

Knowledge and Technology Transfer outputs

Publications in international peer reviewed scientific journals:

For a full list of publications: <https://www.unige.ch/medecine/gede/fr/groupe/522herrera/#publications> and <http://orcid.org/0000-0003-0771-9504>

Selected peer-reviewed publications:

- Furuyama K, Chera S, van Gurp L, Oropeza D, Ghila L, Damond N, Vethe H, Paulo JA, Joosten AM, Berney T, Bosco D, Dorrell C, Grompe M, Ræder H, Roep BO, Thorel F, **and Herrera PL**: Diabetes relief in mice by glucose-sensing insulin-secreting human α -cells. NATURE. 2019. PMID: 30760930
- Damond N, Engler S, Zanotelli VRT, Schapiro D, Wasserfall CH, Kusmartseva I, Nick HS, Thorel F, **Herrera PL**, Atkinson MA, Bodenmiller B: A Map of Human Type 1 Diabetes Progression by Imaging Mass Cytometry. CELL METAB. 2019 PMID: 30713109
- Cigliola V, Ghila L, Thorel F, van Gurp L, Baronnier D, Oropeza D, Gupta S, Miyatsuka T, Kaneto H, Magnuson MA, Osipovich AB, Sander M, Wright CEV, Thomas MK, Furuyama K, Chera S, **and Herrera PL**: Pancreatic islet-autonomous insulin and smoothed-mediated signalling modulate identity changes of glucagon+ α -cells. NAT CELL BIOL. 2018. PMID: 30361701
- Cigliola V, Thorel F, Chera S, **and Herrera PL**: Stress-Induced Adaptive Islet Cell Identity Changes. DIABETES OBES METAB, 2016 Sep;18 Suppl 1:87-96.
- Chera S, **and Herrera PL**: Regeneration of Pancreatic Insulin-Producing Cells by In Situ Adaptive Cell Conversion. CURRENT OPINION GENETICS & DEVELOPMENT, 2016, 40: 1-10.
- Semplici F, Mondragón A, (...) **Herrera PL**, Magnan C, da Silva Xavier G, and Rutter GA: Cell type-specific deletion reveals roles for Per-Arnt-Sim (PAS) kinase in insulin and glucagon production. DIABETOLOGIA, 2016, 59: 1938-47
- Damond N, Thorel F, Moyers JS, Charron MJ, Vuguin PM, Powers AC, **and Herrera PL**: Blockade of glucagon signaling prevents or reverses diabetes onset only if residual β -cells persist. eLIFE. 2016 Apr 19;5. pii: e13828. doi: 10.7554/eLife.13828. PMID: 27092792
- Dai C, Kayton NS, Shostak A, Poffenberger G, Cyphert HA, Aramandla R, Thompson C, Papagiannis IG, Emfinger C, Shiota M, Stafford JM, Greiner DL, **Herrera PL**, Shultz LD, Stein R, and Powers AC: Stress-impaired transcription factor expression and insulin secretion in transplanted human islets. J CLIN INVEST. 2016 Apr 11. pii: 83657. doi: 10.1172/JCI83657. PMID: 27064285
- Cigliola V, Populaire C, Pierri CL, Deutsch S, Haefliger JA, Fadista J, Lyssenko V, Groop L, Rueedi R, Thorel F, **Herrera PL***, and Meda P*: A Variant of GJD2, Encoding for Connexin 36, Alters the Function of Insulin Producing β -Cells. PLoS ONE. 2016 Mar 9;11(3):e0150880. doi: 10.1371/journal.pone.0150880. eCollection 2016. PMID: 26959991 (* Equal senior authorship).
- Paul L, Walker EM, Drosos Y, Cyphert HA, Neale G, Stein R, South J, Grosveld G, **Herrera PL**, and Sosa-Pineda B: Lack of Prox1 Downregulation Disrupts the Expansion and Maturation of Postnatal Murine β -cells. DIABETES, 2015 doi: 10.2337/db15-0713
- Riley KG, Pasek RC, Maulis MF, Peek J, Thorel F, Brigstock DR, **Herrera PL**, and Gannon M: CTGF modulates adult β -cell maturity and proliferation to promote β -cell regeneration in mice. DIABETES, 2015, 64: 1284-98. PMID: 25392241
- Chera S, Baronnier D, Ghila L, Cigliola V, Jensen JN, Gu G, Furuyama K, Thorel F, Gribble FM, Reimann F **and Herrera PL**: Diabetes Recovery by Age-Dependent Conversion of Pancreatic δ -Cells Into Insulin Producers. NATURE, 2014, 514: 503-7.
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- Schaffer AD, Yang AJ, Thorel F, **Herrera PL** and Sander M: Transgenic overexpression of the transcription factor Nkx6.1 in β -cells does not increase β -cell proliferation, β -cell mass, or improve glucose clearance. *MOL ENDOCRINOL*, 2011, 25: 1904-14.
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Patents:

Transgenic mouse model of inducible partial or total beta-cell ablation; Diabetes animal model	JP2007-552814 US 7642401	Japan USA	Granted	2005-01-31	PL Herrera, V Népote, K Kohno
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MTAs (sharing mouse models): about two hundred (numerous laboratories worldwide have received our transgenic mice; not exhaustive). In addition, I usually share lines of mice without requesting an MTA.

Licensing transgenic mouse models: three biotech companies, Genentech, Inc.; Gilead Sciences, Inc.; and NGM Pharmaceuticals, Inc. have licensed transgenic mice produced in my lab (Genentech, 3 lines; Gilead Sciences, 1 line, NGM Pharmaceuticals, 1 line).

Presentations / conferences (only accepted invitations are indicated below; see below): international scientific symposia, plus invitations in different laboratories.

Collaborations (see the list of publications annexed): I have obtained 11 separate service subcontracts with Vanderbilt University for a total of 1,500,000 USD (dates from July 2006 to August 2010); this is within the frame of the Beta Cell Biology Consortium (BCBC) of the NIH/NIDDK. There is a new 5-year subcontract (up to 2020) with the University of Florida, within the frame of the Human Islet Research Network (HIRN), also of the NIH/NIDDK.

Education / training:

- Teaching developmental biology and human embryology to pregraduate students (1st year of Medicine) and graduate students (1st year of Ph.D. thesis).
- We collaborate with several national and local organizations to create activities for the public:
 - “Science appelle les jeunes/Schweizer Jugend Forscht” (1 collégien is hosted during a week in the lab every year).
 - Activities during the 450th anniversary of the University of Geneva (2009).
 - Interview at the local radio station (RSI1), émission « Impatiences » of November 8 2010: http://medias.rsr.ch/la-1ere/programmes/impatience/2010/impatience_20101108_standard_sequence-1_20101108-1700_c39545e9-85ba-4112-afe2-3b7485d7908f-128k.mp3
 - Interview at the Swiss television (RSI; “Falò”, January 2012): <http://la1.rsi.ch/falo/welcome.cfm?idg=0&ids=0&idc=42677>
 - Interview by the SNF Swiss National Science Foundation (July 2012): <http://www.nfp63.ch/E/knowledge-transfer-and-communication/interviews/Pages/pedro-herrera.aspx>
 - Nature podcast (October 2010)
 - Interview at the local TV station (Léman Bleu), téléjournal of April 19, 2016
 - Interview at the local radio station RTS (CQFD): <https://www.rts.ch/play/radio/cqfd/audio/diabete-les-cellules-sont-capables-de-changer-de-metier?id=10181947>
 - Interview at the radio station “Canal Sur” (Spain)
- In addition, all postdocs and PhD students in my laboratory attend 1 or 2 international scientific meetings every year (BCBC; HIRN; EU-FP6 & 7; EMBO workshops, EASD...).
- Four students obtained a PhD degree, and one a MD degree. Five students obtained a Master degree in the lab. Of my former PhD students, one made a postdoctoral fellowship at the MIT (with D. Page) and another at Harvard (with D. Melton).
- *Jury of PhD theses for 29 candidates all over Europe; 3 HDR theses; member of several advisory boards and referee for most prestigious scientific journals.*
- As director of the Transgenic Core Facility of the Faculty of Medicine/University of Geneva, I personally encourage students and scientists to participate in the process of generating transgenic mice.
- As president of the Animal Ethics Committee of the University, and member of the “Commission

cantonale pour les expériences avec les animaux”, I make sure that all scientific projects of the University of Geneva that involve animal experimentation follow the guidelines of the Direction Générale de la Santé, and that all scientists involved in such projects have the appropriate curriculum for working with living animals.

Organisation of international meetings:

- 2006 FEBS/EMBO International Workshop “Programming Pancreatic Beta Cells.” El Perelló (Spain). 30 speakers (all world leaders in the field); 150 participants (October 18-22, 2006)
Co-organizer, with J. Ferrer (Hospital Clinic, Barcelona) and F.X. Real (Universitat Pompeu Fabra, Barcelona).
- 2011 2011 Investigator Retreat of the NIH/NIDDK Beta Cell Biology Consortium. Washington DC (USA). 29 speakers; ~130 participants (May 11-13, 2011)
Co-organizer, with M. Hebrok (UCSF), L. Sussel (Columbia U), M. Magnusson (Vanderbilt U), and A. Stewart (Pittsburg U).

Resource Sharing

(a) Data Sharing Plan: All data generated from my studies are shared in publications under the general framework provided by NIH guidelines.

(b) Sharing Model Organisms: All resources (mice, cell lines, reagents) generated from my studies are shared with other investigators around the world. I have distributed during the past years several transgenic strains to many laboratories, and to the BCBC’s and HIRN’s Mouse Collection in particular.

Invited Speaker (lectures at scientific symposia; only *accepted* invitations are listed)

- 1st EASD (*European Association for the Study of Diabetes*) *Scientists Training Course* (University of Geneva Medical School), April 1994
- EASD meeting at Stockholm, Sweden, September 1994
- 3rd Workshop on Endocrine Pancreatic Development, Copenhagen, Denmark, October 1996
- 4th Workshop on Endocrine Pancreatic Development, Uppsala, Sweden, Mai 1998
- 5^{ème} colloque de la SOFTEC, au Collège de France, Paris: Cellules souches et déterminisme cellulaire. June 1999
- WHO Course on Human Reproductive Biology (organized by Aldo Campana, University Hospital of Geneva), September 1999
- IREN Workshop. Reconstructing endocrine pancreas. Genève, March 2000
- Cours romand de perfectionnement en expérimentation animale. Modèles transgéniques en recherche biomédicale. Genève, April 2000
- Société Française d'Endocrinologie (19^e Congrès), Liège, Belgium, October 2001
- Levine Symposium, City of Hope Natl. Med. Center, Duarte (USA), October 2002
- Islet Development and Stem Cells in Diabetes, Helsinki, April 2003
- 7^è Congrès de l'Associacio Catalana de Diabetis, Barcelona, May 2003
- 2nd Int. Conference on Molecular and Cell Biological Aspects of Gastroenteropancreatic Neuroendocrine Tumor Diseases, Berlin, June 2003
- Recent Developments in Transgenic Research, Lausanne, June 2003
- 18th International Diabetes Federation Congress, Paris, August 2003
- Pancreatic Development and Its Role in Disease Modeling in Mice, Chicago, September 2003
- Beta Cell Biology Consortium (NIH/NIDDK), Atlanta, October 2003

- Cell Therapy Course, CSIC, Universidad de Valladolid, November 2003
- 8th Congress of the German Endocrinology Society, Dresden, March 2004
- 17^o Congreso Soc. Española Diabetes, Valencia, May 2004
- 4th Congress of the Spanish Society of Developmental Biology, Santander, September 2004
- Beta Cell Biology Consortium (NIH/NIDDK), Chicago, October 2004
- European Course on the Pathology & Embryology of Genetically Engineered Mice (EUROGEMS), Nantes, May 2005
- Spanish Health Ministry's Diabetes Network, Barcelona, October 2005
- IX Reunión Nacional del Club Español Bilio-Pancreático, Valencia, November 2005
- 1st Beta Cell Therapy Symposium, Brussels, January 2006
- Beta Cell Biology Consortium (NIH/NIDDK), Boston, May 2006
- Diabetes International Conference on Beta Cell Biology, Barcelona, May 2006
- 38th meeting of the European Pancreatic Club, Tampere (Finland), June 2006
- 5th Congress of the Spanish Society of Developmental Biology, Alicante, September 2006
- Beta Cell Biology Consortium (NIH/NIDDK), Philadelphia, October 2006
- FEBS/EMBO International Workshop "Programming Pancreatic Beta Cells", El Perelló (Spain), October 2006
- 2nd Beta Cell Therapy Symposium, Brussels, January 2007
- VIII Symposium de diabétologie franco-suisse, Chamonix (France), February 2007
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, May 2007
- Beta Cell Therapy Training Course on Transdifferentiation, Bath University (UK), June 2007
- Beta Cell Biology Consortium (NIH/NIDDK), NYC, October 2007
- 9th Int. Congress of the Immunology of Diabetes Society and American Diabetes Association Research Symposium, Miami, November 2007
- "Pancreatic β -cell: birth, life and death", King's College London School of Medicine (London), December 2007
- Beta Cell Therapy meeting, EU' 6th FP, Ringberg's Castle (Rottach-Egern, Germany), December 2007
- Beta Cell Therapy workshop 2008, Brussels, January 2008
- Beta Cell Therapy meeting, EU's 6th FP, Hvidovre (Denmark), December 2008
- Beta Cell Biology Consortium (NIH/NIDDK), Boston, May 2008
- 2nd Swiss Stem Cells Network meeting, Geneva, February 2009
- EMBO Workshop on Beta Cell Differentiation and Regeneration, Peebles Hydro (Scotland), February 2009
- 10th Servier-IGIS Symposium "Maintaining Optimal Beta Cell Mass for Normal Metabolism", St Jean Cap Ferrat (France), March 2009
- 2009 Annual meeting of the Spanish Society for the Study of Diabetes, Tenerife (Spain), April 2009
- Symposium on "Developmental biology from a cell biology and biophysics perspective"; CNIC, Madrid, May 2009
- Beta Cell Biology Consortium (NIH/NIDDK), Washington, May 2009
- EMBO/SNF Symposium on Developmental Systems, Arolla, August 18-22, 2009
- 20th World Diabetes Congress (Int. Diabetes Federation), Montréal, October 2009
- 2nd Annual Scientific Symposium of the Penn Institute for Regenerative Medicine, University of Pennsylvania School of Medicine, Philadelphia, January 27, 2010
- Beta Cell Biology Consortium (NIH/NIDDK), Bethesda, February 15-17, 2010
- SNF's NRP63 "Stem cells and Regenerative Medicine", Bern, May 18, 2010
- EMBO meeting, Barcelona, September 4-7, 2010

- 7th NCCR Frontiers-in-Genetics Meeting, Saas-Fee, September 8-10, 2010
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, October 3-5, 2010
- Insulin Research Forum, Osaka, November 20, 2010
- Insulin Research Forum, Tokyo, November 23, 2010
- 2010 Annual Meeting of the Center for Beta Cell Therapy in Diabetes (EU 7FP), Guest Lecture, Brussels, December 16-18, 2010
- 1st AIDPIT/EPITA Joint Winter Symposium, Innsbruck, January 23-25, 2011
- Congrès de la Société Francophone du Diabète: Plenary Lecture, Geneva, March 22-25, 2011
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, May 11-13, 2011
- Annual Meeting SNF's NRP63 "Stems cells and Regenerative Medicine", Bern, May 23-24, 2011
- 13th World Congress of the International Pancreas and Islet Transplant Association (IPITA), Prague, June 1-4, 2011
- 6th Central European Diabetes Congress/FID, Zurich, June 30–July 2, 2011
- 6th Annual Translational Stem Cell Research Conference. The New York Stem Cell Foundation. The Rockefeller University, NYC, October 11-12, 2011
- Programming β -cell development, impairment and regeneration Workshop, LO-Skolen, Helsingor (Denmark), October 23-26, 2011
- Workshop "Liver and pancreas: from development to disease", Baeza (Spain), November 14-16, 2011
- 8th Swiss Experimental Surgery Symposium "Animal models for organogenesis", Geneva, January 19-20, 2012
- Royal Society Scientific Seminar on Beta Cell Biology, The Kavli Royal Society International Centre, Buckinghamshire (UK), February 1st-2nd, 2012
- Swiss Stem Cells Network 8th Annual Meeting, Zurich, February 10, 2012
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, May 1-4, 2012
- Annual Meeting SNF's NRP63 "Stem cells and Regenerative Medicine", Bern, May 29-30, 2012
- 8th NCCR Frontiers-in-Genetics Meeting, Saas-Fee, June 28-29, 2012
- 4th International Congress on Stem Cells and Tissue Formation, Dresden, July 18-20, 2012
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, October 1-3, 2012
- Beta Cell Workshop 2013, Kyoto (Japan), April 23-6, 2013
- Beta Cell Biology Consortium (NIH/NIDDK), Washington DC, May 7-10, 2013
- EMBO Workshop on Liver and Pancreas Development, Function and Disease, Attica (Greece), May 26-29, 2013.
- 21st Jerusalem Summer School in Life Sciences on REGENERATIVE BIOLOGY, Israel, July 21-5, 2013
- 6th D-Cure Symposium – New Frontiers in Diabetes Research, Herzliya, Israel, November 6, 2013
- Annual meeting FP7-BetaCellTherapy, Brussels, December 12-3, 2013
- Webinar on Beta Cell Regeneration: Novel Sources, sponsored by Mercodia, Feb. 4, 2015
- Islet Study Group & Beta Cell Workshop, Jerusalem, May 3-7, 2015
- 1st Human Islet Research Network (HIRN) Annual Meeting, Washington DC, May 14-15, 2015
- "Islet Cell Plasticity in Diabetes Therapy", Banting & Best Diabetes Centre, Joslin Diabetes Center and University of Copenhagen Joint Conference, Copenhagen, October 8-9, 2015
- 27th Symposium of Molecular Diabetology, Tokyo, December 5, 2015
- Annual Symposium of the Société Suisse d'Endocrinologie et Diabétologie Pédiatriques, Geneva, January 28, 2016
- 8th Annual nPOD Meeting, Miami (USA), February 21-24, 2016
- 17th Servier-IGIS Symposium, St. Jean-Cap-Ferrat (France), April 7-10, 2016
- 2nd Human Islet Research Network (HIRN) Meeting, Washington DC, May 24-27, 2016

- 2nd Novamedica Meeting: Innovation et Diabète, June 2-3, 2016, Montpellier
- 21st EASD-Hagedorn-Oxford Workshop, Oxford (UK), August 5-8, 2016
- 12th Royan International Congress on Stem Cell Biology and Technology, and 17th Congress on Reproductive Biomedicine, Tehran (Iran), August 31-September 2, 2016
- 4th Annual Helmholtz - *Nature Medicine* Diabetes Conference, Munich, September 18-20, 2016
- Joint Meeting of the EASD Islet Study Group/Beta Cell Workshop, Dresden, May 7-10, 2017
- Öresund Islet Study Group – Workshop on “Islet Cell Plasticity”, Copenhagen, June 15, 2017
- 4th UNIGE Diabetes Center Annual Meeting, November 9, 2017, Geneva
- Swiss Society for Endocrinology and Diabetes Annual Meeting, November 16-17, 2017, Bern
- 20th Annual Meeting of the Sociedad Catalana de Endocrinología y Nutrición, November 23, 2017, Barcelona
- 16th Annual Meeting of the Sociedad de Endocrinología, Nutrición y Diabetes de Madrid, November 24, 2017, Madrid
- 55th Annual EASD Meeting, Sept. 17-20, 2019, Barcelona.

Invited Visiting Speaker (only *accepted* invitations are listed)

- Instituto de Bioingeniería (Bernat Soria), Universidad Miguel Hernández, Alicante, Spain, June 1998
- The Whittier Institute (Alberto Hayek), UCSD, La Jolla, California, March 1999
- “Ontogeny” (D. Melton), Boston, Massachusetts, March 1999
- Max Plank Institute for Biophysical Chemistry (Peter Gruss), Göttingen, Germany, March 1999
- Centre for Human Genetics (J. Creemers), Université de Louvain, Belgium, December 1999
- The Scripps Research Institute (D. Salomon), La Jolla, California, April 2000
- Royal Victoria Hospital (D. Le Roith), McGill University, Montréal, April 2000
- Laboratoire Génétique et Cancer (Z.Q. Wang), CNRS, Université de Lyon, June 2000
- U381 Inserm, Institute of Health and Medical Research (Gérard Gradwohl), Strasbourg (France), December 2002
- Institut de Pharmacologie et Toxicologie (B. Thorens), Université de Lausanne, April 2002
- Diabetes Research and Training Center, Washington University (A. Permutt), St. Louis (USA), October 2002
- St Jude’s General Hospital (B. Sosa-Pineda), Memphis (USA), October 2002
- Harvard University (D. Melton), Cambridge (USA), October 2002
- Joslin Diabetes Center (S. Bonner-Weir), Boston (USA), October 2002
- Stanford University (Beckman Center) (S. Kim), Stanford (USA), November 2002
- UCSF (M. Hebrok), San Francisco (USA), November 2002
- Hôpital Robert Debré (B. Bréant), Paris, April 2003
- Diabetes Research Center (D. Pipeleers), Free University of Brussels, June 2003
- Université de Lausanne (W. Wahli), Switzerland, February 2004
- Max Plank Institute for Biophysical Chemistry (A. Mansouri), Göttingen, Germany, November 2004
- Diabetes Research Center (D. Pipeleers), Free University of Brussels, May 2005
- Universidad de la Laguna (C. M. Trujillo), Tenerife, Spain, December 2005
- CABIMER (B. Soria), Sevilla, September 2006
- Imperial College (G. Rutter), London, January 2007
- Universitat Pompeu Fabra, IMIM (FX Real), Barcelona, January 2007

- Center of Animal Biotechnology and Gene Therapy, Universitat Autònoma de Barcelona (F. Bosch), March 2007
- Institut de Recerca, Hospital Universitari Vall d'Hebron (J.E. Felíu), Barcelona, March 2007
- CBM (U. Autònoma de Madrid; I. Guerrero), Madrid, September 2007
- Journées de la recherche en génétique 2008, Geneva, May 2008
- Centre de Recherche des Cordeliers (P. Ferré), Paris, June 2008
- Institut Cochin (P.O. Couraud), Paris, Septembre 2008
- Naomi Berrie Diabetes Center (L. Sussel), Columbia University (New York), March 4th, 2010
- SFB 655 (From Cells to Tissues) Seminar Series on Regenerative Medicine, Medical School and Faculty of Biology of the University of Technology Dresden, and Max Planck Institute of Molecular Cell Biology and Genetics. Medizinisch-Theoretisches Zentrum (M. Solimena), Dresden (Germany), September 20th, 2010
- Colloques d'Endocrinologie, Diabétologie et Nutrition, HUG (J. Philippe), Geneva, Octobre 14, 2010
- Course on "Adult Cell Reprogramming", Master in Biotechnology and Health Sciences (Concepción Mora Giral), Universitat de Lleida (Spain), January 18th, 2012
- The Oxford Centre for Diabetes, Endocrinology & Metabolism (Patrik Rorsman, Stephen Gough), Oxford, June 6th, 2012
- Weizmann Institute of Science, Dept. Biological Chemistry (Michael Walker), Jerusalem, November 7, 2013
- London Research Institute, CR-UK (Axel Behrens), London, June 26, 2015
- Scientific Advisory Board of Bergen Stem Cell Consortium, Haukeland University Hospital (Helge Ræder), Bergen (Norway), August 31, 2015
- University of Zurich, Irchel (Simone Camargo), November 25, 2015
- Scientific Advisory Board of Bergen Stem Cell Consortium, Haukeland University Hospital, Bergen (Norway), September 5-7, 2016
- CABIMER (invited by Anabel Rojas), Seville, January 13, 2017
- Scientific Advisory Board of Bergen Stem Cell Consortium, Haukeland University Hospital, Bergen (Norway), September 3-5, 2017
- Dept. Biochemistry and Molecular Biology, University of Southern Denmark, Odense (Susanne Mandrup), September 27-8, 2017
- Sanofi, Frankfurt (Philip Larsen and Krister Bokvist), December 6-7, 2017
- Scientific Advisory Board of Bergen Stem Cell Consortium, Haukeland University Hospital, Bergen (Norway), August 29-30, 2018
- Scientific Advisory Board of Bergen Stem Cell Consortium, Haukeland University Hospital, Bergen (Norway), October 3-4, 2019

Invited Webinar Speaker (only *accepted* invitations are listed)

- Beta Cell Regeneration: Novel Sources. Sponsored by Mercodia; February 4, 2015