

Research

Hillevi Hemphälä PhD BSc Optometry

Research area is Visual Ergonomics and the impact of Light on human beings.

Hillevi has initiated a project where a new visual ergonomics risk assessment method, VERAM, has been developed. VERAM contains both subjective ratings and objective risk assessments, with the purpose of finding the factors in the visual environment that cause problems such as headaches, eyestrain and musculoskeletal strain.

Employment

Senior lecturer

Ergonomics and Aerosol Technology

Lund University

Lund, Sweden

2016 Mar 22 → present

Metalund

Lund University

Lund, Sweden

2020 Sept 22 → present

Profile area member

LTH Profile Area: Photon Science and Technology

Lund University

Sweden

2022 Sept 13 → present

Researcher

Centre for Healthy Indoor Environments

Lund University

Sweden

2022 Dec 6 → present

Profile area member

Lund Laser Centre, LLC

Lund University

Lund, Sweden

2025 Oct 31 → present

Research collaboration

Innovation Skåne AB

Sweden

2018 Jan 1 → 2020 Jan 1

Research outputs

Ny metode til evaluering af lysmiljøet

Hemphälä, H., 2025 Aug, Tid&Syn.

Is eyestrain associated with musculoskeletal strain and visual symptoms?

Hemphälä, H., Zetterberg, C. & Heiden, M., 2025 Jul 24.

Size matters: effect of screen setup on muscle activity and posture in computer work

Dahlqvist, C., Arvidsson, I., Löfqvist, L., Nyström, M., Glimne, S. & Hemphälä, H., 2025 Jun 10, (E-pub ahead of print) In: Ergonomics. 14 p.

Virtual reality: en revolution i arbetslivet?

Rosengren, C., Rydenfält, C., Alce, G., Hemphälä, H., Persson, J., Borell, J., Ljungar-Chapelon, M., Wallergård, M., Frennert, S. & Ek, Å., 2023 Jul 3, Nio - Fem Tidskrift om arbetsliv & profession.

Att jobba vid två skärmar inte alltid optimalt

Hemphälä, H., 2022 Nov 14, Arbetsliv.

Evaluating integrated lighting projects - A Procedure to Post-Occupancy Evaluation of Daylight and Electrical Lighting Integrated Projects

Naves David Amorim, C. (Editor), Garcia-Hansen, V. (Editor), Gentile, N. (Editor), Osterhaus, W. (Editor), Pham, K. (Editor), Altomonte, S., Naves David Amorim, C., Campamà Pizarro, R., Carmon, D., Ciampi, G., Delvaeye, R. (Contributor), Garcia-Hansen, V., Gentile, N., Geisler-Moroder, D., Gkaintatzi Masouti, M. (Contributor), Hemphälä, H. (Contributor), Lindén, J. (Contributor), Osterhaus, W., Rodriguez, F. (Contributor) & Pham, K. & 3 others, Pierson, C. (Contributor), Scorpio, M. & Sibilio, S., 2021 Sept 21, IEA SHC. 78 p.

Är det blå ljuset verkligen farligt och ska blåljusfilter rekommenderas?

Hemphälä, H., 2021, Optik, 2021, 1 2 p.

Bländning och synergonomisk riskbedömning VERAM

Hemphälä, H., 2021, Ljuskultur, 2021, 2 2 p.

Riktlinjer för synergonomi - belysning och synförhållanden på arbetsplatsen

Richter, H., Hemphälä, H., Eklund, J., Hård af Segerstad, B., Berggren, T., Stjernfeldt, A., Jangdin, E., Andersson Hjelm, I.-L. & Nilsson, L. (Contributor), 2021, Gävle: Myndigheten för arbetsmiljökunskap (MYNAK). 144 p.

Risks in the visual environment such as glare, illuminance, and luminance ratio - risk assessments made with visual ergonomics risk assessment method - VERAM - a descriptive paper

Hemphälä, H., Glimne, S., Heiden, M., Lindén, J., Lindberg, P. & Nylén, P., 2021, *Proceedings of the Conference CIE 2021: September 27 - 29, 2021 hosted by the CIE National Committee (NC) Malaysia online*. CIE, Vienna

Visual Symptoms and Risk Assessment Using Visual Ergonomics Risk Assessment Method (VERAM)

Hemphälä, H., Heiden, M., Lindberg, P. & Nylén, P., 2021, *Proceedings of the 21st Congress of the International Ergonomics Association (IEA 2021) - Volume II: Inclusive Design*. Black, N. L., Neumann, W. P. & Noy, I. (eds.). Springer Science and Business Media B.V., p. 729-735 7 p. (Lecture Notes in Networks and Systems; vol. 220).

Towards better lighting recommendations for open surgery

Hemphälä, H., Osterhaus, W., Larsson, P. A., Borell, J. & Nylén, P., 2020 Nov 1, In: *Lighting Research and Technology*. 52, 7, p. 856-882 27 p.

Validity of a computer-based risk assessment method for visual ergonomics

Heiden, M., Zetterberg, C., Hemphälä, H., Nylén, P. & Lindberg, P., 2019 May 15, In: *International Journal of Industrial Ergonomics*. 72, p. 180-187

Reliability of a new risk assessment method for visual ergonomics

Zetterberg, C., Heiden, M., Lindberg, P., Nylén, P. & Hemphälä, H., 2019, In: *International Journal of Industrial Ergonomics*. 72, p. 71-79 9 p.

Conceptual and Practical Strategy Work to Promote Ergonomics/Human Factors in Sweden

Österman, C., Osvalder, A. L., Hemphälä, H., Frohm, J., Glimne, S., Hägg, G. M., Janzon, O., Pettersson, P. J., Stavervik, M. & Ahlin, J., 2018 Aug 5, *Proceedings of the 20th Congress of the International Ergonomics Association (IEA 2018) - Volume IV: Organizational Design and Management ODAM, Professional Affairs, Forensic*. Springer, p. 320-329 10 p. (Advances in Intelligent Systems and Computing; vol. 821).

Lighting at computer work stations

Osterhaus, W., Hemphälä, H. & Nylén, P., 2015, In: Work: A Journal of Prevention, Assessment & Rehabilitation. 52

Lighting at computer workstations.

Osterhaus, W., Hemphälä, H. & Nylén, P., 2015, In: Work: A Journal of Prevention, Assessment & Rehabilitation. 52, 2, p. 315-328

How visual ergonomics interventions influence health and performance - with an emphasis on non-computer work tasks

Hemphälä, H., 2014, 86 p.

OpDesign – A study of the working environment in an operating unit

Johansson, G., Rydenfält, C., Hemphälä, H., Löndahl, J., Jakobsson, J., Odenrick, P., Larsson, P.-A., Åkerman, K., Arvidsson, I., Gremark-Simonsen, J. & Nordander, C., 2014.

OpDesign - A study of the working environment in an operating unit (poster)

Johansson, G., Rydenfält, C., Hemphälä, H., Löndahl, J., Odenrick, P., Larsson, P.-A., Åkerman, K., Arvidsson, I., Gremark-Simonsen, J. & Nordander, C., 2014

Optimal correction in spectacles - intervention effects on eyestrain and musculoskeletal discomfort among postal workers.

Hemphälä, H., Nylén, P. & Eklund, J., 2014, In: Work: A Journal of Prevention, Assessment & Rehabilitation. 47, 3, p. 329-337

Evaluation of three principles for forklift steering: effects on physical workload

Rislund, C., Hemphälä, H., Hansson, G.-Å. & Balogh, I., 2013, In: International Journal of Industrial Ergonomics. 43, 4, p. 249-256

A visual ergonomics intervention in mail sorting facilities: Effects on eyes, muscles and productivity.

Hemphälä, H. & Eklund, J., 2012, In: Applied Ergonomics. 43, p. 217-229

Visual ergonomics interventions in mail sorting facilities

Hemphälä, H., Hansson, G.-Å., Dahlqvist, C. & Eklund, J., 2012, In: Work: A Journal of Prevention, Assessment & Rehabilitation. 41, p. 3433-3437

Visual Ergonomics Workshop

Hemphälä, H., Glimne, S., Osterhaus, W. & Nylén, P., 2012, In: [Publication information missing]. p. 136-136

Experience from an Action Oriented Research Intervention at an Operating Unit - A view from the road

Rydenfält, C., Arvidsson, I., Hemphälä, H., Johansson, G., Larsson, P.-A., Nordander, C., Odenrick, P. & Åkerman, K., 2011, In: Arbete och hälsa. 45, 5, p. 76-76

Kompetensutveckling för hållbar belysning. Möjligheten att höja nivån på belysningssektorns värdeskapande genom flervetenskaplig samverkan

Carlson, R., Hemphälä, H., Hult, S., Johnsson, K., Karlsson, R., Laike, T., Löwegren, M., Lindhqvist, T., Luttrupp, C., Rasmusson, A., Samuelsson, L., Sjöberg, K., Svendenius, N., Vegehall, L. & Widell, S., 2011, Energimyndigheten. 94 p.

Sorting spectacles for mailmen

Hemphälä, H., Kuklane, K., Gao, C., Hansson, G.-Å. & Nordander, C., 2011, In: [Publication information missing]. p. 92-92

The Visual Environment in an Operating Theatre at a Hospital

Hemphälä, H., Johansson, G., Odenrick, P., Åkerman, K. & Larsson, P. A., 2011, In: Arbete och hälsa. 45, 5, p. 36-36

Vision ergonomics at recycling centres.

Hemphälä, H., Kihlstedt, A. & Eklund, J., 2010, In: Applied Ergonomics. 41, p. 368-375

Lighting Recommendations in Operating Theatres

Hemphälä, H., Johansson, G., Odenrick, P., Åkerman, K. & Larsson, P. A., 2009, *Proceedings of the 17th World Congress on Ergonomics 2009*. IEA, 6 p.

Rätt ljus på rätt plats

Hemphälä, H., 2001, Trygg på jobbet, 2021, 2, p. 13-13 1 p.

Activities**Visual Ergonomics and VERAM**

Hemphälä, H. (Invited speaker)
2025 Sept 26

University of Gothenburg

Hemphälä, H. (Visiting lecturer)
2025 Sept 17

Synergonomi, ljus och hälsa

Hemphälä, H. (Invited speaker)
2025 Aug 15

Light and Health - Visual Ergonomics

Hemphälä, H. (Invited speaker)
2025 Jun 25

Light Collaboration Network Research meeting

Hemphälä, H. (Host)
2025 Jun 17 → 2025 Jun 18

Expert vittne i tingsrätten

Hemphälä, H. (Advisor)
2025 May 19

Synergonomi, ljus och hälsa

Hemphälä, H. (Invited speaker)
2025 May 8

Ögats åldrande och ljusbehov för äldre/ Synergonomisk riktlinje MYNAK

Hemphälä, H. (Invited speaker)
2025 Mar 11

Ljusedagen om ljus, välbefinnande och hälsa

Hemphälä, H. (Invited speaker)
2024 Dec 13

Linking Practice and Science in Visual Ergonomics

Hemphälä, H. (Keynote/plenary speaker)
2024 Nov 15

Webinar University of Waterloo, Centre of Research Expertise for the prevention of Musculoskeletal disorders. Visual Ergonomics.

Hemphälä, H. (Invited speaker)
2024 Nov 12

Certec informerar 2024

Hedvall, P.-O. (Contributor), Stjernholm, L. (Contributor), Müller, L. (Contributor), Magnusson, C. (Contributor), Efring, H. (Contributor), Rasmus-Gröhn, K. (Contributor), Fagerholm, A.-S. (Contributor), Hemphälä, H. (Contributor), Skavron, S. (Contributor), Johansson, S. (Contributor), Stark, E. (Contributor), Sellergren, J. (Presenter), Leveen, L. (Organiser), Rydeman, B. (Organiser), Olsson, R. (Organiser), Daws, P. (Organiser) & Rydeman, J. (Organiser)
2024 Oct 24

Light Symposium

Hemphälä, H. (Keynote/plenary speaker)
2024 Oct 20 → 2024 Oct 21

Ljus och Hälsa

Hemphälä, H. (Invited speaker)
2024 Oct 17

Implementing Circadian lighting in a hospital and a nursing home

Hemphälä, H. (Commissioned member of Examining committee)
2024 Sept 18

Visual Ergonomics

Hemphälä, H. (Lecturer)
2024 Aug 26 → 2024 Aug 27

CIE yearly meeting for the Swedish National Committee

Hemphälä, H. (Contributor)
2024 Aug 3

Light and Health

Hemphälä, H. (Invited speaker)
2024 Jun 26

Visual Ergonomics

Hemphälä, H. (Invited speaker)
2024 Apr 16 → 2024 Apr 19

Ljus och hälsa

Hemphälä, H. (Invited speaker)
2024 Jan 8

Invisible flicker can cause migraines - Researchers from Lund investigate possible connection

Lindén, J. (Interviewee) & Hemphälä, H. (Contributor)
2023 Nov 19

Visual Ergonomics

Hemphälä, H. (Invited speaker)
2023 Sept 11 → 2023 Sept 12

Bländning från LEDpaneler

Hemphälä, H. (Invited speaker)
2023 Sept 6

Synergonomi - ljus och hälsa

Hemphälä, H. (Invited speaker)
2023 Aug 24 → 2023 Aug 25

What is important when having a career within the university

Hemphälä, H. (Invited speaker)

2023 May 22

Light and health

Hemphälä, H. (Invited speaker)

2023 May 11

Visual Ergonomics

Hemphälä, H. (Invited speaker)

2023 May 10

PhD Defence

Hemphälä, H. (Commissioned member of Examining committee)

2023 Apr 21

Hur hållbart är ditt digitala arbete? Pufendorf & friends

Persson, J. (Chair), Rassmus-Gröhn, K. (Member of panel), Hemphälä, H. (Member of panel) & Widell Blomé, M. (Member of panel)

2023 Apr 20

Light and Lighting - Research and Networking

Lindén, J. (Organiser) & Hemphälä, H. (Organiser)

2023 Apr 17 → 2023 Apr 18

Ljus och hälsa

Hemphälä, H. (Invited speaker)

2023 Apr 11

Light and health

Hemphälä, H. (Invited speaker) & Lindén, J. (Invited speaker)

2023 Mar 30

Teknikåttan

Hemphälä, H. (Keynote/plenary speaker)

2023 Mar 16

Föreläsning om ljus och hälsa

Hemphälä, H. (Invited speaker)

2023 Mar 15

Synergonomi

Hemphälä, H. (Invited speaker)

2023 Feb 17

Synergonomi - ljus och hälsa

Hemphälä, H. (Invited speaker)

2023 Feb 16

På mission med lysets mester

Hemphälä, H. (Interviewee)

2023 Feb

Light and Health

Hemphälä, H. (Invited speaker)
2022 Oct 2

Friskare personal med rätt visuell arbetsmiljö

Hemphälä, H. (Interviewee)
2022 Oct

Podcast Öjeblik (Dansk optometri podcast)

Hemphälä, H. (Interviewee)
2022 Oct

Ljus och hälsa

Hemphälä, H. (Invited speaker)
2022 Sept 30

Light Symposium 2022

Hemphälä, H. (Organiser), Lindén, J. (Organiser), Aries, M. (Organiser), Besenecker, U. (Organiser) & Wulff, K. (Organiser)
2022 Sept 21

Lys for sundhed og trivsel

Hemphälä, H. (Member of panel)
2022 Sept 21

Ljus och hälsa

Hemphälä, H. (Invited speaker)
2022 Sept 15

Visual Ergonomics and Light and health

Hemphälä, H. (Invited speaker)
2022 Sept 5 → 2022 Sept 6

Elektrikerpodden

Hemphälä, H. (Interviewee)
2022 Sept

Light Awareness - Measurement and Application

Lindén, J. (Organiser) & Hemphälä, H. (Organiser)
2022 May 12

Synergonomi och belysning

Hemphälä, H. (Invited speaker) & Wibom, P. (Invited speaker)
2022 Apr 26

Ny forskning om ljusets betydelse för människan

Lindén, J. (Interviewee) & Hemphälä, H. (Role not specified)
2022 Apr 20

Ljus och Hälsa

Hemphälä, H. (Invited speaker)
2022 Apr 8

Studie av arbete vid moderna datorskärmar kan ge bättre ergonomi på kontoret

Hemphälä, H. (Interviewee)

2022 Feb 1

Bright talk Ljusmiljöer kopplade till stress

Hemphälä, H. (Presenter)

2021 Nov 24

Synergonomi i sjukhusmiljöer och ljusets påverkan på människan

Hemphälä, H. (Invited speaker)

2021 Nov 18

Visual Ergonomics and Light and Health

Hemphälä, H. (Invited speaker)

2021 Nov 18

Visual Ergonomics, light and health and flicker

Hemphälä, H. (Lecturer)

2021 Nov 11

Nya tider väntar på kontoret

Hemphälä, H. (Invited speaker)

2021 Oct 15

Synergonomi och Ljusets påverkan på människan

Hemphälä, H. (Invited speaker)

2021 Oct 6

CIE 30th session Midterm meeting and conference, Malaysia International Illuminating Society

Hemphälä, H. (Keynote/plenary speaker), Glimne, S. (Role not specified), Heiden, M. (Role not specified), Lindberg, P. (Role not specified), Nylén, P. (Role not specified) & Lindén, J. (Role not specified)

2021 Sept 29

Lansering av riktlinjer för synergonomi - belysning och synförhållanden på arbetsplatsen

Hemphälä, H. (Invited speaker)

2021 Sept 21

Flicker, temporal light modulation and visual ergonomics

Hemphälä, H. (Invited speaker)

2021 Aug 25

Visual Ergonomics for Low Vision Therapists

Hemphälä, H. (Lecturer)

2021 Aug 24

Almedalen 2021: Hållbart arbetsliv i pandemins fotspår

Borell, J. (Contributor), Hemphälä, H. (Contributor), Osvalder, A.-L. (Contributor), Rosengren, C. (Contributor), Widell Blomé, M. (Presenter), Wallergård, M. (Contributor) & Sellergren, J. (Organiser)

2021 Jul 7

Almedalen 2021

Hemphälä, H. (Presenter)

2021 Jul 6

21st Congress of the International Ergonomics Association, IEA 2021

Hemphälä, H. (Presenter)

2021 Jun 14 → 2021 Jun 18

Light Collaboration Network

Hemphälä, H. (Member), Lindén, J. (Chair), Besenecker, U. (Member), Aries, M. (Member), Wales, S. (Member) & Wulff, K. (Member)

2020 Nov 1 → ...

Arbete med riktlinje för Synergonomi

Hemphälä, H. (Advisor)

2020 → 2021

Comitée work on 3-58 Lighting for computer work stations

Hemphälä, H. (Advisor)

2020 → 2022

Awards

Synergonomi och den visuella miljöns utformning ombord

Hemphälä, H. (PI)

Stiftelsen Sveriges Sjömanshus: SEK779,000.00

2024/09/01 → 2025/06/30

Projects

Flicker Explained – to ensure the new EU ecodesign regulations on temporal light modulation for good lighting and health

Lindén, J. (Researcher) & Hemphälä, H. (Researcher)

Swedish Energy Agency

2021/10/01 → 2022/09/30

fMRI-FLICKER – How flicker affects the brain

Lindén, J. (Researcher), Hemphälä, H. (Researcher), Edvinsson, L. (Researcher), Surova, Y. (Researcher), Björkstrand, J. (Researcher), Markenroth Bloch, K. (Researcher) & Mauritsson, J. (Researcher)

Swedish Energy Agency

2022/09/01 → 2024/08/31

LCN: Light Collaboration Network - for Research and Education

Lindén, J. (Project coordinator) & Hemphälä, H. (Researcher)

2021/01/01 → 2024/06/30

Synergonomi och den visuella miljöns utformning ombord

Hemphälä, H. (PI)

Stiftelsen Sveriges Sjömanshus

2024/09/01 → 2025/06/30

VERAM: Visual Ergonomics Risk Assessment Method

Hemphälä, H. (PI)

The Office Ergonomics Research Committee (OERC)

2024/09/01 → 2025/09/30