

#### **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

#### **Can removal of middle molecular uremic retention solutes be estimated by UV-absorbance measurements in spent dialysate?**

**Lauri, Kai; Luman, Merike; Holmar, Jana; Tomson, Ruth; Kalle, Sigrid; Arund, Jürgen; Uhlin, Nils Fredrik Arne; Fridolin, Ivo** World Congress on Medical Physics and Biomedical Engineering, June 7–12, 2015, Toronto, Canada 2015 / p. 1297 - 1300  
[https://doi.org/10.1007/978-3-319-19387-8\\_315](https://doi.org/10.1007/978-3-319-19387-8_315) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

#### **Combined displacer-enhanced removal of protein-bound uremic toxins estimated in spent dialysate**

**Adoberg, Annika; Leis, Liisi; Uhlin, Nils Fredrik Arne; Arund, Jürgen; Segelmark, Marten; Fernström, Anders; Luman, Merike; Fridolin, Ivo** Kidney International Reports 2019 / art.: MON-105 ; p. S347 <https://doi.org/10.1016/j.ekir.2019.05.895>

#### **Could urea in spent dialysate be a marker for monitoring removal of 4-pyridoxic acid?**

**Kalle, Sigrid; Tanner, Risto; Arund, Jürgen; Tomson, Ruth; Luman, Merike; Fridolin, Ivo** XIII Baltic Nephrology Conference : October 13-15, 2016, Jurmala, Latvia : final programme 2016 / p. 6 <http://nefrologs.lv/wp-content/uploads/2016/10/XIII-BNC.pdf>

#### **ERASMUS Your life! : [välisüliõpilased TTÜ-s]**

**Arund, Jürgen** Studioosus 2007 / okt., lk. 5 [https://www.ester.ee/record=b1558644\\*est](https://www.ester.ee/record=b1558644*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](#)

#### **4-pyridoxic acid in the spent dialysate : contribution to fluorescence and optical monitoring**

**Kalle, Sigrid; Tanner, Risto; Arund, Jürgen; Tomson, Ruth; Luman, Merike; Fridolin, Ivo** PLoS ONE 2016 / art. e0162346, p. 1-11 : ill <https://doi.org/10.1371/journal.pone.0162346> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

#### **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](https://doi.org/10.1007/978-3-031-37132-5_21) [Conference Proceedings at Scopus](#) [Article at Scopus](#)

#### **HPLC study of uremic toxins in the spent dialysate**

**Lauri, Kai; Tanner, Risto; Arund, Jürgen; Fridolin, Ivo** NoSSS2009 : 5th Conference on Separation and Related Techniques by Nordic Separation Science Society : 26-29 August, 2009, Tallinn University of Technology, Estonia : abstract book and program 2009 / p. 109

#### **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 reduction ratio monitoring in spent dialysate by a novel miniaturized optical sensor**

**Pilt, Kristjan; Arund, Jürgen; Adoberg, Annika; Leis, Liisi; Fridolin, Ivo; Luman, Merike** Nephrology Dialysis Transplantation 2019 / p. 643-644 <https://doi.org/10.1093/ndt/gfz102.SuO012>

#### **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.TO015>

#### **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.TO015 <https://doi.org/10.1093/ndt/gfaa141.TO015>

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

**Pilt, Kristjan; Arund, Jürgen;** Adoberg, Annika; Leis, Liisi; Luman, Merike; **Fridolin, Ivo** International journal of artificial organs 2019 / p. 415-416 <https://journals.sagepub.com/doi/10.1177/0391398819860985>

**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>

**Is fluorescence valid to monitor removal of protein bound uremic solutes in dialysis?**

**Arund, Jürgen;** Luman, Merike; **Uhlén, Nils Fredrik Arne; Tanner, Risto; Fridolin, Ivo** PLoS ONE 2016 / art. e0156541, p. 1-12 : ill <https://doi.org/10.1371/journal.pone.0156541> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Major chromophores and fluorophores in the spent dialysate as cornerstones for optical monitoring of kidney replacement therapy = Peamised kromofoorid ja fluorofoorid heitdialüsaadis neeruasendusravi optilise monitooringu nurgakividena**

**Arund, Jürgen** 2016 [http://www.ester.ee/record=b4574893\\*est](http://www.ester.ee/record=b4574893*est)

**Mitte ainult Eesti - muutugem ka rahvusvaheliseks! : [välitstudengitest ja TTÜ International Cubist (IC)]**

**Arund, Jürgen** Mente et Manu 2006 / 8. nov., lk. 3 : fot [https://www.ester.ee/record=b1242496\\*est](https://www.ester.ee/record=b1242496*est)

**New optical method for estimation of protein bound uremic toxins elimination**

**Holmar, Jana; Arund, Jürgen; Uhlén, Fredrik; Tanner, Risto; Fridolin, Ivo** World Congress on Medical Physics and Biomedical Engineering May 26-31, 2012, Beijing, China 2013 / p. 71-74 [https://doi.org/10.1007/978-3-642-29305-4\\_20](https://doi.org/10.1007/978-3-642-29305-4_20) [Conference Proceedings at Scopus](#) [Article at Scopus](#)

**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](https://doi.org/10.1093/ndt/gfad063b_3367)

**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](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](https://doi.org/10.1007/978-3-031-61628-0_20) [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Optical dialysis adequacy monitoring: small uremic toxins and contribution to UV-absorbance studied by HPLC**

**Lauri, Kai; Arund, Jürgen; Holmar, Jana; Tanner, Risto; Luman, Merike; Fridolin, Ivo** Progress in hemodialysis - from emergent biotechnology to clinical practice 2011 / p. 143-160 : ill <https://www.intechopen.com/chapters/21275>

**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.ester.ee/record=b2150914\\*est](http://www.ester.ee/record=b2150914*est)

**Optical method and biochemical source for the assessment of the middle-molecule uremic toxin  $\beta$ 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 on-line monitoring of a displacer-chromophore administration during a dialysis treatment**

**Arund, Jürgen;** Adoberg, Annika; Leis, Liisi; **Luman, Merike; Uhlén, Nils Fredrik Arne;** Segelmark, Marten; Fernström, Anders; **Fridolin, Ivo** Kidney International Reports 2019 / p. S340-S341 <https://doi.org/10.1016/j.ekir.2019.05.879>

**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](#)

**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

**POS-648 medicines intake influences accuracy of the uremic retention molecules' optical monitoring in spent dialysate : the case of uremic toxin uric acid and paracetamol**

**Paats, Joosep;** Adoberg, Annika; **Arund, Jürgen; Fridolin, Ivo; Holmar, Jana;** Leis, Liisi; **Pilt, Kristjan; Tanner, Risto; Uhlin, Nils Fredrik Arne; Luman, Merike** Kidney International Reports 2022 / p. S277-S278 : ill <https://doi.org/10.1016/j.ekir.2022.01.681>

**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](https://doi.org/10.1007/978-981-10-5122-7_90) [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Removal of Urea, beta 2-Microglobulin, and Indoxyl Sulfate Assessed by Absorbance and Fluorescence in the Spent Dialysate During Hemodialysis**

**Lauri, Kai; Arund, Jürgen; Holmar, Jana; Tanner, Risto; Kalle, Sigrid; Luman, Merike; Fridolin, Ivo** Asaio journal 2020 / p. 695-705 <https://doi.org/10.1097/MAT.0000000000001058> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Serum levels and removal by haemodialysis and haemodiafiltration of tryptophan-derived uremic toxins in ESKD patients**

**Paats, Joosep;** Adoberg, Annika; **Arund, Jürgen; Fridolin, Ivo;** Leis, Liisi; **Luman, Merike; Pilt, Kristjan; Uhlin, Nils Fredrik Arne** International journal of molecular sciences 2020 / art. 1522, 19 p. : ill <https://doi.org/10.3390/ijms21041522> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Time-averaged concentration estimation of uraemic toxins with different removal kinetics : a novel approach based on intradialytic spent dialysate measurements**

**Paats, Joosep; Adoberg, Annika; Arund, Jürgen;** Dhondt, Annemieke; Fernström, Anders; Glorieux, Griet; **Fridolin, Ivo; Holmar, Jana; Luman, Merike; Pilt, Kristjan** Clinical Kidney Journal 2023 / p. 735-744 : ill <https://doi.org/10.1093/ckj/sfac273> <https://academic.oup.com/ckj/article/16/4/735/6948331> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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](#)