMT, Defauw JJAM, Guiraudon GM: Epicardial reflection as a cause of incessant ventricular bigeminy. *PACE* 11: 1036-1044, 1988
196. **Swenne CA***, Bosker HA, Van Hemel NM: Computer simulation of compound reentry. *Comput Cardiol* 11: 445-448, 1986
197. **Swenne CA***, Van Hemel NM, Robles de Medina EO: ECG criteria for assessment of mechanisms of ventricular arrhythmias: a review. *Eur Heart J* 8: 800-812, 1987
198. Van Hemel NM, **Swenne CA**, Robles de Medina EO: Assessment of mechanisms of ventricular arrhythmias from the surface ECG in 118 patients. *Eur Heart J* 8: 813-821, 1987
199. **Swenne CA**: A review of techniques for computerized long-term ECG processing. *Proc Biosignal '86*, Brno, 1986
200. **Swenne CA**: CENSOR: Computerized ENumerative Scanning On Rhythm-disturbances; Software package ABME-009-S86. *Ann Biomed Eng* 14: pp I-II, 1986
201. **Swenne CA***, Van Hemel NM: Assessment of mechanisms of ventricular arrhythmias by interpretation of QQ intervals in the ECG. *Scripta Medica* 59: 207-210, 1986
202. **Swenne CA***, Van Hemel NM: How to improve computer assisted arrhythmia monitoring. In: *Proc MEDINFO-83*, Van Bommel, Ball, Wigertz, Eds., IFIP-IMIA, North-Holland, pp 636-639, 1983
203. **Swenne CA***, Van Hemel NM: Algorithms for the interpretation of ventricular arrhythmias. *Comput Cardiol* 8: 231-234, 1983
204. **Swenne CA***, De Lang PA, Ten Hoopen M, Van Hemel NM: Computer simulation of ventricular arrhythmias: ventricular bigeminy. *Comput Cardiol* 6: 295-298, 1982
205. **Swenne CA***, Van Hemel NM: A database of ventricular arrhythmias. In: *Progress Report MFI-TNO PR8*, pp 113-117, 1982
206. **Swenne CA***, Van Hemel NM: CENSOR sensitivity to operator-varied processing thresholds. In: *Progress Report MFI-TNO PR8*, pp 99-106, 1982
207. **Swenne CA***, Van Zoelen B, Van Hemel NM: CENSOR performance. In: *Progress Report MFI-TNO PR8*, pp 107-112, 1982
208. **Swenne CA***, Vennix HWA, Van Hemel NM: CENSOR output features. In: *Progress Report MFI-TNO PR8*, pp 95-98, 1982
209. Van Hemel NM, Schaepkens ALE, Bakema RH, **Swenne CA**: Long-term follow-up after pacemaker implantation in sick sinus syndrome. *PACE* 4: 8-13, 1981
210. Van Hemel NM, Van Zoelen B, **Swenne CA**, Vennix HWA, Duisterhout JS: The natural course of ventricular arrhythmias in AMI. *Coronary Care Units 1978*, Proceedings of a European Seminar held in Pisa, Italy. Eds A Maseri et al. Martinus Nijhoff Publishers 1981, pp 9-14, 1981
211. **Swenne CA***, De Lang PA, Ten Hoopen M, Van Hemel NM: A mathematical model of cardiac arrhythmias applied to ventricular bigeminy. In: *Progress Report MFI-TNO PR7*, pp 109-113, 1980
212. **Swenne CA***, De Lang PA, Vennix HWA, Van Hemel NM: Ventricular arrhythmias: hide-and-seek. *Proc Comput Cardiol* 3: 259-262, 1979

213. Vennix HWA, **Swenne CA**, Van Hemel NM, Van Zoelen B: CENSOR: a system for Computerized ENumerative Scanning On Rhythm-disturbances: version 2.0.. In: Progress Report MFI-TNO PR7, pp 114-116, 1980
214. Kingma JH, **Swenne CA**, Timmer CJ, Viersma JW: XII. Anttiarrhythmic effect and pharmacokinetics of the aminosteriod ORG 6001 in patients with chronic ventricular arrhythmias: an early phase II study. Progr Pharmacol 2: 95-98, 1979
215. **Swenne CA***, Vennix HWA, Van Hemel NM, Duisterhout JS: CENSOR: a system for Computerized ENumerative Scanning on Rhythm-disturbances. In: Progress Report MFI-TNO PR6, pp 189-199, 1978
216. Van Hemel NM, **Swenne CA**, Duisterhout JS: Het MFI-TNO interactieve computer aritmie-detectiesysteem [The MFI-TNO interactive computer-based arrhythmia detector]. Ned T Geneesk 122: 42-46, 1978
217. Vennix HWA, **Swenne CA**: Minute: a time and event code generator. In: Progress Report MFI-TNO PR6, pp 221-223, 1978
218. **Swenne CA***, Duisterhout JS, Van Hemel NM: Interactive computerized CCU monitoring. In: Trends in computer-processed electrocardiograms, J.H. van Bommel and J.L.Willems, Eds., North-Holland Publishing Company, pp 59-63, 1977
219. **Swenne CA***, Van Bommel JH, Relik ThFM, Versteeg B: A computerized, interactive coronary care unit monitoring system. IEEE Trans Biomed Eng 24: 63-67, 1977
220. Pronk RAF, **Swenne CA**: Intensieve bewaking. Informatie 18: 248-255, 1976
221. **Swenne CA***, Duisterhout JS, Van Hemel NM: An interactive computerized ECG-monitoring system: evaluation results. In: Progress Report MFI-TNO PR5, pp 174-178, 1976
222. **Swenne CA***, Van Hemel NM: An interactive monitoring system for the coronary care unit. Comput Cardiol 1: 187-188, 1975
223. **Swenne CA***, Duisterhout JS: A Pilot system for monitoring the electrocardiogram in a coronary care unit. In: Progress Report MFI-TNO PR4: pp 185-187, 1974
224. **Swenne CA***, Hermans M, Hordijk D: A reliable QRS-detector for coronary care unit (CCU) monitoring. In: Progress Report MFI-TNO PR4, pp 182-184, 1974
225. **Swenne CA***, Looyen JC: Stochastic operations on CCU electrocardiograms. In: Progress Report MFI-TNO PR4: pp 188-192, 1974
226. **Swenne CA***, Van Bommel JH, Looyen JC: A trainable system for CCU monitoring. In: Proc Medinfo 74. Amsterdam, North-Holland Publishing Co, pp 795-799, 1974
227. **Swenne CA***, Duisterhout JS: An inter-active computerized coronary care monitoring system. In: Proc Data Processing Electrocardiol, Turku, 1973
228. **Swenne CA***, Van Bommel JH, Hengeveld SJ, Hermans M: Pattern Recognition for ECG-monitoring: An interactive method for the classification of ventricular complexes. Comput Biomed Res 5: 150-160, 1973
229. **Swenne CA***, Van Bommel JH, Relik-Van Wely L: Adaptation of parameters for interactive coronary care. In: Digest 10th Int Conf Med Biol Eng, p 37, 1973
230. **Swenne CA***, Hermans M, Van Bommel JH, Relik ThFM: ECG monitoring by digital computer for coronary care. In: Progress Report MFI-TNO PR3, pp 173-175, 1972
231. Van Bommel JH, **Swenne CA**, Hengeveld SJ: Beat-to-beat statistical classification of ECG complexes. Proc Symposium and colloquium on the electrical field of the heart (Colloquium Vectorcardiographicum), pp 597-602, 1971