Prof. Dr. Joachim W. Herzig *D.Sc.*

Department of Physiology and Pathophysiology
Faculty of Medicine
Johannes Gutenberg University
7b Hardstrasse, Grenzach-Wyhlen, Germany
Joachim.herzig@yahoo.com

Personal Data:

Date of Birth:	May 04, 1949
Citizenship:	German
Marital Status:	Married, 3 Sons
Languages:	German (mother tongue) English (fluent, working experience in U.K., U.S.A, Pakistan and South Africa) Afrikaans/Dutch (good knowledge, working experience in South Africa) French (good knowledge, publications also in French)
Hobbies:	Baroque Music, Tenor Singing, International Travel
Sports:	Golf, Wind Surfing, Skiing, Tennis
Extracurricular/ Community Activities:	Member, Intl. Development Group, Muttenz, Switzerland, 1983 – 1989 Co-Organizer, Charity Club, Mekelle, Ethiopia, 2011 – 2013
Address:	JGU Hardstrasse 7 b D-79639 Grenzach-Wyhlen Germany

Career Summary and Achievements:

- Vast research experience in University and Multinational Pharmaceutical Industry, particularly in multidisciplinary research projects
- Extensive teaching experience in biomedical sciences, particularly Pharmacology and Physiology at international private and public universities
- Vast experience in Continuous Medical Education on Pharmacology for Practitioners

- Profound knowledge and research experience in cardiovascular / muscular / gastrointestinal cell physiology and pharmacology
- Maintained professional contacts acquired during academic and industrial career
- Provided leadership and management in multidisciplinary groups of scientists (Physiology, Pharmacology, Biophysics, Molecular Biology, Biochemistry)
- Installed Problem Based Learning in an MBBS curriculum
- Conceptualized and installed an interdisciplinary PhD program in Medical Sciences
- Conceptualized and installed an interfaculty BSc/MSc program Human Life Sciences
- Vast international and intercultural experience in Leadership of Universities

Employment History:

2009-current ***Johannes Gutenberg University (JGU), Germany, Medical School***
- Professor of Physiology and Pathophysiology

2011-2013 ***Mekelle University, Mekelle, Ethiopia***
- President

2009-2011 ***Ministry of Education, Science, Youth & Culture (MBWJK), Mainz, Germany***
- In-charge of Internationalization of Rheinland-Palatinate Universities

2003-2009 ***University of Applied Sciences, Worms, Germany***
- President

In Parallel: ***University of Mainz, Germany, Medical School***
2003-2009 - Honorary Professor of Physiology

2000-2003 ***University of Stellenbosch, South Africa***
- Professor and Chairman, Department of Physiological Sciences

In Parallel: ***Inter-University Cape Heart Centre, Cape Town, South Africa***
2000-2003 -Co-Director

1996-2000 ***The Aga Khan University, Karachi, Pakistan***
- Professor and Chairman, Department of Physiology and Pharmacology

1986-1996 ***Ciba-Geigy, Limited, Pharma Division, Basel, Switzerland***
1993-1995 - Deputy Head, Cardiovascular Research Department
1993-1994 - Acting Head, Cardiovascular Research Department
1986-1994 - Head, Intracellular Mechanisms Research Group
1986-1993 - Project Coordinator, Heart Failure Research Programme

1980-1986 ***Sandoz, Limited, Pharma Division, Basel, Switzerland***
1984-1986 - Project Coordinator, Calcium Antagonists, CVS and CNS Research
1980-1986 - Research Scientist and Project Leader, Indication Heart Failure

In Parallel to Industrial Career: ***University of Heidelberg, Germany, Medical School***
1980-1996 - Honorary Professor of Physiology

1973-1980 ***Heidelberg University, Germany***
- Senior Scientist and Assistant Professor, Dept. of Physiology, Medical School

1970-1973 ***Bochum University, Germany***
- Junior Scientist, Department of Cell Physiology, College of Sciences

Postgraduate Training

1973-1980 University of Heidelberg, Germany, School of Medicine
Special subjects: Molecular Physiology of Movement, Cardiac and Skeletomuscular Mechanics, Energetics and Biochemistry

1977 Visiting Scientist, Department of Biology, University of York, U.K.
1980 Visiting Scientist, Department of Pharmacology, University of Cincinnati, U.S.A.
1981 Visiting Scientist, Department of Physiology, University of Cincinnati, U.S.A.
1984 Postgraduate Program "Management in Research and Development"
Urwick Management Centre, Slough, U.K.
1991 Postgraduate Program "Management of Research and Development", Brunel Business School, Gt. Missenden, U.K.
1994 Sabbatical Molecular Biology, Biotechnology CG Basel, Switzerland

Undergraduate Education and Training:

1967 – 1969 University of Munster, Germany, School of Sciences
1969 – 1972 University of Bochum, Germany, School of Sciences
Special Subjects: Cell Physiology, Biochemistry

Degrees and Qualifications:

1969 *BSc Biology*, University of Munster, Germany
1972 *MSc Biology*, University of Bochum, Germany
Topic: Mechano-Mechanical Feedback in the Heart
1976 *PhD*, University of Heidelberg, Germany
Topic: Stretch Activation in Skeletal and Cardiac Muscle
1980 *DSc (Habilitation, Venia Legendi), Physiology*, University of Heidelberg, Germany
Faculty of Medicine
Topic: Molecular Mechanics of Cell Motility and Inotropism

Grant History:

1968 – 1969 Stipend from the Fritz-ter-Meer-Foundation
1976 – 1980 Project Grant from the German Research Council “Intracellular Regulation of Contractility”
1980 Travel Grant from the German Research Council as Visiting Scientist at Department of Pharmacology, University of Cincinnati, USA (Working Heart Technique)
1980 – 1995 Full Research funded by Sandoz and Ciba-Geigy
1997 – 2000 Research funded by Efroze Chemical Industries for pharmacokinetic studies with antibiotics und anti-inflammatory agents
1997 – 2000 Research funded (incl. personnel) by Efroze Chemical Industries for Investigations on Diltiazem in Cardiac Function and Blood Clotting
2000 – 2003 Research Grant (US Subcommittee B) for a Project investigating cardioplegic und inotropic actions of novel pharmaceutics
2002 – 2003 Research Grant from the US Establishment Fund for a project on myocardial energetics under the influence of novel inotropes
2002 – 2003 Research Grant from the South African Medical Research Council (MRC) for a project with adult stem cells for preventing scar formation after cardiac infarction

Board Memberships:

1977 – 1980 Member of the Board of the Special Research Council "Cardiovascular System", German Research Council
1993 – Member of the Board of the Working Group Pathophysiology of the Swiss Society for Cardiology

1994 – 1996 Member of the Advisory Board of the Kerckhoff-Hospital of the Max-Planck-Institute for Physiological and Clinical Research at Bad Nauheim, Germany
2001 – 2002 Vice President, Physiological Society of Southern Africa
2002 – 2003 Co-Director, Inter-University MRC Cape Heart Group, South Africa
2003 – 2009 Vice President, South West German Association for University Evaluation
2004 – Member of the Advisory Board, Panjwani Ctr. for Molec. Med. & Drug Research
2005 – 2009 Member of the Board of the Association for Education of Educators (AWW)
2005 – 2009 Member of the Board of the Institute for Innovation, Transfer and Consultancy
2006 – 2008 Vice President of the State University Presidents Association
2007 – Member of the Advisory Board, P.C.M.D. Karachi
2008 – 2009 Member of the Board of the Rheinland-Palatinate Stipend Foundation
2011 – Member of the Advisory Board, BioVance Pharmaceuticals
2011 – 2013 Member of the Board, Ethiopian Space Science Society

Memberships in Professional Organizations:

Swiss Pharmacological Society, Swiss Physiological Society, German Physiological Society, German Society for Cardiovascular Research, German Professors' Association (HLB), European Society of Cardiology

Publications: Author of numerous publications in Impact Factor Journals (see list)

Further Activities:

1973-1980 Founding and Organization of the "Working Circle Muscle Research" Heidelberg
1976-1980 Project Leader "Intracellular Regulation of Contractility", granted by German Research Foundation
1977 Production of the Educational Film "Muscle Contraction", Edition Cornelsen-Velhagen and Klasing
1979 Organization of the "8th European Meeting on Muscle and Motility" in Heidelberg
1987 Chairman of the Organizational Board for the International Workshop "The Cardiac Contractile System" in Basel
1992 Chairman of the Organizational Board for the International Workshop "Heart Failure" in Basel
1996-1999 Vice President of the German School Board Karachi, Pakistan
1999 Chairman of the Organizational Board for the International Workshop "Physiology Teaching in the Developing World – Models for Quality Learning" in Karachi, Pakistan
2001-2003 Founding and Organization of the "Triple H Study Group" for the Investigation of African Natural Products as Biologically Active Compounds in Pharmacology
2002 Chairman of the Organizational Board for the "30th Annual Meeting of the Physiology Society of Southern Africa" in Stellenbosch, South Africa
2002-2003 Chairman of the Organizational Board for the Satellite Symposium "Cellular Injury in Ischaemia" of the International Society for Heart Research, 2004, Kruger National Park, South Africa
2006 Member of the Organizational Board for the Symposium "University Financing – Fundraising, Foundations, Sponsoring" in Worms

University Boards:

1996-2000 Chairman, Multidisciplinary Laboratory Committee, Aga Khan University (AKU)
1996-2000 Member, Medical College Faculty Council, AKU

1996-2000 Member, Board of Graduate Studies, AKU
1996-2000 Member, Library Committee, AKU
1996-2000 Member, Seed Grant Committee, AKU
1997-2000 Director, Ph.D. Program Health Sciences, AKU
1997-2000 Member, Capital Equipment Budget Committee, AKU
2000-2003 Member of the Senate, University of Stellenbosch (US)
2000-2003 Member, Faculty Council, Faculty of Sciences, US
2000-2003 Member, Faculty Administration Committee, Faculty of Sciences, US
2000-2003 Coordinator, Human Life Sciences Program, School of Biological Sciences, US
2003-2009 President and Chairman of the Senate, University of Applied Sciences Worms
2011-2013 President and Chairman of the Senate, Mekelle University

Member of Editorial Boards in the Areas of Molecular Medicine, Physiology, Pharmacy and Pharmacology

International Professorships
1998 - Honorary Professorship, HEJ Research Institute of Chemistry
2015 - Visiting Professorship, Syr Syed University of Science and Engineering
2018 - Visiting Professorship, Barrett Hodgson University

Invited Presentations at International Scientific Conferences:

1972: Weidmann Symposium on Cardiac Physiology, Bern, Switzerland
1974: EMBO Meeting on Muscle Structure and Function, Alpbach, Austria
1974: 2nd European Meeting on Muscle and Motility, Budapest, Hungary
1975: 3rd European Meeting on Muscle and Motility, Lenzburg, Switzerland
1975: Joint Meeting German and Austrian Societies of Physiology, Vienna, Austria
1976: Boehringer Symposium on Cardiac Function, Tegernsee, Germany
1977: EMBO Meeting on Muscle Structure and Function, Alpbach, Austria
1979: 7th European Meeting on Muscle and Motility, Salzburg, Austria
1980: 8th European Meeting on Muscle and Motility, Heidelberg, Germany
1980: EMBO Meeting on Muscle Structure and Function, Alpbach, Austria
1981: International Conference on Phosphate and Mineral Metabolism, New York, USA
1981: British Pharmacological Society, London, UK
1983: International Union of Pharmacological Sciences, London, UK
1984: International Conference on Calcium Antagonists, Grenoble, France
1985: International Conference on Inotropic Agents, Sendai, Japan
1986: International Meeting on Muscle Metabolism/Creatine Phosphate, Moscow, USSR
1986: International Conference on Smooth Muscle Regulation, Maria Alm, Austria
1986: International Conference on Calcium Metabolism, Baku, USSR
1987: International Society for Heart Research, Budapest, Hungary
1987: Wollenberger Symposium on Cardiac Function and Metabolism, Berlin, Germany
1988: International Pharmacology Conference, Montreal, Canada
1988: Research Conference of American Pharma Industry, Saddlebrook, USA
1988: International Symposium on Calcium Binding Proteins, Nagoya, Japan
1988: International Conference on Muscle Energetics, Yufuin, Japan
1990: International Conference on Inotropic Agents, Hamburg, Germany
1991: International Symposium on Heart Failure, Gargellen, Austria
1991: International Society for Heart Research, Louvain, Belgium

1992: International Symposium on Inotropic Stimulation, London, UK
1992: Satellite Meeting on Cardiac Function, Sapporo, Japan
1993: International Society for Heart Research, Jerusalem, Israel
1993: European Society of Cardiology, Nice, France
1994: International Conference on Inotropic Agents, Hamburg, Germany
1994: Gordon Conference on Cardiac Regulatory Mechanisms, Newport, USA
1996: International Symposium on Higher Education, Karachi, Pakistan
1997: International Conference on Pharmaceutical Sciences, Karachi, Pakistan
1997: International Congress for Integrating the Methods of Healing, Colombo, Sri Lanka
1998: Meeting of the German and Skandinavian Physiological Societies, Hamburg, Germany
1998: Meeting of the German Society for Cardiovascular Research, Leipzig, Germany
1999: 12th Asian Pacific Congress of Cardiology, Lahore, Pakistan
2000: Meeting "Cardiology at the Limits", Cape Town, South Africa
2001: Meeting of the Southern African Cardiac Society, Sun City, South Africa
2001: Meeting of the Internat. Union of Physiological Sciences, Christchurch, New Zealand
2001: Satellite Meeting of ISHR on Models in Cardiovascular Research, Brisbane, Australia
2002: Meeting of the Southern African Cardiac Society, Stellenbosch, South Africa
2004: Satellite Meeting of ISHR on Cellular Injury in Ischaemia, Kruger Park, South Africa
2007: International Workshop on Molecular Medicine and Drug Research, Karachi, Pakistan
2007: International Workshop: Fundraising, Sponsoring, Foundations, Worms, Germany

List of Publications

INVITED REVIEW ARTICLES

Herzig, J.W.
Cellular Factors Controlling Myocardial Performance. *Sandorama* II, 13-18, 1982 (also in French and German)

Herzig, J.W.
The Role of Calcium Ions in the Regulation of Myocardial Contractility. *Triangle* 22, 31-37, 1983 (auch in Französisch und Deutsch)

Herzig, J.W.
Contractile Proteins: Possible Targets for Drug Action. *Trends Pharmacol. Sci.* 5, 296-300, 1984.

Herzig, J.W.
Calcium Ions and the Electromechanical Coupling in the Heart. *Triangle* 24, 115-118, 1985 (also in French and German)

Herzig, J.W., Rüegg, J.C. and Solaro, R.J.
Myocardial Excitation-Contraction Coupling as Influenced through Modulation of the Calcium Sensitivity of the Contractile Proteins. *Heart Failure,* January Issue, 244-250, 1991.

Herzig, J.W.
Inotropic Concepts: A Critical Comparison. *Academy of Pharmaceutical Sciences Press* (In Preparation)

FULL PAPER PUBLICATIONS

Herzig, J.W. and Herzig, U.B.
Effects of Calcium Ions on Contraction Speed and Force Generation in Glycerinated Heart Muscle. *Symp. Biol. Hung.* 17, 85-88, 1974.

Rüegg, J.C., Kuhn, H.J., **Herzig, J.W.** and Dickhaus, H.
Effect of Calcium Ions and ATP on the Series Elasticity of Glycerol Extracted Muscle Fibres. Symp. Biol. Hung. 17, 53-55, 1974.

Rüegg, J.C., Kuhn, H.J., **Herzig, J.W.** and Dickhaus, H.
Effect of Calcium Ions on Force Generation and Elastic Properties of Briefly Glycerinated Muscle Fibres. In: Calcium Transport in Contraction and Secretion, p. 547-554, Eds: Carafoli, E. et al., North Holland Publ. Comp. Amsterdam 1975.

Beinbrech, G., Kuhn, H.J., **Herzig, J.W.** and Rüegg, J.C.
Evidence for Two Attached Myosin Cross Bridge States of Different Potential Energy. Cytobiologie 12, 385-396, 1976.

Herzig, J.W. and Rüegg, J.C.
Myocardial Cross Bridge Activity and its Regulation by Calcium, Phosphate and Stretch. In: Myocardial Failure, p. 41-51, Eds.: Riecker, G. et al., Springer Berlin Heidelberg New York, 1977.

Herzig, J.W.
A Model of Stretch Activation Based on Stiffness Measurements in Glycerol Extracted Insect Fibrillar Flight Muscle. In: Insect Flight Muscle, p. 209-219, Ed.: Tregear, R.T., North Holland Publ. Comp. Amsterdam, 1977.

Reiermann, H.J., **Herzig, J.W.** and Rüegg, J.C.
Ca Activation of ATPase Activity, ATP - Pi Exchange and Tension in Briefly Glycerinated Heart Muscle. *Basic Res. Cardiol*. 72, 133-139, 1977.

Yamamoto, T. and **Herzig, J.W.**
Series Elastic Properties of Skinned Muscle Fibres in Contraction and Rigor. *Pfluger's Arch. Eur. J. Physiol.* 373, 21-24, 1978.

Güth, K., Kuhn, H.J., **Herzig, J.W.** and Ruegg, J.C.
Evidence for Cross Bridge Slippage in a Stretched Muscle Fibre. *Experientia* 34, 1183-1184, 1978.

Herzig, J.W.
A Cross Bridge Model for Inotropism as Revealed by Stiffness Measurements in Cardiac Muscle. *Basic Res. Cardiol.* 73, 273-286, 1978.

Rüegg, J.C., Güth, K., Kuhn, H.J., **Herzig, J.W.,** Griffiths, P.J. and Yamamoto, T.
Muscle Stiffness in Relation to Tension Development of Skinned Striated Muscle Fibres. In: Cross Bridge Mechanism in Muscle Contraction, Eds.: Sugi, H. and Pollack, G.H., University of Tokyo Press Tokyo, 1979.

Herzig, J.W. and Rüegg, J.C.
Investigation on Glycerinated Cardiac Muscle Fibres in Relation to the Problem of Regulation of Cardiac Contractility-Effects of Ca and cAMP. *Basic Res. Cardiol.* 75, 26-33, 1980.

Solaro, R.J., Holroyde, M.J., **Herzig, J.W.** and Peterson, J.W.
Cardiac Relaxation and Myofibrillar Interactions with Phosphate and Vanadate. *Europ. Heart J.* 1, 21-27, 1980.

Herzig, J.W., Peterson, J.W, Rüegg, J.C. and Solaro, R.J.
Vanadate and Phosphate Ions Reduce Tension and Increase Cross Bridge Kinetics in Chemically Skinned Heart Muscle. *Biochim. Biophys. Acta* 672, 191-196, 1981.

Herzig, J.W., Yamamoto, T. and Rüegg, J.C.
Dependence of Force and Immediate Stiffness on Sarcomere Length and Ca Activation in Frog Skinned Muscle Fibres. *Pflugers Arch. Eur. J. Physiol.* 389, 97-103, 1981.

Herzig, J.W., Feile, K. and Rüegg, J.C.
Activating Effects of AR - L 115 BS on the Ca Sensitive Force, Stiffness and Unloaded Shortening Velocity (Vmax) in Isolated Contractile Structures from Mammalian Heart Muscle. *Arzneim. Forsch./ Drug Res.* 31, 188-191, 1981.

Herzig, J.W., Kohler, G., Pfitzer, G. Rüegg, J.C. and Wölffle, G.
Cyclic AMP Inhibits Contractility of Detergent Treated Glycerol Extracted Cardiac Muscle. *Pflugers Arch. Eur. J. Physiol.* 391, 208-212, 1981.

Herzig, J.W., Peterson, J.W., Solaro, R.J. and Rüegg, J.C.
Phosphate and Vanadate Reduce the Efficiency of the Chemo - Mechanical Energy Transformation in Cardiac Muscle. *Adv. Exp. Med. Biol.* 151, 267-281, 1982.

Herzig, J.W.
Contractile Proteins: Possible targets for Drug Action. In: Receptors, Again, p. 290-297, Eds.: J.W. Lamble, A.C. Abbott, Elsevier Amsterdam New York Oxford, 1984.

Scholtysik, G., Salzmann, R., Berthold, R., **Herzig, J.W.,** Quast, U. and Markstein, R.
DPI 201 - 106, a Novel Cardioactive Agent. Combination of cAMP-Independent Positive Inotropic, Negative Chronotropic, Action Potential Prolonging and Coronary Dilatory Properties. *Naunyn - Schmiedeberg's Arch. Pharmacol.* 329, 316-325, 1985.

Salzmann, R., Bormann, G., **Herzig, J.W.,** Markstein, R. and Scholtysik, G.
Pharmacological Actions of APP 201 - 533, a Novel Cardiotonic Agent. *J. Cardiovasc. Pharmacol.* 7, 588-596, 1985.

Kohlhardt, M., Fröbe, U. and **Herzig, J.W.**
Modification of Single Cardiac Na Channels by DPI 201-106. *J. Membr. Biol.* 89, 163-172, 1986.

Kohlhardt, M., Fröbe, U. and **Herzig, J.W.**
Properties of Normal and Non-Inactivating Single Cardiac Na Channels. *Proc. Roy. Soc.* (Lond) B232, 71-93, 1987.

Kohlhardt, M., Fröbe, U. and **Herzig, J.W.**
Removal of Inactivation and Blockade of Cardiac Na Channels by DPI 201-106: Different Voltage-Dependencies of the Drug Actions. *Naunyn-Schmiedeberg's Arch. Pharmacol.* 335, 183-188, 1987.

Tkachuk, V.A., Baldenkov, G.N., Feoktistov, I.A., Yu.Men'shikov, M., Quast, U. and **Herzig, J.W.**
Metofenazate as a More Selective Calmodulin Inhibitor than Trifluoperazine. *Arzneim. Forsch./Drug Res.* 37, 1013-1017, 1987.

Herzig, J.W., Gerber, W. and Salzmann, R.
Heart Failure and Ca Activation of the Cardiac Contractile System: Hereditary Cardiomyopathy in Hamsters (BIO 14.6), Isoprenaline Overload and the Effect of APP 201-533. *Basic Res. Cardiol.* 82, 326-340, 1987.

Herzig, J.W., Tkachuk, V.A., Baldenkov, G.N., Feoktistov, I.A., Yu Men'shikov, M. and Quast, U.
Calmodulin and Troponin C as Targets for Drug Action. *Biomed. Biochim. Acta* 46, 440-443, 1987.

Kohlhardt, M., Fichtner, H., Fröbe, U. and **Herzig, J.W.**
On the Mechanism of Drug-Induced Blockade of Na Currents: Interaction of Antiarrhythmic Compounds with DPI-Modified Single Cardiac Na Channels. *Circ. Res.* 64, 867-881, 1989.

Herzig, J.W., Botelho, L.H. and Solaro, R.J.
Myofibrillar Ca Activation and Heart Failure-Ca Sensitization by the Cardiotonic Agent APP 201-533. *Basic Res. Cardiol.* 84, (Suppl. 1), 117-124, 1989.

Ngai, P.K., Trueb, T. and **Herzig, J.W.**
Purification of Native Cardiac Thin Filament and its Activation of Cardiac Myosin Mg - ATPase. In: Sarcomeric and Non-Sarcomeric Muscles: Basic and Applied Research Prospects for the 90's, pp. 293-298; Ed.: U. Carraro, Padova, 1989.

Herzig, J.W. and Ngai, P.K.
Modulation of Calcium Sensitivity of the Cardiac Contractile System: Drug Interactions at the Myofilament Level? *Progr. Clin. Biol. Res.* 315, 600-601, 1989.

Kohlhardt, M., Fichtner, H. and **Herzig, J.W.**
The Response of Single Cardiac Sodium Channels in Neonatal Rats to the Dihydropyridines CGP 28392 and (-) Bay K 8644. *Naunyn-Schmiedeberg's Arch. Pharmacol.* 340, 210-218, 1989.

Herzig, J.W. and Kohlhardt, M.
Na Channel Blockade by Cyclic AMP and Other 6-Aminopurines in Neonatal Rat Heart. *J. Membr. Biol.* 119, 163-170, 1991.

Herzig, J.W. and Quast, U.
On the Role of Calcium Binding Proteins as Possible Targets for Calcium Sensitizing Agents. *Z. Kardiol.* 81, (Suppl. 4,), 49-55, 1992.

Benz, I., **Herzig, J.W.** and Kohlhardt, M.
Opposite Effects of Angiotensin II and the Protein Kinase C Activator OAG on Cardiac Na Channels. *J. Membr. Biol.* 130, 183-190, 1992.

Leijendekker, W.J. and **Herzig, J.W.**
Reduction of Myocardial Cross-Bridge Turnover Rate in Presence of EMD 53998, a Novel Ca Sensitizing Agent. *Pfluger's Arch. Eur. J. Physiol.* 421, 388-390, 1992.

Herzig, J.W., Depersin, H. and Leijendekker, W.J.
Mycordial Calcium Sensitivity and Energy Turnover as Modulated by Inorganic Phosphate and EMD 53998, a Novel Inotropic Agent. In: New Aspect in Treatment of Failing Heart, Eds.: Yasuda, H. and Morgan, H.E., Springer Tokyo, 1992, pp. 128-132.

Böhm, M., **Herzig, J.W.,** Meyer, W., Mügge, A., Schmitz, W. and Scholz, H.
Effects of the Alpha1 Adrenoceptor Agonist Phenylephrine in Pig Heart - Study of the Direct Action on Contractile Proteins. *Arzneim. Forsch./Drug Res.* 43, 432-435, 1993.

Herzig, J.W.
Physiological and Pathophysiological Aspects of Myocardial Calcium Sensitivity (in Japanese). In: Calcium-Sensitizers-A New Approach to Inotropic Therapy? P. 4-10, Eds.: S.H. Taylor, J.G. Papp, L. Storstein, Adis International Osaka, 1994.

Herold, P., **Herzig, J.W.,** Wenk, P., Leutert, T., Zbinden, P., Fuhrer, W., Stutz, S., Schenker, K., Meier, M. and Rihs, G.
5-Methyl-6-phenyl-1,3,5,6-tetrahydro-3,6-methano-1,5-benzodiazocine-2,4-dione (BA 41899): Representative of a Novel Class of Purely Calcium Sensitizing Agents. *J. Med. Chem.* 38, 2946-2954, 1995.

Palmer, S., Di Bello, S. and **Herzig, J.W.**
The Effects of EMD 57033 on Rigor Tension in Porcine Skinned Cardiac Trabecula. *Eur. J. Pharmacol.* 294, 83-90, 1995.

Herzig, J.W., Chiesi, M., Depersin, H., Grüninger, S., Hasenfuss, G., Kubalek, R., Leutert, T., Pieske, B., Pioch, K., Wenk, P. and Holubarsch, C.
Ca Sensitization in Idiopathic Dilated Human Myocardium: Differential in vitro Effects of (+)-(5-methyl-6-phenyl)-1,3,5,6-tetrahydro-3,6-methano-1,5-benzodiazocine-2,4-dione, a Novel Purely Ca Sensitizing Agent, and (+)-5-(1-(3,4-dimethoxybenzoyl)-1,2,3,4-tetrahydroquinolin-6-yl)-6-methyl-3,6-dihydro-2H-1,3,4-thiadiazin-2-one on Skinned Fibres and Isolated Ventricular Strips. *Arzneim. Forsch./Drug Res.* 46, 586-593, 1996.

Zimmermann, N., Boknik, P., Gams, E., **Herzig, J.W.,** Neumann, J., Schmitz, W., Scholz, H. and Wenzlaff, H.
Positive Inotropic Effects of the Calcium Sensitizer CGP 48506 in Guinea Pig Myocardium. *J. Pharmacol. Exp. Ther.* 277, 1572-1578, 1996.

Neumann, J., Eschenhagen, T., Grupp, I.L., Haverich, A., **Herzig, J.W.,** Hirt, S., Kalmar, P., Schmitz, W., Scholz, H., Stein, B., Wenzlaff, H. and Zimmermann, N.
Positive Inotropic Effects of the Calcium Sensitizer CGP 48506 in Failing Human Myocardium. *J. Pharmacol. Exp. Ther.* 277, 1579-1585, 1996.

Palmer, S., Di Bello, S., Davenport, S.L. and **Herzig, J.W.**
The Novel Inotropic Agent CGP 48506 Alters Force Primarily by Ca Independent Mechanisms in Porcine Skinned Trabecula. *Cardiovasc. Res.* 32, 411-421, 1996.

Akhlaque-un-Nabi Khan and **Herzig, J.W.**
Rational Drug Therapy, In: *Medicines for the Nation, Editor, Najib Khan*, 97-107, 1996.

Herzig, J.W.
Science, Technology, and the Market. In: Higher Education – A Pathway to Development, 321-324; Eds.: Talati, J. et al., *Oxford University Press*, 1998.

Zimmermann, N., Boknik, P., Gams, E., **Herzig, J.W.**, Neumann, J. and Scholz, H.
Calcium Sensitization as New Principle of Inotropic Therapy in End-Stage Heart Failure ? *Eur. J. Cardiothor. Surg.* 14, 70–75, 1998.

Löwe, H., Baeger, J., Knoll, A. and **Herzig, J.W.**
Ca Sensitization of Myocardial Force and Actomyosin ATPase by (D-Ala2, Met5) Enkephalinamide (DALA). *Arzneimittelforsch. / Drug Res.* 49, 297-303, 1999.

Gilani, A.H., Janbaz, K.H., Aziz, N., Herzig, M.J.U., Kazmi, M.M., Choudhary, M.I. and **Herzig, J.W.**
Possible Mechanism of Action of Selected Inotropic Activity of the n-Butanolic Fraction from Berberis aristata Fruit. *Gen. Pharmacol*. 33, 407-414, 1999.

Hafeezullah, Karira, K.A., Khatri, N.A. and **Herzig, J.W.**
Hypomagnesaemia Related to Lipids and Lipoproteins in Hypertension. *PAF Med. J.* 49, 11-14, 1999.

Gilani, A.H., Aziz, N., Khan, M.A., Shaheen, F., Sabeen, Q., Siddiqui, B.S. and **Herzig, J.W.**
Ethnopharmacological Studies on the Anticonvulsant, Sedative and Antispasmodic Activities of Lavandula stoechas L. *J. Ethnopharmacol.* 71, 161-167, 2000.

Hafeezullah, Karira, K.A., **Herzig, J.W.** and Khatri, N.A.
Magnesium in Ischaemic Heart Disease. *PAF Med. J.* 50, 14-16, 2000

Herzig, J.W.
New Treatment Paradigms in Heart Failure and Hypertension: The Val-HeFT Impact. Editorial. *MD-online* June/July, 3-4, 2001

Weinberg, E.O. and **Herzig, J.W.**
Management of Hypertension and Heart Failure with AT1 Receptor Blockade. *JPMA* 51, 81-85, 2001

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