

Accurate dialysis dose evaluation and extrapolation algorithms during online optical dialysis monitoring

Fridolin, Ivo; Karai, Deniss; Kostin, Sergei; Ubar, Raimund-Johannes IEEE transactions on biomedical engineering 2013 / p. 1371-1377 : ill <https://doi.org/10.1109/TBME.2012.2234458> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Behaviour of uremic toxins and UV absorbance in respect to low and high flux dialyzers

Lauri, Kai; Arund, Jürgen; Tanner, Risto; Jerotskaja, Jana; Luman, Merike; Fridolin, Ivo Estonian journal of engineering 2010 / 1, p. 95-106 : ill

Cannulation technique and complications in arteriovenous fistulas : a Swedish Renal Registry-based cohort study

Staaf, Karin; Fernström, Anders; Uhlin, Nils Fredrik Arne BMC Nephrology 2021 / art. 256 <https://doi.org/10.1186/s12882-021-02458-z> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cannulation with sharp or blunt needles for haemodialysis : the importance of cannulation technique for the patient's lifeline

Staaf, Karin; Uhlin, Nils Fredrik Arne Journal of Vascular Access 2019 / p. 161–168 : ill <https://doi.org/10.1177/1129729818788811> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Clearance variations monitored by on-line UV-absorbance during haemodialysis

Uhlin, Nils Fredrik Arne; Fridolin, Ivo; Magnusson, Martin; Lindberg, L. NBC'05 UMEA : 13th Nordic Baltic Conference on Biomedical Engineering and Medical Physics : June 13th-17th, 2005, Umea, Sweden 2005 / p. 174-175 : ill

Development of an optical monitoring technology for urea rebound assessment

Tomson, Ruth; Fridolin, Ivo; Luman, Merike The 10th International Conference on Bioelectromagnetism : proceedings 2015 / [4] p. : ill

Development of an optical monitoring technology for urea rebound assessment

Tomson, Ruth; Fridolin, Ivo; Luman, Merike International journal of bioelectromagnetism 2015 / p. 52-56 : ill

Development of the model for the optical monitoring of urea in spent dialysate

Tomson, Ruth; Fridolin, Ivo; Uhlin, Nils Fredrik Arne; Holmar, Jana; Lauri, Kai; Luman, Merike BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 179-182 : ill

Dialysis dose and nutrition assessment by an optical method = Dialüüsravi doosi ja patsientide toitumuse hindamine optilise meetodiga

Luman, Merike 2010 https://www.ester.ee/record=b2599301*est

The effect of Kt/V on post dialysis urea rebound in hemodialysis and hemodiafiltration

Tomson, Ruth; Fridolin, Ivo; Luman, Merike; Holmar, Jana Nephrology dialysis transplantation 2016 / p. i490 <https://doi.org/10.1093/ndt/gfw194.3>

Elimination of uremic toxins during dialysis assessed with the optical and analytical methods = Ureemiliste toksiinide elimineerimise hindamine dialüüsravil optiliste ja analüütiliste meetoditega

Lauri, Kai 2020 <https://digikogu.taltech.ee/et/Item/85965453-b6b4-4a1c-bdb6-8ebb28420fe9> Doktoritöö aitab hinnata jooksvalt neerudialüüsi tõhusust (novaator.err.ee, 15.09.2020)

Estimating total urea removal and protein catabolic rate by monitoring UV absorbance in spent dialysate

Uhlin, Nils Fredrik Arne; Fridolin, Ivo; Lindberg, Lars-Göran; Magnusson, Martin Nephrology dialysis transplantation 2005 / 11, p. 2458-2464 <https://pubmed.ncbi.nlm.nih.gov/16077147/>

Estimation of dialysis patients' survival through combined approach of small molecule uremic markers

Holmar, Jana; Fridolin, Ivo; Uhlin, Nils Fredrik Arne; Fernström, Anders; Luman, Merike Proceedings of the Estonian Academy of Sciences 2014 / p. 227-233 : ill https://artiklid.elnet.ee/record=b2680559*est

Estimation of removed uremic toxin indoxyl sulphate during hemodialysis by using optical data of the spent dialysate

Holmar, Jana; Uhlin, Nils Fredrik Arne; Ferenets, Rain; Lauri, Kai; Tanner, Risto; Arund, Jürgen; Luman, Merike; Fridolin, Ivo The 2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC) proceedings 2013 / p. 6707-6710 : ill <https://doi.org/10.1109/EMBC.2013.6611095> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Estimation of the influence of K/V on post dialysis urea rebound in HD and HDF with traditional and optical methods

Tomson, Ruth; Fridolin, Ivo; Luman, Merike XIII Baltic Nephrology Conference : October 13-15, 2016, Jurmala, Latvia : final programme 2016 / p. 2 <http://nefrologs.lv/wp-content/uploads/2016/10/XIII-BNC.pdf>

Free fraction of protein-bound uremic solutes in case of different dialysis modalities

Arund, Jürgen; Tanner, Risto; Luman, Merike; Fridolin, Ivo XIII Baltic Nephrology Conference : October 13-15, 2016, Jurmala, Latvia : final programme 2016 / p. 17 <http://nefrologs.lv/wp-content/uploads/2016/10/XIII-BNC.pdf>

Hemodialysis optical monitoring toward greener technology : a potential for water saving dialysis treatment

Leis, Liisi; **Adoberg, Annika; Paats, Joosep; Holmar, Jana; Arund, Jürgen; Karai, Deniss; Luman, Merike; Pilt, Kristjan; Taklaja, Paul; Tanner, Risto; Fridolin, Ivo** 19th Nordic-Baltic Conference on Biomedical Engineering and Medical Physics : Proceedings of NBC 2023, June 12–14, 2023, Liepaja, Latvia 2023 / p. 162 - 171 https://doi.org/10.1007/978-3-031-37132-5_21
[Conference Proceedings at Scopus](#) [Article at Scopus](#)

How to needle : a mixed methods study on choice of cannulation technique for arteriovenous fistula

Staaf, Karin; Fernström, Anders; **Uhlen, Fredrik** Journal of Clinical Nursing 2023 / p. 4559 - 4573 <https://doi.org/10.1111/jocn.16454>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Icke-invasiv kontinuerlig öövervakning av bloddialys - UV-absorption

Uhlen, Nils Fredrik Arne; **Fridolin, Ivo** Njurmedicinskt regionmöte 2004 / [1] p https://liu.diva-portal.org/smash/record.jsf?faces-redirect=true&aq2=%5B%5B%5D%5D&af=%5B%5D&searchType=SIMPLE&sortOrder2=title_sort_asc&query=&language=sv&pid=diva2%3A249542&aq=%5B%5B%5D%5D&sf=all&aqe=%5B%5D&sortOrder=author_sort_asc&onlyFullText=false&noOfRows=50&dswid=475

Interrelationship between protein bound uremic toxin indoxyl sulfate concentration in blood and spent dialysate during hemodialysis treatment : [abstract]

Paats, Joosep; Adoberg, Annika; Arund, Jürgen; Fridolin, Ivo; Lauri, Kai; Leis, Liisi; Pilt, Kristjan; Tanner, Risto; Luman, Merike Nephrology dialysis transplantation 2021 / p. 382 : ill <https://doi.org/10.1093/ndt/gfab099.005>

Intradialytic on-line multicomponent total removed solute monitoring in spent dialysate by a novel miniaturized optical sensor

Adoberg, Annika; Paats, Joosep; Arund, Jürgen; Leis, Liisi; Pilt, Kristjan; Fridolin, Ivo; Luman, Merike Nephrology Dialysis Transplantation 2021 <https://doi.org/10.1093/ndt/gfaa141.T0015>

Intradialytic on-line multicomponent total removed solute monitoring in spent dialysate by a novel miniaturized optical sensor

Adoberg, Annika; Paats, Joosep; Arund, Jürgen; Leis, Liisi; Pilt, Kristjan; Fridolin, Ivo; Luman, Merike Nephrology Dialysis Transplantation 2020 / gfaa141.T0015 <https://doi.org/10.1093/ndt/gfaa141.T0015>

Intradialytic optical assessment of C-mannosyl tryptophan removal using spent dialysate

Paats, Joosep; Adoberg, Annika; Leis, Liisi; Arund, Jürgen; Lauri, Kai; Luman, Merike; Tanner, Risto; Holmar, Jana; Pilt, Kristjan; Fridolin, Ivo Scientific reports 2025 / art. 20052, 12 p. : ill <https://doi.org/10.1038/s41598-025-01844-z>

Jana Holmar: neerupuudulikkusele tuleks rohkem tähelepanu pöörata

Holmar, Jana forte.delfi.ee 2025 <https://forte.delfi.ee/artikkel/120383486/tunne-teadlast-jana-holmar-neerupuudulikkusele-tuleks-rohkem-tahelepanu-poorata>

Lean body mass assessment based on UV absorbance in spent dialysate and dual-energy x-ray absorptiometry

Tomson, Ruth; Fridolin, Ivo; Luman, Merike International journal of artificial organs 2015 / p. 311-315 : ill <https://doi.org/10.5301/ijao.5000415> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Lean body mass assessment based on UV-absorbance in spent dialysate

Tomson, Ruth; Fridolin, Ivo; Luman, Merike BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 185-188 : ill

Life in standby : hemodialysis patients' experiences of waiting for kidney transplantation

Yngman-Uhlen, Pia; Fogelberg, Annika; **Uhlen, Fredrik** Journal of Clinical Nursing 2016 / p. 92 - 98 <https://doi.org/10.1111/jocn.12994>
[Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Non-invasive determination of uric acid in blood during hemodialysis with an optical spent dialysate sensor

Paats, Joosep; Arund, Jürgen; Adoberg, Annika; Holmar, Jana; Leis, Liisi; Luman, Merike; Pilt, Kristjan; Tanner, Risto; Fridolin, Ivo 61st ERA Congress, 23-26 May 2024: Congress Abstracts 2024 / p. i1236 <https://doi.org/10.1093/ndt/gfae069.754>

Non-invasive optical estimation of intradialytic concentrations of uremic toxins in blood of hemodialysis patients

Paats, Joosep; Adoberg, Annika; Arund, Jürgen; Fridolin, Ivo; Holmar, Jana; Lauri, Kai; Leis, Liisi; Pilt, Kristjan; Tanner, Risto; Luman, Merike Nephrology Dialysis Transplantation 2023 / art. #3367, p. i149-i150 : ill https://doi.org/10.1093/ndt/gfad063b_3367

Novel spent dialysate based optical methods: towards more universal dose quantification of haemodialysis = Uudsed dialüsaadipõhised optilised meetodid universaalsema hemodialüsravi doosi määramiseks

Paats, Joosep 2025 https://www.ester.ee/record=b5753842*est <https://digikogu.taltech.ee/et/Item/f2808205-001d-45c0-93b9-725b09a49f95>

On-line monitoring of the spent dialysate during haemodialysis using UV-absorbance

Uhlin, Nils Fredrik Arne; **Fridolin, Ivo** Proceedings of the 34th International Conference of EDTNA/ERCA : Wien, Austria, 2005. 1 2005 / p. 46

Online urea concentration estimation from spent dialysate using optical sensor

Pilt, Kristjan; Arund, Jürgen; Adoberg, Annika; Leis, Liisi; Luman, Merike; **Fridolin, Ivo** XV Mediterranean Conference on Medical and Biological Engineering and Computing - MEDICON 2019 : proceedings of MEDICON 2019, September 26–28, 2019, Coimbra, Portugal 2020 / p. 1459-1464 https://doi.org/10.1007/978-3-030-31635-8_180 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Online uric acid concentration estimation in blood from spent dialysate measurements using an optical sensor

Paats, Joosep; Arund, Jürgen; Pilt, Kristjan; Adoberg, Annika; **Leis, Liisi;** Luman, Merike; **Holmar, Jana; Tanner, Risto;** **Fridolin, Ivo** 9th European Medical and Biological Engineering Conference : Proceedings of EMBEC 2024 ; Volume 2 2024 / p. 178 - 187 https://doi.org/10.1007/978-3-031-61628-0_20 [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Optical assessment of calcification markers phosphorus and calcium during hemodialysis

Holmar, Jana; Uhlin, Nils Fredrik Arne; Fernström, Anders; **Luman, Merike;** Jankowski, Joachim; **Fridolin, Ivo** Nephrology Dialysis Transplantation 2015 / iii556 <https://doi.org/10.1093/ndt/gfv197.03>

Optical Estimation of Beta 2 Microglobulin during Hemodiafiltration - Does It Work?

Uhlin, Nils Fredrik Arne; Holmar, Jana; Yngman-Uhlin, Pia; Fernström, Anders; **Fridolin, Ivo** Blood Purification 2015 / p. 113-119 <https://doi.org/10.1159/000381797> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical measurement of 4-pyridoxic acid in the spent dialysate : algorithm development

Kalle, Sigrid; Tanner, Risto; Arund, Jürgen; Tomson, Ruth; Fridolin, Ivo BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 115-118 : ill http://www.estee.ee/record=b2150914*est

Optical measurement of creatinine in spent dialysate

Tomson, Ruth; Fridolin, Ivo; Uhlin, Nils Fredrik Arne; Holmar, Jana; Lauri, Kai; Luman, Merike Clinical nephrology 2013 / p. 107-117 : ill <https://doi.org/10.5414/CN107338> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical method and biochemical source for the assessment of the middle-molecule uremic toxin β 2-microglobulin in spent dialysate

Paats, Joosep; Adoberg, Annika; **Arund, Jürgen; Fridolin, Ivo; Lauri, Kai;** Leis, Liisi; **Luman, Merike; Tanner, Risto** Toxins 2021 / art. 255, 15 p. : ill <https://doi.org/10.3390/toxins13040255> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optical method for cardiovascular risk marker uric acid removal assessment during dialysis

Holmar, Jana; Fridolin, Ivo; Uhlin, Nils Fredrik Arne; Lauri, Kai; Luman, Merike The scientific world journal 2012 / p. 1-8 : ill <https://pubmed.ncbi.nlm.nih.gov/22701094/>

Optical method for uric acid removal assessment during dialysis = Optiline meetod kusihaape eemaldamise määramiseks dialüüsiravi käigus

Holmar, Jana 2013 https://www.estee.ee/record=b3004743*est

Optical online monitoring of uremic toxins beyond urea

Uhlin, Nils Fredrik Arne Updates on Hemodialysis 2023 <https://doi.org/10.5772/intechopen.110080>

Optical real-time cardiorenal toxin uric acid measurement during hemodialysis using a miniaturized optical sensor

Holmar, Jana; Arund, Jürgen; Adoberg, Annika; Leis, Liisi; Luman, Merike; **Paats, Joosep; Pilt, Kristjan; Tanner, Risto;** **Fridolin, Ivo** Proceedings of the Annual International Conference of the IEEE Engineering in Medicine and Biology Society, EMBS2023 2023 / 4 p. : ill <https://doi.org/10.1109/EMBC40787.2023.10340379> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Optical urea rebound estimation during dialysis

Tomson, Ruth; Uhlin, Nils Fredrik Arne; Fridolin, Ivo 16th Nordic-Baltic Conference on Biomedical Engineering : 16. NBC & 10. MTD 2014 Joint Conferences, October 14-16, 2014, Gothenburg, Sweden 2015 / p. 109-112 : ill https://doi.org/10.1007/978-3-319-12967-9_30 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Paracetamol interferes uric acid levels in uraemic patients revealed by monitoring spent dialysate

Tanner, Risto; Arund, Jürgen; Fridolin, Ivo; Luman, Merike ISRN nephrology 2013 / p. 1-4 : ill

Photon propagation in tissue and in biological fluids applied for vascular imaging and haemodialysis monitoring

Fridolin, Ivo 2009 https://www.ester.ee/record=b2637490*est

Photon propagation in tissue and in biological fluids applied for vascular imaging and haemodialysis monitoring

Fridolin, Ivo 2003 https://www.ester.ee/record=b1908470*est

Quantitative assessment of lean skeletal muscle hydration using water-fat MRI

Romu, Tobias; Tunon, Patrik; **Uhlin, Nils Fredrik Arne** Radiological Society of North America 2016 Scientific Assembly and Annual Meeting : November 27 - December 2, 2016, Chicago IL 2016 / [1] p <http://archive.rsna.org/2016/16044450.html>

Reduction of urea and indoxyl sulphate concentration during different dialysis treatment modalities

Holmar, Jana; Luman, Merike; **Arund, Jürgen**; Lauri, Kai; **Tomson, Ruth**; **Tanner, Risto**; **Kalle, Sigrid**; **Fridolin, Ivo** International journal of artificial organs 2016 / p. 379 <http://dx.doi.org/10.5301/ijao.5000508>

Removal estimation of uremic CVD marker phosphate in dialysis using spectrophoto- and fluorimetric signals

Holmar, Jana; **Arund, Jürgen**; **Kalle, Sigrid**; **Lauri, Kai**; **Luman, Merike**; **Tanner, Risto**; **Tomson, Ruth**; **Fridolin, Ivo** EMBEC & NBC 2017 : joint conference of the European Medical and Biological Engineering Conference (EMBEC) and the Nordic-Baltic Conference on Biomedical Engineering and Medical Physics (NBC), Tampere, Finland, June 2017 2018 / p. 358-361 : ill https://doi.org/10.1007/978-981-10-5122-7_90 [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Removal of phosphate as the trigger of vascular calcification by different dialysis treatment modalities

Holmar, Jana; Jankowski, Joachim; **Fridolin, Ivo**; Alampour-Rajabi, Setareh; **Luman, Merike** Nephrology dialysis transplantation 2018 / p. i224 : ill <https://doi.org/10.1093/ndt/gfy104.FP548>

Solute removal rate assessment during hemodialysis using a spectrophotometrical technique : a theoretical study of component interaction [Electronic resource]

Fridolin, Ivo Medicon and Health Telematics 2004 "Health in the Information Society" : Xth Mediterranean Conference on Medical and Biological Engineering : July 31 - August 5, 2004, Ischia, Naples-Italy 2004 / [4] p. : ill. [CD-ROM]

Treatment with paracetamol can interfere with the intradialytic optical estimation in spent dialysate of uric acid but not of indoxyl sulfate

Adoberg, Annika; **Paats, Joosep**; **Arund, Jürgen**; Dhondt, Annemieke; **Fridolin, Ivo**; Glorieux, Griet; **Holmar, Jana**; Lauri, Kai; Leis, Liisi; **Luman, Merike**; **Pilt, Kristjan**; **Uhlin, Nils Fredrik Arne**; **Tanner, Risto** Toxins 2022 / art. 610 <https://doi.org/10.3390/toxins14090610> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Urea- and creatinine-based parameters in the optical monitoring of dialysis : the case of lean body mass and urea rebound assessment = Uurea ja kreatiniiniil põhinevad parameetrid neeruasendusravi optilises monitooringus : patsiendi lihasmassi ja uurea tagasilöögi efekti hindamine

Tomson, Ruth 2017 <https://digi.lib.ttu.ee/i/?7744> https://www.ester.ee/record=b4678405~S1*est

Urea rebound assessment based on UV absorbance in spent dialysate

Tomson, Ruth; **Uhlin, Fredrik**; **Fridolin, Ivo** Asaio journal 2014 / p. 459-465 : ill <https://doi.org/10.1097/MAT.0000000000000091> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Vasoactive peptide levels after change of dialysis mode

Uhlin, Nils Fredrik Arne; Odar-Cederlöf, Ingegerd; Theodorsson, Elvar; Fernström, Anders Nephron Extra 2015 / p. 67 - 78 <https://doi.org/10.1159/000440816> [Journal metrics at Scopus](#) [Article at Scopus](#)