

## CV - Søren-Peter Olesen

Work address        The Danish National Research Foundation  
                          Holbergsgade 14, 1057 Copenhagen K, Denmark  
Phone                +45 33 18 19 52; +45 20 28 97 06 (cell phone)  
E-mail                [spo@dg.dk](mailto:spo@dg.dk)  
Web                    [www.dg.dk](http://www.dg.dk); [www.ionchannel.ku.dk](http://www.ionchannel.ku.dk); [www.darc.ku.dk](http://www.darc.ku.dk)  
Private address     Emiliekildevej 43, 2930 Klampenborg, Danmark

### *Education*

1979                MSc (elec.engineer.; civilingeniør), Danish Technical University  
1982                MD, University of Copenhagen  
1988                Internship, Rigshospitalet  
1989                PhD (dr.med.), University of Copenhagen

### *Previous positions*

1982-86            Research assistant/PhD student, Dept. Med. Physiol., University of Copenhagen  
1986-87            Postdoc, Brigham & Women's Hospital, Harvard Med. School, Boston, USA  
1987-89            Internship, Dept. of Medicine, Surgery, Ophthalmology, Copenhagen Hospitals  
1989-98            Head of Department, NeuroSearch A/S  
1998-              Professor of Physiology, Department of Biomed Sci, University of Copenhagen  
2005-2015        Director of the Danish National Research Foundation Centre for Cardiac Arrhythmia  
2008-2015        Head of the Section of Cardiovascular Research, Dept. Biomed. Sci., U. Copenhagen  
2015-              Director of the Danish National Research Foundation

### *The Royal Danish Academy of Sciences and Letters*

1998-              Member  
2005-08            Member of the Science Policy board  
2009-11            Secretary General

### *Publications*

Published >160 papers in international peer reviewed journals including Nature, PNAS, Circulation, Physiological Reviews about ion channels, arrhythmia, cardiovascular- and neuro-physiology. h-factor is 48. Co-inventor on 25 issued international patents on new chemical compounds, biological principles, and technological inventions for electrophysiological characterization of drug effects.

### *Grants*

The Danish Medical Research Council. Framework grants from 1998-present. PI  
The Danish National Research Foundation Center for Cardiac Arrhythmia. 2005-15. PI  
Innovationfund Denmark. Grant no 65-2013-3. 2014-18. Co-PI.  
The Lundbeck Foundation, The NovoNordisk Foundation, The Danish Heart Foundation, The Velux Foundation a.o. continuous support from 1998-2015. PI  
EU Marie Curie Actions: Coordinator and/or participant in Science Grant SC1\*CT91-0665; Biomed 2 project BMH4-97-2118; FP7, Marie Curie, ITN, PITN-GA-2009-2357

### *Teaching and supervision*

Teach medical, dentistry, medtech, human biology students in cell biology, physiology and pharmacology.  
Have supervised 39 PhD students

### *Scientific conferences*

Give 2-4 invited talks and co-organize 1-2 international conferences in Copenhagen each year.

### *Boards*

Member of the board of the Carlsberg Foundation, 2012-

Member of the board of the Scandinavian Physiological Society, 2010-2015

Member of Fagligt Udvalg, Danish Ministry of Higher Educations and Science, 2009-2015

Chairman of committees for international guest scientist housing in the Danish National Bank (2002- ) and in The Nordea Foundation (2009- )

### *Industry*

Member of the supervisory board of The Carlsberg Group A/S, 2012-

Member of the Board of Directors of Sophion Bioscience A/S, 2001-11

Co-founder of Sophion Bioscience and Poseidon Pharma 2001-2, CEO of Poseidon 2002-4

Consultant to NeuroSearch A/S, 1998-2012

Consultant to Acesion Pharma A/S, 2013-15

Chairman of the committee making the university-industry collaboration strategy at U Cph, 2009-10

Chairman of the University of Copenhagen patent and licensing supervisory board 1998-2007

## **Selected publications from Søren-Peter Olesen – 23 out of 180 papers**

Jensen K .... **Olesen SP**, Polzik E. Non-invasive detection of animal nerve impulses with an atomic magnetometer operating near quantum limited sensitivity. *Scientific Reports*. July 15,6: 29638, 2016

Bened-Jensen T, Christensen RK, Denti F, Perrier JF, Rasmussen HB, **Olesen SP**. Live imaging of Kv7.2/7.3 cell surface dynamics at the axon initial segment: high steady state stability and calpain-dependent excitotoxic downregulation revealed. *J Neurosci* 2016 Feb 17;36(7):2261-6

Cardiac potassium channel subtypes: new roles in repolarization and arrhythmia  
N Schmitt, M Grunnet, **SP Olesen**  
*Physiological Reviews* 94 (2), 609-653, 2014

Very early-onset lone atrial fibrillation patients have a high prevalence of rare variants in genes previously associated with atrial fibrillation  
MS Olesen, L Andreassen, J Jabbari, L Refsgaard, S Haunsø, **SP Olesen**, ...  
*Heart Rhythm* 11 (2), 246-251, 2014

Annotation of loci from genome-wide association studies using tissue-specific quantitative interaction proteomics  
A Lundby, EJ Rossin, AB Steffensen, MR Acha, C Newton-Cheh, ...  
*Nature Methods*, 11 (8), 868-74, 2014

A novel KCND3 gain-of-function mutation associated with early-onset of persistent lone atrial fibrillation  
MS Olesen, L Refsgaard, AG Holst, AP Larsen, S Grubb, S Haunsø, ...  
*Cardiovascular Research* 98 (3), 488-495, 2013

Familial aggregation of lone atrial fibrillation in young persons  
N Øyen, MF Ranthe, L Carstensen, HA Boyd, MS Olesen, **SP Olesen**, ...  
*Journal of the American College of Cardiology* 60 (10), 917-921, 2012

Downregulation of Kv7. 4 channel activity in primary and secondary hypertension  
TA Jepps, PS Chadha, AJ Davis, MI Harhun, GW Cockerill, **SP Olesen**, ...  
*Circulation* 124 (5), 602-611, 2011

Identification of a Kir3. 4 mutation in congenital long QT syndrome  
Y Yang, Y Yang, B Liang, J Liu, J Li, M Grunnet, **SP Olesen**, ...  
*The American Journal of Human Genetics* 86 (6), 872-880, 2010

Arvelige hjertesygdomme forårsaget af natriumkanalmutationer  
J Tfelt-Hansen, **SP Olesen**, JH Svendsen, T Jespersen  
*Ugeskr Læger* 171 (15), 1261-5, 2009

Single-copy insertion of transgenes in *Caenorhabditis elegans*  
C Frøkjær-Jensen, MW Davis, CE Hopkins, BJ Newman, JM Thummel, ...  
*Nature Genetics* 40 (11), 1375-1383, 2008

hERG1 channel activators: a new anti-arrhythmic principle  
M Grunnet, RS Hansen, **SP Olesen**  
*Progress in Biophysics and Molecular Biology* 98 (2), 347-362, 2008

Activation of human ether-a-go-go-related gene potassium channels by the diphenylurea 1, 3-bis-(2-hydroxy-5-trifluoromethyl-phenyl)-urea (NS1643)

RS Hansen, TG Diness, T Christ, J Demnitz, U Ravens, **SP Olesen**, ...

*Molecular Pharmacology* 69 (1), 266-277, 2006

The KCNQ1 potassium channel: from gene to physiological function

T Jespersen, M Grunnet, **SP Olesen**

*Physiology* 20 (6), 408-416, 2005

Pharmacological characterization of small-conductance Ca<sup>2+</sup>-activated K<sup>+</sup> channels stably expressed in HEK 293 cells

D Strøbæk, TD Jørgensen, P Christophersen, PK Ahring, **SP Olesen**

*British Journal of Pharmacology* 129 (5), 991-999, 2000

Inhibition of T cell proliferation by selective block of Ca<sup>2+</sup>-activated K<sup>+</sup> channels

BS Jensen, N Ødum, NK Jørgensen, P Christophersen, **SP Olesen**

*Proceedings of the National Academy of Sciences* 96 (19), 10917-10921, 1999

Characterization of NS 2028 as a specific inhibitor of soluble guanylyl cyclase

**SP Olesen**, J Drejer, O Axelsson, P Moldt, L Bang, JE Nielsen-Kudsk,...

*British Journal of Pharmacology* 123 (2), 299-309, 1998

Cloning, expression, and distribution of a Ca<sup>2+</sup>-activated K<sup>+</sup> channel beta-subunit from human brain

J Tseng-Crank, N Godinot, TE Johansen, PK Ahring, D Strøbæk, R Mertz, ...

*Proceedings of the National Academy of Sciences* 93 (17), 9200-5, 1996

Selective activation of Ca<sup>2+</sup>-dependent K<sup>+</sup> channels by novel benzimidazolone

**SP Olesen**, E Munch, P Moldt, J Drejer

*European Journal of Pharmacology* 251 (1), 53-59, 1994

Haemodynamic shear stress activates a K<sup>+</sup> current in vascular endothelial cells

**SP Olesen**, D Clapham, P Davies

*Nature* 331 (6152), 168-170, 1988

Free oxygen radicals decrease electrical resistance of microvascular endothelium in brain

**SP Olesen**

*Acta Physiologica Scandinavica* 129 (2), 181-187, 1987

A calcium-dependent reversible permeability increase in microvessels in frog brain, induced by serotonin

**SP Olesen**

*The Journal of Physiology* 361 (1), 103-113, 1985

Electrical resistance of brain microvascular endothelium

C Crone, **SP Olesen**

*Brain Research* 241 (1), 49-55, 1982

## **Selected issued international patents from Søren-Peter Olesen – 7 out of 25 patents**

Administering 1, 3-bis-(2-hydroxy-5-trifluoromethyl-phenyl)-urea activates an ERG channel; arrhythmia; cardiac ischemia, ischemic heart disease, hypertrophic heart, cardiomyopathy or failing heart

**SP Olesen**, M Grunnet, P Christophersen, D Strøbæk, J Demnitz, ...

*US Patent* 7,851,492; 2010

Benzimidazol-2-one derivatives and their use

LS Madsen, C Ærteberg Bæk, A Lauridsen, **SP Olesen**

*US Patent* 7,244,756; 2007

PCR measurement system

T Jespersen, **SP Olesen**, M Bech, R Taboryski

*European Patent* 1,511,843; 2002

Bis (benzimidazole) derivatives serving as potassium blocking agents

BS Jensen, **SP Olesen**, L Teuber, D Peters, D Strøbæk

*US Patent* 6,194,447; 2001

A substrate and a method for determining and/or monitoring electrophysiological properties of ion channels.

JW Petersen, P Telleman, O Hansen, P Christophersen, M Bech, **SP Olesen** ...

*US Patent* 6,682,649; 1999

Patch clamp apparatus and technique having high throughput and low fluid volume requirements.

**SP Olesen** & P Christophersen

*US Patent* 6,063,260; 1994

Urea derivatives and their use.

**SP Olesen**, P Moldt & O Pedersen

*US Patent* 5,696,138; 1993