# Matti Vornanen

## List of Publications by Year in Descending Order



| | | | |
|---|---|---|---|
| 89 papers | 2,102 citations | 26 h-index | 40 g-index |
| 92 ext. papers | 2,368 ext. citations | 2.9 avg, IF | 5.5 L-index |

| # | Paper | IF | Citations |
|---|---|---|---|
| 89 | Temperature dependence of SERCA activity in thermally acclimated freshwater mussels Anodonta anatina and Unio tumidus (Bivalvia: Unionidae). *Aquaculture*, **2022**, 555, 738188 | 4.4 | |
| 88 | Ionic currents underlying different patterns of electrical activity in working cardiac myocytes of mammals and non-mammalian vertebrates.. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2022**, 111204 | 2.6 | 1 |
| 87 | Effects of Na+ channel isoforms and cellular environment on temperature tolerance of cardiac Na+ current in zebrafish (Danio rerio) and rainbow trout (Oncorhynchus mykiss). *Journal of Experimental Biology*, **2021**, 224, | 3 | 1 |
| 86 | Effects of acute warming on cardiac and myotomal sarco(endo)plasmic reticulum ATPase (SERCA) of thermally acclimated brown trout (Salmo trutta). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2021**, 191, 43-53 | 2.2 | 2 |
| 85 | Ionic basis of atrioventricular conduction: ion channel expression and sarcolemmal ion currents of the atrioventricular canal of the rainbow trout (Oncorhynchus mykiss) heart. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2021**, 191, 327-346 | 2.2 | 3 |
| 84 | Cardiac Toxicity of Cadmium Involves Complex Interactions Among Multiple Ion Currents in Rainbow Trout (Oncorhynchus mykiss) Ventricular Myocytes. *Environmental Toxicology and Chemistry*, **2021**, 40, 2874-2885 | 3.8 | 0 |
| 83 | Reduced ventricular excitability causes atrioventricular block and depression of heart rate in fish at critically high temperatures. *Journal of Experimental Biology*, **2020**, 223, | 3 | 21 |
| 82 | Feeling the heat: source-sink mismatch as a mechanism underlying the failure of thermal tolerance. *Journal of Experimental Biology*, **2020**, 223, | 3 | 14 |
| 81 | Temperature and external K dependence of electrical excitation in ventricular myocytes of cod-like fishes. *Journal of Experimental Biology*, **2019**, 222, | 3 | 9 |
| 80 | Polycyclic Aromatic Hydrocarbons Phenanthrene and Retene Modify the Action Potential via Multiple Ion Currents in Rainbow Trout Oncorhynchus mykiss Cardiac Myocytes. *Environmental Toxicology and Chemistry*, **2019**, 38, 2145-2153 | 3.8 | 13 |
| 79 | Transcript expression of inward rectifier potassium channels of Kir2 subfamily in Arctic marine and freshwater fish species. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2019**, 189, 735-749 | 2.2 | 2 |
| 78 | Cardiac voltage-gated sodium channel expression and electrophysiological characterization of the sodium current in the zebrafish (Danio rerio) ventricle. *Progress in Biophysics and Molecular Biology*, **2018**, 138, 59-68 | 4.7 | 11 |
| 77 | Effects of seasonal acclimatization on thermal tolerance of inward currents in roach (Rutilus rutilus) cardiac myocytes. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2018**, 188, 255-269 | 2.2 | 8 |
| 76 | Expression of calcium channel transcripts in the zebrafish heart: dominance of T-type channels. *Journal of Experimental Biology*, **2018**, 221, | 3 | 15 |
| 75 | Transcripts of Kv7.1 and MinK channels and slow delayed rectifier K current (I) are expressed in zebrafish (Danio rerio) heart. *Pflugers Archiv European Journal of Physiology*, **2018**, 470, 1753-1764 | 4.6 | 13 |
| 74 | Electrical excitability of roach ( Rutilus rutilus) ventricular myocytes: effects of extracellular K, temperature, and pacing frequency. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2018**, 315, R303-R311 | 3.2 | 7 |
| 73 | Na/K-ATPase activity in the anoxic turtle (Trachemys scripta) brain at different acclimation temperature. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2017**, 206, 11-16 | 2.6 | 15 |

| | | | |
|---|---|---|---|
| 72 | Maximum heart rate in brown trout (Salmo trutta fario) is not limited by firing rate of pacemaker cells. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2017**, 312, R165-R171 | 3.2 | 13 |
| 71 | Effects of seasonal acclimatization on action potentials and sarcolemmal K currents in roach (Rutilus rutilus) cardiac myocytes. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2017**, 205, 15-27 | 2.6 | 11 |
| 70 | Electrical Excitability of the Fish Heart and Its Autonomic Regulation. *Fish Physiology*, **2017**, 36, 99-153 | 2 | 15 |
| 69 | Effects of prolonged anoxia on electrical activity of the heart in crucian carp (Carassius carassius). *Journal of Experimental Biology*, **2017**, 220, 445-454 | 3 | 12 |
| 68 | Small functional current in sinoatrial pacemaker cells of the brown trout () heart despite strong expression of HCN channel transcripts. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2017**, 313, R711-R722 | 3.2 | 8 |
| 67 | Seasonal changes of cholinergic response in the atrium of Arctic navaga cod (Eleginus navaga). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2017**, 187, 329-338 | 2.2 | 13 |
| 66 | The temperature dependence of electrical excitability in fish hearts. *Journal of Experimental Biology* , **2016**, 219, 1941-52 | 3 | 51 |
| 65 | Glycogen dynamics of crucian carp (Carassius carassius) in prolonged anoxia. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2016**, 186, 999-1007 | 2.2 | 7 |
| 64 | Zebrafish heart as a model for human cardiac electrophysiology. *Channels*, **2016**, 10, 101-10 | 3 | 79 |
| 63 | Deltamethrin is toxic to the fish (crucian carp, Carassius carassius) heart. *Pesticide Biochemistry and Physiology*, **2016**, 129, 36-42 | 4.9 | 27 |
| 62 | Lowering Temperature is the Trigger for Glycogen Build-Up and Winter Fasting in Crucian Carp (Carassius carassius). *Zoological Science*, **2016**, 33, 83-91 | 0.8 | 8 |
| 61 | Molecular basis and drug sensitivity of the delayed rectifier (IKr) in the fish heart. *Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology*, **2015**, 176-177, 44-51 | 3.2 | 6 |
| 60 | Inward rectifier potassium current (I K1) and Kir2 composition of the zebrafish (Danio rerio) heart. *Pflugers Archiv European Journal of Physiology*, **2015**, 467, 2437-46 | 4.6 | 25 |
| 59 | Seasonal acclimatization of the cardiac potassium currents (IK1 and IKr) in an arctic marine teleost, the navaga cod (Eleginus navaga). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2015**, 185, 883-90 | 2.2 | 23 |
| 58 | A new potassium ion current induced by stimulation of M2 cholinoreceptors in fish atrial myocytes. *Journal of Experimental Biology*, **2014**, 217, 1745-51 | 3 | 5 |
| 57 | Seasonal acclimatization of the cardiac action potential in the Arctic navaga cod (Eleginus navaga, Gadidae). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2014**, 184, 319-27 | 2.2 | 16 |
| 56 | Species- and chamber-specific responses of 12 kDa FK506-binding protein to temperature in fish heart. *Fish Physiology and Biochemistry*, **2014**, 40, 539-49 | 2.7 | 10 |
| 55 | Effects of deltamethrin on excitability and contractility of the rainbow trout (Oncorhynchus mykiss) heart. *Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology*, **2014**, 159, 1-9 | 3.2 | 8 |

| | | | |
|---|---|---|---|
| 54 | Inhibition of the cardiac ATP-dependent potassium current by KB-R7943. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2014**, 175, 38-45 | 2.6 | 14 |
| 53 | Electrical excitability of the heart in a Chondrostei fish, the Siberian sturgeon (Acipenser baerii). *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2014**, 307, R1157-66 | 3.2 | 6 |
| 52 | Electrical excitation of the heart in a basal vertebrate, the European river lamprey (Lampetra fluviatilis). *Physiological and Biochemical Zoology*, **2014**, 87, 817-28 | 2 | 13 |
| 51 | Acute heat tolerance of cardiac excitation in the brown trout (Salmo trutta fario). *Journal of Experimental Biology*, **2014**, 217, 299-309 | 3 | 50 |
| 50 | Comparison of Smoltification in Atlantic Salmon (Salmo salar) from Anadromous and Landlocked Populations Under Common Garden Conditions. *Annales Zoologici Fennici*, **2013**, 50, 1-15 | 0.9 | 18 |
| 49 | Temperature dependence of sarco(endo)plasmic reticulum Ca2+ ATPase expression in fish hearts. *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2013**, 183, 467-76 | 2.2 | 17 |
| 48 | Inhibition of the cardiac inward rectifier potassium currents by KB-R7943. *Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology*, **2013**, 158, 181-6 | 3.2 | 8 |
| 47 | A significant role of sarcoplasmic reticulum in cardiac contraction of a basal vertebrate, the river lamprey (Lampetra fluviatilis). *Acta Physiologica*, **2013**, 207, 269-79 | 5.6 | 12 |
| 46 | Comparison of Gene Expression in the Gill of Salmon (Salmo salar) Smolts from Anadromous and Landlocked Populations. *Annales Zoologici Fennici*, **2013**, 50, 16-35 | 0.9 | 15 |
| 45 | Expression of SERCA and phospholamban in rainbow trout (Oncorhynchus mykiss) heart: comparison of atrial and ventricular tissue and effects of thermal acclimation. *Journal of Experimental Biology*, **2012**, 215, 1162-9 | 3 | 31 |
| 44 | Tetrodotoxin sensitivity of the vertebrate cardiac Na+ current. *Marine Drugs*, **2011**, 9, 2409-22 | 6 | 25 |
| 43 | Seasonality of glycogen phosphorylase activity in crucian carp (Carassius carassius L.). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2011**, 181, 917-26 | 2.2 | 9 |
| 42 | Body mass dependence of glycogen stores in the anoxia-tolerant crucian carp (Carassius carassius L.). *Die Naturwissenschaften*, **2011**, 98, 225-32 | 2 | 16 |
| 41 | Thermal adaptation of the crucian carp (Carassius carassius) cardiac delayed rectifier current, IKs, by homomeric assembly of Kv7.1 subunits without MinK. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2011**, 301, R255-65 | 3.2 | 9 |
| 40 | Sinoatrial tissue of crucian carp heart has only negative contractile responses to autonomic agonists. *BMC Physiology*, **2010**, 10, 10 | 0 | 17 |
| 39 | Comparison of sarcoplasmic reticulum calcium content in atrial and ventricular myocytes of three fish species. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2009**, 297, R1180-7 | 3.2 | 23 |
| 38 | Expression of calsequestrin in atrial and ventricular muscle of thermally acclimated rainbow trout. *Journal of Experimental Biology*, **2009**, 212, 3403-14 | 3 | 17 |
| 37 | Responses of action potential and K+ currents to temperature acclimation in fish hearts: phylogeny or thermal preferences?. *Physiological and Biochemical Zoology*, **2009**, 82, 468-82 | 2 | 65 |

| | | | |
|---|---|---|---|
| 36 | Chapter 9 The Anoxia-Tolerant Crucian Carp (Carassius Carassius L.). *Fish Physiology*, **2009**, 27, 397-441 | 2 | 40 |
| 35 | A novel inwardly rectifying K+ channel, Kir2.5, is upregulated under chronic cold stress in fish cardiac myocytes. *Journal of Experimental Biology*, **2008**, 211, 2162-71 | 3 | 27 |
| 34 | Seasonal acclimatization of brain lipidome in a eurythermal fish (Carassius carassius) is mainly determined by temperature. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2008**, 294, R1716-28 | 3.2 | 20 |
| 33 | Effect of temperature and prolonged anoxia exposure on electrophysiological properties of the turtle (Trachemys scripta) heart. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2007**, 293, R421-37 | 3.2 | 22 |
| 32 | Cloning and expression of cardiac Kir2.1 and Kir2.2 channels in thermally acclimated rainbow trout. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2007**, 292, R2328-39 | 3.2 | 21 |
| 31 | Temperature acclimation modifies sinoatrial pacemaker mechanism of the rainbow trout heart. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2007**, 292, R1023-32 | 3.2 | 56 |
| 30 | Seasonal changes in glycogen content and Na+-K+-ATPase activity in the brain of crucian carp. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2006**, 291, R1482-9 | 3.2 | 31 |
| 29 | Temperature and Ca2+ dependence of [3H]ryanodine binding in the burbot (Lota lota L.) heart. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2006**, 290, R345-51 | 3.2 | 19 |
| 28 | Significance of Na+ current in the excitability of atrial and ventricular myocardium of the fish heart. *Journal of Experimental Biology*, **2006**, 209, 549-57 | 3 | 28 |
| 27 | Sarcolemmal ion currents and sarcoplasmic reticulum Ca2+ content in ventricular myocytes from the cold stenothermic fish, the burbot (Lota lota). *Journal of Experimental Biology*, **2006**, 209, 3091-100 | 3 | 34 |
| 26 | A mutation of ion-conducting pore without effect on ion selectivity of the sodium channel. *Acta Physiologica Scandinavica*, **2005**, 185, 257 | | |
| 25 | Steady-state effects of temperature acclimation on the transcriptome of the rainbow trout heart. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2005**, 289, R1177-84 | 3.2 | 87 |
| 24 | Temperature acclimation modifies Na+ current in fish cardiac myocytes. *Journal of Experimental Biology*, **2004**, 207, 2823-33 | 3 | 36 |
| 23 | Seasonality of dihydropyridine receptor binding in the heart of an anoxia-tolerant vertebrate, the crucian carp (Carassius carassius L.). *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2004**, 287, R1263-9 | 3.2 | 15 |
| 22 | Regulation of action potential duration under acute heat stress by I(K,ATP) and I(K1) in fish cardiac myocytes. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2004**, 286, R405-15 | 3.2 | 19 |
| 21 | Does different thyroid state effect on the contractility of the cardiac muscle of eurythermal fish species, rainbow trout (Oncorhynchus mykiss, Walbaum)?. *Journal of Thermal Biology*, **2003**, 28, 35-42 | 2.9 | 11 |
| 20 | Temperature-dependent expression of sarcolemmal K(+) currents in rainbow trout atrial and ventricular myocytes. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2002**, 282, R1191-9 | 3.2 | 54 |
| 19 | The force-frequency relationship in fish hearts--a review. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2002**, 132, 811-26 | 2.6 | 94 |

| | | | |
|---|---|---|---|
| 18 | Plasticity of excitation-contraction coupling in fish cardiac myocytes. *Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology*, **2002**, 132, 827-46 | 2.6 | 118 |
| 17 | The induction of an ATP-sensitive K(+) current in cardiac myocytes of air- and water-breathing vertebrates. *Pflugers Archiv European Journal of Physiology*, **2002**, 444, 760-70 | 4.6 | 26 |
| 16 | Electrophysiological properties of rainbow trout cardiac myocytes in serum-free primary culture. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **2002**, 282, R1200-9 | 3.2 | 10 |
| 15 | Regulation of cardiac contractility in a cold stenothermal fish, the burbotLota lotaL.. *Journal of Experimental Biology*, **2002**, 205, 1597-1606 | 3 | 49 |
| 14 | Temperature dependence of cardiac sarcoplasmic reticulum function in rainbow trout myocytes. *Journal of Experimental Biology*, **2002**, 205, 3631-3639 | 3 | 39 |
| 13 | Effects of temperature on intracellular [Ca2+] in trout atrial myocytes. *Journal of Experimental Biology*, **2002**, 205, 3641-3650 | 3 | 38 |
| 12 | Regulation of cardiac contractility in a cold stenothermal fish, the burbot Lota lota L. *Journal of Experimental Biology*, **2002**, 205, 1597-606 | 3 | 34 |
| 11 | Temperature dependence of cardiac sarcoplasmic reticulum function in rainbow trout myocytes. *Journal of Experimental Biology*, **2002**, 205, 3631-9 | 3 | 24 |
| 10 | Effects of temperature on intracellular Ca2+ in trout atrial myocytes. *Journal of Experimental Biology*, **2002**, 205, 3641-50 | 3 | 30 |
| 9 | Cold acclimation increases basal heart rate but decreases its thermal tolerance in rainbow trout (Oncorhynchus mykiss). *Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology*, **2001**, 171, 173-9 | 2.2 | 76 |
| 8 | Effects of acute anoxia on heart function in crucian carp: importance of cholinergic and purinergic control. *American Journal of Physiology - Regulatory Integrative and Comparative Physiology*, **1999**, 277, R465-75 | 3.2 | 19 |
| 7 | Effects of thermal acclimation on the relaxation system of crucian carp white myotomal muscle. *The Journal of Experimental Zoology*, **1999**, 284, 241-251 | | 13 |
| 6 | Excitation-contraction coupling of the developing rat heart. *Molecular and Cellular Biochemistry*, **1996**, 163-164, 5-11 | 4.2 | 14 |
| 5 | Fiber types and myosin heavy chain composition in muscles of common shrew (Sorex araneus). *The Journal of Experimental Zoology*, **1995**, 271, 27-35 | | 21 |
| 4 | Seasonal adaptation of crucian carp (Carassius carassius L.) heart: glycogen stores and lactate dehydrogenase activity. *Canadian Journal of Zoology*, **1994**, 72, 433-442 | 1.5 | 37 |
| 3 | Effect of Season and Temperature Acclimation on the Function of Crucian Carp (Carassius Carassius) Heart. *Journal of Experimental Biology*, **1992**, 167, 203-220 | 3 | 73 |
| 2 | Regulation of contractility of the fish (Carassius carassius L.) heart ventricle. *Comparative Biochemistry and Physiology Part C: Comparative Pharmacology*, **1989**, 94, 477-483 | | 28 |
| 1 | Depression of heart rate in fish at critically high temperatures is due to atrioventricular block | | 2 |