

### **The absence of active creatine kinase system influences cardiac calcium handling**

**Laasmaa, Martin; Branovets, Jelena; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko** Biophysical journal 2019 / Poster 484 ; p. 96a <https://doi.org/10.1016/j.bpj.2018.11.558>

### **Altered calcium handling in cardiomyocytes from arginine-glycine amidinotransferase-knockout mice is rescued by creatine**

**Laasmaa, Martin; Branovets, Jelena; Barsunova, Karina; Karro, Niina; Lygate, Craig A.; Birkedal Nielsen, Rikke; Vendelin, Marko** American journal of physiology-heart and circulatory physiology 2020 / p. H805-H825 <https://doi.org/10.1152/ajpheart.00300.2020>  
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Analysis of molecular movement reveals latticelike obstructions to diffusion in heart muscle cells**

**Illaste, Ardo; Laasmaa, Martin; Peterson, Pearu; Vendelin, Marko** Biophysical journal 2012 / p. 739-748 : ill <https://www.sciencedirect.com/science/article/pii/S0006349512000859>

### **Cardiac expression and location of hexokinase changes in a mouse model of pure creatine deficiency**

**Branovets, Jelena; Karro, Niina; Barsunova, Karina; Laasmaa, Martin; Lygate, Craig A.; Vendelin, Marko; Birkedal Nielsen, Rikke** American journal of physiology-heart and circulatory physiology 2021 / p. H613-H629 <https://doi.org/10.1152/ajpheart.00188.2020>  
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Cardiomyocytes from female compared to male mice have larger ryanodine receptor clusters and higher calcium spark frequency**

**Laasmaa, Martin; Branovets, Jelena; Stolova, Jekaterina; Shen, Xin; Rätsepso, Triinu; Balodis, Mihkel Jaan; Grahv, Cärolin; Hendrikson, Eliise; Louch, William Edward; Birkedal Nielsen, Rikke; Vendelin, Marko** Journal of Physiology 2023 / p. 4033-4052 : ill <https://doi.org/10.1113/JP284515> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Compromised creatine kinase energy transfer affects cardiac excitation-contraction coupling**

**Branovets, Jelena; Kalda, Mari; Laasmaa, Martin; Stolova, Jekaterina; Shen, Xin; Grahv, Cärolin; Hendrikson, Eliise; Louch, William Edward; Birkedal, Rikke; Vendelin, Marko** Acta Physiologica 2022 / p. 594-595 <https://onlinelibrary.wiley.com/doi/epdf/10.1111/apha.13878>

### **Compromised creatine kinase energy transfer leads to adaptations in cardiac excitation-contraction coupling that are distinct from changes associated with heart failure : [manuscript]**

**Branovets, Jelena; Kalda, Mari; Laasmaa, Martin; Stolova, Jekaterina; Shen, Xin; Balodis, Mihkel Jaan; Grahv, Cärolin; Hendrikson, Eliise; Louch, William Edward; Birkedal Nielsen, Rikke; Vendelin, Marko** 2022

### **Energy-efficiency of cardiomyocyte stimulation with rectangular pulses**

**Laasmaa, Martin; Lu, Pengfei; Vetic, Mladen; Louch, William Edward; Bergsland, Jacob; Balasingham, Ilango; Vendelin, Marko** Scientific reports 2019 / art. 13307, p. 1-9 <https://doi.org/10.1038/s41598-019-49791-w> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **IOCBIO Kinetics : an open-source software solution for analysis of data traces**

**Vendelin, Marko; Laasmaa, Martin; Kalda, Mari; Branovets, Jelena; Karro, Niina; Barsunova, Karina; Birkedal Nielsen, Rikke** PLoS computational biology 2020 / art. e1008475 <https://doi.org/10.1371/journal.pcbi.1008475> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **IOCBIO Sparks detection and analysis software**

**Laasmaa, Martin; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko** PeerJ 2019 / art. e6652, 28 p. : ill <https://doi.org/10.7717/peerj.6652> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **IOCBIO Sparks detection and analysis software**

**Laasmaa, Martin; Karro, Niina; Birkedal Nielsen, Rikke; Vendelin, Marko** Biophysical journal 2019 / art. 1900-Pos ; p. 384a <https://doi.org/10.1016/j.bpj.2018.11.2080>

### **Kaasaagne mikroskoopia paljastab südame soopõhised struktuurierisused**

**Vendelin, Marko; Laasmaa, Martin** novaator.err.ee 2024 [Kaasaagne mikroskoopia paljastab südame soopõhised struktuurierisused](#)

### **Life-long creatine deficiency leads to adaptations in calcium handling but not heart failure**

**Branovets, Jelena; Laasmaa, Martin; Stolova, Jekaterina; Shen, Xin; Rätsepso, Triinu; Balodis, Mihkel Jaan; Grahv, Carolin; Hendrikson, Eliise; Louch, William Edward; Birkedal, Rikke** Biophysical Journal 2024 / p. 458A-459A <https://doi.org/10.1016/j.bpj.2023.11.2785>

### **Live-cell photoactivated localization microscopy correlates nanoscale ryanodine receptor configuration to calcium sparks in cardiomyocytes**

**Hou, Yufeng; Laasmaa, Martin; Li, Jia; Shen, Xin; Manfra, Ornella; Nordén, Einar S.; Le, Christopher; Zhang, Lili; Sjaastad, Ivar; Jones, Peter P.; Soeller, Christian; Louch, William Edward** Nature cardiovascular research 2023 / p. 251-267 <https://doi.org/10.1038/s44161-022-00199-2>

### **Localized CaMKII movement towards the Z-line mediates RyR phosphorylation in cardiomyocytes**

Bergan-Dahl, Anna; Carlson, Cathrine R.; **Laasmaa, Martin**; Norden, Einar; Sjaastad, Ivar; Louch, William; Shen, Xin Journal of molecular and cellular cardiology 2022 / art. S142 <https://doi.org/10.1016/j.yjmcc.2022.08.280>

### **Localized CaMKII $\delta$ movement at the RyR nanodomain mediates RyR phosphorylation**

Bergan-Dahl, A.; Carlson, C. R.; **Laasmaa, Martin**; Norden, E. S.; Sjaastad, I.; Louch, W. E.; Shen, X. Acta physiologica 2022 / p. 107-108 <https://onlinelibrary.wiley.com/doi/epdf/10.1111/apha.13875>

### **Metabolic compartmentation in rainbow trout cardiomyocytes : coupling of hexokinase but not creatine kinase to mitochondrial respiration**

**Karro, Niina; Sepp, Mervi; Jugai, Svetlana; Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke** Journal of comparative physiology B 2017 / p. 103-116 : ill <https://doi.org/10.1007/s00360-016-1025-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Multi-nodal nano-actuator pacemaker for energy-efficient stimulation of cardiomyocytes**

Lu, Pengfei; Veletic, Mladen; **Laasmaa, Martin; Vendelin, Marko** Nano Communication Networks 2019 / art. 100270, 11 p. : ill <https://doi.org/10.1016/j.nancom.2019.100270> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Number of open mitochondrial voltage-dependent anion channels and intracellular diffusion coefficient in heart muscle**

**Simson, Päivo; Jepihhina, Natalja; Laasmaa, Martin; Branovets, Jelena; Peterson, Pearu; Birkedal Nielsen, Rikke; Vendelin, Marko** Biophysical journal 2016 / p. 475a <https://doi.org/10.1016/j.bpj.2015.11.2540>

### **On the complexity of signal propagation in nerve fibres**

**Engelbrecht, Jüri; Peets, Tanel; Tamm, Kert; Laasmaa, Martin; Vendelin, Marko** Proceedings of the Estonian Academy of Sciences 2018 / p. 28-38 : ill <https://doi.org/10.3176/proc.2017.4.28> [http://www.ester.ee/record=b2355998\\*est](http://www.ester.ee/record=b2355998*est) [https://artiklid.elnet.ee/record=b2835629\\*est](https://artiklid.elnet.ee/record=b2835629*est) [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Ontogeny of cardiomyocytes : ultrastructure optimization to meet the demand for tight communication in excitation–contraction coupling and energy transfer**

**Birkedal Nielsen, Rikke; Laasmaa, Martin; Branovets, Jelena; Vendelin, Marko** Philosophical Transactions of the Royal Society B : Biological Sciences 2022 / art. 20210321 <https://doi.org/10.1098/rstb.2021.0321> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Prolonged $\beta$ -adrenergic stimulation disperses ryanodine receptor clusters in cardiomyocytes: Implications for heart failure**

Shen, Xin; van den Brink, Jonas; Bergan-Dahl, Anna; Kolstad, Terje; Norden, Einar; Hou, Yufeng; **Laasmaa, Martin**; Quick, Ann; Espe, Emil; Sjaastad, Ivar Journal of molecular and cellular cardiology 2022 / p. S151 <https://doi.org/10.1016/j.yjmcc.2022.08.297>

### **Prolonged $\beta$ -adrenergic stimulation disperses ryanodine receptor clusters in cardiomyocytes and has implications for heart failure**

Shen, Xin; Brink, J.W.van den; Bergan-Dahl, Anna; Kolstad, Terje R.; Norden, Einar S.; Hou, Yufeng; **Laasmaa, Martin**; Aguilar-Sanchez, Yuriana; Quick, Ann P.; Espe, Emil K. S. eLife 2022 / art. e77725 <https://doi.org/10.7554/eLife.77725>

### **Respiration of permeabilized cardiomyocytes from mice: no sex differences, but substrate-dependent changes in the apparent ADP-affinity**

**Karro, Niina; Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke** Scientific reports 2019 / art. 12592 <https://doi.org/10.1038/s41598-019-48964-x> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Restricted ADP movement in cardiomyocytes : cytosolic diffusion obstacles are complemented with a small number of open mitochondrial voltage-dependent anion channels**

**Simson, Päivo; Jepihhina, Natalja; Laasmaa, Martin; Peterson, Pearu; Birkedal Nielsen, Rikke; Vendelin, Marko** Journal of molecular and cellular cardiology 2016 / p. 197-203 : ill <https://doi.org/10.1016/j.yjmcc.2016.04.012> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Revealing aspects of cardiac function from fluorescence and electrophysiological recordings = Südametallituse uuringud fluorestsentsi ja elektrofüsioloogiliste mõõtmiste abil**

**Laasmaa, Martin** 2016 [http://www.ester.ee/record=b4632325\\*est](http://www.ester.ee/record=b4632325*est) <https://digikogu.taltech.ee/et/Item/5e9f5bd2-8295-4f7e-8f6d-65d0b8002a74>

### **Revealing calcium fluxes by analyzing inhibition dynamics in action potential clamp**

**Laasmaa, Martin; Birkedal Nielsen, Rikke; Vendelin, Marko** Journal of molecular and cellular cardiology 2016 / p. 93-108 : ill <https://doi.org/10.1016/j.yjmcc.2016.08.015> [Journal metrics at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

### **Simple analysis of gel images with IOCBIO Gel**

**Kütt, Jaak; Margus, Georg; Kask, Lauri; Rätsepso, Triinu; Soodla, Kärol; Bernasconi, Romain; Birkedal, Rikke; Järv, Priit; Laasmaa, Martin; Vendelin, Marko** BMC Biology 2023 / art. 225 <https://doi.org/10.1186/s12915-023-01734-8> [Journal metrics at](#)

[Scopus Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Simple analysis of gel images with IOCBIO gel software**

**Jaska, Lucia; Birkedal, Rikke; Laasmaa, Martin; Vendelin, Marko** Bio-protocol 2024 / art. e5053, 12 p

<https://doi.org/10.21769/BioProtoc.5053> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Statistical Analysis of Fluorescence Intensity Transients with Bayesian Methods**

**Karimi, Hamed; Laasmaa, Martin; Pihlak, Margus; Vendelin, Marko** Science Advances 2025

### **Stretch harmonizes sarcomere strain across the cardiomyocyte**

**Li, Jia; Sundnes, Joakim; Hou, Yufeng; Laasmaa, Martin; Ruud, Marianne; Unger, Andreas; Kolstad, Terje R.; Frisk, Michael; Norseng, Per Andreas; Yang, Limin; Setterberg, Ingunn E.; Alves, Estela S.** Circulation Research 2023 / p. 255 - 270

<https://doi.org/10.1161/CIRCRESAHA.123.322588>

### **The location of energetic compartments affects energetic communication in cardiomyocytes**

**Birkedal, Rikke; Laasmaa, Martin; Vendelin, Marko** Frontiers in physiology 2014 / art. 376, 9 p.: ill

<https://doi.org/10.3389/fphys.2014.00376> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Using action potential clamp data to determine the calcium fluxes and contributions in excitation-contraction coupling in vivo in cardiomyocytes**

**Laasmaa, Martin; Vendelin, Marko; Birkedal Nielsen, Rikke** Biophysical journal 2016 / p. 100a-101a

<http://dx.doi.org/10.1016/j.bpj.2015.11.600>

### **Uued inimesed ja positsioonid**

**Koppel, Indrek; Mazina-Šinkar, Jekaterina; Soe, Ralf-Martin; Ošeka, Maksim; Kritševskaja, Marina; Reidolf, Merli; Laasmaa, Martin; Puura, Erik; Läänelaid, Mihkel; Hadzihasanovic, Amar** Mente et Manu 2023 / lk. 51-55 : fot

[https://www.ester.ee/record=b1242496\\*est](https://www.ester.ee/record=b1242496*est)

### **Современная микроскопия выявила гендерные структурные различия в сердце**

**Vendelin, Marko; Laasmaa, Martin** nauka.err.ee 2024 [Современная микроскопия выявила гендерные структурные различия в сердце](#)