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## Utdannelse:

Jan 2003 – des 2007 *PhD*, Universitetet i Oslo  
 Doktorgradsavhandlingens tittel: "Restricted diffusion of ions regulates cardiac function"  
 Jan 2001 – jun 2002 *Cand. scient.* Fysiologi, Universitetet i Oslo  
 Hovedfagsoppgavens tittel: "Control of intracellular Na<sup>+</sup> and Ca<sup>2+</sup> concentrations in rat cardiomyocytes - crosstalk between the Na<sup>+</sup>/K<sup>+</sup>-ATPase and the Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger"  
 Aug 1999 – jun 2000 *Maîtrise* fysiologi og farmakologi (master), Universitetet i Poitiers, Frankrike  
 Aug 1998 – jun 1999 *Licence* cellebiologi og fysiologi, Universitetet i Poitiers, Frankrike  
 Aug 1996 – jun 1998 *DEUG* generell biologi, Universitetet i Poitiers, Frankrike  
 Aug 1993 – jun 1996 *Baccalauréat* (Videregående skole, realfag), Lycée Alienor d'Aquitaine, Poitiers, Frankrike

## Yrkesefering:

Mar 2013 – d.d. Lederassistent for direktør Camilla Stoltenberg, Folkehelseinstituttet  
 Jan 2011 – feb 2013 Postdoc, Universitetet i Oslo, Institutt for eksperimentell medisinsk forskning (IEMF)  
 Jan 2002 – feb 2013 Konsulent, Senter for hjertesviktforskning, Universitetet i Oslo / OUS Ullevål  
 Mai 2011 – des 2012 Besøks hjem for barnevernsungdom, en helg hver måned, Interaktiv Barnevern AS  
 Jan 2008 – des 2010 Postdoc, Oslo universitetssykehus (Helse Sør-Øst) (IEMF)  
 Jan 2008 – jun 2008 Postdoc, Universitetet i Bern, Sveits (delt stilling med OUS)  
 Jun 2006 – des 2007 Stipendiat, Ullevål universitetssykehus (IEMF)  
 Jan 2003 – jun 2006 Stipendiat, Nasjonalforeningen for folkehelsen (IEMF)  
 Sep 2002 – des 2002 Vitenskapelig assistent, Ullevål universitetssykehus (IEMF)  
 Sep 2001 – mar 2009 Foreleser, Encefalon høyskole i grunnmedisin (nå Bjørknes)

## Administrativ erfaring

Sekretariat for direktør og toppledergruppe i Folkehelseinstituttet. Arbeidsoppgavene har bestått av planlegging og organisering av direktørens aktiviteter, planlegging og gjennomføring av møter i toppledergruppen og instituttledergruppen, faglige forberedelser for direktøren, bestille/bidra til/levere analyser etter direktørens behov samt diverse administrative oppgaver i stab, inkludert budsjettarbeid. Utvikling og administrasjon av Senter for hjertesviktforskning, et tematisk forskningsområde ved det medisinske fakultet, Universitetet i Oslo. Arbeidsoppgavene har bestått i utvikling og oppdatering av [www.heartfailure.no](http://www.heartfailure.no), organisering og arrangering av nasjonale og internasjonale konferanser, budsjettering og økonomiansvar, diverse sekretær oppgaver, utvikling og administrasjon av PhD School of Heart Research.

## Forskererfaring

Forskererfaring innen hjertefysiologi siden 2001. Spesialiseringssområde: kontroll av ionehomøostase og cellulære mekanismer ved hjertesvikt.  
 Hovedmetoder: mikroelektrodeteknikker, bildedannende teknologier (konfokalmikroskopi, elektronmikroskopi), celloarbeid.  
 Hovedveileder for 1 PhD-stipendiat, disputas i september 2016.  
 Ansvar for anskaffelse, vedlikehold og oppfølging av vitenskapelig utstyr. Koordinator for kjernefasilitet konfokalmikroskopi ved Oslo universitetssykehus, avdeling Ullevål.  
 Fagfelle vurdering for: Biophysical Journal, Cardiovascular Research, American Journal of Physiology, Life Sciences, National Medical Research Council Singapore.

## Undervisningserfaring

Foreleser og hjelpelærer i bl.a. hjertefysiologi og anatomi, Encefalon, 2001 – 2009  
 Foreleser ved masterprogrammet, det matematisk-naturvitenskapelige fakultet, Universitetet i Oslo, 2007-2009

Foreleser ved PhD School of Heart Research, det medisinske fakultet, Universitetet i Oslo, 2006-2012

## Kreativ erfaring ([www.behance.net/lux\\_lucis](http://www.behance.net/lux_lucis))

Illustrasjoner til diverse artikler og doktorgrader. Logo og utforming av [www.heartfailure.no](http://www.heartfailure.no) og [www.iemf.no](http://www.iemf.no)

## Annen informasjon

Språk: Norsk (morsmål), fransk (flytende), engelsk (flytende)  
 IT-kunnskaper: Daglig bruker av Office (Word, Excel, Powerpoint) og Sharepoint samhandlingsplattform.  
 God kjennskap til Adobe Photoshop, Illustrator, Lightroom.  
 Diverse programvare for analyse og presentasjon av forskningsdata  
 Tillitsverv: Styreleder i Borettslaget Nordre Åsen kv. II B, meddommer i Borgarting lagmannsrett  
 Interesser: Musikk, fotografi, snekring, platesamling, friluftsliv

## Awards

- Fellowship award at 6<sup>th</sup> International Conference on Na<sup>+</sup>/Ca<sup>2+</sup>-exchange, Ischia, Italy, 2011: *Altered expression and localization of Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger to compensate for loss of SR Ca<sup>2+</sup> ATPase*
- Poster award at 8<sup>th</sup> Annual CHFR Symposium, Oslo, 2010: *T-tubule proliferation facilitates trans-sarcolemmal Ca<sup>2+</sup> flux to compensate for declining SR function in Serca2 KO mice.*

## Publikasjoner

19 artikler, h-index 14

- Aronsen JM, Skogestad J, Lawalle A, Louch WE, Hougen K, Stokke MK, **Swift F**, Niederer S, Smith NP, Sejersted M, Sjaastad I. *Hypokalemia induces Ca<sup>2+</sup> overload and Ca<sup>2+</sup> waves in ventricular myocytes by reducing Na<sup>+</sup>,K<sup>+</sup>-ATPase alpha2 activity.* **J Physiol**, 593:1509-21, 2015
- Aronsen JM, **Swift F**, Sejersted OM. *Cardiac sodium transport and excitation-contraction coupling.* **J Mol Cell Cardiol**, 61:11-9, 2013.
- Stokke MK, Tovsrud N, Louch WE, Øyehaug L, Hougen K, Sejersted OM, **Swift F**, Sjaastad I. *I<sub>CaL</sub> inhibition prevents arrhythmogenic Ca<sup>2+</sup> waves caused by abnormal Ca<sup>2+</sup> sensitivity of RyR or SR Ca<sup>2+</sup> accumulation.* **Cardiovasc Res**, 98:315-25, 2013
- **Swift F**, Christensen G. *Calcium release units in heart failure: that's about the size of it.* Editorial. **Cardiovascular Research**, 95:397-8, 2012.
- Drawnel FM, Wachten D, Molkentin JD, Maillet M, Aronsen JM, **Swift F**, Sjaastad I, Liu N, Catalucci D, Mikoshiba K, Hisatsune C, Okkenhaug H, Andrews SR, Bootman MD, Roderick HL. *Mutual antagonism between IP3R2 and miRNA-133a regulates calcium signals and cardiac hypertrophy.* **J Cell Biol**, 199:783-98, 2012.
- Stokke MK, Rivelsrud F, Sjaastad I, Sejersted OM, **Swift F**. *From global to local: a new understanding of cardiac electromechanical coupling.* **Tidsskr Nor Legeforen**, 132:1457-60, 2012.
- **Swift F**, Franzini-Armstrong C, Øyehaug L, Enger UH, Andersson KB, Christensen G, Sejersted OM, Louch WE. *Extreme sarcoplasmic reticulum volume loss and compensatory T-tubule remodeling following Serca2 knockout.* **PNAS**, 109:3997-4001, 2012.
- Sjøland C, Lunde PK, **Swift F**, Munkvik M, Ericsson M, Lunde M, Boye S, Christensen G, Ellingsen Ø, Sejersted OM, Andersson KB. *Slowed relaxation and preserved maximal force in soleus muscles of mice with targeted disruption of the Serca2 gene in skeletal muscle.* **J Physiol**, 589:6139-55, 2011.
- **Swift F**, Tovsrud N, Sjaastad I, Sejersted OM, Niggli E, Egger M. *Functional coupling of α<sub>2</sub>-isoform Na<sup>+</sup>/K<sup>+</sup>-ATPase and Ca<sup>2+</sup> extrusion through the Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger in cardiomyocytes.* **Cell Calcium**, 48:54-60, 2010.
- Louch WE, Sejersted OM, **Swift F**. *There goes the neighborhood: pathological alterations in T-tubule morphology and consequences for cardiomyocyte Ca<sup>2+</sup> handling.* **J Biomed Biotechnol**, 2010:503906, 2010.
- Louch WE, Hougen K, Mørk HK, **Swift F**, Aronsen JM, Sjaastad I, Reims HM, Roald B, Andersson KB, Christensen G, Sejersted OM. *Sodium accumulation promotes diastolic dysfunction in end-stage heart failure following Serca2 knockout.* **J Physiol**, 588:465-78, 2010.
- **Swift F**, Birkeland JAK, Tovsrud N, Enger UH, Aronsen JM, Louch WE, Sjaastad I, Sejersted OM. *Altered regulation of Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger activity due to downregulation of Na<sup>+</sup>/K<sup>+</sup>-ATPase alpha<sub>2</sub>-isoform in heart failure.* **Cardiovasc Res**, 78:71-8, 2008.
- Brattelid T, Qvigstad E, Birkeland JAK, **Swift F**, Bekkevold SVS, Krobert KA, Sejersted OM, Skomedal T, Osnes J-B, Levy FO, Sjaastad I. *Serotonin responsiveness through 5-HT<sub>2A</sub> and 5-HT<sub>4</sub> receptors is differentially regulated in hypertrophic and failing rat cardiac ventricle.* **J Mol Cell Cardiol**, 43:767-79, 2007.

- Birkeland JA, **Swift F**, Tovsrud N, Enger UH, Lunde PK, Qvigstad E, Levy FO, Sejersted OM, Sjaastad I. *Serotonin increases L-type  $Ca^{2+}$  current and SR  $Ca^{2+}$  content through 5-HT<sub>4</sub> receptors in failing rat ventricular cardiomyocytes.* **Am J Physiol Heart Circ Physiol.** 293:H2367-76, 2007.
- **Swift F**, Tovsrud N, Enger UH, Sjaastad I, Sejersted OM. *The Na<sup>+</sup>/K<sup>+</sup>-ATPase  $\alpha_2$ -isoform regulates cardiac contractility in rat cardiomyocytes.* **Cardiovasc Res** 75:109-17, 2007.
- **Swift F**, Strømme TA, Amundsen B, Sejersted OM, Sjaastad I. *Slow diffusion of K<sup>+</sup> in the t-tubules of rat cardiomyocytes.* **J Appl Physiol** 101:1170-6, 2006.
- Qvigstad E, Sjaastad I, Brattelid T, Nunn C, **Swift F**, Birkeland JAK, Krobert KA, Andersen GO, Sejersted OM, Osnes JB, Levy FO and Skomedal T. *Dual serotonergic regulation of ventricular contractile force through 5-HT<sub>2A</sub> and 5-HT<sub>4</sub> receptors induced in the acute failing heart.* **Circ Res** 97: 268-76, 2005.
- **Swift F**, Sjaastad I, and Sejersted OM. *Does altered regulation of Na<sup>+</sup> cause reduced myocardial contractility in heart failure?* **Tidsskr Nor Lægeforen** 123: 3036-40, 2003
- Sjaastad I, Bøkenes J, **Swift F**, Wasserstrom JA and Sejersted OM. *Normal contractions triggered by I<sub>Ca,L</sub> in ventricular myocytes from rats with post infarction CHF.* **Am J Physiol** 283: H1225-H1236, 2002.

### Presentasjoner:

- European Society of Cardiology Congress, Munchen, Tyskland, 2012: *Remodelling of the cardiac sarcoplasmic reticulum and t-tubules following conditional SERCA2 knockout.* Invited lecture.
- Biophysical Society Annual Meeting, San Diego, USA, 2012: *IP<sub>3</sub> receptors in heart failure: Arrhythmogenic troublemakers or SR Ca<sup>2+</sup> security valves?* Poster.
- 6<sup>th</sup> International Conference on NCX, Lacco Ameno, Italia, 2011. *Altered expression and localization of Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger to compensate for loss of SR Ca<sup>2+</sup> ATPase.* Poster
- 35<sup>th</sup> Annual Meeting of the EWGCCE, Oslo, 2011: *IP<sub>3</sub> receptors in heart failure: arrhythmogenic troublemakers or SR Ca<sup>2+</sup> security valves?* Poster.
- Annual Meeting of the Biophysical society, Baltimore, 2011: *Remodeling of the sarcoplasmic reticulum and t-tubules in cardiomyocytes following conditional Serca2 knockout.* Poster.
- 8<sup>th</sup> Annual CHFR Symposium, Oslo, 2010: *T-tubule proliferation facilitates trans-sarcolemmal Ca<sup>2+</sup> flux to compensate for declining SR function in Serca2 KO mice.* Poster. Awarded best poster.
- ESC Heart Failure, Berlin, Tyskland, 2010: *T-tubule proliferation in cardiomyocytes following conditional Serca2 knockout.* Poster
- EWGCCE, Köln, 2009: *Blockade of Na<sup>+</sup>/K<sup>+</sup>-ATPase  $\alpha_2$ -isoform reduces the rate of Ca<sup>2+</sup> extrusion through the Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger.* Poster.
- Scandinavian Physiological Society Annual Meeting, Uppsala, Sverige, 2009: *Blockade of Na<sup>+</sup>/K<sup>+</sup>-ATPase  $\alpha_2$ -isoform reduces the rate of Ca<sup>2+</sup> extrusion through the Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger.* Lecture.
- Joint institute seminar, Oxford, UK, 2009: *The Na<sup>+</sup>/K<sup>+</sup>-ATPase and regulation of Ca<sup>2+</sup> homeostasis.* Lecture.
- 6<sup>th</sup> Annual CHFR Symposium, Oslo, 2008: *Blockade of Na<sup>+</sup>/K<sup>+</sup>-ATPase  $\alpha_2$ -isoform reduces the rate of Ca<sup>2+</sup> extrusion through the Na<sup>+</sup>/Ca<sup>2+</sup>-exchanger.* Poster.
- 5<sup>th</sup> Annual CHFR Symposium, Oslo, 2007: *Downregulation of the Na<sup>+</sup>/K<sup>+</sup>-ATPase (NKA)  $\alpha_2$ -isoform in ventricular myocytes from rats with congestive heart failure.* Poster.
- Biophysical Society Annual Meeting, Baltimore, USA, 2007: *Downregulation of the Na<sup>+</sup>/K<sup>+</sup>-ATPase (NKA)  $\alpha_2$ -isoform in ventricular myocytes from rats with congestive heart failure.* Poster.
- 4<sup>th</sup> Annual Symposium CHFR, Oslo, 2006: *Reduced t-tubule density and less synchronous Ca<sup>2+</sup> release in cardiomyocytes from rats with congestive heart failure.* Poster.
- Scandinavian Physiological Society Annual Meeting, Reykjavik, Island, 2006: *Reduced t-tubule density and less synchronous Ca<sup>2+</sup> release in cardiomyocytes from rats with congestive heart failure.* Poster.
- Norsk Cardiologisk Selskap vintermøte, Lillehammer, 2006: *The role of sodium in the heart - subcellular regulation controls contractility.* Lecture.
- 3<sup>rd</sup> Annual CHFR Symposium, Oslo, 2005: *Subcellular distribution of the Na<sup>+</sup>/K<sup>+</sup> -pump (NKA) isoforms in rat ventricular myocytes.* Poster.
- MyoNak conference, Sandbjerg, Danmark, 2005: *Subcellular distribution of the Na<sup>+</sup>/K<sup>+</sup> -pump (NKA) isoforms in rat ventricular myocytes.* Poster.
- Biophysical Society Annual Meeting, Long Beach, USA, 2005: *Subcellular distribution of the Na<sup>+</sup>/K<sup>+</sup> - pump (NKA) isoforms in rat ventricular myocytes.* Poster.