

## Curriculum Vitae

Thaher Pelaseyed, PhD – Male, Born the 10th of November 1979 – Swedish – 791110-1215  
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**Social status** Married, one (1) child born 2009

**Current position** **Assistant Professor** (Forskarassistent)  
Principal Investigator  
Department of Medical Biochemistry and Cell Biology,  
University of Gothenburg, Gothenburg, Sweden

## Research experience

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- 2017-2018 Wenner-Gren Research Fellow, PI  
Department of Medical Biochemistry and Cell Biology,  
University of Gothenburg, Gothenburg, Sweden
- 2014-2017 Three (3) year Postdoctoral research  
Wenner-Gren Postdoctoral Fellow  
*“Ezrin activation by LOK phosphorylation involves a PIP<sub>2</sub>-dependent wedge mechanism”*  
Supervisor: Prof. Anthony Paul Bretscher  
Weill Institute of Cell and Molecular Biology  
Cornell University, Ithaca, NY, USA
- 2013 One (1) year of Postgraduate research  
Department of Medical Biochemistry and Cell Biology,  
University of Gothenburg, Gothenburg, Sweden
- 2006 Six (6) months of Graduate research  
*“The Mucin Connection: Interactions between Mucins and PDZ Proteins”*  
Department of Medical Biochemistry and Cell Biology,  
University of Gothenburg, Gothenburg, Sweden
- 2003 Three (3) months of Undergraduate research  
*“Identifying genes controlling vascular smooth muscle development”*  
Department of Medical Biochemistry and Cell Biology  
University of Gothenburg, Gothenburg, Sweden

## Education and training

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- 2012 PhD in Medical Biochemistry (Medicine)  
PhD thesis title: *“The Relationship between Transmembrane Mucins, Ion Channels and PDZ Adaptor Proteins in the Small Intestine”*  
Supervisor: Prof. Gunnar C. Hansson  
Opponent: Prof. Martina Gentsch, UNC at Chapel Hill, NC, USA  
University of Gothenburg, Gothenburg, Sweden

## Education and training (continued)

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- 2006 Master of Medicine in Pharmaceutical Bioscience  
[90% equivalent to “Master of Science in Pharmacy” (Apotekarexamen)]  
Master thesis title: “*Study of intracellular cleavage of human mucin MUC4*”  
University of Gothenburg, Gothenburg, Sweden
- 1999 Master Programme in Chemical Engineering,  
Chalmers University of Technology, Gothenburg, Sweden

### Research grant awards - current

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|---|---------------|
| 1. Swedish Society for Medical Research, Start grant (2018-2021), #S17-0005 | 6 800 000 SEK |
| 2. Wenner-Gren Research Grant (2017-2019), #FT2017-0002                     | 2 600 000 SEK |
| 3. The Wenner-Gren Foundations, Postdoc training grant, #WUP2017-0005       | 300 000 SEK   |
| 4. Sahlgrenska Academy International Starting Grant, #2015/521              | 500 000 SEK   |
| 5. The Jeansson Foundations, (2018) #JS2017-0003                            | 375 000 SEK   |
| 6. Åke Wibergs foundation, Research grant, (2018), #M17-0062                | 200 000 SEK   |
| 7. Wilhem and Martina Lundgren’s Foundation, #2017-1655                     | 60 000 SEK    |

### Other scientific awards and scholarships

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1. Wenner-Gren Postdoctoral Fellowship, 2014-2017 (success rate 5%)
2. The Swedish Cystic Fibrosis Association’s Postdoctoral stipend, 2014
3. Birgit and Hellmuth Hertz Foundation’s Postdoctoral scholarship, 2013
4. Wilhelm and Martina Lundgren’s foundation, 2006 to 2012
5. 1st prize for the best oral presentation at the 2nd European CF Young Investigators meeting, Lille, France, 26-29 August, 2008 (Success rate 2%)
6. The Swedish Cystic Fibrosis Association’s scholarship, 2006, 2007, 2008, 2009

### Departemental seminars

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1. Department of Immunology and Microbiology, Institute of Biomedicine, Sahlgrenska Academy, University of Gothenburg, Sweden, April 2018
2. Department of Internal Medicine and Clinical Nutrition, Institute of Medicine, Sahlgrenska Academy, University of Gothenburg, Sweden., April 2018

### Oral presentations at national and international conferences

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- American Society of Cell Biology, Minisymposium, San Francisco, USA, 2016 “Ezrin activation by LOK phosphorylation involves a PIP<sub>2</sub>-dependent coincidence detection mechanism in a multi-step reaction”
- 35th FEBS Congress, Gothenburg, Sweden, 2010 “CFTR anion channel modulates expression of human transmembrane mucin MUC3 via the PDZ protein GOPC”
- Mucins in Health and Disease, Cambridge, UK, 2009 “PDZ protein interaction: the missing link between CFTR and mucins?”
- The 2nd European CF Young Investigators Meeting, Lille, France, 2008  
♣ *1st prize for best oral presentation* (Success rate 2%)  
“The C-terminus of the transmembrane mucin MUC17 binds to the scaffold protein PDZK1 that stably localizes it to the enterocyte apical membrane in the small intestine
- The XVIIth Nordic Molecular Glycobiology Meeting, Copenhagen, Denmark, 2008 “PDZ protein interactions regulate mucin expression”

- The XVth Nordic Molecular Glycobiology Meeting, Gothenburg, Sweden, 2006 “The Mucin Connection: the interaction of mucins with PDZ proteins”

### **Poster presentations at national and international conferences**

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- American Society of Cell Biology, San Francisco, USA, 2016 “Ezrin activation by LOK phosphorylation involves a PIP<sub>2</sub>-dependent coincidence detection mechanism in a multi-step reaction”
- North American Cystic Fibrosis Conference, Orlando, USA, 2012 “Carbachol-induced internalization of human membrane mucin MUC17 is concomitant with CFTR externalization in enterocytes”
- American Society of Cell Biology, Denver, USA, 2011 “CFTR anion channel modulates expression of human transmembrane mucin MUC3 through the PDZ protein GOPC.”
- Mucins in Health and Disease, Cambridge, UK, 2011 “Apical Anchoring of Transmembrane Mucin MUC17 in Epithelial Cells is Regulated by the Calcium-Dependent Agonist Carbachol”
- Cilia, Mucus and Mucocilliary Interactions, Ventura, USA, 2011 “CFTR anion channel modulates expression of human transmembrane mucin MUC3 via the PDZ protein GOPC”
- 32nd ECFS Annual Conference, Brest, France, 2009 “PDZ protein interaction: the missing link between CFTR and mucins”
- Mucins in Health and Disease, Cambridge, UK, 2007 “The Mucin Connection: Mucins interacting with PDZ proteins”

### **Additional PhD training**

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- Human biology, Department of Biochemistry, University of Gothenburg (60 credits)
- Applied Electron Microscopy, Department of Biochemistry, University of Gothenburg (4,5 credits)
- Introduction to Glycobiology, Department of Biochemistry, University of Gothenburg (4.5 credits)
- The 2nd European Cystic Fibrosis Young Investigators meeting, Lille, France
- Swedish National Advanced Graduate course on Glycoimmunology, Glycoconjugates in Biological Systems (GLIBS), Sweden (4.5 credits)
- 2007 Training workshop of EuroCareCF (WP7) on Epithelial Biology, Faculty of Sciences, University of Lisboa, Portugal (7.5 credits)
- Introductory course for PhD students, University of Gothenburg (15 credits)
- “Induction and Modulation of Mucosal Immunity”, GU/MIVAC, University of Gothenburg (1.5 credits)
- Gastrointestinal diseases, Institute of Medicine, University of Gothenburg (0.75 credits)

### **Scientific expertise**

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- Cell Biology
  - Cell culture of non-polarized and polarized cell lines
  - Establishing stable cell lines and heterologous expression systems
  - Fluorescence-activated cell sorting
  - SILAC and ApEX-2, *in vivo* proximal biotin-labeling of proteins
- Molecular biology
  - RNA/DNA extraction, PCR, RT-PCR
  - Molecular cloning (Gibson assembly, ligation, vector design, vector design software)
- Biochemistry
  - Protein isolation and purification
  - Immunocytochemistry and immunohistochemistry
  - Immunoblotting including fluorescent dual color detection, SDS-PAGE, Phostag PAGE
  - Protein interaction arrays
  - Immuno- and affinity precipitations, pull-down assays and ELISA

Protein labeling techniques (Biotinylation and metabolic labeling)

Equilibrium binding assays

*In vitro* kinase assays, including enzyme kinetics by <sup>32</sup>P radiolabeling

Fast Protein Liquid Chromatography

- Microbiology:
  - Bacterial culture and growth dynamics, including bacterial adhesion assays
- Confocal microscopy including live cell imaging
- Electron microscopy
- Softwares: Volocity, Zeiss ZEN, Image Studio, Imaris

## Language skills

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Swedish (native speaker), English (fluent), Persian (good)

## Teaching (+650 hrs)

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- Cell culture, 2.5 credits, 3rd cycle
- In vitro Mutagenesis and sequencing, 2nd cycle, 2010/2011/2013/2017
- Man in Health 1: The Oral Ecological System, 24.0 credits, 1st cycle
- Physiology of the Cell, 1st cycle, 2017
- Chemistry and Biochemistry, 1st cycle, 2017
- Molecular Genetics, 1st cycle, 2007/2009
- Eukaryote Cell biology, 1st cycle, 2007
- The Flow of Genetic Information, 1st cycle, 2008
- Eukaryotic Plasma Membranes, 1st cycle, 2008
- Computer-Simulated Restriction analysis, 1st cycle, 2008/2011
- Computer-Simulated HIV Laboration, 1st cycle, 2008
- Medical Genetics, 1st cycle, 2007/2009
- Chemical Laboratory Methods and Security, 1st cycle, 2009
- Intermediate Metabolism, 1st cycle, 2009/2011/2012
- Computer-Assisted Structure Analysis, 1st cycle, 2009
- Protein purification, 1st cycle, 2011

## Supervision of undergraduate, graduate students and postdocs (+150 hrs)

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1. Elena Layunta, Postdoc from Spain, 2018-
2. Sofia Jäverfelt, Master thesis student, 2017
3. Hannah Schneider, (co-supervisor), Postdoc from Germany, 2013
4. Evelin Berger, (co-supervisor), Postdoc from Germany, 2013
5. Marcus Bäckman, Master thesis student, 2012
6. Ida Gustafsson, Undergraduate intern, 2011
7. Linda Vinbladh, Master thesis student, 2007
8. Anna Björk, Amanuens medical student, 2009
9. Johan Ehn, Upper secondary student, 2007

## Community outreach

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1. The Göteborg Medical Society Seminar: "The role of transmembrane mucin in host surveillance of gut microbiome", April 2018

## Other work experience

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2004            Part-time employment as laboratory technician  
                  Department of Clinical Chemistry  
                  Sahlgrenska University Hospital, Mölndal, Sweden

### **Memberships**

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- American Society of Cell Biology
- Swedish Pharmaceutical Society (Apotekarsocieteten)

### **Volunteer work**

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2014-2016    Volunteer Firefighter  
                  Cayuga Heights Fire Department, Ithaca, NY, USA

**Publication list** (*h*-index=7, 400 citations according to Scopus)

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Schneider H, **Pelaseyed T**, Svensson F, Johansson MEV. Study of mucin turnover in the small intestine by in vivo labeling. *Sci Rep*. 2018 Apr 10;8(1):5760. doi: 10.1038/s41598-018-24148-x.

**Pelaseyed T**, Viswanatha R, Sauvanet C, Filter JJ, Goldberg ML, Bretscher A. Ezrin activation by LOK phosphorylation involves a PIP(2)-dependent wedge mechanism. *Elife*. 2017 Apr 21;6. pii: e22759. doi: 10.7554/eLife.22759.

Lebrero-Fernández C, Bergström JH, **Pelaseyed T**, Bas-Forsberg A. Murine Butyrophilin-Like 1 and Btnl6 Form Heteromeric Complexes in Small Intestinal Epithelial Cells and Promote Proliferation of Local T Lymphocytes. *Front Immunol*. 2016 Jan 19;7:1. doi: 10.3389/fimmu.2016.00001. eCollection 2016. PubMed PMID: 26834743

Sauvanet C, Wayt J, **Pelaseyed T**, Bretscher A. Structure, regulation, and functional diversity of microvilli on the apical domain of epithelial cells. *Annu Rev Cell Dev Biol*. 2015;31:593-621. doi: 10.1146/annurev-cellbio-100814-125234.

**Pelaseyed T**, Bergström JH, Gustafsson JK, Ermund A, Birchenough GM, Schütte A, van der Post S, Svensson F, Rodríguez-Piñero AM, Nyström EE, Wising C, Johansson ME, Hansson GC. The mucus and mucins of the goblet cells and enterocytes provide the first defense line of the gastrointestinal tract and interact with the immune system. *Immunol Rev*. 2014 Jul;260(1):8-20. doi: 10.1111/imr.12182.

**Pelaseyed T**, Gustafsson JK, Gustafsson IJ, Ermund A, Hansson GC. Carbachol-induced MUC17 endocytosis is concomitant with NHE3 internalization and CFTR membrane recruitment in enterocytes. *Am J Physiol Cell Physiol*. 2013 Aug 15;305(4):C457-67. doi: 10.1152/ajpcell.00141.2013. .

**Pelaseyed T**, Zäch M, Petersson AC, Svensson F, Johansson DG, Hansson GC. Unfolding dynamics of the mucin SEA domain probed by force spectroscopy suggest that it acts as a cell-protective device. *FEBS J*. 2013 Mar;280(6):1491-501. doi: 10.1111/febs.12144. Epub 2013 Feb 21.

Johansson ME, Ambort D, **Pelaseyed T**, Schütte A, Gustafsson JK, Ermund A, Subramani DB, Holmén-Larsson JM, Thomsson KA, Bergström JH, van der Post S, Rodríguez-Piñero AM, Sjövall H, Bäckström M, Hansson GC. Composition and functional role of the mucus layers in the intestine. *Cell Mol Life Sci*. 2011 Nov;68(22):3635-41. doi: 10.1007/s00018-011-0822-3.

**Pelaseyed T**, Hansson GC. CFTR anion channel modulates expression of human transmembrane mucin MUC3 through the PDZ protein GOPC. *J Cell Sci*. 2011 Sep 15;124(Pt 18):3074-83. doi: 10.1242/jcs.076943.

Malmberg EK, **Pelaseyed T**, Petersson AC, Seidler UE, De Jonge H, Riordan JR, Hansson GC. The C-terminus of the transmembrane mucin MUC17 binds to the scaffold protein PDZK1 that stably localizes it to the enterocyte apical membrane in the small intestine. *Biochem J*. 2008 Mar 1;410(2):283-9.

**Books**

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**Pelaseyed, T** (2012) *The Relationship between Transmembrane Mucins, Ion Channels and PDZ Adaptor Proteins in the Small Intestine*. Gothenburg. ISBN: 9789162885212