

VivoSight Publications List

Updated 31st December 2025

AUTOIMMUNE and INFLAMMATORY DISEASES

BLISTERING DISEASES

De Pace B, Fiorentini C, Ciardo S, Chester J, Kaleci S, Veltri T, De Luca M, Pellacani G. Inherited epidermolysis bullosa: description of clinical and subclinical morphological features with optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*. 2018 Oct 25.

Mandel VD, Cinotti E, Benati E, Labeille B, Ciardo S, Vaschieri C, Cambazard F, Perrot JL, Pellacani G. Reflectance confocal microscopy and optical coherence tomography for the diagnosis of bullous pemphigoid and pemphigus and surrounding subclinical lesions. *Journal of the European Academy of Dermatology and Venereology*. 2018 Jan 16

Capocasale G, Panzarella V, Rodolico V, Di Fede O, Campisi G. In vivo optical coherence tomography imaging in a case of mucous membrane pemphigoid and a negative Nikolsky's sign. *The Journal of dermatology*. 2018 Feb 26.

Mandel VD, Farnetani F, Vaschieri C, Manfredini M, Cesinaro AM, Giusti F, Pellacani G. Pemphigus with features of both vulgaris and foliaceus variants localized to the nose. *The Journal of dermatology*. 2016 Feb 1.

Koenig, K., Speicher, M., Bueckle, R., Reckfort, J., McKenzie, G., Welzel, J., Koehler, M.J., Elsner, P. and Kaatz, M., 2009. Clinical optical coherence tomography combined with multiphoton tomography of patients with skin diseases. *Journal of biophotonics*, 2(6-7), pp.389-397.

Hussain, A.A., Banzhaf, C.A., Themstrup, L., Nielsen, P.L. and Jemec, G.B.E., 2015. A case report of differentiating staphylococcal scalded skin syndrome and toxic epidermal necrolysis by optical coherence tomography. *Skin Research and Technology*, 21(3), pp.363-365.

PSORIASIS & PSORIATIC ARTHRITIS

Rousel J, Bergmans ME, Buijincx LJ, Lin S, der Kolk TN, Bohoslavsky R, Yavuz Y, Klarenbeek NB, Bouwstra JA, Rissmann R, van Doorn MB. Mild psoriasis as a suitable model for proof-of-mechanism in a phase 1B setting: Results from a double-blind placebo-controlled trial with guselkumab. *British Journal of Clinical Pharmacology*. 2025 Jul 28.

Ha-Wissel L, Graßhoff H, Göb M, Mustafa B, Huber R, Zirpel H, Yasak H, Thaçi D, Hundt JE. Optical coherence tomography-based imaging biomarkers for disease activity monitoring in plaque psoriasis. *Journal of the European Academy of Dermatology and Venereology*. 2024 May 21.

Hashimoto T, Rui B, Leitgeb RA, Li X, Ha-Wissel L, Ha-Wissel L, Yasak H, Huber R, Zillikens D, Ludwig RJ, Thaçi D. OPEN ACCESS EDITED BY. *Case reports in dermatology*. 2023 Sep 26:30.

Ortner VK, Mandel VD, Skak K, Zibert JR, Bourlioux M, Nissen CV, Fuchs CS, Philipsen PA, Haedersdal M. Investigating the efficacy and safety of calcipotriol/betamethasone dipropionate foam and laser microporation for psoriatic nail disease—A hybrid trial using a smartphone application, optical coherence tomography, and patient-reported outcome measures. *Dermatologic Therapy*. 2022 Dec;35(12):e15965.

Felice S, Bressler MY, Karim R, Markowitz O. Transforming the treatment of psoriasis to the 21st century: Detecting subclinical therapeutic response to secukinumab using optical coherence tomography as a prognostic indicator. *Lasers in Surgery and Medicine*.

Guldberg-Møller J, Schjødt Jørgensen T, Henriksen M, et al POS0144 Novel Application of Optical Coherence Tomography Angiography and Nailfold Capillaroscopy in Psoriatic Arthritis - Diagnostic and Prognostic Accuracy in Relation to Psoriasis and Hand Osteoarthritis, *Annals of the Rheumatic Diseases* 2021;80:283-284

Yélamos O, Alejo B, Ertekin SS, Villa-Crespo L, Zamora-Barquero S, Martinez N, Domínguez M, Iglesias P, Herrero A, Malveyh J, Puig S. Non-invasive clinical and microscopic evaluation of the response to treatment with clobetasol cream versus calcipotriol/betamethasone dipropionate foam in mild to moderate plaque psoriasis: an investigator-initiated, phase IV, unicentric, open, randomized clinical trial. *Journal of the European Academy of Dermatology and Venereology*. 2020 May 4.

Odorici G, Losi A, Ciardo S, Pellacani G, Conti A. Non-invasive evaluation of Secukinumab efficacy in severe plaque psoriasis with confocal microscopy and optical coherence tomography: A case report. *Skin Research and Technology*.

Conti, A., Ciardo, S., Mandel, V.D., Bigi, L. and Pellacani, G., 2016. Speckled variance optical coherence tomography for the assessment of nail involvement in acrodermatitis continua of Hallopeau: A case study. *Journal of International Medical Research*, 44(1 suppl), pp.119-123.

Aldahan, A.S., Chen, L.L., Fertig, R.M., Holmes, J., Shah, V.V., Mlacker, S., Hsu, V.M., Nouri, K. and Tosti, A., 2016. Vascular Features of Nail Psoriasis Using Dynamic Optical Coherence Tomography. *Skin Appendage Disorders*, 2(3-4), pp.102-108.

Aydin, S.Z., Ash, Z., Del Galdo, F., Marzo-Ortega, H., Wakefield, R.J., Emery, P. and McGonagle, D., 2011. Optical coherence tomography: a new tool to assess nail disease in psoriasis?. *Dermatology*, 222(4), pp.311-313.

Aydin, S.Z., Castillo-Gallego, C., Ash, Z.R., Abignano, G., Marzo-Ortega, H., Wittmann, M., Del Galdo, F. and McGonagle, D., 2013. Potential use of optical coherence tomography and high-frequency ultrasound for the assessment of nail disease in psoriasis and psoriatic arthritis. *Dermatology*, 227(1), pp.45-51.

Castillo-Gallego, C., 2011. 200-A Comparison of Optical Coherence Tomography and Clinical Assessment of Nail Disease in Psoriasis and Psoriatic Arthritis.

ATOPIC DERMATITIS, EXCEMA, ACNE etc

Greco ME, Di Guardo A, Dattola A, Ciardo S, Campione E, Marrapodi D, Chello C, Cantisani C, Michelini S, Cosio T, Amato S. Non-Invasive Imaging to Detect the Effects of Topical N-Butanoyl Glutathione (GSH-C4) and Hyaluronic Acid in Inflammatory Eczematous Dermatitis. *Cosmetics*. 2025 Dec 11;12(6):280.

Göb M, Mustafa B, Ha-Wissel L, Burhan S, HUNDT JE, Huber R. Automated OCTA vessel count algorithm for quantitative analysis of skin disease activity.

Gavrilita E, Silion SI, Bitca ML, Tatu AL. Insights into Intrinsic Atopic Dermatitis: immunogenicity, Dysbiosis, and Imaging (Reflectance Confocal Microscopy, Optical Coherence Tomography). *Clinical, Cosmetic and Investigational Dermatology*. 2024 Dec 31;1377-86.

Danby SG, Matcher S, Byers R, Taylor R, Sahib S, Andrew P, Brown K, Kay L, Wright C, Pinnock A, Chittock J. Novel biophysical skin biomarkers discriminate topical anti-inflammatory treatments based on their potential for local adverse effects. *JEADV Clinical Practice*. 2024.

Deußing M, Ruini C, Nutz M, Kerl-French K, Hartmann D, French LE, Daxenberger F, Sattler EC. Illuminating characteristic patterns of inflammatory dermatoses: A comprehensive dual-imaging approach using Optical coherence tomography and Line-field confocal optical coherence tomography. *Skin Research and Technology*. 2024 Jul;30(7):e13833.

Gavrilita E, Silion SI, Bitca ML, Tatu AL. Insights into Intrinsic Atopic Dermatitis: immunogenicity, Dysbiosis, and Imaging (Reflectance Confocal Microscopy, Optical Coherence Tomography). *Clinical, Cosmetic and Investigational Dermatology*. 2024 Jun 11;17:1377-86.

van den Bogaard EH, Elias PM, Goleva E, Berdyshev E, Smits JP, Danby SG, Cork MJ, Leung DY. Targeting skin barrier function in atopic dermatitis. *The Journal of Allergy and Clinical Immunology: In Practice*. 2023 May 1;11(5):1335-46.

Rousel J, Saghari M, Pagan L, Nădăban A, Gambrah T, Theelen B, de Kam ML, Haakman J, van der Wall HE, Feiss GL, Niemeyer-van der Kolk T. Treatment with the topical antimicrobial peptide omiganan in mild-to-moderate facial seborrheic dermatitis versus ketoconazole and placebo: results of a randomized controlled proof-of-concept trial. *International Journal of Molecular Sciences*. 2023 Sep 20;24(18):14315.

Yélamos O, Andersen D, Pont M, Iglesias P, Potrony M, Domínguez M, Herrero A, Alejo B, Mateu J, Røpke M, Danneskiold-Samsøe NB. Development and validation of a minimally invasive and image-guided tape stripping method to sample atopic skin in children. *Clinical and Experimental Dermatology*. 2023 Feb 1;48(2):80-8.

Manfredini M, Sticchi A, Lippolis N, Pedroni G, Giovani M, Ciardo S, Chello C, Guida S, Farnetani F, Pellacani G. Characterization of Acne-Prone Skin with Reflectance Confocal Microscopy and Optical Coherence Tomography and Modifications Induced by Topical Treatment and Probiotic Supplementation. *Journal of Clinical Medicine*. 2023 Jul 20;12(14):4787.

Rousel J, Nădăban A, Saghari M, Pagan L, Zhuparris A, Theelen B, Gambrah T, van der Wall HE, Vreeken RJ, Feiss GL, Niemeyer-van der Kolk T. Lesional skin of seborrheic dermatitis patients is characterized by skin barrier dysfunction and correlating alterations in the stratum corneum ceramide composition. *Experimental dermatology*. 2023 Nov 16.

Medina TP, Kolb JP, Hüttmann G, Huber R, Medina OP, Ha L, Ulloa P, Larsen N, Ferrari A, Rafecas M, Ellrichmann M. Imaging Inflammation—from whole body imaging to cellular resolution. *Frontiers in Immunology*. 2021;12.

Fuchs CS, Ortner VK, Hansen FS, Philipson PA, Haedersdal M. Subclinical effects of adapalene-benzoyl peroxide: a prospective in vivo imaging study on acne micromorphology and transfollicular delivery. *Journal of the European Academy of Dermatology and Venereology*. 2021 Jan 28.

Csuka EA, Ward SC, Ekelem C, Csuka DA, Ardigò M, Mesinkovska NA. Reflectance Confocal Microscopy, Optical Coherence Tomography, and Multiphoton Microscopy in Inflammatory Skin Disease Diagnosis. *Lasers in Surgery and Medicine*. 2021 Feb 1.

Quadri M, Lotti R, Bonzano L, Ciardo S, Guanti MB, Pellacani G, Pincelli C, Marconi A. A Novel Multi-Action Emollient Plus Cream Improves Skin Barrier Function in Patients with Atopic Dermatitis: In vitro and Clinical Evidence. *Skin Pharmacology and Physiology*. 2021 Feb 18;33(6):1-1.

Ardigò, Marco, Chiara Franceschini, Elena Campione, Terenzio Cosio, Caterina Lanna, Luca Bianchi, and Massimo Milani. "Efficacy of a Topical Product Containing Purified Omental Lipids and Three Anti-Itching Compounds in the Treatment of Chronic Pruritus/Prurigo Nodularis in Elderly Subjects: A Prospective, Assessor-Blinded, 4-Week Trial with Transepidermal Water Loss and Optical Coherence Tomography Assessments." *Clinical, Cosmetic and Investigational Dermatology* 13 (2020): 1051-1058.

Ruini C, Rahimi F, Fiocco Z, French LE, Hartmann D, Oppel E, Sattler E. Optical coherence tomography for patch test grading: A prospective study on its use for noninvasive diagnosis of allergic contact dermatitis. *Contact Dermatitis*. 2020 Oct 4.

Frombach, J., Rancan, F., Kübrich, K., Schumacher, F., Unbehauen, M., Blume-Peytavi, U., Haag, R., Kleuser, B., Sabat, R., Wolk, K. and Vogt, A., 2020. Serine Protease-Mediated Cutaneous Inflammation: Characterization of an Ex Vivo Skin Model for the Assessment of Dexamethasone-Loaded Core Multishell-Nanocarriers. *Pharmaceutics*, 12(9), p.862.

Manfredini M, Liberati S, Ciardo S, Bonzano L, Guanti M, Chester J, Kaleci S, Pellacani G. Microscopic and functional changes observed with dynamic optical coherence tomography for severe refractory atopic dermatitis treated with dupilumab. *Skin Research and Technology*.

Rajabi-Estarabadi A, Tsang DC, Nouri K, Tosti A. Evaluation of positive patch test reactions using optical coherence tomography: A pilot study. *Skin Research and Technology*. 2019 Mar 19.

Ruini C, Wittmann D, Summer B, von Braunmühl T, French LE, Thomas P. Nickel contact dermatitis evaluated by means of optical coherence tomography: first impressions. *Journal of the European Academy of Dermatology and Venereology*. 2019 Feb 28.

Manfredini M, Bettoli V, Sacripanti G, Farnetani F, Bigi L, Puviani M, Corazza M, Pellacani G. The evolution of healthy skin to acne lesions: a longitudinal, in vivo evaluation with reflectance confocal microscopy and optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*. 2019 Apr.

Fuchs CS, Ortner VK, Mogensen M, Philipsen PA, Haedersdal M. Transfollicular delivery of gold microparticles in healthy skin and acne vulgaris, assessed by in vivo reflectance confocal microscopy and optical coherence tomography. *Lasers in Surgery and Medicine*. 2019 Mar 5.

Fuchs CS, Andersen AJ, Ardigò M, Philipsen PA, Haedersdal M, Mogensen M. Acne vulgaris severity graded by in vivo reflectance confocal microscopy and optical coherence tomography. *Lasers in Surgery and Medicine*. 2018 Aug 2.

Qin O, Tan Y, Jiang W, Fu Q, Xu Y, Jiang C. Non-invasive assessment of changes and repair dynamics post irritant intervention in skin barrier. *Int J Clin Exp Med*. 2018;11(5):4490-9.

Paganelli A, Bassoli S, Roncati L, Bigi L, Ciardo S, Pellacani G. Pseudo-Kaposi sarcoma: report of a case investigated by dermoscopy, reflectance confocal microscopy and optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*.

Olsen J, Birch-Johansen FH, Themstrup L, Holmes J, Jemec GB. Dynamic optical coherence tomography of histamine induced wheals. *Skin research and technology: official journal of International Society for Bioengineering and the Skin (ISBS)[and] International Society for Digital Imaging of Skin (ISDIS)[and] International Society for Skin Imaging (ISSI)*. 2018 May.

Byers RA, Maiti R, Danby SG, Pang EJ, Mitchell B, Carré MJ, Lewis R, Cork MJ, Matcher SJ. Sub-clinical assessment of atopic dermatitis severity using angiographic optical coherence tomography. *Biomedical Optics Express*. 2018 Apr 1;9(4):2001-17.

Manfredini, M., Greco, M., Farnetani, F., Ciardo, S., De Carvalho, N., Mandel, V.D., Starace, M. and Pellacani, G., Acne: morphologic and vascular study of lesions and surrounding skin by means of optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*.

Byers, R.A., Maiti, R., Danby, S.G., Pang, E.J., Mitchell, B., Carré, M.J., Lewis, R., Cork, M.J. and Matcher, S.J., 2017, February. Characterizing the microcirculation of atopic dermatitis using angiographic optical coherence tomography. In *Proc. of SPIE Vol (Vol. 10037, pp. 100370V-1)*.

Abignano, G., Kapadia, A., Lettieri, G., Goodfield, M., Emery, P., McGonagle, D., Del Galdo, F. and Mikeljevic, J., 2017. Use of optical coherence tomography for the diagnosis of preclinical lesions of circumscribed palmar hypokeratosis. *Clinical and Experimental Dermatology*.

Paganelli, A., Ciardo, S., Odorici, G., Pellacani, G. and Conti, A., 2016. Efficacy of ustekinumab after failure of infliximab CT-P13 in a HLA-Cw6-positive patient affected by pityriasis rubra pilaris: monitoring with reflectance confocal microscopy (RCM) and optical coherence tomography (OCT). *Journal of the European Academy of Dermatology and Venereology*.

Lu, Z., Boadi, J., Danby, S., Cork, M. and Matcher, S.J., 2013, March. Optical coherence tomography demonstrates differential epidermal thinning of human forearm volar skin after 2 weeks application of a topical corticosteroid vs a non-steroidal anti-inflammatory alternative. In *SPIE BIOS (pp. 85650C-85650C)*. International Society for Optics and Photonics.

SCLERODERMA

Marneffe A, Van Simaey G, Vanholsbeeck F, Sarrand J, Woods D, del Marmol V, Soyfoo M. In vivo non-invasive skin imaging of cutaneous involvement in systemic sclerosis. *Medical Research Archives*. 2024 Jan 10;11(12).

Grasshoff H, Adriany K, Ha-Wissel L, Lange T, Hundt J, Riemekasten G. AB0919 DYNAMIC OPTICAL COHERENCE TOMOGRAPHY MIGHT BE A VALUABLE TOOL TO ASSESS THERAPEUTIC EFFICACY OF VASOACTIVE THERAPY IN SYSTEMIC SCLEROSIS.

Abignano G, Green L, Eng S, Emery P, Del Galdo F. Nailfold microvascular imaging by dynamic optical coherence tomography in systemic sclerosis: a case-controlled pilot study. *Journal of Investigative Dermatology*. 2022 Apr 1;142(4):1050-7.

Ring HC, Themstrup L, Banzhaf CA, Jemec GB, Mogensen M. Dynamic optical coherence tomography capillaroscopy: a new imaging tool in autoimmune connective tissue disease. *JAMA dermatology*. 2016 Oct 1;152(10).

Abignano, G., Aydin, S.Z., Castillo-Gallego, C., Liakouli, V., Woods, D., Meekings, A., Wakefield, R.J., McGonagle, D.G., Emery, P. and Del Galdo, F., 2013. Virtual skin biopsy by optical coherence tomography: the first quantitative imaging biomarker for scleroderma. *Annals of the rheumatic diseases*, 72(11), pp.1845-1851.

Aydin G, Castillo-gallego S, Buch C, Emery MH, Del Galdo P. Optical Coherence Tomography: A New Imaging Technique That Allows Detailed Visualization of Affected Scleroderma Skin. *Arthritis & Rheumatism*. 2011 Nov 1;63:705.

Abignano, G., Bissell, L.A., Britton, J., Woods, D., Buch, M., McGonagle, D., Emery, P. and Del Galdo, F., 2014. O41. Longitudinal Assessment of Scleroderma Skin by Optical Coherence Tomography: Preliminary Validation of Sensitivity to Change Over-Time. *Rheumatology*, 53(suppl 1), pp.i46-i47.

OTHER INFLAMMATORY

Assil S, Buters TP, Hameeteman PW, Hallard C, Treijtel N, Niemeyer-Van der Kolk T, de Kam ML, Florencia EF, Prens EP, van Doorn MB, Rissmann R. Oral prednisolone suppresses skin inflammation in a healthy volunteer imiquimod challenge model. *Frontiers in Immunology*. 2023;14.

Thamm JR, Welzel J, Schuh S. Line-field confocal optical coherence tomography, optical coherence tomography and reflectance confocal microscopy in a case of cutaneous sarcoidosis. *Journal of the European Academy of Dermatology and Venereology*. 2023 Jun;37(6):e739-41.

Nguyen JK, Mancebo S, Bleicher B, Jagdeo J. Successful Treatment of Porokeratosis With Ablative Fractional Carbon Dioxide Laser and Vitamin C, E, and Ferulic Acid Serum. *Journal of drugs in dermatology: JDD*. 2019 Nov;18(11):174-176.

Niculescu L, Ruini C, Srour J, Salzer S, Schönbuchner I, Von Braunmühl T, Ruzicka T, Hohenleutner U, Giehl KA, Fischer J, Wollenberg A. Tazarotene 0.015% Cream as a Potential Topical Agent for Management of Ichthyosis in Dorfman-Chanarin Syndrome. *Acta dermato-venereologica*. 2019 Mar 1;99(3):345-6.

Mollan, S. P., P. A. Keane, and A. K. Denniston. "The use of transdermal optical coherence tomography to image the superficial temporal arteries." *Eye* 31.1 (2017): 157-160.

PARASITIC INFECTIONS

Reinholz M, Clanner-Engelshofen BM, Heppt MV, Hirai Y, Ruzicka T, Berking C, von Braunmühl T. Successful Treatment of Genital Warts with Ingenol Mebutate Monitored with Optical Coherence Tomography and Reflectance Confocal Microscopy. *Annals of Dermatology*. 2019 Aug 1;31(4):434-7.

Stuyver L, Townson S. Feasibility studies towards a virtual skin biopsy for Onchocerciasis, Poster, ASTMH (2015)

Banzhaf CA, Themstrup L, Ring HC, Welzel J, Mogensen M, Jemec GB. In vivo imaging of *Sarcoptes scabiei* infestation using optical coherence tomography. *Case reports in dermatology*. 2013;5(2):156-62.

ALOPECIA and HAIR DISORDERS

Nutz MC, Deußing M, Hartmann D, Lange S, Senner S, Eyssele T, Schuh S, French LE, Welzel J, Sattler EC. Line-field confocal optical coherence tomography in lichen planopilaris and frontal fibrosing alopecia: A pilot study. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2025 Feb;23(2):173-81.

Al-Chaer RN, Bouazzi D, Jemec G, Mogensen M. Confocal microscopy and optical coherence tomography of inflammatory skin diseases in hairs and pilosebaceous units: A systematic review. *Experimental Dermatology*. 2023 May 4.

Ekelem C, Feil N, Csuka E, Juhasz M, Lin J, Choi F, Asghari A, Heydarlou D, Mesinkovska NA. Optical Coherence Tomography in the Evaluation of the Scalp and Hair: Common Features and Clinical Utility. *Lasers in Surgery and Medicine*. 2020 Apr 6.

Klein AL, Lubda M, Skov PS, Vogt A, Keck CM, Lademann J, Beckers I, von Hagen J, Patzelt A. Investigation of transfollicular caffeine penetration using microdialysis on ex vivo porcine ear skin. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Dec 1;157:1-8.

Rajabi-Estarabadi A, Vasquez-Herrera NE, Martinez-Velasco MA, Tsatalis J, Verne SH, Nouri K, Tosti A. Optical Coherence Tomography in Diagnosis of Inflammatory Scalp Disorders. *Journal of the European Academy of Dermatology and Venereology*. 2020 Feb 20.

Andersen AJ, Fuchs C, Ardigo M, Haedersdal M, Mogensen M. In vivo characterization of pustules in Malassezia Folliculitis by reflectance confocal microscopy and optical coherence tomography. A case series study. *Skin Research and Technology*. 2018 Feb 27.

Martinez-Velasco MA, Perper M, Maddy AJ, Cervantes J, Eber AE, Verne SH, Vazquez-Herrera NE, Nouri K, Tosti A. In vitro determination of Mexican Mestizo hair shaft diameter using optical coherence tomography. *Skin Research and Technology*. 2017 Nov 23.

Heppt MV, Letulé V, Laniauskaite I, Reinholz M, Tietze JK, Wolff H, Ruzicka T, Sattler EC. Frontal Fibrosing Alopecia: A Retrospective Analysis of 72 Patients from a German Academic Center. *Facial plastic surgery: FPS*. 2017 Dec 26.

Martínez-Velasco, M.A., Vázquez-Herrera, N.E., Maddy, A.J., Asz-Sigall, D. and Tosti, A., 2017. The Hair Shedding Visual Scale: A Quick Tool to Assess Hair Loss in Women. *Dermatology and Therapy*, pp.1-11.

Vazquez-Herrera NE, Eber AE, Martinez-Velasco MA, Perper M, Cervantes J, Verne SH, Magno RJ, Nouri K, Tosti A. Optical coherence tomography for the investigation of frontal fibrosing alopecia. *Journal of the European Academy of Dermatology and Venereology*. 2017 Aug 31.

NON-MELANOMA SKIN CANCER & ACTINIC KERATOSIS

NSMC DIAGNOSIS

Naranjo FP, del Amor R, Colomer A, Mogensen M, von Knorring T, Fredman G, Jensen M, Israelsen N, Bang O, Naranjo V. A clinical study of two optical coherence tomography scanners—how resolution and depth affect skin cancer diagnostic accuracy classified by deep neural networks and foundation models.

Wolswijk T, Nelemans PJ, Adan F, van Leersum F, Kreiter D, Adams T, van Dorsten S, Mosterd K. Cumulative Sum Analysis-Integrated E-Learning for Differentiation Between Basal Cell Carcinoma and Non-Basal Cell Carcinoma on Optical Coherence Tomography: An Observational Cohort Study. *International Journal of Dermatology*. 2025 Jun 27.

Mozaffari M, Fünfer K, Bader S, Thölken KF, Yilmaz P, Welzel J, Schuh S. Drei auf einen Streich—Ein Plattenepithelkarzinom auf einem Lupus pernio und einer Erfrierung in nur einer Gesichtshälfte—ein Fallbericht. *Aktuelle Dermatologie*. 2025 Feb;51(01/02):40-5.

Wolswijk, T., Nelemans, P.J., van Leersum, F., Crüts, E., Gerarda Moermans, M.M., Vreven, L., Hillen, L.M. and Mosterd, K., 2025. The Impact of Clinical and Dermoscopic Photographs on the Diagnostic Accuracy of Remote Optical Coherence Tomography Assessment for Basal Cell Carcinoma Detection: A Comparative Diagnostic Study. *International Journal of Dermatology*.

Garcia CN, Wies C, Hauser K, Brinker T. NON-INVASIVE TECHNOLOGIES FOR THE DIAGNOSIS OF SQUAMOUS CELL CARCINOMA A SYSTEMATIC REVIEW AND META-ANALYSIS. *JID Innovations*. 2024 Jul 20:100303.

Jerjes, Waseem, et al. "In Vivo Optical Coherence Tomography for the Detection, Subtyping, and Margin Assessment of Facial Basal Cell Carcinoma: A Comparative Study with Histopathology." *Journal of Clinical Medicine* 14.3 (2025): 949.

Boostani M, Pellacani G, Wortsman X, Suppa M, Goldust M, Cantisani C, Pietkiewicz P, Lőrincz K, Bánvölgyi A, Wikonkál NM, Huss WJ. FDA and EMA-approved noninvasive imaging techniques for basal cell carcinoma subtyping: A systematic review. *JAAD International*. 2025 Jun 10.

Mozaffari M, Fünfer K, Bader S, Thölken KF, Yilmaz P, Welzel J, Schuh S. Drei auf einen Streich—Ein Plattenepithelkarzinom auf einem Lupus pernio und einer Erfrierung in nur einer Gesichtshälfte—ein Fallbericht. *Aktuelle Dermatologie*. 2025 Feb;51(01/02):40-5.

McMullan P, Balboul S, Gasek N, Skudalski L, Zhou AE, Jain NP, Gulati N, Ciardo S, Farnetani F, Sloan B, Ungar J. Minimally invasive modalities for keratinocyte carcinomas Part I: Diagnostics. *Journal of the American Academy of Dermatology*. 2025 Feb 22.

Widaatalla, Y., Wolswijk, T., Khan, M.D., Halilaj, I., Mosterd, K., Woodruff, H.C. and Lambin, P., 2025. Radiomics in Dermatological Optical Coherence Tomography (OCT): Feature Repeatability, Reproducibility, and Integration into Diagnostic Models in a Prospective Study. *Cancers*, 17(5), p.768.

Deußing M, French LE, Sattler EC, Hartmann D. Nicht invasive bildgebende Diagnostik in der Dermatookologie: Aktuelle Methoden und ihre Einsatzmöglichkeiten. *hautnah dermatologie*. 2024 Mar;40(2):26-31.

Mozaffari M, Fünfer K, Bader S, Thölken KF, Yilmaz P, Welzel J, Schuh S. Drei auf einen Streich—Ein Plattenepithelkarzinom auf einem Lupus pernio und einer Erfrierung in nur einer Gesichtshälfte—ein Fallbericht. *Aktuelle Dermatologie*. 2024 Jun 26.

Winkler D, Desch A, Mireles MP, Welzel J, Schuh S. Line-field confocal optical coherence tomography and optical coherence tomography for distinguishing basal cell carcinoma from dermal nevus: A case report. *JEADV Clinical Practice*. 2024.

Line-field confocal optical coherence tomography and optical coherence tomography for distinguishing basal cell carcinoma from dermal nevus: A case report

Kandolf L, Peris K, Malvey J, Mosterd K, Heppt MV, Fagnoli MC, Berking C, Arenberger P, Bylaite-Bučinskiene M, Del Marmol V, Dirschka T. European consensus-based interdisciplinary guideline for diagnosis, treatment and prevention of actinic keratoses, epithelial UV-induced dysplasia and field cancerization on behalf of European Association of Dermato-Oncology, European Dermatology Forum, European Academy of Dermatology and Venereology and Union of Medical Specialists (Union Européenne des Médecins Spécialistes). *Journal of the European Academy of Dermatology and Venereology*. 2024 Mar 7.

Leiter U, Heppt MV, Steeb T, Alter M, Amaral T, Bauer A, Bechara FG, Becker JC, Breitbart EW, Breuninger H, Diepgen T. German S3 guideline "actinic keratosis and cutaneous squamous cell carcinoma"—Long version of the update 2023. *EJC Skin Cancer*. 2023 Jan 1;1:100004.

Ganier, C., Mazin, P., Herrera-Oropeza, G., Du-Harpur, X., Blakeley, M., Gabriel, J., Predeus, A.V., Cakir, B., Prete, M., Harun, N. and Darrigrand, J.F., 2024. Multiscale spatial mapping of cell populations across anatomical sites in healthy human skin and basal cell carcinoma. *Proceedings of the National Academy of Sciences*, 121(2), p.e2313326120.

Rokohl AC, Siebelmann S, Heindl LM. Optical Coherence Tomography in Conjunctival and Eyelid Lesions. In *Optical Coherence Tomography of the Anterior Segment 2023* Jan 3 (pp. 51-59). Cham: Springer International Publishing.

Hobelsberger S, Gellrich FF, Laske J, Meier F, Beisert S, Steininger J. Immediate diagnosis of cutaneous metastases with optical coherence tomography, line-field confocal optical coherence tomography and dermoscopy: A case series. *JEADV Clinical Practice*. 2023.

Hobelsberger S, Steininger J, Laske J, Berndt K, Meier F, Beissert S, et al. Comparison of optical coherence tomography and in vivo reflectance confocal microscopy with dermoscopy for the diagnosis and management of nonmelanoma skin cancer: a randomized controlled trial. *JEADV Clin Pract.* 2023;1–14.

Wolswijk T, Nelemans PJ, Adan F, Abdul Hamid M, Mosterd K. Pitfalls for differentiating basal cell carcinoma from non-basal cell carcinoma on optical coherence tomography: A clinical series. *The Journal of Dermatology.* 2023 Nov 6.

Sortino AM, Abdalla CM, Abdalla BM, Piñeiro-Maceira JM, Fraga Braghiroli NA, Braga JC, de Sá BC, Blumetti TC, Gomes EE, Mitsunaga AC, Rocha LK. Ancillary Tools for Dermatological Skin Assessment: Dermoscopy, Reflectance Confocal Microscopy and Optical Coherence Tomography. In *Oncodermatology: An Evidence-Based, Multidisciplinary Approach to Best Practices 2023* Jul 19 (pp. 69-151). Cham: Springer International Publishing.

Burnette C, Sivesind TE, Dellavalle R. From the Cochrane Library: Optical Coherence Tomography for Diagnosing Skin Cancer in Adults. *JMIR Dermatology.* 2023 Mar 13;6(1):e41355.

Wolswijk T, Nelemans PJ, Adan F, Mosterd K. Accuracy of Optical Coherence Tomography for Subtyping Basal Cell Carcinoma: Using Histopathology of Biopsy and Entire Lesion as Reference Standard. *Acta Dermato-Venereologica.* 2023 Mar 14;103:adv00889-.

Ahmady S, Wolswijk T, Nelemans PJ, Adan F, Vernemmen AI, Winnepenninckx V, Kelleners-Smeets NW, Mosterd K. Measuring tumor depth of Bowen's disease by optical coherence tomography. *Skin Research and Technology.* 2023 Feb;29(2):e13282.

Ho G, Schwartz RJ, Melhoranse-Gouveia B, Guitera P, O'Sullivan NA, Cheung VK, Ch'ng S, Martin LK. Utility of optical coherence tomography in basal cell naevus syndrome: A case report. *Australasian Journal of Dermatology.* 2022 Nov;63(4):e331-5.

Wolswijk T, Adan F, Nelemans PJ, Mosterd K. A cohort study on detection and subtyping of basal cell carcinoma with optical coherence tomography: The additional value of distant diagnosis by an expert. *Journal of the American Academy of Dermatology.* 2022 Oct 11.

Adan F, Nelemans PJ, Essers BA, Brinkhuizen T, Dodemont SR, Kessels JP, Quaedvlieg PJ, Dermont GJ, Winnepenninckx VJ, Hamid MA, Kelleners-Smeets NW. Optical coherence tomography versus punch biopsy for diagnosis of basal cell carcinoma: a multicentre, randomised, non-inferiority trial. *The Lancet Oncology.* 2022 Aug 1;23(8):1087-96.

Lentsch G, Baugh EG, Lee B, Aszterbaum M, Zachary CB, Kelly KM, Balu M. Research Techniques Made Simple: Emerging Imaging Technologies for Noninvasive Optical Biopsy of Human Skin. *Journal of Investigative Dermatology.* 2022 May 1;142(5):1243-52.

Loo E, Sinx K, Welzel J, Schuh S, Kelleners-Smeets N, Mosterd K, Nelemans P. Cumulative sum analysis for the learning curve of optical coherence tomography assisted diagnosis of basal cell carcinoma.

Adan F, Mosterd K, Wolswijk T, Kelleners-Smeets NW, Essers BA. Patient Preference for Optical Coherence Tomography versus Punch Biopsy for Diagnosis of Basal Cell Carcinoma: A Labelled Discrete Choice Experiment. *Acta Dermato-Venereologica.* 2021 Dec 14.

Fuchs CS, Ortner VK, Mogensen M, Rossi AM, Pellacani G, Welzel J, Mosterd K, Guitera P, Nayahangan LJ, Johnsson VL, Haedersdal M. 2021 international consensus statement on optical coherence tomography for basal cell carcinoma: image characteristics, terminology and educational needs. *Journal of the European Academy of Dermatology and Venereology.* 2022 Jun;36(6):772-8.

Adan F, Mosterd K, Kelleners-Smeets NW, Nelemans PJ. Diagnostic Value of Optical Coherence Tomography Image Features for Diagnosis of Basal Cell Carcinoma. *Acta dermato-venereologica.* 2021 Nov 1.

Adan F, Oyen EM, Holtackers RJ, van Loo E, Dermont GJ, Kelleners-Smeets NW, Nelemans PJ, Mosterd K. Topical Application of Glycerol Increases Penetration Depth of Optical Coherence Tomography in Diagnosis of Basal Cell Carcinoma. *Acta dermato-venereologica.* 2021 Jun 22;101(6):adv00474-.

Adan F, Nelemans PJ, Kelleners-Smeets NW, Kessels JP, Brinkhuizen T, Mosterd K. The additional diagnostic value of optical coherence tomography in clinically diagnosed basal cell carcinomas undergoing direct surgical excision. *British Journal of Dermatology.* 2021 Jun 14.

Fredman G, Qiu Y, Ardigo M, Mogensen M. Skin tags imaged by reflectance confocal microscopy, optical coherence tomography and multispectral optoacoustic tomography at the bedside. *Skin Research and Technology.* 2021 May;27(3):324-31.

Møller Israelsen N, Mogensen M, Jensen M, Haedersdal M, Bang O. Delineating papillary dermis around basal cell carcinomas by high and ultrahigh resolution optical coherence tomography—a pilot study. *Journal of Biophotonics*.:e202100083.

Rajabi-Estarabadi A, Garbarino F, Williams NM, Nami N, Nouri K. Extramammary Paget Disease: In Vivo Dynamic Optical Coherence Tomography Imaging. *Journal of the European Academy of Dermatology and Venereology*.

Sinx KA, Tonk EH, Kelleners-Smeets NW, Winnepenninckx VJ, Nelemans PJ, Mosterd K. Optical Coherence Tomography for non-invasive diagnosis and subtyping of Basal Cell Carcinoma, a prospective cohort study. *Journal of Investigative Dermatology*. 2020 Mar 6.

Garbarino F, Migliorati S, Farnetani F, De Pace B, Ciardo S, Manfredini M, Reggiani Bonetti L, Kaleci S, Chester J, Pellacani G. Nodular skin lesions: correlation of reflectance confocal microscopy and optical coherence tomography features. *Journal of the European Academy of Dermatology and Venereology*. 2020 Jan;34(1):101-11.

Peris K, Fargnoli MC, Garbe C, Kaufmann R, Bastholt L, Seguin NB, Bataille V, Del Marmol V, Dummer R, Harwood CA, Hauschild A. Diagnosis and treatment of basal cell carcinoma: European consensus-based interdisciplinary guidelines. *European Journal of cancer*. 2019 Sep 1;118:10-34.

Marghoob N, Psomadakis CE, Markowitz O. Noninvasive imaging to improve diagnostic accuracy: A case report. *JAAD Case Reports*. 2019 Jun 1;5(6):508-10.

Jerjes W, Hamdoon Z, Hopper C. Structural validation of facial skin using optical coherence tomography: A descriptive study. *Skin Research and Technology*. 2019 Sep 23.

Jerjes W, Hamdoon Z, Al Rawi N, Hopper C. OCT in the diagnosis of head and neck pre-cancerous and cancerous cutaneous lesions: An immediate ex vivo study. *Photodiagnosis and photodynamic therapy*. 2019 Jul 27.

Lang BM, Balermipas P, Bauer A, Blum A, Brölsch GF, Dirschka T, Follmann M, Frank J, Frerich B, Fritz K, Hauschild A. S2k guidelines for cutaneous basal cell carcinoma—part 1: epidemiology, genetics and diagnosis. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2019 Jan;17(1):94-103.

Verne SH, Magno RJ, Eber AE, Cervantes J, Perper M, Nouri K. Optical coherence tomography image processing for in vivo 3-dimensional visualization of basal cell carcinoma. *Skin Research and Technology*. 2018 Aug;24(3):509-11.

Tes D, Aber A, Zafar M, Horton L, Fotouhi A, Xu Q, Mojin A, Thompson AD, Moraes Pinto Blumetti TC, Daveluy S, Chen W. Granular Cell Tumor Imaging Using Optical Coherence Tomography. *Biomedical engineering and computational biology*. 2018 Jan;9:1179597218790250.

di Ruffano LF, Dinnes J, Deeks JJ, Chuchu N, Bayliss SE, Davenport C, Takwoingi Y, Godfrey K, O'Sullivan C, Matin RN, Tehrani H. Optical coherence tomography for diagnosing skin cancer in adults. *Cochrane Database of Systematic Reviews*. 2018(12).

Reddy N, Nguyen BT. The utility of optical coherence tomography for diagnosis of basal cell carcinoma: a quantitative review. *British Journal of Dermatology*. 2019 Mar;180(3):475-83.

Xu Q, Adabi S, Clayton A, Daveluy S, Mehregan D, Nasirivanaki M. Swept-Source Optical Coherence Tomography—Supervised Biopsy. *Dermatologic Surgery*. 2018 Jun 1;44(6):768-75.

Batz S, Wahrlich C, Alawi A, Ulrich M, Lademann J. Differentiation of Different Nonmelanoma Skin Cancer Types Using OCT. *Skin pharmacology and physiology*. 2018;31(6):238-45.

Xiong YQ, Mo Y, Wen YQ, Cheng MJ, Huo ST, Chen XJ, Chen Q. Optical coherence tomography for the diagnosis of malignant skin tumors: a meta-analysis. *Journal of Biomedical Optics*. 2018 Feb;23(2):020902.

Levine A, Siegel DM, Markowitz O. Update on Noninvasive Diagnostic Imaging and Management of Nonmelanoma Skin Cancer. *Current Dermatology Reports*. 2018:1-5.

Themstrup L, De Carvalho N, Nielsen SM, Olsen J, Ciardo S, Schuh S, Nørnberg BM, Welzel J, Ulrich M, Pellacani G, Jemec GB. In vivo differentiation of common basal cell carcinoma subtypes by microvascular and structural imaging using dynamic optical coherence tomography. *Experimental dermatology*. 2017 Dec 7.

Holmes J, von Braunmühl T, Berking C, Sattler E, Ulrich M, Reinhold U, Kurzen H, Dirschka T, Kellner C, Schuh S, Welzel J. Optical coherence tomography of basal cell carcinoma: influence of location, subtype, observer variability and image quality on diagnostic performance. *British Journal of Dermatology*. 2017 Nov 28.

Welzel J, Schuh S. Noninvasive diagnosis in dermatology. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2017 Oct 1;15(10):999-1016.

Rigel DS, Farberg AS. *Non-Invasive Technologies for the Diagnosis and Management of Skin Cancer*, E-Book. Elsevier Health Sciences; 2017 Sep 16.

Sigsgaard V, Themstrup L, Theut Riis P, Olsen J, Jemec GB. In vivo measurements of blood vessels' distribution in non-melanoma skin cancer by dynamic optical coherence tomography—a new quantitative measure?. *Skin Research and Technology*. 2017 Aug 3.

Levine A, Wang K, Markowitz O. Optical Coherence Tomography in the Diagnosis of Skin Cancer. *Dermatologic Clinics*. 2017 Aug 9.

Themstrup, L., Pellacani, G., Welzel, J., Holmes, J., Jemec, G.B.E. and Ulrich, M., 2017. In vivo microvascular imaging of cutaneous actinic keratosis, Bowen's disease and squamous cell carcinoma using Dynamic optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*.

Maher, N.G., Blumetti, T.P., Gomes, E.E., Cheng, H.M., Satgunaseelan, L., Lo, S., Rezza, G.G., Scolyer, R.A. and Guitera, P., 2016. Melanoma diagnosis may be a pitfall for optical coherence tomography assessment of equivocal amelanotic or hypomelanotic skin lesions. *British Journal of Dermatology*.

Olsen J, Themstrup L, De Carvalho N, Mogensen M, Pellacani G, Jemec GB. Diagnostic accuracy of optical coherence tomography in actinic keratosis and basal cell carcinoma. *Photodiagnosis and photodynamic therapy*. 2016 Dec 31;16:44-9.

Hussain AA, Themstrup L, Nürnberg BM, Jemec GB. Adjunct use of optical coherence tomography increases the detection of recurrent basal cell carcinoma over clinical and dermoscopic examination alone. *Photodiagnosis and photodynamic therapy*. 2016 Jun 30;14:178-84.

Meekings A, Utz S, Ulrich M, Bienenfeld A, Nandan N, Fisher J, McKenzie G, Siegel DM, Feldman E, Markowitz O. Differentiation of Basal Cell Carcinoma Subtypes in Multi-Beam Swept Source Optical Coherence Tomography (MSS-OCT). *Journal of drugs in dermatology: JDD*. 2016 May 1;15(5):545.

Cheng HM, Lo S, Scolyer R, Meekings A, Carlos G, Guitera P. Accuracy of optical coherence tomography for the diagnosis of superficial basal cell carcinoma—a prospective, consecutive, cohort study of 168 cases. *British Journal of Dermatology*. 2016 May 1.

Markowitz O, Schwartz M, Minhas S, Siegel DM. Speckle-variance optical coherence tomography: a novel approach to skin cancer characterization using vascular patterns. *Dermatology Online Journal*. 2016 Jan 1;22(4).

Schuh S, Kaestle R, Sattler EC, Welzel J. Optical coherence tomography of actinic keratoses and basal cell carcinomas—differentiation by quantification of signal intensity and layer thickness. *Journal of the European Academy of Dermatology and Venereology*. 2016 Feb 1.

Schuh S, Kaestle R, Sattler E, Welzel J. Comparison of different optical coherence tomography devices for diagnosis of non-melanoma skin cancer. *Skin Research and Technology*. 2016 Jan 1.

Die Neue Dimension der Haut

Markowitz, Orit, Michelle Schwartz, Eleanor Feldman, Amanda Bienenfeld, Amy K. Bieber, Jeffery Ellis, Usha Alapati, Mark Lebwohl, and Daniel M. Siegel. "Evaluation of optical coherence tomography as a means of identifying earlier stage basal cell carcinomas while reducing the use of diagnostic biopsy." *The Journal of clinical and aesthetic dermatology* 8, no. 10 (2015): 14.

OCT in der dermatologischen Praxis - Morphologische Tumormerkmale hoch aufgelöst, Optical Coherence Tomography dissolved in dermatological practice, Morphological tumor features highly resolved

Cheng, H. M., and P. Guitera. "Systematic review of optical coherence tomography usage in the diagnosis and management of basal cell carcinoma." *British Journal of Dermatology* 173, no. 6 (2015): 1371-1380.

Pelosini, L., H. B. Smith, J. B. Schofield, A. Meeckings, A. Dithal, and M. Khandwala. "A novel imaging approach to periocular basal cell carcinoma: in vivo optical coherence tomography and histological correlates." *Eye* (2015).

Wahrlich, C., S. A. Alawi, S. Batz, J. W. Fluhr, J. Lademann, and M. Ulrich. "Assessment of a scoring system for Basal Cell Carcinoma with multi-beam optical coherence tomography." *Journal of the European Academy of Dermatology and Venereology* 29, no. 8 (2015): 1562-1569.

Ulrich, M., T. Braunmühl, H. Kurzen, T. Dirschka, C. Kellner, E. Sattler, C. Berking, J. Welzel, and U. Reinhold. "The sensitivity and specificity of optical coherence tomography for the assisted diagnosis of nonpigmented basal cell carcinoma: an observational study." *British Journal of Dermatology* 173, no. 2 (2015): 428-435.

Reinholz, M., et al. "Non-invasive diagnosis of sweat gland dysplasia using optical coherence tomography and reflectance confocal microscopy in a family with anhidrotic ectodermal dysplasia (Christ–Siemens–Touraine syndrome)." *Journal of the European Academy of Dermatology and Venereology* (2015).

Alawi, S. A., S. Batz, J. Röwert-Huber, J. W. Fluhr, J. Lademann, and M. Ulrich. "Correlation of optical coherence tomography and histology in microcystic adnexal carcinoma: a case report." *Skin Research and Technology* 21, no. 1 (2015): 15-17.

Modern diagnostic methods in dermatooncology

Hussain, Alia Arif, Lotte Themstrup, and Gregor Borut Ernst Jemec. "Optical coherence tomography in the diagnosis of basal cell carcinoma." *Archives of dermatological research* 307, no. 1 (2015): 1-10.

Schmitz, Lutz, Uwe Reinhold, Erhard Bierhoff, and Thomas Dirschka. "Optical coherence tomography: its role in daily dermatological practice." *JDDG: Journal der Deutschen Dermatologischen Gesellschaft* 11, no. 6 (2013): 499-507.

Coleman, Andrew John, Thomas James Richardson, Guy Orchard, Ayesha Uddin, Min Joo Choi, and Katie Elizabeth Lacy. "Histological correlates of optical coherence tomography in non-melanoma skin cancer." *Skin Research and Technology* 19, no. 1 (2013): e10-e19.

Banzhaf, Christina, and Gregor BE Jemec. "Imaging granulomatous lesions with optical coherence tomography." *Case reports in dermatology* 4, no. 1 (2012): 14-18.

Smith, Louise E., Vanessa Hearnden, Zenghai Lu, Rod Smallwood, Keith D. Hunter, Stephen J. Matcher, Martin H. Thornhill, Craig Murdoch, and Sheila MacNeil. "Evaluating the use of optical coherence tomography for the detection of epithelial cancers in vitro." *Journal of biomedical optics* 16, no. 11 (2011): 116015-1160158.

NSMC TREATMENT MONITORING

Stephens R, Anderson CD, Saager RB, Johnston A, Adybeik D. Photodynamic Treatment of 206 Thin (≤ 1 mm) Basal Cell Carcinomas Using a Biphasic Activation Protocol: The Outcomes Over a 7-Year Period and the Rationale Behind the Treatment. *JEADV Clinical Practice*. 2025 Jul 17.

von Knorring T, Mogensen M, Banzhaf CA, Jemec G, Themstrup L. Optical Coherence Tomography and Cryosurgery. In *Cryosurgery: A Practical Manual* 2025 Aug 14 (pp. 125-131). Cham: Springer Nature Switzerland.

van Loo E. The knife cuts one way: Non-invasive diagnosis and surgical treatment of basal cell carcinoma. (PhD Thesis)

Wiegell SR, Hendel K, Fuchs CS, Julie GE, Vissing M, TROELSEN JT, JEMEC GB, HAEDERSDAL M. An Explorative Study on Calcium Electroporation for Low-risk Basal Cell Carcinoma. *Acta dermato-venereologica*. 2024;104.

Cantisani, C., Musolff, N., Longo, C., Di Guardo, A., Rovaldi, E., Rossi, G., Sasso, F., Farnetani, F., Rega, F., Bánvölgység, A. and Azzella, G., 2024. Dynamic optical coherence tomography evaluation in locally advanced basal cell carcinoma during sonidegib treatment. *Journal of the European Academy of Dermatology and Venereology*.

Zachary CB, Elsanadi R, Maghfour J, Kohli I, Kelly KM, Soni R, Fortier C, Holmes J, Heckt H, Makowski A, Negus D. Controlled hyperthermia and monitored protocol for basal cell carcinoma: interim report. In *Photonics in Dermatology and Plastic Surgery* 2023 2023 Mar 14 (Vol. 12352, pp. 26-28). SPIE.

Absil G, Lebas E, Nikkels AF. Efficacy assessment of oxygen flow assisted administration of topical methotrexate (OFA-MTX5%) for superficial basal cell carcinoma assessed by optical coherence tomography. *JEADV Clinical Practice*. 2023 Mar;2(1):101-6.

Palacio A, Medrano K, Holmes J, Bierhoff E, Reinhold U. D-OCT-assisted and histology-controlled evaluation of 1064 nm Nd: YAG laser therapy of basal cell carcinomas. *JEADV Clinical Practice*. 2022.

Palacio Giral A. Optical coherence tomography-assisted 1064nm Nd: YAG laser therapy of superficial and nodular basal cell carcinomas with ≤ 1 mm tumor thickness (Doctoral dissertation, Universitäts- und Landesbibliothek Bonn).

Wolswijk T, Adan F, Nelemans PJ, Defauwes A, Mosterd K. Optical coherence tomography for diagnosing recurrent or residual basal cell carcinoma after topical treatment: a diagnostic cohort study. *Journal of the American Academy of Dermatology*. 2023 Jun 28.

Fredman G, Wenande E, Hendel K, Togsverd-Bo K, Haedersdal M. Efficacy and safety of laser-assisted combination chemotherapy: a follow-up study of treatment with 5-fluorouracil and cisplatin for basal cell carcinoma. *Lasers in Surgery and Medicine*. 2022 Jan;54(1):113-20.

Kranz S, Brunmeier G, Yilmaz P, Thamm J, Schiele S, Müller G, Key C, Welzel J, Schuh S. Optical coherence tomography-guided Nd: YAG laser treatment and follow-up of basal cell carcinoma. *Lasers in Surgery and Medicine*. 2023 Feb 5.

Markowitz O, Bressler MY. Combining Nd: YAG laser with optical coherence tomography for nonsurgical treatment of basal cell carcinoma. *Lasers in Surgery and Medicine*. 2022 Jan;54(1):105-12.

Mehrabi JN, Kelly KM, Holmes JD, Zachary CB. Assessing the Outcomes of Focused Heating of the Skin by a Long-Pulsed 1064 nm Laser with an Integrated Scanner, Infrared Thermal Guidance, and Optical Coherence Tomography. *Lasers in Surgery and Medicine*.

Wenande E, Hendel K, Mogensen M, Bagger C, Mårtensson NL, Persson DP, Lerche CM, Husted S, Janfelt C, Togsverd-Bo K, Anderson RR. Efficacy and Safety of Laser-Assisted Combination Chemotherapy: An Explorative Imaging-Guided Treatment With 5-Fluorouracil and Cisplatin for Basal Cell Carcinoma. *Lasers in Surgery and Medicine*. 2020 Sep 22.

Stephens R, Holmes J, Eadie E. Lesion compression during light activation may improve efficacy of Photodynamic Treatment (PDT) of Basal Cell Carcinoma (BCC): Preliminary results and rationale. *Journal of the European Academy of Dermatology and Venereology*. 2020 Apr 20.

Banzhaf CA, Phothong W, Suku ML, Ulrich M, Philipsen PA, Mogensen M, Haedersdal M. Basal cell carcinoma treated with combined ablative fractional laser and ingenol mebutate—an exploratory study monitored by optical coherence tomography and reflectance confocal microscopy. *Journal of the European Academy of Dermatology and Venereology*. 2020 Mar;34(3):502-9.

Markowitz O, Orit, Tongdee, Emily, and Levina, Amanda, Optimal Cosmetic Outcomes for BCC: A Retrospective Study of Nonablative Laser Management, *Cutis*, May;103(05):292-297, E1-E3

Ahluwalia J, Avram MM, Ortiz AE. Outcomes of long-pulsed 1064 nm Nd: YAG laser treatment of basal cell carcinoma: A retrospective review. *Lasers in Surgery and Medicine*. 2018.

Markowitz O, Wang K, Levine A, Schwartz M, Minhas S, Feldman E, Siegel DM. Noninvasive Long-term Monitoring of Actinic Keratosis and Field Cancerization Following Treatment with Ingenol Mebutate Gel 0.015%. *J Clin Aesthet Dermatol*. 2017;10(10):28-33.

Niculescu, L., Bierhoff, E., Hartmann, D., Ruzicka, T., Berking, C. and von Braunmühl, T., 2017. Optical coherence tomography imaging of basal cell carcinoma undergoing photodynamic therapy: A pilot study. *Photodiagnosis and Photodynamic Therapy*, 18, pp.133-137.

MARKOWITZ, O. and SCHWARTZ, M., 2016. The Use of Noninvasive Optical Coherence Tomography to Monitor the Treatment Progress of Vismodegib and Imiquimod 5% Cream in a Transplant Patient with Advanced Basal Cell Carcinoma of the Nose. *Journal of Clinical & Aesthetic Dermatology*, 9(8).

Levine A, Wang K, Markowitz O, "Optical Coherence Tomography for Skin Cancer Screening." *Gavin J Dermatol Res Ther* (2016): 24-25

Braunmühl, T., D. Hartmann, J. K. Tietze, D. Cekovic, C. Kunte, T. Ruzicka, C. Berking, and E. C. Sattler. "Morphologic features of basal cell carcinoma using the en-face mode in frequency domain optical coherence tomography." *Journal of the European Academy of Dermatology and Venereology* (2016).

Yücel D, Themstrup L, Manfredi M, Jemec GB. Optical coherence tomography of basal cell carcinoma: density and signal attenuation. *Skin Research and Technology*. 2016 Jun 1.

Schwartz M, Siegel DM, Markowitz O. Commentary on the Diagnostic Utility of Non-invasive Imaging Devices for Field Cancerization. *Experimental dermatology*. 2016 Jun 1.

Markowitz O, Utz S. Differentiating Early Stage Cystic Keratoacanthoma, Nodular Basal Cell Carcinoma, and Excoriated Acne Vulgaris by Clinical Exam, Dermoscopy, and Optical Coherence Tomography: A Report of 3 Cases. *The Journal of clinical and aesthetic dermatology*. 2015 Apr;8(4):48.

Themstrup, L., Banzhaf, C.A., Mogensen, M. and Jemec, G.B.E., 2014. Optical coherence tomography imaging of non-melanoma skin cancer undergoing photodynamic therapy reveals subclinical residual lesions. *Photodiagnosis and photodynamic therapy*, 11(1), pp.7-12.

Schmitz, L., Bierhoff, E. and Dirschka, T., 2013. Optical coherence tomography imaging of Erythroplasia of Queyrat and treatment with imiquimod 5% cream: A case report. *Dermatology*, 228(1), pp.24-26.

NMSC MARGIN MAPPING

Fogarty GB, Paton EJ, Grace J, Prossor J, Fox A, Sinz C. Initial Experience in Using Optical Coherence Tomography in Defining Radiation Fields for Head and Neck Basal Cell Carcinoma. *Diseases & Research*. 2025 Jul 14.

Santillan, Monica Rosales, Indermeet Kohli, and David Ozog. "Optical Coherence Tomography for Mohs Margin Assessment of Basal Cell Carcinoma." *Dermatologic Surgery* 51.3 (2025): 319-321.

Fünfer K, Mozaffari M, Mayer O, Schlingmann S, Welzel J, Schuh S. One-stop shop: diagnosis and treatment of basal cell carcinoma in one step. *Journal of Clinical Medicine*. 2024 Jun 29;13(13):3830.

Michelini, S., Mandel, V.D., Ardigò, M., Ciardo, S., Cota, C., Cesinaro, A.M., Rossi, E., Ferrari, B., Kaleci, S., Di Fraia, M. and Chello, C., 2024. Combining Reflectance Confocal Microscopy, Optical Coherence Tomography, and Ex-Vivo Fluorescence Confocal Microscopy for Margin Assessment in Basal Cell Carcinoma Excision. *Dermatology Practical & Conceptual*, pp.e2024090-e2024090.

Akella SS, Lee J, May JR, Puyana C, Kravets S, Dimitropolous V, Tsoukas M, Manwar R, Avanaki K. Using optical coherence tomography to optimize Mohs micrographic surgery. *Scientific Reports*. 2024 Apr 17;14(1):8900.

Holm KB, Nielsen LJ, Lock-Andersen J, Behrendt N, Svensson MS, Themstrup L, Jemec GB. Optical coherence tomography for presurgical delineation of basal cell carcinomas on the face—a comparison with histopathology. *Journal of Cutaneous Pathology*. 2023 Feb 16.

Adan, F., Kallen, E.J.J., Dermont, G., Mucche, J.M., Sinx, K.A.E., Schilder, A., Abdul Hamid, M., Nelemans, P.J. and Mosterd, K., 2022. Diagnostic accuracy of optical coherence tomography in the assessment of in vivo primary basal cell carcinoma resection margins prior to Mohs Micrographic Surgery. *Journal of the European Academy of Dermatology and Venereology*, 36(4), pp.e270-e272.

Hamdoon Z, Jerjes W, Rashed D, Kawas S, Abdul Sattar A, Samsudin R, Hopper C. In vivo optical coherence tomography-guided photodynamic therapy for skin pre-cancer and cancer. *Photodiagnosis and photodynamic therapy*. 2021 Dec 1;36:102520.

Parashar K, Torres AE, Boothby-Shoemaker W, Kohli I, Veenstra J, Neel V, Ozog DM. Imaging Technologies for Pre-surgical Margin Assessment of Basal Cell Carcinoma. *Journal of the American Academy of Dermatology*. 2021 Nov 16.

Møller Israelsen N, Mogensen M, Jensen M, Haedersdal M, Bang O. Delineating papillary dermis around basal cell carcinomas by high and ultrahigh resolution optical coherence tomography—A pilot study. *Journal of Biophotonics*. 2021 Nov;14(11):e202100083.

Jerjes W, Hamdoon Z, Al-Rawi N, Hopper C. Optical coherence tomography in the assessment of cutaneous cancer margins of the face: an immediate ex vivo study. *Photodiagnosis and Photodynamic Therapy*. 2019 Dec 4:101616.

Fisher J, Siegel DM, Markowitz O. Clinical Utility of Bedside Multibeam Optical Coherence Tomography Imaging in a Patient With Multiple Basal Cell Carcinomas. *Dermatologic Surgery*. 2018 Jun 1;44(6):874-6

Levine A, Siegel D, Markowitz O. Imaging in cutaneous surgery. *Future Oncology*. 2017 Nov;13(26):2329-40.

De Carvalho N, Schuh S, Kindermann N, Kästle R, Holmes J, Welzel J. Optical coherence tomography for margin definition of basal cell carcinoma before micrographic surgery—recommendations regarding the marking and scanning technique. *Skin Research and Technology*. 2017 Oct 23.

Rashed D, Shah D, Freeman A, Cook RJ, Hopper C, Perrett CM. Rapid ex vivo examination of Mohs specimens using optical coherence tomography. *Photodiagnosis and Photodynamic Therapy*. 2017 Jun 12.

Alawi, A. Optical coherence tomography for preoperative evaluation for non-melanoma skin cancer, (PhD Thesis, 2014)

Coleman, A.J., Penney, G.P., Richardson, T.J., Guyot, A., Choi, M.J., Sheth, N., Craythorne, E., Robson, A. and Mallipeddi, R., 2014. Automated registration of optical coherence tomography and dermoscopy in the assessment of sub-clinical spread in basal cell carcinoma. *Computer Aided Surgery*, 19(1-3), pp.1-12.

Duffy, M., et al. "Motion tracking to enable pre-surgical margin mapping in basal cell carcinoma using optical imaging modalities: initial feasibility study using optical coherence tomography." *SPIE BIOS. International Society for Optics and Photonics*, 2014.

Alawi, S.A., Kuck, M., Wahrlich, C., Batz, S., McKenzie, G., Fluhr, J.W., Lademann, J. and Ulrich, M., 2013. Optical coherence tomography for presurgical margin assessment of non-melanoma skin cancer—a practical approach. *Experimental dermatology*, 22(8), pp.547-551.

Wang, K.X., Meekings, A., Fluhr, J.W., McKenzie, G., Lee, D.A., Fisher, J., Markowitz, O. and Siegel, D.M., 2013. Optical Coherence Tomography–Based Optimization of Mohs Micrographic Surgery of Basal Cell Carcinoma: A Pilot Study. *Dermatologic Surgery*, 39(4), pp.627-633.

Chan, C.S. and Rohrer, T.E., 2012. Optical coherence tomography and its role in Mohs micrographic surgery: a case report. *Case reports in dermatology*, 4(3), pp.269-274.

Pelosini, L., Smith, H.B., Schofield, J.B., Meeckings, A., Dhital, A. and Khandwala, M., 2013. In vivo optical coherence tomography (OCT) in periocular basal cell carcinoma: correlations between in vivo OCT images and postoperative histology. *British Journal of Ophthalmology*, 97(7), pp.890-894.

Pomerantz, R., Zell, D., McKenzie, G. and Siegel, D.M., 2011. Optical coherence tomography used as a modality to delineate basal cell carcinoma prior to Mohs micrographic surgery. *Case reports in dermatology*, 3(3), pp.212-218.

Cunha, D., Richardson, T., Sheth, N., Orchard, G., Coleman, A. and Mallipeddi, R., 2011. Comparison of ex vivo optical coherence tomography with conventional frozen-section histology for visualizing basal cell carcinoma during Mohs micrographic surgery. *British Journal of Dermatology*, 165(3), pp.576-580.

Hamdoon, Z., Jerjes, W., Upile, T. and Hopper, C., 2011. Optical coherence tomography-guided photodynamic therapy for skin cancer: case study. *Photodiagnosis and photodynamic therapy*, 8(1), pp.49-52.

ACTINIC KERATOSIS

von Knorring T, Mogensen M, Banzhaf CA, Jemec G, Themstrup L. Optical Coherence Tomography and Cryosurgery. In *Cryosurgery: A Practical Manual* 2025 Aug 14 (pp. 125-131). Cham: Springer Nature Switzerland.

Wenande E, Hastrup A, Wiegell S, Philipsen PA, Thomsen NB, Demehri S, Kjaer SK, Haedersdal M. Human papillomavirus vaccination and actinic keratosis burden: the VAXAK randomized clinical trial. *JAMA dermatology*. 2025 Jun 1;161(6):605-14.

Thamm JR, Welzel J, Schuh S. Diagnose und Therapie aktinischer Keratosen: Diagnosis and therapy of actinic keratosis. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2024 May;22(5):675-91.

Fredman G, Wiegell SR, Haedersdal M, Untracht GR. Vascular feature identification in actinic keratosis grades I-III using dynamic optical coherence tomography with automated, quantitative analysis. *Archives of Dermatological Research*. 2024 Jun 15;316(7):391.

Fredman G, Haedersdal M, Philipsen PA, Andersen F, Bjerring P, Wiegell SR, Untracht GR. Vascular Characteristics of Treatment-resistant and-responsive Actinic Keratosis Identified with Dynamic Optical Coherence Tomography. *Acta Dermato-Venereologica*. 2024 Nov 25;104:42190.

Cantisani C, Musolf N, Azzella G, Gargano L, Di Guardo A, Longo C, Guida S, Rossi G, Rovaldi E, Rega F, Cocci Grifoni G. Tirbanibulin 1% Ointment Effectiveness for Actinic Keratosis Treatment Evaluated by Dynamic Optical Coherence Tomography. *Dermatologic Therapy*. 2024;2024(1):1018395.

Fredman G, Fuchs CS, Wenande E, Philipsen PA, Untracht GR, Andersen F, Bjerring P, Wiegell SR, Haedersdal M. Dynamic optical coherence tomography unveils subclinical, vascular differences across actinic keratosis grades I–III. *Experimental Dermatology*. 2024 Aug;33(8):e15153.

Kandolf L, Peris K, Malvey J, Mosterd K, Heppt MV, Fagnoli MC, Berking C, Arenberger P, Bylaite-Bučinskiene M, Del Marmol V, Dirschka T. European consensus-based interdisciplinary guideline for diagnosis, treatment and prevention of actinic keratoses, epithelial UV-induced dysplasia and field cancerization on behalf of European Association of Dermato-Oncology, European Dermatology Forum, European Academy of Dermatology and Venereology and Union of Medical Specialists (Union Européenne des Médecins Spécialistes). *Journal of the European Academy of Dermatology and Venereology*. 2024 Mar 7.

Ortner VK, Johansen B, Kilov K, Mondragón AC, Duvold T, Kihl J, Ashcroft FJ, Feuerherm AJ, Laugesen CP, Espersen ML, Manole I. The Copenhagen Actinic Keratosis Study (COAKS). A decentralised clinical trial to evaluate tolerability, safety and efficacy of daily field-directed topical treatment with cytosolic phospholipase A2 inhibitor, AVX001, in participants with actinic keratosis: protocol for a randomised controlled phase I/IIa trial. *BMJ open*. 2022 Oct 1;12(10):e061012.

Hendel K, Mogensen M, Wenande E, Dierickx C, Haedersdal M, Togsverd-Bo K. Fractional 1,927 nm Thulium Laser Plus Photodynamic Therapy Compared and Combined for Photodamaged Décolleté Skin: A Side-by-Side Randomized Controlled Trial. *Lasers in Surgery and Medicine*. 2019 Dec 1.

Ruini C, Hartmann D, Bastian M, Ruzicka T, French L, Berking C, Braunmühl T. Non-invasive monitoring of subclinical and clinical actinic keratosis of face and scalp under topical treatment with ingenolmebutate gel 150 mcg/gby means of reflectance

confocal microscopy and optical coherence tomography: new perspectives and comparison of diagnostic techniques. *Journal of Biophotonics*. 2019 Jan 17:e201800391.

Schmitz L, Hessam S, Scholl L, Reitenbach S, Segert MH, Gambichler T, Stockfleth E, Bechara FG. Argon plasma coagulation of actinic keratoses imaged by optical coherence tomography: an in-vivo study indicating a possible lesion-directed treatment. *Journal of biophotonics*. 2018 Jun 12:e201800075.

Friis, K.B.E., Themstrup, L. and Jemec, G.B.E., 2017. Optical coherence tomography in the diagnosis of actinic keratosis—A systematic review. *Photodiagnosis and Photodynamic Therapy*, 18, pp.98-104.

Banzhaf, C. A., Thaysen-Petersen, D., Bay, C., Philipsen, P. A., Mogensen, M., Prow, T. and Haedersdal, M. (2016), Fractional laser-assisted drug uptake: Impact of time-related topical application to achieve enhanced delivery. *Lasers Surg. Med.*. doi:10.1002/lsm.22610

MARKOWITZ O, SCHWARTZ M, FELDMAN E, BIEBER A, BIENENFELD A, NANDANAN N, SIEGEL DM. Defining Field Cancerization of the Skin Using Noninvasive Optical Coherence Tomography Imaging to Detect and Monitor Actinic Keratosis in Ingenol Mebutate 0.015%-Treated Patients. *Journal of Clinical & Aesthetic Dermatology*. 2016 May 1;9(5).

Themstrup, L. and Jemec, G.B., 2014. Optical coherence tomography and its role for delineating the thickness of keratinocyte dysplasia and neoplasia. In *Actinic Keratosis* (Vol. 46, pp. 95-100). Karger Publishers.

Maier, T., Cekovic, D., Ruzicka, T., Sattler, E.C. and Berking, C., 2015. Treatment monitoring of topical ingenol mebutate in actinic keratoses with the combination of optical coherence tomography and reflectance confocal microscopy: a case series. *British Journal of Dermatology*, 172(3), pp.816-818.

Themstrup, L., Banzhaf, C., Mogensen, M. and Jemec, G.B., 2012. Cryosurgery treatment of actinic keratoses monitored by optical coherence tomography: a pilot study. *Dermatology*, 225(3), pp.242-247.

AESTHETIC MEDICINE, VASCULAR LESIONS AND SCARS

SCARS & SCAR TREATMENTS

Ud-Din S. Objective evaluation of skin scarring pre-and post-therapy in human skin. The University of Manchester (United Kingdom); 2022.

Erlendsson AM, Rosenberg LK, Lerche CM, Togsverd-Bo K, Wiegell SR, Karmisholt K, Philipsen PA, Hansen AC, Janfelt C, Holmes J, Rossi A. A one-time pneumatic jet-injection of 5-fluorouracil and triamcinolone acetonide for treatment of hypertrophic scars—A blinded randomized controlled trial. *Lasers in Surgery and Medicine*. 2022 Jul;54(5):663-71.

Ud-Din S, Bayat A. Non-invasive objective tools for quantitative assessment of skin scarring. *Advances in Wound Care*. 2021 May 8(ja).

Ud-Din S, Wilgus TA, McGeorge DD, Bayat A. Pre-Emptive Priming of Human Skin Improves Cutaneous Scarring and Is Superior to Immediate and Delayed Topical Anti-Scarring Treatment Post-Wounding: A Double-Blind Randomised Placebo-Controlled Clinical Trial. *Pharmaceutics*. 2021 Apr;13(4):510.

Waibel JS, Gianatasio C, Rudnick A. Randomized, controlled early intervention of dynamic mode fractional ablative CO2 laser on acute burn injuries for prevention of pathological scarring. *Lasers in Surgery and Medicine*. 2020 Feb;52(2):117-24

Waibel JS, Holmes J, Hecht H, Rudnick A. OCT Image-Guided Treatment of Scars. In *Image Guided Dermatologic Treatments 2020* (pp. 83-91). Springer, Cham.

Chambert J, Lihoreau T, Joly S, Chatelain B, Sandoz P, Humbert P, Jacquet E, Rolin G. Multimodal investigation of a keloid scar by combining mechanical tests in vivo with diverse imaging techniques. *Journal of the Mechanical Behavior of Biomedical Materials*. 2019 Jul 25.

Madni TD, Lu K, Nakonezny PA, Imran JB, Cunningham HB, Clark AT, Taveras L, Hoopman JE, Wolf SE, Kenkel JM, Phelan HA. Treating Hypertrophic Burn Scar With 2940-nm Er: YAG Laser Fractional Ablation Improves Scar Characteristics as Measured by Noninvasive Technology. *Journal of Burn Care & Research*. 2019 May 2.

Ud-Din S, Foden P, Stocking K, Mazhari M, Al-Habba S, Baguneid M, McGeorge D, Bayat A. Objective assessment of dermal fibrosis in cutaneous scarring: using optical coherence tomography, high frequency ultrasound and immuno-histo-morphometry of human skin. *British Journal of Dermatology*.

Basson R, Baguneid M, Foden P, Al Kredly R, Bayat A. Functional Testing of a Skin Topical Formulation In Vivo: Objective and Quantitative Evaluation in Human Skin Scarring Using a Double-Blind Volunteer Study with Sequential Punch Biopsies. *Advances in Wound Care*. 2019 Feb 1.

Waibel A, Rudnick AC, Wulkan AJ, Holmes JD, The Diagnostic Role of OCT in Measuring the Depth of Burn and Traumatic Scars for More Accurate Laser Dosimetry: A pilot Study, *J Drugs in Derm*.2016. Nov;15(11)

Luber, A.J., Bienenfeld, A.R., Clark, C.M. and Markowitz, O., 2015. Case Letter Characterization of Knuckle (Garrod) Pads Using Optical Coherence Tomography In Vivo, *Cutis*. 2015 September; 96 (3): E10-E11. *Cutis*, 96(3), pp.E10-E11.

Banzhaf, C.A., Wind, B.S., Mogensen, M., Meesters, A.A., Paasch, U., Wolkerstorfer, A. and Haedersdal, M., 2015. Spatiotemporal closure of fractional laser-ablated channels imaged by optical coherence tomography and reflectance confocal microscopy. *Lasers in surgery and medicine*.

Ring, H.C., Mogensen, M., Hussain, A.A., Steadman, N., Banzhaf, C., Themstrup, L. and Jemec, G.B., 2015. Imaging of collagen deposition disorders using optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*, 29(5), pp.890-898.

Babalola, O., Mamalis, A., Lev-Tov, H. and Jagdeo, J., 2014. Optical coherence tomography (OCT) of collagen in normal skin and skin fibrosis. *Archives of dermatological research*, 306(1), pp.1-9.

VASCULAR

Chen K, Hu YY, Qian SS, Wu JZ, Cao LJ, Wang LL, Li M, Xia YX, Jiang Q, Chen HY, Chen LQ. Hemoporphin-Mediated Photodynamic Therapy-Caused Skin Barrier Damage and Triggered Dermatitis in Port-Wine Stains. *Lasers in Surgery and Medicine*. 2025 Jun 17.

Chen K, Wu JZ, Hu YY, Jiang Q, Xia YX, Chen J, Chen L, Chen LQ. Noninvasive Diagnosis Revealed the Good Therapeutic Response and Skin Barrier Changes in Hemoporphin-Mediated Photodynamic Therapy for Port Wine Stains. *Noninvasive Diagnosis Revealed the Good Therapeutic Response and Skin Barrier Changes in Hemoporphin-Mediated Photodynamic Therapy for Port Wine Stains*.

Elsanadi R, Messele F, Lee J, Choi B, Kelly KM. Optical Coherence Tomography-measured blood vessel characteristics of Port-Wine Birthmarks by depth: A cross-sectional study. *Journal of the American Academy of Dermatology*.

Elsanadi R, Messele F, Kelly KM. Optical coherence tomography-measured blood vessel characteristics within and between port-wine birthmarks. *In Photonics in Dermatology and Plastic Surgery 2024* 2024 Mar 12 (Vol. 12816, p. 1281603). SPIE.

Wang JV, Bajaj S, Himeles JR, Geronemus RG. Clinical and Optical Coherence Tomography Correlation of Vascular Conditions Treated With a Novel, Variable-Sequenced, Long-Pulsed, 532 and 1,064 nm Laser With Cryogen Spray Cooling. *Dermatologic Surgery*. 2022 May 12:10-97.

Durrani AK. Advancing optical coherence tomography angiography towards the better diagnosis of cutaneous microvascular disease (Doctoral dissertation, University of Surrey).

Harst K, Welzel J, Schuh S. How efficient is laser therapy for telangiectasias, spider veins, and cherry angiomas?—A study using dynamic optical coherence tomography. *Lasers in Surgery and Medicine*. 2023.

Cardinell JL, Ramjist JM, Chen C, Shi W, Nguyen NQ, Yeretsian T, Choi M, Chen D, Clark DS, Curtis A, Kim H. Quantification metrics for telangiectasia using optical coherence tomography. *Scientific Reports*. 2022 Feb 2;12(1):1-0.

Mehrabi JN, Holmes J, Abrouk M, Wang JV, Pomerantz H, Palma AM, Zachary CB, Geronemus RG, Waibel JS, Kelly KM. Vascular characteristics of port wine birthmarks as measured by dynamic optical coherence tomography. *Journal of the American Academy of Dermatology*. 2021 Aug 11.

Taudorf EH, Olsen J, Lindsø Andersen P, Bouazzi D, Jemec GB. Dynamic Optical Coherence Tomography Imaging of Telangiectasia Prior to Intense Pulsed Light Treatment—An Opportunity to Target Treatment?. *Lasers in Surgery and Medicine*. 2020 Jun 12.

Christman MP, Feng H, Holmes J, Geronemus RG. Treating port wine stain birthmarks by using dynamic optical coherence tomography-guided settings. *Journal of the American Academy of Dermatology*. 2023 Jan 1;88(1):e11-3.

Almagirby A, Rongong JA, Carré MJ. The development of a new artificial model of a finger for assessing transmitted vibrations. *Journal of the mechanical behavior of biomedical materials*. 2018 Feb 1;78:20-7.

Waibel JS, Holmes J, Rudnick A, Woods D, Kelly KM. Angiographic optical coherence tomography imaging of hemangiomas and port wine birthmarks. *Lasers in surgery and medicine*. 2018 Mar 22.

Byers RA, Fisher M, Brown NJ, Tozer GM, Matcher SJ. Vascular patterning of subcutaneous mouse fibrosarcomas expressing individual VEGF isoforms can be differentiated using angiographic optical coherence tomography. *Biomedical optics express*. 2017 Oct 1;8(10):4551-67.

Aldahan, A.S., Chen, L.L., Tsatalis, J.P. and Grichnik, J.M., 2017. Optical Coherence Tomography Visualization of a Port-Wine Stain in a Patient With Sturge–Weber Syndrome. *Dermatologic Surgery*, 43(6), pp.889-891.

Aldahan AS, Mlacker S, Shah VV, Chen LL, Nouri K, Grichnik JM. Utilization of Optical Coherence Tomography in the Evaluation of Cherry Hemangiomas. *Journal of drugs in dermatology: JDD*. 2016 Jun;15(6):713-4.

Themstrup L, Welzel J, Ciardo S, Kaestle R, Ulrich M, Holmes J, Whitehead R, Sattler EC, Kindermann N, Pellacani G, Jemec GB. Validation of dynamic optical coherence tomography for non-invasive, in vivo microcirculation imaging of the skin. *Microvascular research*. 2016 Sep 1;107:97-105.

Themstrup L, Ciardo S, Manfredi M, Ulrich M, Pellacani G, Welzel J, Jemec GB. In vivo, micro-morphological vascular changes induced by topical brimonidine studied by Dynamic optical coherence tomography. *Journal of the European Academy of Dermatology and Venereology*. 2016 Feb 1.

Urban, J., Siripunvarapon, A.H., Meekings, A., Kalowitz, A. and Markowitz, O., 2014. Optical coherence tomography imaging of erythematotelangiectatic rosacea during treatment with brimonidine topical gel 0.33%: a potential method for treatment outcome assessment. *Journal of drugs in dermatology: JDD*, 13(7), pp.821-826.

Ring, H.C., Mogensen, M., Banzhaf, C., Themstrup, L. and Jemec, G.B., 2013. Optical coherence tomography imaging of telangiectasias during intense pulsed light treatment: a potential tool for rapid outcome assessment. *Archives of dermatological research*, 305(4), pp.299-303.

Matcher, S.J. and Byers, R., 2014. Optical coherence tomography measurements of biological fluid flows with picolitre spatial localization.

Bazant-Hegemark, F., Woods, D., Hattersley, S. and Holmes, J., 2010, February. Multi-beam resolution video-rate sweptsource optical coherence tomography (OCT) provides endogenous contrast for in vivo blood flow independent of flow direction. In *Proc. SPIE (Vol. 7554, p. 75542Z)*.

AESTHETIC & COSMETIC TREATMENTS, SKIN HEALTH

Wenande E, Jacobsen K, Grove GL, Paasch U, Haedersdal M. Imaging 1927 nm Fractional Thulium Laser-Tissue Interactions: A Spectrum of Nonablative to Ablative Effects. *Journal of Cosmetic Dermatology*. 2025 Jul;24(7):e70304.

Eathara A, Aliabadi SM, Borbas S, Tsoukas MM, Avnaki K. Quantitative analysis of skin optical coefficients using OCT for enhanced skin type classification. In *Photonics in Dermatology and Plastic Surgery 2025* 2025 Mar 19 (Vol. 13292, pp. 186-192). SPIE.

Xu Q, Siegel AP, Smith JM, Fakhoury JW, Tsoukas M, Smith H, Chen CL, Daveluy S, Mehregan D, Welzel J, Tkaczyk ER. OCT in dermatology: a process for determining whether a fully diversified dataset is needed for AI model-building. *Optics Letters*. 2025 Jun 15;50(12):3947-9.

Korponai J, Remenyik E, Gellén E. Revealing the Invisible: In Vivo Imaging for Photoaging Therapies-review of the literature. *Photodiagnosis and Photodynamic Therapy*. 2025 Nov 25:105298.

Clementi A, Cassalia F, Cannarozzo G, Guarino L, Zappia E, Bennardo L, Mazzetto R, Danese A, Longo C, Nisticò SP. Laser-Assisted Exosome Delivery (LAED) with Fractional CO₂ Laser: A Pilot Two-Case Report and Narrative Review. *Cosmetics*. 2025 Sep 12;12(5):199.

Vejlsby AV, Pihl C, Kara RD, Haedersdal M, Andersen PE, Lerche CM, Untracht GR. Assessing changes in ultraviolet radiation-exposed mouse skin using optical coherence tomography. *PloS one*. 2025 Aug 11;20(8):e0328647.

She A, Li Y, Jiang L, Liang R, Hao S, Li K, Zhou Y. Study on the anti-free radical, antibacterial, and whitening effects of sea buckthorn extract and its product development. *Journal of Dermatologic Science and Cosmetic Technology*. 2025 Mar 1;2(1):100061.

Michelini S, Greco ME, Vespasiani G, Trovato F, Chello C, Musolff N, Cantisani C, Pellacani G. Non-Invasive Imaging for the Evaluation of a New Oral Supplement in Skin Aging: A Case-Controlled Study. *Skin Research and Technology*. 2025 Feb;31(2-5):e70171.

Guida S, Ciardo S, Galadari H, De Pace B, Manfredini M, Chester J, Kaleci S, Proietti I, Cantisani C, Michelini S, Chello C. Correlating Optical Coherence Tomography and Other Noninvasive Imaging Features With Atrophic and Hypertrophic Skin Photoaging. *International Journal of Dermatology*. 2025.

周菲, 刘宗艳, 卢伊娜. 二裂酵母发酵产物溶胞产物复合物的修护功效研究. *Detergent & Cosmetics*. 2024 Mar 1;47(3).

周菲, 刘宗艳, 卢伊娜. 二裂酵母发酵产物溶胞产物复合物的修护功效研究. *Detergent & Cosmetics*. 2024 Mar 1;47(3).

Dalicho V, Straube T, Kelly K, Larsen B, Wünsch L, Lindert J. Depth of intact vascular plexus—visualized with optical coherence tomography—correlates to burn depth in thoracic thermic injuries in children. *Innovative Surgical Sciences*. 2024 Jun 12(0).

Musolff N, Cantisani C, Guida S, Michelini S, Tchack M, Rao B, Pellacani G. Different Pathways of Skin Aging: Objective Instrumental Evaluation. *Diagnostics*. 2024 Oct 25;14(21):2381.

Seiger K, Driscoll W, Messele F, Golbari NM, Fan X, Holmes J, Zachary CB. Use of Optical Coherence Tomography to Assess Properties of Cutaneous Defects Following Radiofrequency Microneedling and Laser Treatment. *Lasers in surgery and medicine*.

Pezzini C, Ciardo S, Guida S, Kaleci S, Chester J, Casari A, Manfredini M, Longo C, Farnetani F, Brugués AO, Pellacani G. Skin ageing: Clinical aspects and in vivo microscopic patterns observed with reflectance confocal microscopy and optical coherence tomography. *Experimental Dermatology*. 2023 Apr;32(4):348-58.

Wenande E, Hastrup A, Fredman GL, Olesen UH, Wolkerstorfer A, Haedersdal M. Impact of skin hydration on patterns of microthermal injury produced by fractional CO₂ laser. *Lasers in surgery and medicine*. 2023.

Jacobsen K, Ortner VK, Fredman GL, Christensen RL, Dierickx C, Tanghetti E, Paasch U, Haedersdal M. Melanin-dependent tissue interactions induced by a 755-nm picosecond-domain laser: complementary visualization by optical imaging and histology. *Lasers in Medical Science*. 2023 Jul 14;38(1):160.

Vingan NR, Parsa S, Barillas J, Culver A, Kenkel JM. Evaluation and characterization of facial skin aging using optical coherence tomography. *Lasers in Surgery and Medicine*. 2023 Jan;55(1):22-34.

Stephens TJ, Jiang LI. Novel, Compelling, Noninvasive Techniques for Evaluating Cosmetic Products. *Cosmetic Dermatology: Products and Procedures*. 2022 Mar 11:47-56.

Safa M, Natalizio A, Hee CK. A prospective, open-label study to evaluate the impact of VYC-12L injection on skin quality attributes in healthy volunteers. *Clinical, Cosmetic and Investigational Dermatology*. 2022 Mar 10:411-26.

Ruini C, Kendziora B, Ergun EZ, Sattler E, Gust C, French LE, Bağcı IS, Hartmann D. In vivo examination of healthy human skin after short-time treatment with moisturizers using confocal Raman spectroscopy and optical coherence tomography: Preliminary observations. *Skin Research and Technology*. 2022 Jan;28(1):119-32.

Stephens TJ, Jiang LI. Novel, Compelling, Noninvasive Techniques for Evaluating Cosmetic Products. *Cosmetic Dermatology: Products and Procedures*. 2022 Mar 11:47-56.

Safa M, Natalizio A, Hee CK. A prospective, open-label study to evaluate the impact of VYC-12L injection on skin quality attributes in healthy volunteers. *Clinical, Cosmetic and Investigational Dermatology*. 2022 Mar 10:411-26.

Ruini C, Kendziora B, Ergun EZ, Sattler E, Gust C, French LE, Bağcı IS, Hartmann D. In vivo examination of healthy human skin after short-time treatment with moisturizers using confocal Raman spectroscopy and optical coherence tomography: Preliminary observations. *Skin Research and Technology*. 2022 Jan;28(1):119-32.

Goberdhan LT, Pellacani G, Ardigo M, Schneider K, Makino ET, Mehta RC. 26738 Assessing the cosmetic changes in the facial skin using noninvasive RCM and OCT in vivo skin imaging instrumentation after use of a topical retinoid product in subjects with moderate to severe photodamage. *Journal of the American Academy of Dermatology*. 2021 Sep 1;85(3):AB115.

Goberdhan LT, Pellacani G, Ardigo M, Schneider K, Makino ET, Mehta RC. 26738 Assessing the cosmetic changes in the facial skin using noninvasive RCM and OCT in vivo skin imaging instrumentation after use of a

topical retinoid product in subjects with moderate to severe photodamage. *Journal of the American Academy of Dermatology*. 2021 Sep 1;85(3):AB115.

Olsen J, Gaetti G, Grandahl K, Jemec GB. Optical coherence tomography quantifying photo aging: skin microvasculature depth, epidermal thickness and UV exposure. *Archives of Dermatological Research*. 2021 Jun 10:1-8.

Wamsley, C.E., Kislewitz, M., Barillas, J., Basci, D., Kandagatla, V., Hitchcock, T., Akgul, Y. and Kenkel, J., 2021. A Single-Center Trial to Evaluate the Efficacy and Tolerability of Four Microneedling Treatments on Fine Lines and Wrinkles of Facial and Neck Skin in Subjects With Fitzpatrick Skin Types I-IV: An Objective Assessment Using Noninvasive Devices and 0.33-mm Microbiopsies. *Aesthetic Surgery Journal*.

Mogensen M, Hendel K, Ung V, Wenande E, Togsverd-Bo K, Forman JL, Haedersdal M. Assessing Light and Energy-Based Therapy by Optical Coherence Tomography and Reflectance Confocal Microscopy: A Randomized Trial of Photoaged Skin. *Dermatology*. 2021 Aug 27:1-8.

Kislewitz M, Lu KB, Wamsley CE, Parsa S, Hoopman JE, Kenkel JM, Akgul Y. Bipolar Fractional Radiofrequency Treatment of Suprapatellar Skin Assessment Using Non-Invasive Devices and Microbiopsy. *Aesthetic Surgery Journal*. 2021 May 4

Ciarlo S, Pezzini C, Guida S, Del Duca E, Ungar J, Guttman-Yassky E, Manfredini M, Farnetani F, Longo C, Pellacani G. A plea for standardization of confocal microscopy and optical coherence tomography parameters to evaluate physiological and para-physiological skin conditions in cosmetic science. *Experimental Dermatology*. 2021 Apr 21.

Klein AL, Lubda M, Skov PS, Vogt A, Keck CM, Lademann J, Beckers I, von Hagen J, Patzelt A. Investigation of transfollicular caffeine penetration using microdialysis on ex vivo porcine ear skin. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Oct 3.

Klein AL, Lubda M, Skov PS, Vogt A, Keck CM, Lademann J, Beckers I, von Hagen J, Patzelt A. Investigation of transfollicular caffeine penetration using microdialysis on ex vivo porcine ear skin. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Oct 3.

Kislewitz M, Wamsley C, Bartels M, Lu KB, Li X, Pinch S, Hoopman J, Barton F, Kenkel J, Akgul Y. Clinical Translation of Scarless 0.33 mm Core Microbiopsy for Molecular Evaluation of Human Skin. *Aesthetic Surgery Journal*. 2020 Nov 30.

Nkengne A, Pellacani G, Ciarlo S, De Carvalho N, Vié K. Visible characteristics and structural modifications relating to enlarged facial pores. *Skin Research and Technology*. 2020 Nov 20.

Dayan E, Theodorou S, Rohrich RJ, Burns AJ. Aesthetic Applications of Radiofrequency: Lymphatic and Perfusion Assessment. *Plastic and Reconstructive Surgery—Global Open*. 2020 Oct 27.

Pellacani G, Guida S, Ciarlo S. Novel Methods for In Vivo Skin Structure Visualization. In *Practical Aspects of Cosmetic Testing 2020* (pp. 265-288). Springer, Cham.

Kislewitz M, Lu KB, Wamsley C, Hoopman J, Kenkel J, Akgul Y. Novel Use of Non-Invasive Devices and Microbiopsies to Assess Facial Skin Rejuvenation Following Laser Treatment. *Lasers in Surgery and Medicine*. 2020 Mar 15.

Hendel K, Mogensen M, Wenande E, Dierickx C, Haedersdal M, Togsverd-Bo K. Fractional 1,927 nm thulium laser plus photodynamic therapy compared and combined for photodamaged décolleté skin: A side-by-side randomized controlled trial. *Lasers in Surgery and Medicine*. 2020 Jan;52(1):44-52.

Kislewitz M, Akgul Y, Wamsley C, Hoopman J, Kenkel J. Use of Optical Coherence Tomography (OCT) in Aesthetic Skin Assessment—A Short Review. *Lasers in Surgery and Medicine*.

Lee ZS, Maiti R, Carre M, Lewis R. Morphology of a human finger pad during sliding against a grooved plate: A pilot study. *Biotribology*. 2019 Dec 19:100114.

Jiang WC, Zhang H, Xu Y, Jiang C, Xu Y, Liu W, Tan Y. Cutaneous vessel features of sensitive skin and its underlying functions. *Skin Research and Technology*. 2019 Dec 3.

Maiti R, Duan MQ, Danby S, Lewis R, Matcher SJ, Carré MJ. Morphological parametric mapping of 21 skin sites throughout the body using optical coherence tomography. *Journal of the Mechanical Behavior of Biomedical Materials*. 2019 Oct 21:103501.

Czekalla C, Schönborn KH, Lademann J, Meinke MC. Noninvasive Determination of Epidermal and Stratum Corneum Thickness in vivo Using Two-Photon Microscopy and Optical Coherence Tomography: Impact of Body Area, Age, and Gender. *Skin Pharmacology and Physiology*. 2019;32(3):142-50.

Lee ZS, Maiti R, Carre M, Lewis R. Morphology of a human finger pad during sliding against a grooved plate: A pilot study. *Biotribology*. 2019 Dec 19:100114.

Jiang WC, Zhang H, Xu Y, Jiang C, Xu Y, Liu W, Tan Y. Cutaneous vessel features of sensitive skin and its underlying functions. *Skin Research and Technology*. 2019 Dec 3.

Maiti R, Duan MQ, Danby S, Lewis R, Matcher SJ, Carré MJ. Morphological parametric mapping of 21 skin sites throughout the body using optical coherence tomography. *Journal of the Mechanical Behavior of Biomedical Materials*. 2019 Oct 21:103501.

Czekalla C, Schönborn KH, Lademann J, Meinke MC. Noninvasive Determination of Epidermal and Stratum Corneum Thickness in vivo Using Two-Photon Microscopy and Optical Coherence Tomography: Impact of Body Area, Age, and Gender. *Skin Pharmacology and Physiology*. 2019;32(3):142-50.

Hansen FS, Wenande E, Haedersdal M, Fuchs CS. Microneedle fractional radiofrequency-induced micropores evaluated by in vivo reflectance confocal microscopy, optical coherence tomography, and histology. *Skin Research and Technology*. 2019 Jan.

O'Leary S, Fotouhi A, Turk D, Sriranga P, Rajabi-Estarabadi A, Nouri K, Daveluy S, Mehregan D, Nasirivanaki M. OCT image atlas of healthy skin on sun-exposed areas. *Skin Research and Technology*. 2018 Mar 25.

Irani S, Turani Z, Fotouhi A, Daveluy S, Mehregan D, Chen W, Gelovani J, Nasirivanaki M. The use of optical coherence tomography to analyze the efficacy of skin care products. In *Photonics in Dermatology and Plastic Surgery 2018* 2018 Feb 21 (Vol. 10467, p. 1046715). International Society for Optics and Photonics.

O'Leary S, Fotouhi A, Turk D, Sriranga P, Rajabi-Estarabadi A, Nouri K, Daveluy S, Mehregan D, Nasirivanaki M. OCT image atlas of healthy skin on sun-exposed areas. *Skin Research and Technology*. 2018 Mar 25.

Irani S, Turani Z, Fotouhi A, Daveluy S, Mehregan D, Chen W, Gelovani J, Nasirivanaki M. The use of optical coherence tomography to analyze the efficacy of skin care products. In *Photonics in Dermatology and Plastic Surgery 2018* 2018 Feb 21 (Vol. 10467, p. 1046715). International Society for Optics and Photonics.

Mogensen M, Bojesen S, Israelsen NM, Maria M, Jensen M, Podoleanu A, Bang O, Haedersdal M. Two optical coherence tomography systems detect topical gold nanoshells in hair follicles, sweat ducts and measure epidermis. *Journal of biophotonics*. 2018 Apr 2:e201700348.

Röpke MA, Alonso C, Jung S, Norsgaard H, Richter C, Darvin ME, Litman T, Vogt A, Lademann J, Blume-Peytavi U, Kottner J. Effects of glucocorticoids on stratum corneum lipids and function in human skin—A detailed lipidomic analysis. *Journal of Dermatological Science*. 2017 Aug 26.

Jung S, Lademann J, Darvin ME, Richter C, Pedersen CB, Richter H, Schanzer S, Kottner J, Blume-Peytavi U, Röpke MA. In vivo characterization of structural changes after topical application of glucocorticoids in healthy human skin. *Journal of Biomedical Optics*. 2017 Jul 1;22(7):076018-.

Röpke MA, Alonso C, Jung S, Norsgaard H, Richter C, Darvin ME, Litman T, Vogt A, Lademann J, Blume-Peytavi U, Kottner J. Effects of glucocorticoids on stratum corneum lipids and function in human skin—A detailed lipidomic analysis. *Journal of Dermatological Science*. 2017 Aug 26.

Jung S, Lademann J, Darvin ME, Richter C, Pedersen CB, Richter H, Schanzer S, Kottner J, Blume-Peytavi U, Röpke MA. In vivo characterization of structural changes after topical application of glucocorticoids in healthy human skin. *Journal of Biomedical Optics*. 2017 Jul 1;22(7):076018-.

Banzhaf, C.A., Thaysen-Petersen, D., Bay, C., Philipsen, P.A., Mogensen, M., Prow, T. and Haedersdal, M., 2017. Fractional laser-assisted drug uptake: Impact of time-related topical application to achieve enhanced delivery. *Lasers in surgery and medicine*, 49(4), pp.348-354.

Olesen UH, Mogensen M, Haedersdal M. Vehicle type affects filling of fractional laser-ablated channels imaged by optical coherence tomography. *Lasers in medical science*. 2017 Apr 1;32(3):679-84.

Döge, N., Avetisyan, A., Hadam, S., Pfannes, E.K.B., Rancan, F., Blume-Peytavi, U. and Vogt, A., 2016. Assessment of skin barrier function and biochemical changes of ex vivo human skin in response to physical and chemical barrier disruption. *European Journal of Pharmaceutics and Biopharmaceutics*.

Yu, B., Kang, S.Y., Akthakul, A., Ramadurai, N., Pilkenton, M., Patel, A., Nashat, A., Anderson, D.G., Sakamoto, F.H., Gilchrest, B.A. and Anderson, R.R., 2016. An elastic second skin. *Nature materials*.

Döge, N., Avetisyan, A., Hadam, S., Pfannes, E.K.B., Rancan, F., Blume-Peytavi, U. and Vogt, A., 2016. Assessment of skin barrier function and biochemical changes of ex vivo human skin in response to physical and chemical barrier disruption. *European Journal of Pharmaceutics and Biopharmaceutics*.

Yu, B., Kang, S.Y., Akthakul, A., Ramadurai, N., Pilkenton, M., Patel, A., Nashat, A., Anderson, D.G., Sakamoto, F.H., Gilchrest, B.A. and Anderson, R.R., 2016. An elastic second skin. *Nature materials*.

Tadlock, L., Winterscheid, M., Koski, N., Rapaka, S., Kearney, M., Wisuri, K., Ortblad, K. and Peterson, G., 2015, May. Assessment of the efficacy of a sonic device and pedicure regimen through clinical measures of skin roughness and smoothness. In *Journal of the American Academy of Dermatology* (Vol. 72, No. 5, pp. AB22-AB22).

Tadlock, L., Winterscheid, M., Koski, N., Rapaka, S., Kearney, M., Wisuri, K., Ortblad, K. and Peterson, G., 2015, May. Assessment of the efficacy of a sonic device and pedicure regimen through clinical measures of skin roughness and smoothness. In *Journal of the American Academy of Dermatology* (Vol. 72, No. 5, pp. AB22-AB22).

Reddy, K.K., Brauer, J.A., Anolik, R., Bernstein, L., Brightman, L., Hale, E., Karen, J., Weiss, E. and Geronemus, R.G., 2013. Topical perfluorodecalin resolves immediate whitening reactions and allows rapid effective multiple pass treatment of tattoos. *Lasers in surgery and medicine*, 45(2), pp.76-80.

WOUNDS & BURNS

ACUTE WOUND HEALING

Larsen BS, Straube T, Kelly K, Huber R, Göb M, Siebert J, Wünsch L, Lindert J. Assessment of Attenuation Coefficient and Blood Flow at Depth in Pediatric Thermal Hand Injuries Using Optical Coherence Tomography: A Clinical Study. *European Burn Journal*. 2025 Oct 1;6(4):54.

Benavides-Lara J, Siegel AP, Tsoukas MM, Avanaki K. High-frequency photoacoustic and ultrasound imaging for skin evaluation: Pilot study for the assessment of a chemical burn. *Journal of Biophotonics*. 2024 May 8:e202300460.

Schuh S, Berger M, Schiele S, Rubeck A, Müller G, González JJ, Holmes J, Welzel J. Dynamic optical coherence tomography for imaging acute wound healing. *International Wound Journal*. 2024 Aug;21(8):e70015.

Ten Voorde W, Wind S, Abdisalaam I, Mancini A, Linders F, Jansen MA, Niemeyer-van der Kolk T, Burggraaf J, Rissmann R. A SUCTION BLISTER MODEL TO CHARACTERIZE EPIDERMAL WOUND HEALING AND EVALUATE THE EFFICACY OF THE TOPICAL WOUND HEALING AGENT INM-755 IN HEALTHY VOLUNTEERS. *European Journal of Pharmaceutical Sciences*. 2024 Jul 29:106867.

Dalicho V, Straube T, Kelly K, Larsen B, Wünsch L, Lindert J. Depth of intact vascular plexus—visualized with optical coherence tomography—correlates to burn depth in thoracic thermic injuries in children. *Innovative Surgical Sciences*. 2024 Jun 12(0).

Lindert J, Straube T, Larsen B, Siebert J, Liodaki E, Tafazzoli-Lari K, Wünsch L. An Optical Tomography-Based Score to Assess Pediatric Hand Burns. *European Burn Journal*. 2024 May 15;5(2):155-65.

Ten Voorde W, Saghari M, Boltjes J, de Kam ML, Zhuparris A, Feiss G, Buters TP, Prens EP, Damman J, Niemeyer-van der Kolk T, Moerland M. A multimodal, comprehensive characterization of a cutaneous wound model in healthy volunteers. *Experimental Dermatology*. 2023 Apr 13.

Ashrafi M, Xu Y, Muhamadali H, White I, Wilkinson M, et al. (2020) A microbiome and metabolomic signature of phases of cutaneous healing identified by profiling sequential acute wounds of human skin: An exploratory study. *PLOS ONE* 15(2): e0229545

Wlaschin KF, Ninkovic J, Griesgraber GW, Colak Atan S, Young AJ, Pereira JM, Solberg MJ, Smith G, Parks PJ, McNulty AK, Langer-Anderson DL. The Impact of First-Aid Dressing Design on Healing of Porcine Partial Thickness Wounds. *Wound Repair and Regeneration*. 2019 Jul 5.

Lindert J, Tafazzoli-Lari K, Tüshaus L, Larsen B, Bacia A, Bouteleux M, Adler T, Dalicho V, Vasileidos V, Kisch T, Stang F. Optical coherence tomography provides an optical biopsy of burn wounds in children—a pilot study. *Journal of biomedical optics*. 2018 Oct;23(10):106005.

Larsen HF, Ahlström MG, Gjerdrum LM, Mogensen M, Ghathian K, Calum H, Lyngholm Sørensen A, Lyng Forman J, Vandeven M, Holerca MN, Du-Thumm L. Non-invasive measurement of reepithelialization and microvascularity of suction-blister wounds with benchmarking to histology. *Wound Repair and Regeneration*. 2018 Jan 8.

Glinos GD, Verne SH, Aldahan AS, Liang L, Nouri K, Elliot S, Glassberg M, Cabrera DeBuc D, Koru-Sengul T, Tomic-Canic M, Pastar I. Optical Coherence Tomography for Assessment of Epithelialization in a Human Ex Vivo Wound Model. *Wound Repair and Regeneration*. 2017 Dec 13.

Ahlström MG, Gjerdrum LM, Larsen HF, Fuchs C, Sørensen AL, Forman JL, Ågren MS, Mogensen M. Suction blister lesions and epithelialization monitored by optical coherence tomography. *Skin Research and Technology*.

Ud-Din, Sara, and Ardeshir Bayat. "Non-invasive objective devices for monitoring the inflammatory, proliferative and remodelling phases of cutaneous wound healing and skin scarring." *Experimental dermatology* (2016).

Byers RA, Tozer G, Brown NJ, Matcher SJ. High-resolution label-free vascular imaging using a commercial, clinically approved dermatological OCT scanner. *InProc. of SPIE Vol 2016 Feb 29* (Vol. 9689, pp. 96890M-1).

Smith, L.E., Lu, Z., Bonesi, M., Smallwood, R., Matcher, S.J. and MacNeil, S., 2010, February. Using swept source optical coherence tomography to monitor wound healing in tissue engineered skin. In *BIOS* (pp. 75660I-75660I). International Society for Optics and Photonics.

Greaves, N.S., Iqbal, S.A., Hodgkinson, T., Morris, J., Benatar, B., Alonso-Rasgado, T., Baguneid, M. and Bayat, A., 2015. Skin substitute-assisted repair shows reduced dermal fibrosis in acute human wounds validated simultaneously by histology and optical coherence tomography. *Wound Repair and Regeneration*, 23(4), pp.483-494.

Greaves, N.S., Benatar, B., Whiteside, S., Alonso-Rasgado, T., Baguneid, M. and Bayat, A., 2014. Optical coherence tomography: a reliable alternative to invasive histological assessment of acute wound healing in human skin?. *British Journal of Dermatology*, 170(4), pp.840-850.

CHRONIC WOUNDS; DIABETES

Gordon R, Stevens C, Worsley P, Filingeri D. Repeated Pressure and Shear Stress at the Posterior Heel Following Localized Skin Cooling: Protocol for a Repeated Measures Cohort Study. *JMIR Research Protocols*. 2025 Jul 21;14(1):e73250.

Gordon RJ, Worsley PR, Filingeri D. An evaluation of the effects of localised skin cooling on microvascular, inflammatory, structural, and perceptual responses to sustained mechanical loading of the sacrum: A study protocol. *PLoS one*. 2024 May 10;19(5):e0303342.

Untracht G. Strategies towards in situ high resolution optical coherence tomography in cardiovascular science and physiology.

González JJ, Berger M, Schiele S, Rubeck A, Müller G, Welzel J, Schuh S. Dynamic optical coherence tomography of chronic venous ulcers. *Journal of the European Academy of Dermatology and Venereology: JEADV*. 2023 Sep 5.

Wang Y, Freeman A, Ajjan R, Del Galdo F, Tiganeşcu A. Automated quantification of 3D wound morphology by machine learning and optical coherence tomography in type 2 diabetes. *Skin Health and Disease*. 2022:e203.

Bapir M, Untracht GR, Cooke D, McVey JH, Skene SS, Campagnolo P, Whyte MB, Dikaios N, Rodriguez-Mateos A, Sampson DD, Sampson DM. Cocoa flavanol consumption improves lower extremity endothelial function in healthy individuals and people with type 2 diabetes. *Food & function*. 2022;13(20):10439-48.

Parsa S, Wamsley C, Kim P, Kenkel J, Akgul Y. Use of Optical Coherence Tomography (OCT) in Assessment of Diabetic Skin Wound Characteristics and Blood Flow. *The Journal of Foot and Ankle Surgery*. 2022 Oct 10.

Untracht GR, Dikaios N, Durrani AK, Bapir M, Sarunic MV, Sampson DD, Heiss C, Sampson DM. Pilot study of optical coherence tomography angiography-derived microvascular metrics in hands and feet of healthy and diabetic people. *Scientific Reports*. 2023 Jan 20;13(1):1122.

Wang Y, Ajjan R, Freeman A, Stewart PM, Del Galdo F, Tiganeşcu A. Volumetric quantification of wound healing by machine learning and optical coherence tomography in adults with type 2 diabetes: the GC-SHEALD RCT. *medRxiv*. 2021 Jan 1.

Maiti R, Lewis R, Parker D, Carré MJ. Optical Coherence Tomography to determine and visualize pathological skin structure changes caused by diabetes. In *The Science, Etiology and Mechanobiology of Diabetes and its Complications 2021 Jan 1* (pp. 161-171). Academic Press.

Mani R, Holmes J, Rerkasem K, Papanas N. Blood Vessel Density Measured Using Dynamic Optical Coherence Tomography is a Tool for Wound Healers. *The International Journal of Lower Extremity Wounds*. 2021 May 7:15347346211017334.

Holmes J, Schuh S, Bowling FL, Mani R, Welzel J. Dynamic Optical Coherence Tomography Is a New Technique for Imaging Skin Around Lower Extremity Wounds. *The International Journal of Lower Extremity Wounds*. 2019 Jan:1534734618821015.

Springer S, Zieger M, Hipler UC, Lademann J, Albrecht V, Bueckle R, Meß C, Kaatz M, Huck V. Multiphotonic staging of chronic wounds and evaluation of sterile, optical transparent bacterial nanocellulose covering: A diagnostic window into human skin. *Skin Research and Technology*.

NAILS & ONYCHOMYCOSIS

Kuroпка F, Paasch U, Simon JC, Seitz AT. Leukonychia following laser therapy for onychomycosis. *Dermatologie (Heidelberg, Germany)*. 2025 Jul 23;76(10):650.

Cassidy E, Zafar M, Saint-Martin L, Islam MT, Tsoukas MM, Avanaki K. Optical coherence tomography (OCT) in examining human nails of subjects with different skin types. In *Photonics in Dermatology and Plastic Surgery 2025* 2025 Mar 19 (Vol. 13292, pp. 177-185). SPIE.

Eijkenboom QL, Daxenberger F, Gust C, Hartmann D, Guertler A, Steckmeier S, Deussing M, French LE, Welzel J, Schuh S, Sattler EC. Line-field confocal optical coherence tomography, a novel non-invasive tool for the diagnosis of onychomycosis. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2024.

Dicke, K., Dervenis, V., Dirschka, T. et al. Optische Kohärenztomographie zur differenzialdiagnostischen Abklärung unklarer Nagelpigmentierungen. *Hautarzt* 73, 379–383 (2022). (Optical coherence tomography for the differential diagnosis of unclear nail pigmentation)

Ortner VK, Mandel VD, Bertugno S, Philipsen PA, Haedersdal M. Imaging of the nail unit in psoriatic patients: A systematic scoping review of techniques and terminology. *Experimental Dermatology*. 2022 Mar 30.

Hobelsberger S, Laske J, Aschoff R, Beissert S. Examination of Subungual Hematomas and Subungual Melanocytic Lesions by Using Optical Coherence Tomography and Dermoscopy. *Dermatology*.:1-9.

Gupta AK, Venkataraman M, Quinlan EM. Onychomycosis in the Twenty-First Century: An Update on Epidemiology and Diagnosis. In *Dermatophytes and Dermatophytoses 2021* (pp. 41-64). Springer, Cham.

Dicke K, Dervenis V, Dirschka T, Welzel J, Schuh S. Optische Kohärenztomographie zur differenzialdiagnostischen Abklärung unklarer Nagelpigmentierungen. *Der Hautarzt*. 2021 Jul 16:1-5.

Rajabi-Estarabadi A, Williams NM, Tosti A. Optical Coherence Tomography in Nail Research and Diagnosis. *Advances in Nail Disease and Management*. 2021:203-14.

Markowitz O, Chan CX. Evaluating Onychomycosis Outcomes 2 Months into an 11-month-long Efinaconazole Regimen: The Role of Optical Coherence Tomography. *Journal of Clinical & Aesthetic Dermatology*. 2021 Sep 1;14(9).

Chan CX, Markowitz O. 15685 Predicting onychomycosis clearance at as early as 3 months into the 1-year-long efinaconazole regimen: Role of noninvasive optical coherence tomography imaging. *Journal of the American Academy of Dermatology*. 2020 Dec 1;83(6):AB45.

Ortner VK, Holmes J, Haedersdal M, Philipsen PA. Morphometric Optical Imaging of Microporated Nail Tissue: An Investigation of Intermethod Agreement, Reliability, and Technical Limitations. *Lasers in Surgery and Medicine*.

Ortner VK, Mandel VD, Haedersdal M, Philipsen PA. Impregnation of healthy nail tissue with optical clearing agents for improved optical coherence tomography imaging. *Skin Research and Technology*. 2020.

Abignano, G, Laws, P, Del Galdo, F, Marzo-Ortega, H, McGonagle, D, (2019) Three dimensional nail imaging by optical - coherence tomography: a novel biomarker of response to therapy for nail disease in psoriasis and psoriatic arthritis. *Clinical and Experimental Dermatology*, 44 (4). pp. 462-465

Piraccini BM, Granger C, Alessandrini A, Brandi N, Bruni F, Mandel VD, Pellacani G, Starace M. Clinical and Instrumental Objective Evidence of the Efficacy of a New Water-Based Nail-Strengthening Solution Containing Pistacia lentiscus and Hyaluronic Acid Applied for Up to 6 Months to Improve the Appearance of Weak, Brittle Nails. *Dermatology and Therapy*. 2019:1-3.

Olsen J, Andersen PL, Themstrup L, Jemec GB, Saunte DM. Optical coherence tomography of onychomycosis: proposed terminology and a suggestion of practical usage. *Archives of Dermatological Research*. 2019:1-8.

Rajabi-Estarabadi A, Eber AE, Tsatalis J, Vasquez T, Perper M, Nouri K, Tosti A. Optical Coherence Tomography in Evaluation of Glomus Tumors: A Report of Three Cases. *Journal of the European Academy of Dermatology and Venereology*. 2019 Apr 13.

Verne SH, Chen L, Shah V, Nouri K, Tosti A. Optical Coherence Tomography Features of Dermatophytoma. *JAMA dermatology*. 2018 Feb 1;154(2):225-7.

Cervantes J, Sanchez M, Eber AE, Perper M, Tosti A. Pterygium inversum unguis secondary to gel polish. *Journal of the European Academy of Dermatology and Venereology*. 2018 Jan;32(1):160-3.

Messer, G., Nguyen, M., Kollmann-Hemmerich, M. and Deusch, K., 2012. Die Revolutionierung der Behandlung der Onychomykose: Diagnostik mit Optischer Kohärenz-Tomographie (OCT) und Therapie mittels PinPointe-Footlaser und Antimykotikum-Creme. *Ästhetische Medizin*, 5, pp.176-181.

MELANOMAS AND PIGMENTED LESIONS

Mayer O, Schönherr R, Welzel J, Schuh S. Nichtinvasive Bildgebung kutaner Melanometastasen: Analyse von Mikromilieu und Gefäßstruktur unter Therapie. *Die Dermatologie*. 2025.

Horton L, Fakhoury JW, Manwar R, Rajabi-Estarabadi A, Turk D, O’Leary S, Fotouhi A, Daveluy S, Jain M, Nouri K, Mehregan D. Review of Non-Invasive Imaging Technologies for Cutaneous Melanoma. *Biosensors*. 2025 May 7;15(5):297.

Lee J, Benavides J, Manwar R, Puyana C, May J, Tsoukas M, Avanaki K. Noninvasive imaging exploration of phacomatosis pigmentokeratolica using high-frequency ultrasound and optical coherence tomography: Can biopsy of PPK patients be avoided?. *Skin Research and Technology*. 2023 Apr;29(4):e13279.

Schuh S, Sattler EC, Rubeck A, Schiele S, De Carvalho N, Themstrup L, Ulrich M, Jemec GB, Holmes J, Pellacani G, Welzel J. Dynamic Optical Coherence Tomography of Blood Vessels in Cutaneous Melanoma—Correlation with Histology, Immunohistochemistry and Dermoscopy. *Cancers*. 2023 Aug 23;15(17):4222.

Lee, J., Beirami, M.J., Ebrahimpour, R., Puyana, C., Tsoukas, M. and Avanaki, K., 2023. Optical coherence tomography confirms non-malignant pigmented lesions in phacomatosis pigmentokeratolica using a support vector machine learning algorithm. *Skin Research and Technology*, 29(6), p.e13377.

Perwein MK, Welzel J, De Carvalho N, Pellacani G, Schuh S. Dynamic Optical Coherence Tomography: A Non-Invasive Imaging Tool for the Distinction of Nevi and Melanomas. *Cancers*. 2022 Dec 20;15(1):20.

von Knorring T, Israelsen NM, Ung V, Formann JL, Jensen M, Hædersdal M, Bang O, Fredman G, Mogensen M. Differentiation Between Benign and Malignant Pigmented Skin Tumours Using Bedside Diagnostic Imaging Technologies: A Pilot Study. *Acta Dermato-Venereologica*. 2022.

Meng X, Chen J, Zhang Z, Li K, Li J, Yu Z, Zhang Y. Non-invasive optical methods for melanoma diagnosis. *Photodiagnosis and Photodynamic Therapy*. 2021 Mar 27:102266.

Bressler MY, Felice S, Yousefi N, Marghoob N, Alapati U, Gill M, Markowitz O. Combining Reflective Confocal Microscopy and Dynamic Optical Coherence Tomography to Diagnose Melanoacanthoma: Case Report. *The American Journal of Dermatopathology*. 2021 Feb 16.

Welzel JU, Schuh S, De Carvalho N, Themstrup L, Ulrich M, Jemec GB, Holmes J, Pellacani G. Dynamic optical coherence tomography shows alterations of blood vessels characteristic for malignant melanoma. *Journal of the European Academy of Dermatology and Venereology*. 2020 Dec 10.

Fredman G, Qiu Y, Ardigò M, Mogensen M. Skin tags imaged by reflectance confocal microscopy, optical coherence tomography and multispectral optoacoustic tomography at the bedside. *Skin Research and Technology*.

Jalilian E, Xu Q, Horton L, Fotouhi A, Reddy S, Manwar R, Daveluy S, Mehregan D, Gelovani J, Avanaki K. Contrast-enhanced optical coherence tomography for melanoma detection: an in vitro study. *Journal of Biophotonics*.:e201960097.

Rajabi-Estarabadi A, Bittar JM, Zheng C, Nascimento V, Camacho I, Feun LG, Nasirivanaki M, Kunz M, Nouri K. Optical coherence tomography imaging of melanoma skin cancer. *Lasers in medical science*. 2019 Mar 6;34(2):411-20.

Garbarino F, Migliorati S, Farnetani F, De Pace B, Ciardo S, Manfredini M, Bonetti LR, Kaleci S, Chester J, Pellacani G. Nodular skin lesions: correlation of reflectance confocal microscopy (RCM) and optical coherence tomography (OCT) features. *Journal of the European Academy of Dermatology and Venereology*.

Kratkiewicz K, Manwar R, Rajabi-Estarabadi A, Fakhoury J, Meiliute J, Daveluy S, Mehregan D, Avanaki KM. Photoacoustic/Ultrasound/Optical Coherence Tomography Evaluation of Melanoma Lesion and Healthy Skin in a Swine Model. *Sensors*. 2019 Jan;19(12):2815.

Turani Z, Fatemizadeh E, Blumetti T, Daveluy S, Moraes AF, Chen W, Mehregan D, Andersen PE, Nasirivanaki M. Optical Radiomic Signatures Derived from Optical Coherence Tomography Images to Improve Identification of Melanoma. *Cancer Research*. 2019 Jan 1:canres-2791.

De Carvalho N, Welzel J, Schuh S, Themstrup L, Ulrich M, Jemec GB, Holmes J, Kaleci S, Chester J, Bigi L, Ciardo S. The vascular morphology of melanoma is related to Breslow index: an in vivo study with dynamic optical coherence tomography. *Experimental dermatology*. 2018 Sep 15.

Menge, T.D. and Pellacani, G., 2016, March. Advances in noninvasive imaging of melanoma. In *Seminars in cutaneous medicine and surgery* (Vol. 35, No. 1, pp. 18-24). Frontline Medical Communications.

T Blumetti., et al., "OCT features of nevi and melanomas and their association with intraepidermal or dermal involvement: A pilot study", *JAAD*, 73 (2),pp315-316, 2015

Kaspi, M., et al. "Apport de la microscopie confocale par réflectance et de l'imagerie en cohérence optique dans le diagnostic de nævus conjonctival de Parinaud." *Annales de Dermatologie et de Vénérologie*. Elsevier Masson, 2016.

De Carvalho, N., Ciardo, S., Cesinaro, A., Jemec, G., Ulrich, M., Welzel, J., Holmes, J. and Pellacani, G., 2015. In vivo micro-angiography by means of speckle-variance optical coherence tomography (SV-OCT) is able to detect microscopic vascular changes in naevus to melanoma transition. *Journal of the European Academy of Dermatology and Venereology: JEADV*.

Smith, L. and MacNeil, S., 2011. State of the art in non-invasive imaging of cutaneous melanoma. *Skin Research and Technology*, 17(3), pp.257-269.

OTHER DERMATOLOGY APPLICATIONS

Chello C, Laghi A, Melchiorri L, Zubba I, Miraglia E, Ardigò M, Pellacani G, Giustini S. Non-Invasive Skin Imaging of Pseudoxanthoma Elasticum Using Dynamic Optical Coherence Tomography: Insights from a Case-Control Study. *Dermatology Practical & Conceptual*. 2025 Oct 1;15(4):e20255260.

Edwards S, Harding A, Leedale J, Webb S, Colley H, Byers R, Bearon R, Murdoch C. Translating in vitro buccal permeation to in vivo and whole-body exposure using in silico cell-based and physiologically-based pharmacokinetic modelling. Available at SSRN 5907454.

Cantisani C, Di Guardo A, Ardigò M, Suppa M, Gonzalez S, Longo C, Taliano A, Rovaldi E, Cinotti E, Pellacani G. Non-Invasive Diagnostic Imaging in Kaposi Sarcoma Evaluation. *Diagnostics*. 2025 Jun 30;15(13):1665.

Corniani G, Lee ZS, Carré MJ, Lewis R, Delhaye BP, Saal HP. Sub-surface deformation of individual fingerprint ridges during tactile interactions. *Elife*. 2025 Dec 4;13:RP93554.

Jaramillo A. Assessment of Skin Features Following Methyl Salicylate Exposure Using Transepidermal Water Loss and Optical Coherence Tomography (Master's thesis, The University of North Carolina at Chapel Hill).

Ward J, Verucchi E, Swaile D, Parker K, Worsley PR, Filingeri D. Effects of Stimulus Temperature and Skin Hydration Levels on Wetness Perception at the Underarm. *Skin Research and Technology*. 2025 May 14;31(2-5):e70170.

Sprunger Y, Longo J, Saeidi A, Ionescu AM. Bridging Blood and Skin: Biomarker Profiling in Dermal Interstitial Fluid (dISF) for Minimally Invasive Diagnostics. *Biosensors*. 2025 May 9;15(5):301.

Infante VH, Fehlberg M, Saikumar S, Drewing K, Meinke MC, Bennewitz R. The role of skin hydration, skin deformability, and age in tactile friction and perception of materials. *Scientific Reports*. 2025 Mar 22;15(1):1-5.

Hobelsberger S, Gellrich FF, Steininger J, Beisert S, Laske J. Diagnose und Differenzierung von kutanen Zysten mit optischer Kohärenztomographie: eine Fallserie. *Die Dermatologie*. 2024 Mar;75(3):253-5.

Lin CH, Lukas BE, Rajabi-Estarabadi A, May JR, Pang Y, Puyana C, Tsoukas M, Avanaki K. Rapid measurement of epidermal thickness in OCT images of skin. *Scientific Reports*. 2024 Jan 26;14(1):2230.

Cantisani C, Paolino G, Di Guardo A, Gomes V, Carugno A, Greco ME, Musolff N, Azzella G, Rossi G, Soda G, Longo C. Diagnostic Imaging of Agminated Blue Lesions and Blue Lesions with Satellitosis: Case Series with a Concise Review of the Current Literature. *Journal of Clinical Medicine*. 2024 Feb 3;13(3):894.

Palacio A, Medrano Cebrian K, Koch LK, Bierhoff E, Bonness S, Reinhold U. A case of miliaria profunda after excessive sweating during a summer vacation. *J EADV Clinical Practice*. 2024.

Borbás S, May JR, Gruzmark F, Puyana C, Tsoukas M, Avanaki K. Novel algorithm to automatically detect DEJ. *InPhotonics in Dermatology and Plastic Surgery 2024* 2024 Mar 12 (Vol. 12816, pp. 93-99). SPIE.

Cantisani C, Trovato F, Gargano L, Di Guardo A, Vasile AB, Rovaldi E, Azzella G, Speranza I, Soda G, Roberto M, Lettera T. A tricky singular papular peri-cicatricial mammarian lesion. *J EADV Clinical Practice*. 2024 Jun;3(2):687-92.

Blount H, Valenza A, Ward J, Caggiari S, Worsley PR, Filingeri D. The effect of female breast surface area on cutaneous thermal sensation, wetness perception and epidermal properties. *Experimental Physiology*. 2024.

Amato S, Nisticò SP, Clementi A, Stabile G, Cassalia F, Dattola A, Rizzuto G, Cannarozzo G. Multispectral Imaging and OCT-Guided Precision Treatment of Rhinophyma with CO2 and Dye Lasers: A Comprehensive Diagnostic and Therapeutic Approach. *Cosmetics*. 2024 Dec 13;11(6):221.

Chaturvedi P, Kroon W, Zanelli G, Worsley PR. An exploratory study of structural and microvascular changes in the skin following electrical shaving using optical coherence topography. *Skin Research and Technology*. 2024 Jul;30(7):e13830.

Valenza A, Rykaczewski K, Martinez DM, Bianco A, Caggiari S, Worsley P, Filingeri D. Thermal modulation of skin friction at the finger pad. *Journal of the Mechanical Behavior of Biomedical Materials*. 2023 Oct 1;146:106072.

Taudorf EH, Henning M, Olsen J, Thorlacius L, Christensen R, Jemec G. Attempted treatment of primary axillary hyperhidrosis with one session of either Neodymium YAG laser or Intense Pulsed Light: A within patient randomized trial of treated versus untreated contralateral axilla. *Lasers in surgery and medicine*. 2023 Oct;55(8):748-57.

Cantisani C, Baja AV, Gargano L, Rossi G, Ardigò M, Soda G, Boostani M, Kiss N, Pellacani G. Optical Coherence Tomography as a Valuable Tool for the Evaluation of Cutaneous Kaposi Sarcoma Treated with Imiquimod 5% Cream. *Diagnostics*. 2023 Sep 11;13(18):2901.

Huisman BW, Pagan L, Naafs RG, Ten Voorde W, Rissmann R, Piek JM, Damman J, Juachon MJ, Osse M, Niemeyer-van der Kolk T, van Hees CL. Dermatoscopy and Optical Coherence Tomography in Vulvar High-Grade Squamous Intraepithelial Lesions and Lichen Sclerosus: A Prospective Observational Trial. *Journal of Lower Genital Tract Disease*. 2023 Mar 16:10-97.

Chaturvedi P. Sensorial and physiological response in the skin device interaction for personal care/devices (Doctoral dissertation, University of Southampton).

Huisman, B. W. (2023, April 20). Characterization of vulvar diseases, nvel imaging tools, models and molecular targets, Huisman, 2023 (thesis)

novel imaging tools, models and molecular targets

Gidado IM, Qassem M, Triantis IF, Kyriacou PA. Review of Advances in the Measurement of Skin Hydration Based on Sensing of Optical and Electrical Tissue Properties. *Sensors*. 2022 Sep 21;22(19):7151.

Wind SS, Jansen MA, Rijsbergen M, van Esdonk MJ, Ziagos D, Cheng WC, Niemeyer-van der Kolk T, Korsten J, Gruszka A, Schmitz-Rohmer D, Bonnel D. Topical Bimiralisib Shows Meaningful Cutaneous Drug Levels in Healthy Volunteers and Mycosis Fungoides Patients but No Clinical Activity in a First-in-Human, Randomized Controlled Trial. *Cancers*. 2022 Mar 15;14(6):1510.

Pezzini C, Ciardo S, Guida S, Kaleci S, Chester J, Casari A, Manfredini M, Longo C, Farnetani F, Brugués AO, Pellacani G. Skin ageing: Clinical aspects and in vivo microscopic patterns observed with reflectance confocal microscopy and optical coherence tomography. *Experimental Dermatology*. 2022 Nov 17.

Uchegbulam I, Danby SG, Lewis R, Carré MJ, Maiti R. Effect of seasonal change on the biomechanical and physical properties of the human skin. *Journal of the Mechanical Behavior of Biomedical Materials*. 2022 Mar 1;127:105058.

Corniani, G., Delhaye, B.P. and Saal, H.P., 2022. Imaging Sub-surface Skin Strain Patterns During Fingertip Sliding. In *Haptics: Science, Technology, Applications: 13th International Conference on Human Haptic Sensing and Touch Enabled Computer Applications, EuroHaptics 2022, Hamburg, Germany, May 22–25, 2022, Proceedings (Vol. 13235, p. 358)*. Springer Nature.

May J, Lee J, Pang Y, Puyana C, Tsoukas M, Avanaki K. Quantitative and qualitative analysis of healthy skin by anatomic site utilizing optical coherence tomography and attenuation coefficient. In *Photonics in Dermatology and Plastic Surgery 2022* 2022 Mar 3 (Vol. 11934, pp. 75-82). SPIE.

Mogensen M, Hendel K, Ung V, Wenande E, Togsverd-Bo K, Forman JL, Haedersdal M. Assessing light and energy-based therapy by optical coherence tomography and reflectance confocal microscopy: a randomized trial of photoaged skin. *Dermatology*. 2022;238(3):422-9.

Manfredini M, Chello C, Ciardo S, Guida S, Chester J, Lasagni C, Bigi L, Farnetani F, Bettoli V, Pellacani G. Hidradenitis Suppurativa: Morphologic and vascular study of nodular inflammatory lesions by means of optical coherence tomography. *Experimental Dermatology*. 2022 Jul;31(7):1076-82.

Infante VH, Bennewitz R, Klein AL, Meinke MC. Revealing the Meissner Corpuscles in Human Glabrous Skin Using In Vivo Non-Invasive Imaging Techniques. *International Journal of Molecular Sciences*. 2023 Apr 12;24(8):7121.

Xu Q. *The Advanced Applications for Optical Coherence Tomography in Skin Imaging (Doctoral dissertation, Wayne State University)*.

Wang JV, Mehrabi JN, Zachary CB, Geronemus RG. Evaluation of Device-Based Cutaneous Channels Using Optical Coherence Tomography: Impact for Topical Drug Delivery. *Dermatologic Surgery*. 2022 Jan 1;48(1):120-5.

Uchegbulam I, Danby SG, Lewis R, Carré MJ, Maiti R. Effect of seasonal change on the biomechanical and physical properties of the human skin. *Journal of the Mechanical Behavior of Biomedical Materials*. 2021 Dec 22:105058.

Fei C, Xu Y, Cao T, Jiang W, Zou Y, Maibach H. Effect of scratching and friction on human skin in vivo. *Skin Research and Technology*. 2021 May 17.

Chello C, Ciardo S, Chester J, Guanti M, Farnetani F, Guida S, Sticchi A, Giacobazzi P, Meduri B, Lohr F, Pellacani G. Radiotherapy-induced subclinical skin changes revealed by dynamic optical coherence tomography: a case-controlled pilot study. *Journal of the European Academy of Dermatology and Venereology*. 2021 Sep 6.

Xu Q, Jalilian E, Fakhoury JW, Manwar R, Michniak-Kohn B, Elkin KB, Avanaki K. Monitoring the topical delivery of ultrasmall gold nanoparticles using optical coherence tomography. *Skin Research and Technology*. 2020 Mar;26(2):263-8.

Webb, R.C., Pielak, R.M., Bastien, P., Ayers, J., Niittynen, J., Kurniawan, J., Manco, M., Lin, A., Cho, N.H., Malyrchuk, V. and Balooch, G., 2015. Thermal transport characteristics of human skin measured in vivo using ultrathin conformal arrays of thermal sensors and actuators. *PloS one*, 10(2), p.e0118131.

Mogensen M, Bojesen S, Israelsen NM, Maria M, Jensen M, Podoleanu A, Bang O, Haedersdal M. Two optical coherence tomography systems detect topical gold nanoshells in hair follicles, sweat ducts and measure epidermis. *Journal of biophotonics*. 2018 Apr:e201700348-.

Olesen, U.H., Mogensen, M. and Haedersdal, M., 2017. Vehicle type affects filling of fractional laser-ablated channels imaged by optical coherence tomography. *Lasers in Medical Science*, pp.1-6.

Pomerantz H, Christman MP, Bloom BS, Lederhandler M, Feng H, Holmes J, Geronemus RG. Dynamic Optical Coherence Tomography of Cutaneous Blood Vessels in Melasma and Vessel Response to Oral Tranexamic Acid. *Lasers in Surgery and Medicine*. 2020 Nov 8.

Mehrabi JN, Doong J, Lentsch G, Mesinkovska N. Imaging of in vivo pseudoxanthoma elasticum via multiphoton microscopy and optical coherence tomography. *JAAD Case Reports*. 2020 Jun 4.

Ruini C, Clanner-Engelshofen BM, Heppt M, Herzinger T, Sárdy M, Ruzicka T, French LE, Reinholz M. Cantharidin as an Alternative Treatment for Genital Warts: A Case Monitored With Optical Coherence Tomography. *Acta Dermato-venereologica*. 2020 Sep 8;100(16):adv00259-.

Ha L, Hundt JE. Optical coherence tomography for fast bedside imaging, assessment and monitoring of autoimmune inflammatory skin diseases?. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*.

Ogawa-Ochiai K, Takebe T, Iwahashi M, Shirai A, Tsuda M, Komiya A, Sugata K, Tanno O. The efficacy of a traditional Japanese acupuncture method, contact needle therapy (CNT), on peripheral blood flow of the skin. *Artificial Life and Robotics*. 2020 Jul 2:1-5.

Schuh S, Welzel J. OCT-Guided Laser Treatment and Surgery. *InImage Guided Dermatologic Treatments 2020* (pp. 115-136). Springer, Cham.

Guida S, Ciardo S, De Pace B, De Carvalho N, Peccerillo F, Manfredini M, Farnetani F, Chester J, Kaleci S, Manganeli M, Guida G. The influence of MC1R dermal morphological features of photoexposed skin in women revealed by reflectance confocal microscopy and optical coherence tomography. *Experimental Dermatology*.

Bourhis J, Sozzi WJ, Jorge PG, Gaide O, Bailat C, Duclos F, Patin D, Ozsahin M, Bochud F, Germond JF, Moeckli R. Treatment of a first patient with FLASH-radiotherapy. *Radiotherapy and Oncology*. 2019 Jul 11.

Persechino F, Giordano D, Marini CD, Franceschini C, Ardigò M, Persechino S. Dermoscopy, Optical Coherence Tomography, and Histological Correlation of Pseudoxanthoma Elasticum. *Dermatology Practical & Conceptual*. 2019 Jul;9(3):209.

Klein AL, Lubda M, Skov PS, Vogt A, Keck CM, Lademann J, Beckers I, von Hagen J, Patzelt A. Investigation of transfollicular caffeine penetration using microdialysis on ex vivo porcine ear skin. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Dec 1;157:1-8.

Abignano, G., Del Galdo, F. and McGonagle, D., 2016. THU0509 Optical Coherence Tomography Description of Tophi in Gout Shows that Irregular Tophus Morphology, Oedema and Absence of Capsule Are Associated with Symptomatic Disease. *Annals of the Rheumatic Diseases*, 75(Suppl 2), pp.376-376.

Ring HC, Stamp IM, Jemec GB. Imaging cutaneous T-cell lymphoma with optical coherence tomography. *Case reports in dermatology*. 2012;4(2):139-43.

REVIEW PAPERS

REVIEW PAPERS

Wan B, Ganier C, Du-Harpur X, Harun N, Watt FM, Patalay R, Lynch MD. Applications and future directions for optical coherence tomography in dermatology. *British Journal of Dermatology*. 2021 Jun 1;184(6):1014-22.

Winkler D, Eyssele T, Glanzer A, Wirsching H, Klein E, Welzel J, Schuh S. Use of non-invasive optical imaging techniques in dermatology. *JDDG: Journal der Deutschen Dermatologischen Gesellschaft*. 2025 Nov;23(11):1430-43.

Naqvi SA, Rajmohan IJ, Xue F, Foong D, Abbosh A. Electromagnetic Techniques and Systems for Non-Invasive Skin Cancer Detection and Classification: Current Status and Future Perspectives. *IEEE Transactions on Instrumentation and Measurement*. 2025 Sep 3.

Gust C, Ruini C, Daxenberger F, Schuh S, Sattler E, Welzel J. Optical Coherence Tomography in Dermatology. *InTelemedicine and Technological Advances in Dermatology 2024* Nov 14 (pp. 235-251). Cham: Springer Nature Switzerland.

Sortino, A.M.F., Abdalla, C.M.Z., Abdalla, B.M.Z., Piñeiro-Maceira, J.M., Fraga Braghiroli, N.A., Braga, J.C.T., de Sá, B.C.S., Blumetti, T.C.M.P., Gomes, E.E., Mitsunaga, A.C.S.P. and Rocha, L.K.F.L., 2023. Ancillary Tools for Dermatological Skin Assessment: Dermoscopy, Reflectance Confocal Microscopy and Optical Coherence Tomography. In *Oncodermatology: An Evidence-Based, Multidisciplinary Approach to Best Practices* (pp. 69-151). Cham: Springer International Publishing.

Owida HA. Developments and Clinical Applications of Noninvasive Optical Technologies for Skin Cancer Diagnosis. *Journal of Skin Cancer*. 2022 Nov 18;2022.

Acharya N, Melanthota SK, Khokhar M, Chakrabarti S, Gopal D, Mallya DS, Mazumder N. Types of Optical Coherence Tomography for Cancer Diagnosis: A Systematic Review. *J. Biomed. Photonics Eng*. 2022 Feb 4;8:010201.

Mandel VD, Ardigò M. Non-Invasive Diagnostic Techniques in Dermatology. *Journal of Clinical Medicine*. 2023 Jan 30;12(3):1

Ruini C, Daxenberger F, Gust C, Schuh S, French LE, Welzel J, Sattler EC. Neues von der optischen Kohärenztomographie. *Der Hautarzt*. 2021 Oct 26:1-8.

Psomadakis CE, Marghoob N, Bleicher B, Markowitz O. Optical coherence tomography. *Clinics in Dermatology*. 2021 Jun 9.

Schuh S, Weins AB, Welzel J. Nichtinvasive bildgebende Diagnostik bei Hauterkrankungen im Kindesalter. *Der Hautarzt*. 2021 Jan 20;1-7.

Wan B, Ganier C, Du-Harpur X, Harun N, Watt FM, Patalay R, Lynch MD. Applications and Future Directions for Optical Coherence Tomography in Dermatology. *British Journal of Dermatology*. 2020 Sep 24.

Mandel V.D., Pellacani G. (2020) Optical Coherence Tomography. In: Fimiani M., Rubegni P., Cinotti E. (eds) *Technology in Practical Dermatology*. Springer, Cham

Guida S, De Pace B, Ciardo S, Farnetani F, Pellacani G. Non-invasive Imaging for Skin Cancers—the European Experience. *Current Dermatology Reports*. 2019;1-10.

Welzel J, Schuh S. Optische Kohärenztomographie bei Pathologien der Haut. *Der Ophthalmologe*. 2018 Jun 1;115(6):524-7.

Olsen J, Holmes J, Jemec GB. Advances in optical coherence tomography in dermatology—a review. *Journal of Biomedical Optics*. 2018 Apr;23(4):040901.

Xiong YQ, Mo Y, Wen YQ, Cheng MJ, Huo ST, Chen XJ, Chen Q. Optical coherence tomography for the diagnosis of malignant skin tumors: a meta-analysis. *Journal of biomedical optics*. 2018 Feb;23(2):020902.

Wang J, Xu Y, Boppart SA. Review of optical coherence tomography in oncology. *Journal of biomedical optics*. 2017 Dec;22(12):121711.

Tkaczyk ER. Innovations and Developments in Dermatologic Non-invasive Optical Imaging and Potential Clinical Applications. *Acta Dermato-Venereologica*. 2017 Jul 2;97.

Ulrich M, Themstrup L, de Carvalho N, Ciardo S, Holmes J, Whitehead R, Welzel J, Jemec GB, Pellacani G. Dynamic optical coherence tomography of skin blood vessels—proposed terminology and practical guidelines. *Journal of the European Academy of Dermatology and Venereology*. 2017 Aug 4.

Schuh, S., Holmes, J., Ulrich, M., Themstrup, L., Jemec, G.B., De Carvalho, N., Pellacani, G. and Welzel, J., Imaging Blood Vessel Morphology in Skin: Dynamic Optical Coherence Tomography as a Novel Potential Diagnostic Tool in Dermatology. *Dermatology and Therapy*, pp.1-16.

Ulrich M, Themstrup L, de Carvalho N, Manfredi M, Grana C, Ciardo S, Kästle R, Holmes J, Whitehead R, Jemec GB, Pellacani G. Dynamic Optical Coherence Tomography in Dermatology. *Dermatology*. 2016 Apr 23;232(3):298-311.

Olsen J, Themstrup L, Jemec GB. Optical coherence tomography in dermatology. *G Ital Dermatol Venereol*. 2015 Oct 1;150(5):603-15.

Gambichler T, Plijakic A, Schmitz L. Recent advances in clinical application of optical coherence tomography of human skin. *Clinical, cosmetic and investigational dermatology*. 2015;8:345.

Kuck, M. Systematic evaluation of optical coherence tomography in dermatology, Doctoral Thesis, (2015)

Holmes J, Welzel J. OCT in Dermatology. *Optical Coherence Tomography: Technology and Applications*. 2015:2189-207.

von Braunmuhl T. Optical coherence tomography. *Hautarzt*. 2015;66:499-503.

Hashmi F. Calluses, corns and heel fissures. *Dermatological Nursing*. 2013 Mar 15;12(1):36-40.

Sattler, E., Kästle, R. and Welzel, J., 2013. Optical coherence tomography in dermatology. *Journal of biomedical optics*, 18(6), pp.061224-061224.

Savage N. Early detection: spotting the first signs. *Nature*. 2011 Mar 24;471(7339):S14-5.

MICRONEEDLES & DRUG DELIVERY DEVICES

Weimer, P., Bordignon, I.M., Mineto, A.R., de Oliveira Araujo, K., Waszak, J.C., Brazil, N.T., Collares, F.M., Dul, M., Rossi, R.C. and Koester, L.S., 2026. Development of dissolving microneedles using a quality by design approach for transdermal delivery of the nanoemulsified volatile compound β -caryophyllene. *International Journal of Pharmaceutics*, p.126616.

Anjani QK, Volpe-Zanuto F, Miatmoko A, Moreno-Castellanos N, Novais JT, Gaitán XA, Hariawan BS, Cahyani DM, Octavia RT, Mubarak AS, Setyaningsih WA. Polymeric microarray patches for transdermal delivery of amodiaquine and artesunate: A novel strategy against *Plasmodium falciparum*. *Materials Today Bio*. 2025 Oct 31:102500.

Li L, Permana AD, Domínguez-Robles J, Amir MN, Habibie H, Anjani QK, Zhao L, Moreno-Castellanos N, Donnelly RF, Larrañeta E. Reservoir-Type Subcutaneous Implantable Devices Containing Porous Rate Controlling Membranes for Sustained Delivery of Risperidone. *Advanced Healthcare Materials*. 2025 Jan 16:2403689.

Anjani QK, Johnson AR, Sabri AH, Lutz R, Tignor S, Ballard J, Rudd N, Zhao L, Vora LK, Barrett SE, Wagner A. Delivery of Islatravir via High Drug-Load, Long-acting Microarray Patches for the Prevention or Treatment of Human Immunodeficiency Virus. *Advanced Healthcare Materials*. 2025 Mar;14(7):2403615.

Anjani QK, Hutton AR, McKenna PE, Larrañeta E, Donnelly RF. Safety Evaluation of Repeated Application of Polymeric Microarray Patches in Miniature Pigs. *Advanced Healthcare Materials*. 2025 Jun 17:2501512.

Li H, Vora LK, Anjani Q, Abraham AM, Cong Y, Moreno-Castellanos N, Ballana E, Riveira Muñoz E, Nevot M, Donnelly RF. Quality by design-guided development of hydrogel-forming microneedles for transdermal delivery of enfuvirtide. *ACS Applied Materials & Interfaces*. 2025 Mar 10;17(18):26227-51.

Li L, Anjani QK, Hutton AR, Li M, Sabri AH, Vora L, Naser YA, Tao Y, McCarthy HO, Donnelly RF. Evaluation of physical and chemical modifications to drug reservoirs for stimuli-responsive microneedles. *Drug Delivery and Translational Research*. 2025 Jul;15(7):2390-414.

Abraham AM, Anjani QK, Preis E, Naser YA, Bender L, Bär F, Bakowsky U, Catlin E, Paredes AJ, Vora LK, Larrañeta E. Nano-PhotoCrystals (Photosensitive Nanocrystals) of Aloe Emodin Combined with Dissolving Microneedles for Dual Smart Targeting of Acute Bacterial Skin and Soft Tissue Infections. *ACS Applied Materials & Interfaces*. 2025 Nov 20.

Anjani QK, Volpe-Zanutto F, Miatmoko A, Adhami M, Novais JT, Gaitán XA, Hariawan BS, Cahyani DM, Octavia RT, Mubarak AS, Setyaningsih WA. Formulation and evaluation of hydrogel-forming microarray patches for transdermal primaquine and chloroquine delivery in malaria therapy. *Biomaterials Advances*. 2025 Oct 30:214586.

Mena-Lapaix JL, Chibuko C, Kyaw MH, Prausnitz MR. Enhanced extraction of human interstitial fluid using microneedles and laser-induced fluid recruitment. *iScience*. 2025 Oct 8.

Himawan A, Graham R, Volpe-Zanutto F, Li H, Pandya AK, Aisyah AN, Agustina R, Paris JL, Dominguez-Robles J, Vora LK, Permana AD. Microneedles From Shape-Preserving Crosslinked Poly (Vinyl Alcohol) Hydrogels: Minimising Interference in Transdermal Proteomics. *Advanced Materials Technologies*. 2025 Aug 22:e01152.

He Y, Zhang Y, An K, Qiu R, Han X, Wang S, Gao Y, Zhang Y. A crosslinked poly (vinyl alcohol) core-shell microneedle patch for complete and controlled insulin delivery and sustained hypoglycemic therapy. *Colloids and Surfaces B: Biointerfaces*. 2025 Aug 15:115049.

Nadda R, Das DB, Yalcin TE, Abraham AM, Larrañeta E, Donnelly RF. Dynamics of insertion and extraction of hollow pyramidal microneedles: experiments and numerical modelling. *International Journal of Pharmaceutics*. 2025 Jul 22:125989.

Abraham AM, Simon A, Anjani QK, Jiang Y, Adhami M, Domínguez-Robles J, Larrañeta E, Donnelly RF. Controlled release of amitriptyline via the transdermal route using SmartReservoirs and hydrogel-forming microneedles. *Biomaterials Advances*. 2025 May 27:214361.

Zhao ZQ, Zhang SL, Yu R, Wang ZY, Sun X, Zhang ZW, Geng XY, Liang L, Cui Y, Chen BZ, Guo XD. Optical Microneedle-Enhanced Transdermal Light Scattering for In Situ Photothermal Therapy Targeting Basal-Layer Psoriasis. *ACS Applied Materials & Interfaces*. 2025 Mar 18.

Li H, Vora LK, Anjani Q, Abraham AM, Cong Y, Moreno-Castellanos N, Ballana E, Riveira Muñoz E, Nevot M, Donnelly RF. Quality by Design-Guided Development of Hydrogel-Forming Microneedles for Transdermal Delivery of Enfuvirtide. *ACS Applied Materials & Interfaces*. 2025 Mar 10.

Cota V, Brogden NK. Micropore visualization and lifetime following microneedle application to skin of differing pigments. *Drug Delivery and Translational Research*. 2025 Mar 5:1-4.

Vora LK, McMillian H, Mishra D, Jones D, Thakur RR. In-situ forming solvent-induced phase inversion (SIPI) implants for controlled drug delivery: role of hydrophilic polymers. *Journal of Pharmaceutical Sciences*. 2025 Mar 7:103717.

Xiong S, Li Z, Jiao S, Xiao T, Wu Y, Chen C, Guo S, Li X, Pan Z, Li J, Xu Y. Black phosphorus nanosheets encapsulated microneedle for multifunctional therapy for androgenic alopecia. *Journal of Nanobiotechnology*. 2025 Feb 27;23(1):147.

Anjani QK, Demartis S, Moreno-Castellanos N, Gavini E, Donnelly RF. Formulation and evaluation of ivermectin-loaded dissolving microarray patches for rosacea disease. *Journal of Pharmaceutical Investigation*. 2024 Jun 3:1-6.

Anjani QK, Nainggolan AD, Li H, Miatmoko A, Larrañeta E, Donnelly RF. Parafilm® M and Strat-M® as skin simulants in in vitro permeation of dissolving microarray patches loaded with proteins. *International Journal of Pharmaceutics*. 2024 Apr 25;655:124071.

Faizi HS, Nasiri MI, Wu Y, Mishra D, Donnelly RF, Minhas MU, Vora LK, Thakur RR. Deferasirox nanosuspension loaded dissolving microneedles for ocular drug delivery. *International Journal of Pharmaceutics*. 2024 Oct 25;664:124614.

Zhang C, Lopez-Vidal L, Wang J, Himawan A, Donnelly RF, Paredes AJ. Mucoadhesive itraconazole nanocrystals with precise control of surface charge incorporated to chitosan films for buccal drug delivery. *Advanced Therapeutics*. 2024 Nov;7(11):2400209.

Li H, Anjani QK, Hutton AR, Paris JL, Moreno-Castellanos N, Himawan A, Larrañeta E, Donnelly RF. Design of a Novel Delivery Efficiency Feedback System for Biphasic Dissolving Microarray Patches Based on Poly (Lactic Acid) and Moisture-Indicating Silica. *Advanced Healthcare Materials*. 2024 Mar 19:2304082.

Roussel S, Udabe J, Sabri AB, Calderón M, Donnelly R. Leveraging novel innovative thermoresponsive polymers in microneedles for targeted intradermal deposition. *International Journal of Pharmaceutics*. 2024 Mar 5;652:123847.

Soorani M, Anjani QK, Larrañeta E, Donnelly RF, Das DB. Modelling insertion behaviour of PVP (Polyvinylpyrrolidone) and PVA (Polyvinyl Alcohol) microneedles. *International Journal of Pharmaceutics*. 2024 Oct 25;664:124620.

Dai X, Permana AD, Li M, Habibie, Nur Amir M, Peng K, Zhang C, Dai H, Paredes AJ, Vora LK, Donnelly RF. Calcipotriol Nanosuspension-Loaded Trilayer Dissolving Microneedle Patches for the Treatment of Psoriasis: In Vitro Delivery and In Vivo Antipsoriatic Activity Studies. *Molecular Pharmaceutics*. 2024 May 16.

- Abraham AM, Anjani QK, Adhami M, Hutton AR, Larrañeta E, Donnelly RF. Novel SmartReservoirs for hydrogel-forming microneedles to improve the transdermal delivery of rifampicin. *Journal of Materials Chemistry B*. 2024;12(18):4375-88.
- Paris JL, Vora LK, Pérez-Moreno AM, del Carmen Martín-Astorga M, Naser YA, Anjani QK, Cañas JA, Torres MJ, Mayorga C, Donnelly RF. Dissolving microneedle array patches containing mesoporous silica nanoparticles of different pore sizes as a tunable sustained release platform. *International Journal of Pharmaceutics*. 2024 Dec 9:125064.
- Naser YA, Vora LK, Tekko IA, Peng K, Volpe-Zanutto F, Greer B, Paredes A, McCarthy HO, Donnelly RF. Atorvastatin-Loaded Dissolving Microarray Patches for Long-Acting Microdepot Delivery: Comparison of Nanoparticle and Microparticle Drug Formulations. *ACS Applied Materials & Interfaces*. 2024 Oct 2;16(41):55027-44.
- McGuckin MB, Hutton AR, Davis ER, Sabri AH, Ripolin A, Himawan A, Naser YA, Ghanma R, Greer B, McCarthy HO, Paredes AJ. Transdermal delivery of pramipexole using microneedle technology for the potential treatment of Parkinson's disease. *Molecular Pharmaceutics*. 2024 Apr 11;21(5):2512-33.
- Anjani QK, Moreno-Castellanos N, Adhami M, Ramadan D, Jangga J, Donnelly RF. Quercetin loaded polymeric dissolving microarray patches: fabrication, characterisation and evaluation. *Drug Delivery and Translational Research*. 2024 May 9:1-7.
- Anjani QK, Detamornrat U, Larrañeta E, Donnelly RF. Hydrogel-forming microarray patches combined with powder-based reservoir for labetalol hydrochloride transdermal delivery. *International Journal of Pharmaceutics*. 2024 Dec 7:125061.
- Ramadan D, Karn PR, Anjani QK, Kim MH, Cho DY, Hwang H, Kim DH, Kim DH, Kim G, Lee K, Eum JH. Development of ropivacaine hydrochloride-loaded dissolving microneedles as a local anesthetic agent: A proof-of-concept. *International Journal of Pharmaceutics*. 2024 Jun 15:124347.
- Apolinário AC, Naser YA, Volpe-Zanutto F, Vora LK, Sabri AH, Li M, Hutton AR, McCarthy HO, Lopes LB, Donnelly RF. Novel lipid nanovesicle-loaded dissolving microarray patches for fenretinide in breast cancer chemoprevention. *Journal of Controlled Release*. 2024 Oct 1;374:76-88.
- Limcharoen B, Wanichwecharungruang S, Kröger M, Sansureerungsikul T, Schleusener J, Klein AL, Banlunara W, Meinke MC, Darvin ME. Dissolvable microneedles in the skin: Determination the impact of barrier disruption and dry skin on dissolution. *European Journal of Pharmaceutics and Biopharmaceutics*. 2024 Jun 1;199:114303.
- Anjani QK, Moreno-Castellanos N, Li Y, Sabri AH, Donnelly RF. Dissolvable microarray patches of levodopa and carbidopa for Parkinson's disease management. *European Journal of Pharmaceutics and Biopharmaceutics*. 2024 Jun 1;199:114304.
- Liang L, Peng T, Geng XY, Zhu W, Liu C, Peng HQ, Chen BZ, Guo XD. Aggregation-induced emission photosensitizer microneedles for enhanced melanoma photodynamic therapy. *Biomaterials Science*. 2024;12(5):1263-73.
- Li M, Vora LK, Peng K, Sabri AH, Qin N, Abbate M, Paredes AJ, McCarthy HO, Donnelly RF. Novel nano-in-micro fabrication technique of diclofenac nanoparticles loaded microneedle patches for localised and systemic drug delivery. *Biomaterials Advances*. 2024 Jul 1;161:213889.
- Zhao ZQ, Chen BZ, Gan JL, Feng YH, Liang L, Yu L, Wang ZY, Abbaszadeh S, Shahbazi MA, Yu R, Guo XD. Dual-functional microneedle with programmatic regulation of macrophage for autoimmune psoriasis treatment. *Nano Research*. 2024 May 18:1-3.

Anjani QK, Cárcamo-Martínez Á, Wardoyo LA, Moreno-Castellanos N, Sabri AH, Larrañeta E, Donnelly RF. MAP-box: a novel, low-cost and easy-to-fabricate 3D-printed box for the storage and transportation of dissolving microneedle array patches. *Drug Delivery and Translational Research*. 2024 Jan;14(1):208-22.

Liang L, Peng T, Geng XY, Zhu W, Liu C, Peng HQ, Chen BZ, Guo XD. Aggregation-induced emission photosensitizer microneedles for enhanced melanoma photodynamic therapy. *Biomaterials Science*. 2024;12(5):1263-73.

Rehman A, Khan S, Khan B, Saad M. Microneedle created in skin in situ forming gels depot; an alternate approach to the sustained transdermal delivery of colchicine. *Journal of Drug Delivery Science and Technology*. 2024 Nov 1;101:106299.

Fandino OE, Hutton AR, Zhang C, Abbate MT, Naser YA, Li Y, Paredes AJ, Donnelly RF. Application of microarray patches for the transdermal administration of psychedelics drugs in micro-doses. *European Journal of Pharmaceutics and Biopharmaceutics*. 2024 Dec 4:114603.

Qin N, Li M, Vora LK, Peng K, Sabri AH, Tao Y, Paredes AJ, McCarthy HO, Donnelly RF. Enhanced long-acting simvastatin delivery via effervescent powder-carrying hollow microneedles and nanocrystal-loaded microneedles. *International Journal of Pharmaceutics*. 2024 Nov 15;665:124691.

Adhami M, Dastidar AG, Anjani QK, Detamornrat U, Tarrés Q, Delgado-Aguilar M, Acheson JG, Manda K, Clarke SA, Moreno-Castellanos N, Larrañeta E. 3D-printing of dipyridamole/thermoplastic polyurethane materials for bone regeneration. *Drug Delivery and Translational Research*. 2024 Nov 22:1-6.

Birchall J, Li J, Dimitriou P, Castell O. Label-free Volumetric Imaging of Synthetic Cell Chassis using Optical Coherence Tomography. In *Engineering Research Conference 2023* (p. 15).

Qin N, Li M, Vora LK, Peng K, Sabri AH, Tao Y, Paredes AJ, McCarthy HO, Donnelly RF. Enhanced long-acting simvastatin delivery via effervescent powder-carrying hollow microneedles and nanocrystal-loaded microneedles. *International Journal of Pharmaceutics*. 2024 Sep 14:124691.

Faizi HS, Nasiri MI, Wu Y, Mishra D, Donnelly RF, Minhas MU, Vora LK, SinghThakur RR. Deferasirox nanosuspension loaded dissolving microneedles for ocular drug delivery. *International Journal of Pharmaceutics*. 2024 Aug 20:124614.

Ghanma R, Naser YA, Anjani QK, Sabri AH, Hutton AR, Vora LK, Himawan A, Moreno-Castellanos N, Greer B, McCarthy HO, Paredes AJ. Dissolving microarray patches for transdermal delivery of risperidone for schizophrenia management. *International Journal of Pharmaceutics*. 2024 Jun 15:124342.

Anjani QK, Demartis S, Moreno-Castellanos N, Gavini E, Donnelly RF. Formulation and evaluation of ivermectin-loaded dissolving microarray patches for rosacea disease. *Journal of Pharmaceutical Investigation*. 2024 Jun 3:1-6.

Anjani QK, Moreno-Castellanos N, Li Y, Sabri AH, Donnelly RF. Dissolvable microarray patches of levodopa and carbidopa for Parkinson's disease management. *European Journal of Pharmaceutics and Biopharmaceutics*. 2024 Apr 24:114304.

Limcharoen, B., Wanichweacharungruang, S., Kröger, M., Sansureerungsikul, T., Schleusener, J., Klein, A.L., Banlunara, W., Meinke, M.C. and Darvin, M.E., 2024. Dissolvable microneedles in the skin: Determination the impact of barrier disruption and dry skin on dissolution. *European Journal of Pharmaceutics and Biopharmaceutics*, p.114303.

McGuckin MB, Hutton AR, Davis ER, Sabri AH, Ripolin A, Himawan A, Naser YA, Ghanma R, Greer B, McCarthy HO, Paredes AJ. Transdermal Delivery of Pramipexole Using Microneedle Technology for the Potential Treatment of Parkinson's Disease. *Molecular Pharmaceutics*. 2024 Apr 11.

Roussel S, Udabe J, Sabri AB, Calderón M, Donnelly R. Leveraging novel innovative thermoresponsive polymers in microneedles for targeted intradermal deposition. *International Journal of Pharmaceutics*. 2024 Jan 22:123847.

Makvandi P, Shabani M, Rabiee N, Anjani QK, Maleki A, Zare EN, Sabri AH, De Pasquale D, Koskinopoulou M, Sharifi E, Sartorius R. Engineering and Development of a Tissue Model for the Evaluation of Microneedle Penetration Ability, Drug Diffusion, Photothermal Activity, and Ultrasound Imaging: A Promising Surrogate to Ex Vivo and In Vivo Tissues. *Advanced Materials*. 2023 May 1:2210034.

Himawan A, Anjani QK, Detamornrat U, Vora LK, Permana AD, Ghanma R, Naser Y, Rahmawanty D, Scott CJ, Donnelly RF. Multifunctional low temperature-cured PVA/PVP/citric acid-based hydrogel forming microarray patches: Physicochemical characteristics and hydrophilic drug interaction. *European Polymer Journal*. 2023 Mar 15;186:111836.

Anjani QK, Pandya AK, Demartis S, Domínguez-Robles J, Moreno-Castellanos N, Li H, Gavini E, Patravale VB, Donnelly RF. Liposome-loaded polymeric microneedles for enhanced skin deposition of rifampicin. *International Journal of Pharmaceutics*. 2023 Nov 5;646:123446.

Sabri AH, Anjani QK, Gurnani P, Domínguez-Robles J, Moreno-Castellanos N, Zhao L, Hutton AR, Donnelly RF. Fabrication and characterisation of poly (sulfonated) and poly (sulfonic acid) dissolving microneedles for delivery of antibiotic and antifungal agents. *International Journal of Pharmaceutics*. 2023 Sep 25;644:123292.

Reyna D, Bejster I, Chadderdon A, Harteg C, Anjani QK, Sabri AH, Brown AN, Drusano GL, Westover J, Tarbet EB, Vora LK. A five-day treatment course of zanamivir for the flu with a single, self-administered, painless microneedle array patch: Revolutionizing delivery of poorly membrane-permeable therapeutics. *International Journal of Pharmaceutics*. 2023 Jun 25;641:123081.

Anjani QK, Sabri AH, Hamid KA, Moreno-Castellanos N, Li H, Donnelly RF. Tip loaded cyclodextrin-carvedilol complexes microarray patches. *Carbohydrate Polymers*. 2023 Nov 15;320:121194.

Anjani QK, Volpe-Zanutto F, Hamid KA, Sabri AH, Moreno-Castellano N, Gaitán XA, Calit J, Bargieri DY, Donnelly RF. Primaquine and chloroquine nano-sized solid dispersion-loaded dissolving microarray patches for the improved treatment of malaria caused by *Plasmodium vivax*. *Journal of Controlled Release*. 2023 Sep 1;361:385-401.

Anjani QK, Cárcamo-Martínez Á, Wardoyo LA, Moreno-Castellanos N, Sabri AH, Larrañeta E, Donnelly RF. MAP-box: A novel, low-cost and easy-to-fabricate 3D-printed box for the storage and transportation of dissolving microneedle array patches. *Drug Delivery and Translational Research*. 2023 Jul 21:1-5.

Zhang C, Vora LK, Tekko IA, Volpe-Zanutto F, Peng K, Paredes AJ, McCarthy HO, Donnelly RF. Development of dissolving microneedles for intradermal delivery of the long-acting antiretroviral drug bicitgravir. *International Journal of Pharmaceutics*. 2023 Jun 8:123

Sartawi Z, Blackshields C, Ariamanesh A, Farag FF, Griffin B, Crean A, Devine K, Elkhatab M, Aldejohann AM, Kurzai O, Faisal W. Glass Microneedles: A Case Study for Regulatory Approval Using a Quality by Design Approach. *Advanced Materials*. 2023 Nov 11:2305834.

Woo MR, Prausnitz MR. Modulation of hair growth by topical drug delivery enhanced by STAR particles. *Journal of Controlled Release*. 2023 Sep 1;361:766-76.

Naser YA, Tekko IA, Vora LK, Peng K, Anjani QK, Greer B, Elliott C, McCarthy HO, Donnelly RF. Hydrogel-forming microarray patches with solid dispersion reservoirs for transdermal long-acting microdepot delivery of a hydrophobic drug. *Journal of Controlled Release*. 2023 Apr 1;356:416-33.

Chen BZ, Li WX, Feng YH, Zhang XP, Jiao J, Li ZL, Nosrati-Siahmazgi V, Shahbazi MA, Guo XD. Functional insulin aspart/insulin degludec-based microneedles for promoting postprandial glycemic control. *Acta Biomaterialia*. 2023 Nov 1;171:350-62.

Khan S, Minhas MU. Micro array patch assisted transdermal delivery of high dose, ibuprofen sodium using thermoresponsive sodium alginate/poly (vinylcaprolactam) in situ gels depot. *International Journal of Biological Macromolecules*. 2023 Aug 23;126464.

Wan W, Li Y, Wang J, Jin Z, Xin W, Kang L, Wang J, Li X, Cao Y, Yang H, Wang J. PLGA Nanoparticle-Based Dissolving Microneedle Vaccine of *Clostridium perfringens* ϵ Toxin. *Toxins*. 2023 Jul 19;15(7):461.

Anjani QK, Cárcamo-Martínez Á, Wardoyo LA, Moreno-Castellanos N, Sabri AH, Larrañeta E, Donnelly RF. MAP-box: a novel, low-cost and easy-to-fabricate 3D-printed box for the storage and transportation of dissolving microneedle array patches. *Drug Delivery and Translational Research*. 2023 Jul 21:1-5.

Gade SS, Pentlavalli S, Mishra D, Vora LK, Waite D, Alvarez-Lorenzo CI, Herrero Vanrell MR, Lavery G, Larraneta E, Donnelly RF, Thakur RR. Injectable Depot Forming Thermoresponsive Hydrogel for Sustained Intracocular Delivery of Sunitinib Using Hollow Microneedles. *Journal of Ocular Pharmacology and Therapeutics*. 2022 Aug 1;38(6):433-48.

Hamdan IM, Tekko IA, Bell SE. Gold nanorods-loaded hydrogel-forming needles for local hyperthermia applications: Proof of concept. *European Journal of Pharmaceutics and Biopharmaceutics*. 2022 Oct 1;179:105-17.

Anjani QK, Sabri AH, McGuckin MB, Li H, Hamid KA, Donnelly RF. In Vitro Permeation Studies on Carvedilol Containing Dissolving Microarray Patches Quantified Using a Rapid and Simple HPLC-UV Analytical Method. *AAPS PharmSciTech*. 2022 Oct 4;23(7):273.

Anjani QK, Sabri AH, Domínguez-Robles J, Moreno-Castellanos N, Utomo E, Wardoyo LA, Larrañeta E, Donnelly RF. Metronidazole nanosuspension loaded dissolving microarray patches: An engineered composite pharmaceutical system for the treatment of skin and soft tissue infection. *Biomaterials Advances*. 2022 Sep 1;140:213073.

Faizi HS, Vora LK, Nasiri MI, Wu Y, Mishra D, Anjani QK, Paredes AJ, Thakur RR, Minhas MU, Donnelly RF. Deferasirox Nanosuspension Loaded Dissolving Microneedles for Intradermal Delivery. *Pharmaceutics*. 2022 Dec 15;14(12):2817.

Altuntaş, Ebru, et al. "Nestorone nanosuspension-loaded dissolving microneedles array patch: A promising novel approach for "on-demand" hormonal female-controlled peritocoital contraception." *International journal of pharmaceutics* 614 (2022): 121422.

Paredes AJ, Volpe-Zanutto F, Vora LK, Tekko IA, Permana AD, Picco CJ, McCarthy HO, Donnelly RF. Systemic delivery of tenofovir alafenamide using dissolving and implantable microneedle patches. *Materials Today Bio*. 2022 Jan 1;13:100217.

Wu Y, Vora LK, Mishra D, Adrianto MF, Gade S, Paredes AJ, Donnelly RF, Singh TR. Nanosuspension-loaded dissolving bilayer microneedles for hydrophobic drug delivery to the posterior segment of the eye. *Biomaterials Advances*. 2022 Jun 1;137:212767.

Anjani QK, Sabri AH, Utomo E, Domínguez-Robles J, Donnelly RF. Elucidating the impact of surfactants on the performance of dissolving microneedle array patches. *Molecular Pharmaceutics*. 2022 Mar 2;19(4):1191-208.

Nasiri MI, Vora LK, Ershaid JA, Peng K, Tekko IA, Donnelly RF. Nanoemulsion-based dissolving microneedle arrays for enhanced intradermal and transdermal delivery. *Drug Delivery and Translational Research*. 2022 Apr;12(4):881-96.

- Wu Y, Vora LK, Donnelly RF, Singh TR. Rapidly dissolving bilayer microneedles enabling minimally invasive and efficient protein delivery to the posterior segment of the eye. *Drug Delivery and Translational Research*. 2022 Jun 17;1-7.
- Sabri AH, Anjani QK, Utomo E, Ripolin A, Donnelly RF. Development and characterization of a dry reservoir-hydrogel-forming microneedles composite for minimally invasive delivery of cefazolin. *International journal of pharmaceutics*. 2022 Apr 5;617:121593.
- Anjani QK, Sabri AH, Moreno-Castellanos N, Utomo E, Cárcamo-Martínez Á, Domínguez-Robles J, Wardoyo LA, Donnelly RF. Soluplus®-based dissolving microarray patches loaded with colchicine: towards a minimally invasive treatment and management of gout. *Biomaterials Science*. 2022;10(20):5838-55.
- Paredes AJ, Permana AD, Volpe-Zanutto F, Amir MN, Vora LK, Tekko IA, Akhavein N, Weber AD, Larrañeta E, Donnelly RF. Ring inserts as a useful strategy to prepare tip-loaded microneedles for long-acting drug delivery with application in HIV pre-exposure prophylaxis. *Materials & Design*. 2022 Dec 1;224:111416.
- Volpe-Zanutto F, Vora LK, Tekko IA, McKenna PE, Permana AD, Sabri AH, Anjani QK, McCarthy HO, Paredes AJ, Donnelly RF. Hydrogel-forming microarray patches with cyclodextrin drug reservoirs for long-acting delivery of poorly soluble cabotegravir sodium for HIV Pre-Exposure Prophylaxis. *Journal of Controlled Release*. 2022 Aug 1;348:771-85.
- Picco CJ, Domínguez-Robles J, Utomo E, Paredes AJ, Volpe-Zanutto F, Malinova D, Donnelly RF, Larrañeta E. 3D-printed implantable devices with biodegradable rate-controlling membrane for sustained delivery of hydrophobic drugs. *Drug Delivery*. 2022 Dec 31;29(1):1038-48.
- Li M, Vora LK, Peng K, Donnelly RF. Trilayer microneedle array assisted transdermal and intradermal delivery of dexamethasone. *International journal of pharmaceutics*. 2022 Jan 25;612:121295.
- Abd-El-Azim H, Tekko IA, Ali A, Ramadan A, Nafee N, Khalafallah N, Rahman T, Mcdaid W, Aly RG, Vora LK, Bell SJ. Hollow microneedle assisted intradermal delivery of hypericin lipid nanocapsules with light enabled photodynamic therapy against skin cancer. *Journal of Controlled Release*. 2022 Aug 1;348:849-69.
- Baczkowski E. Minimally invasive clinical monitoring and data transference in cardiac patients (Doctoral dissertation, Cardiff University).
- Zhao B, Jin Z, Yu Y, Li Y, Wang J, Wan W, Hu C, Li X, Li Y, Xin W, Kang L. A Thermostable Dissolving Microneedle Vaccine with Recombinant Protein of Botulinum Neurotoxin Serotype A. *Toxins*. 2022 Dec;14(12):881.
- Zhao ZQ, Liang L, Hu LF, He YT, Jing LY, Liu Y, Chen BZ, Guo XD. Subcutaneous Implantable Microneedle System for the Treatment of Alzheimer's Disease by Delivering Donepezil. *Biomacromolecules*. 2022 Dec 1;23(12):5330-9.
- Murty R, Sankaranarayanan A, Bowland II, Mena-Lapaix J, Prausnitz MR. Angled Insertion of Microneedles for Targeted Antigen Delivery to the Epidermis. *Pharmaceutics*. 2022 Feb 1;14(2):347.
- Sabri AH, Anjani QK, Utomo E, Ripolin A, Donnelly RF. Development and characterization of a dry reservoir-hydrogel-forming microneedles composite for minimally invasive delivery of cefazolin. *International journal of pharmaceutics*. 2022 Apr 5;617:121593.
- Christensen RL, Ortner VK, Haedersdal M, Olesen UH. Optical Imaging Visualizes a Homogeneous and Horizontal Band-Like Biodistribution of Large-and Small-Size Hydrophilic Compounds Delivered by Ablative Fractional Laser. *Pharmaceutics*. 2022 Jul 23;14(8):1537.
- Yadav PR, Nasiri MI, Vora LK, Larrañeta E, Donnelly RF, Pattanayek SK, Das DB. Super-swelling hydrogel-forming microneedle based transdermal drug delivery: Mathematical modelling, simulation and experimental validation. *International journal of pharmaceutics*. 2022 Jun 25;622:121835.

Khan S, Minhas MU, Singh Thakur RR, Aqeel MT. Microneedles assisted controlled and improved transdermal delivery of high molecular drugs via in situ forming depot thermoresponsive poloxamers gels in skin microchannels. *Drug Development and Industrial Pharmacy*. 2022 Jun 3;48(6):265-78.

Yang Y, Li Z, Huang P, Lin J, Li J, Shi K, Lin J, Hu J, Zhao Z, Yu Y, Chen H. Rapidly separating dissolving microneedles with sustained-release colchicine and stabilized uricase for simplified long-term gout management. *Acta Pharmaceutica Sinica B*. 2023 Feb 24.

Paredes AJ, Volpe-Zanutto F, Vora LK, Tekko IA, Permana AD, Picco CJ, McCarthy HO, Donnelly RF. Systemic delivery of tenofovir alafenamide using dissolving and implantable microneedle patches. *Materials Today Bio*. 2022 Feb 11:100217.

Berzosa M, Nemeskalova A, Zúñiga-Ripa A, Salvador-Bescós M, Larrañeta E, Donnelly RF, Gamazo C, Irache JM. Immune Response after Skin Delivery of a Recombinant Heat-Labile Enterotoxin B Subunit of Enterotoxigenic *Escherichia coli* in Mice. *Pharmaceutics*. 2022 Feb;14(2):239.

Zhao ZQ, Zhang BL, Chu HQ, Liang L, Chen BZ, Zheng H, Guo XD. A high-dosage microneedle for programmable lidocaine delivery and enhanced local long-lasting analgesia. *Materials Science and Engineering: C*. 2021 Dec 23:112620.

Makvandi P, Kirkby M, Hutton AR, Shabani M, Yiu CK, Baghbantaraghdari Z, Jamaledin R, Carlotti M, Mazzolai B, Mattoli V, Donnelly RF. Engineering Microneedle Patches for Improved Penetration: Analysis, Skin Models and Factors Affecting Needle Insertion. *Nano-Micro Letters*. 2021 Dec;13(1):1-41.

Sabri AH, Anjani QK, Donnelly RF. Synthesis and characterization of sorbitol laced hydrogel-forming microneedles for therapeutic drug monitoring. *International journal of pharmaceutics*. 2021 Sep 25;607:121049.

Wu Y, Vora LK, Wang Y, Adrianto MF, Tekko IA, Waite D, Donnelly R, Thakur RR. Long-acting nanoparticle-loaded bilayer microneedles for protein delivery to the posterior segment of the eye. *European Journal of Pharmaceutics and Biopharmaceutics*. 2021 May 26.

Peng K, Vora LK, Domínguez-Robles J, Naser YA, Li M, Larrañeta E, Donnelly RF. Hydrogel-forming microneedles for rapid and efficient skin deposition of controlled release tip-implants. *Materials Science and Engineering: C*. 2021 Jun 2:112226.

Rojekar S, Vora LK, Tekko IA, Volpe-Zanutto F, McCarthy HO, Vavia PR, Donnelly RF. Etravirine-loaded dissolving microneedle arrays for long-acting delivery. *European Journal of Pharmaceutics and Biopharmaceutics*. 2021 May 8.

McAlister E, Dutton B, Vora LK, Zhao L, Ripolin A, Zahari DS, Quinn HL, Tekko IA, Courtenay AJ, Kelly SA, Rodgers AM. Directly Compressed Tablets: A Novel Drug-Containing Reservoir Combined with Hydrogel-Forming Microneedle Arrays for Transdermal Drug Delivery. *Advanced Healthcare Materials*. 2021 Feb;10(3):2001256.

Jacobse J, Ten Voorde W, Tandon A, Romeijn SG, Grievink HW, van der Maaden K, van Esdonk MJ, Moes DJ, Loeff F, Bloem K, de Vries A. Comprehensive evaluation of microneedle-based intradermal adalimumab delivery versus subcutaneous administration: results of a randomized controlled trial. *British Journal of Clinical Pharmacology*.

Anjani QK, Permana AD, Cárcamo-Martínez Á, Domínguez-Robles J, Tekko IA, Larrañeta E, Vora LK, Ramadon D, Donnelly RF. Versatility of hydrogel-forming microneedles in in vitro transdermal delivery of tuberculosis drugs. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Dec 9.

Hutton AR, McCrudden MT, Larrañeta E, Donnelly RF. Influence of molecular weight on transdermal delivery of model macromolecules using hydrogel-forming microneedles: potential to enhance the administration of novel low molecular weight biotherapeutics. *Journal of Materials Chemistry B*. 2020;8(19):4202-9.

Ronnander P, Simon L, Koch A. Experimental and mathematical study of the transdermal delivery of sumatriptan succinate from polyvinylpyrrolidone-based microneedles. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Jan 1;146:32-40.

Requena MB, Permana AD, Vollet-Filho JD, González-Vázquez P, Garcia MR, De Faria CM, Pratavieira S, Donnelly RF, Bagnato VS. Dissolving microneedles containing aminolevulinic acid improves protoporphyrin IX distribution. *Journal of Biophotonics*. 2020 Sep 27.

Cordeiro AS, Tekko IA, Jomaa MH, Vora L, McAlister E, Volpe-Zanutto F, Nethery M, Baine PT, Mitchell N, McNeill DW, Donnelly RF. Two-Photon Polymerisation 3D Printing of Microneedle Array Templates with Versatile Designs: Application in the Development of Polymeric Drug Delivery Systems. *Pharmaceutical research*. 2020 Sep;37(9):1-5.

Jacobse J, ten Voorde W, Tandon A, Romeijn S, Grievink H, van der Maaden K, van Esdonk M, Moes DJ, Loeff F, Bloem K, de Vries A. Favourable pharmacokinetics of intradermal adalimumab over subcutaneous administration: results of a randomized controlled trial. *Authorea Preprints*. 2020 Sep 28.

Limcharoen B, Toprangkobsin P, Kröger M, Darvin ME, Sansureerungsikul T, Rujwaree T, Wanichwecharungruang S, Banlunara W, Lademann J, Patzelt A. Microneedle-Facilitated Intradermal Proretinal Nanoparticle Delivery. *Nanomaterials*. 2020 Feb;10(2):368.

Ramadon, D., Permana, A.D., Courtenay, A.J., McCrudden, M.T., Tekko, I.A., McAlister, E., Anjani, Q.K., Utomo, E., McCarthy, H.O. and Donnelly, R.F., 2020. Development, evaluation and pharmacokinetic assessment of polymeric microarray patches for transdermal delivery of vancomycin hydrochloride. *Molecular Pharmaceutics*.

Tekko IA, Permana AD, Vora L, Hatahet T, McCarthy HO, Donnelly RF. Localised and sustained intradermal delivery of methotrexate using nanocrystal-loaded microneedle arrays: Potential for enhanced treatment of psoriasis. *European Journal of Pharmaceutical Sciences*. 2020 Jul 15:105469.

Stewart SA, Domínguez-Robles J, McIlorum VJ, González Z, Utomo E, Mancuso E, Lamprou DA, Donnelly RF, Larraneta E. Poly (caprolactone)-based coatings on 3D printed biodegradable implants: A novel strategy to prolong delivery of hydrophilic drugs. *Molecular Pharmaceutics*. 2020 Jul 16.

Permana AD, Paredes AJ, Volpe-Zanutto F, Anjani QK, Utomo E, Donnelly RF. Dissolving Microneedle-Mediated Dermal Delivery of Itraconazole Nanocrystals for Improved Treatment of Cutaneous Candidiasis. *European Journal of Pharmaceutics and Biopharmaceutics*. 2020 Jul 8.

Tekko IA, Chen G, Domínguez-Robles J, Thakur RR, Hamdan IM, Vora L, Larrañeta E, McElnay JC, McCarthy HO, Rooney M, Donnelly RF. Development and characterisation of novel poly (vinyl alcohol)/poly (vinyl pyrrolidone)-based hydrogel-forming microneedle arrays for enhanced and sustained transdermal delivery of methotrexate. *International Journal of Pharmaceutics*. 2020 Jun 25:119580.

Cárcamo-Martínez Á, Mallon B, Domínguez-Robles J, Cordeiro AS, Celentano M, Larrañeta E, Bell SE, Donnelly RF. Plasmonic photothermal microneedle arrays and single needles for minimally-invasive deep in-skin hyperthermia. *Journal of Materials Chemistry B*. 2020.

Ramöller IK, McAlister E, Bogan A, Cordeiro AS, Donnelly RF. Novel Design Approaches in the Fabrication of Polymeric Microarray Patches via Micromoulding. *Micromachines*. 2020 Jun;11(6):554.

Cárcamo-Martínez Á, Anjani QK, Permana AD, Cordeiro AS, Larrañeta E, Donnelly RF. Coated polymeric needles for rapid and deep intradermal delivery. *International Journal of Pharmaceutics*. 2020 Apr 20:119355.

Hutton AR, McCrudden MT, Larrañeta E, Donnelly RF. Influence of molecular weight on transdermal delivery of model macromolecules using hydrogel-forming microneedles: potential to enhance the administration of novel low molecular weight biotherapeutics. *Journal of Materials Chemistry B*. 2020.

Permana AD, Mir M, Utomo E, Donnelly RF. Bacterially sensitive nanoparticle-based dissolving microneedles of doxycycline for enhanced treatment of bacterial biofilm skin infection: A proof of concept study. *International Journal of Pharmaceutics*. 2020 Mar 9:119220.

Al-Kasasbeh R, Brady AJ, Courtenay AJ, Larrañeta E, McCrudden MT, O’Kane D, Liggett S, Donnelly RF. Evaluation of the clinical impact of repeat application of hydrogel-forming microneedle array patches. *Drug Delivery and Translational Research*. 2020 Feb 26:1-6.

Angkawitwong U, Courtenay AJ, Rodgers A, Larraneta E, McCarthy HO, Brocchini S, Donnelly RF, Williams GR. A novel transdermal protein delivery strategy via electrohydrodynamic coating of PLGA microparticles onto microneedles. *ACS Applied Materials & Interfaces*. 2020 Feb 18.

Stewart SA, Domínguez-Robles J, McIlorum VJ, Mancuso E, Lamprou DA, Donnelly RF, Larrañeta E. Development of a Biodegradable Subcutaneous Implant for Prolonged Drug Delivery Using 3D Printing. *Pharmaceutics*. 2020 Feb;12(2):105.

Ronnander P, Simon L, Koch A. Experimental and Mathematical Study of the Transdermal Delivery of Sumatriptan Succinate from Polyvinylpyrrolidone-based Microneedles. *European Journal of Pharmaceutics and Biopharmaceutics*. 2019 Nov 28.

Mir M, Ahmed N, Permana AD, Rodgers AM, Donnelly RF, Rehman A. Enhancement in Site-Specific Delivery of Carvacrol against Methicillin Resistant *Staphylococcus aureus* Induced Skin Infections Using Enzyme Responsive Nanoparticles: A Proof of Concept Study. *Pharmaceutics*. 2019 Nov;11(11):606.

Kearney MC, McKenna PE, Quinn HL, Courtenay AJ, Larrañeta E, Donnelly RF. Design and Development of Liquid Drug Reservoirs for Microneedle Delivery of Poorly Soluble Drug Molecules. *Pharmaceutics*. 2019 Nov;11(11):605.

Permana AD, Tekko IA, McCrudden MT, Anjani QK, Ramadan D, McCarthy HO, Donnelly RF. Solid lipid nanoparticle-based dissolving microneedles: A promising intradermal lymph targeting drug delivery system with potential for enhanced treatment of lymphatic filariasis. *Journal of Controlled Release*. 2019 Oct 23.

Pastor Y, Larrañeta E, Erhard Á, Quincooces G, Peñuelas I, Irache JM, Donnelly R, Gamazo C. Dissolving Microneedles for Intradermal Vaccination against Shigellosis. *Vaccines*. 2019 Dec;7(4):159.

Ronnander P, Simon L, Spilgies H, Koch A. Modelling the in-vitro dissolution and release of sumatriptan succinate from polyvinylpyrrolidone-based microneedles. *European Journal of Pharmaceutical Sciences*. 2018 Dec 1;125:54-63.

Hou A, Quan G, Yang B, Lu C, Chen M, Yang D, Wang L, Liu H, Pan X, Wu C. Rational Design of Rapidly Separating Dissolving Microneedles for Precise Drug Delivery by Balancing the Mechanical Performance and Disintegration Rate. *Advanced Healthcare Materials*. 2019.

Hansen FS, Wenande E, Haedersdal M, Fuchs CS. Microneedle fractional radiofrequency-induced micropores evaluated by in vivo reflectance confocal microscopy, optical coherence tomography, and histology. *Skin Research and Technology*. 2019 Jan 19.

Permana AD, McCrudden MT, Donnelly RF. Enhanced Intradermal Delivery of Nanosuspensions of Antifilaria Drugs Using Dissolving Microneedles: A Proof of Concept Study. *Pharmaceutics*. 2019 Jul;11(7):346.

Sheshala R, Hong GC, Yee WP, Meka VS, Thakur RR. In situ forming phase-inversion implants for sustained ocular delivery of triamcinolone acetonide. *Drug delivery and translational research*. 2019 Apr 15;9(2):534-42.

Khan S, Minhas MU, Tekko IA, Donnelly RF, Thakur RR. Evaluation of microneedles-assisted in situ depot forming poloxamer gels for sustained transdermal drug delivery. *Drug delivery and translational research*. 2019 Jan 23:1-9.

Dillon C, Hughes H, O'Reilly NJ, Allender CJ, Barrow DA, McLoughlin P. Dissolving Microneedle Based Transdermal Delivery of Therapeutic Peptide Analogues. *International journal of pharmaceutics*. 2019 Apr 29.

Khan S, Minhas MU, Tekko IA, Donnelly RF, Thakur RR. Evaluation of microneedles-assisted in situ depot forming poloxamer gels for sustained transdermal drug delivery. *Drug delivery and translational research*. 2019 Jan 23:1-9.

Mc Crudden MT, Larrañeta E, Clark A, Jarrahian C, Rein-Weston A, Lachau-Durand S, Niemeijer N, Williams P, Haeck C, McCarthy HO, Zehring D. Design, formulation and evaluation of novel dissolving microarray patches containing a long-acting rilpivirine nanosuspension. *Journal of Controlled Release*. 2018 Nov 2.

Rodgers AM, McCrudden MT, Vincente-Perez EM, Dubois AV, Ingram RJ, Larrañeta E, Kissenpfennig A, Donnelly RF. Design and characterisation of a dissolving microneedle patch for intradermal vaccination with heat-inactivated bacteria: A proof of concept study. *International Journal of Pharmaceutics*. 2018 Jul 23.

Migdadi EM, Courtenay AJ, Tekko IA, McCrudden MT, Kearney MC, McAlister E, McCarthy HO, Donnelly RF. Hydrogel-forming microneedles enhance transdermal delivery of metformin hydrochloride. *Journal of Controlled Release*. 2018 Jul 7.

Vora LK, Vavia PR, Larrañeta E, Bell SE, Donnelly RF. Novel nanosuspension-based dissolving microneedle arrays for transdermal delivery of a hydrophobic drug. *Journal of Interdisciplinary Nanomedicine*. 2018 Jun;3(2):89-101.

Sharma S, El-Laboudi A, Reddy M, Jugnee N, Sivasubramanyam S, el-Sharkawy M, Georgiou P, Johnston D, Oliver N, Cass AE. A pilot study in humans of microneedle sensor arrays for continuous glucose monitoring. *Analytical Methods*. 2018.

Quinn HL, Hughes CM, Donnelly RF. In vivo and qualitative studies investigating the translational potential of microneedles for use in the older population. *Drug delivery and translational research*. 2018 Apr 1;8(2):307-16.

Gualeni B, Coulman SA, Shah D, Eng PF, Ashraf H, Vescovo P, Blayney GJ, Piveteau LD, Guy OJ, Birchall JC. Minimally invasive and targeted therapeutic cell delivery to the skin using microneedle devices. *British Journal of Dermatology*. 2018 Mar;178(3):731-9.

Cole G, Ali AA, McCrudden CM, McBride JW, McCaffrey J, Robson T, Kett VL, Dunne NJ, Donnelly RF, McCarthy HO. DNA vaccination for cervical cancer: Strategic optimisation of RALA mediated gene delivery from a biodegradable microneedle system. *European Journal of Pharmaceutics and Biopharmaceutics*. 2018 Mar 3.

Sheshala R, Hong GC, Yee WP, Meka VS, Thakur RR. In situ forming phase-inversion implants for sustained ocular delivery of triamcinolone acetonide. *Drug Delivery and Translational Research*. 2018:1-9.

Hutton AR, Quinn HL, McCague PJ, Jarrahan C, Rein-Weston A, Coffey PS, Gerth-Guyette E, Zehring D, Larrañeta E, Donnelly RF. Transdermal delivery of vitamin K using dissolving microneedles for the prevention of vitamin K deficiency bleeding. *International Journal of Pharmaceutics*. 2018 Feb 19.

Cass AE, Sharma S. Microneedle enzyme sensor arrays for continuous in vivo monitoring. In *Methods in enzymology* 2017 Jan 1 (Vol. 589, pp. 413-427). Academic Press.

Larrañeta E, Henry M, Irwin NJ, Trotter J, Perminova AA, Donnelly RF. Synthesis and characterization of hyaluronic acid hydrogels crosslinked using a solvent-free process for potential biomedical applications. *Carbohydrate Polymers*. 2017 Dec 7.

Vora LK, Donnelly RF, Larrañeta E, González-Vázquez P, Thakur RR, Vavia PR. Novel bilayer dissolving microneedle arrays with concentrated PLGA nano-microparticles for targeted intradermal delivery: Proof of concept. *Journal of Controlled Release*. 2017 Oct 14.

Gualeni B, Coulman SA, Shah D, Eng PF, Ashraf H, Vescovo P, Blayney GJ, Piveteau LD, Guy OJ, Birchall JC. Minimally-invasive and targeted therapeutic cell delivery to the skin using microneedle devices. *British Journal of Dermatology*.

González-Vázquez, P., Larrañeta, E., McCrudden, M.T., Jarrahan, C., Rein-Weston, A., Quintanar-Solares, M., Zehring, D., McCarthy, H., Courtenay, A.J. and Donnelly, R.F., 2017. Transdermal delivery of gentamicin using dissolving microneedle arrays for potential treatment of neonatal sepsis. *Journal of Controlled Release*.

Quinn, H.L., Hughes, C.M. and Donnelly, R.F., 2017. In vivo and qualitative studies investigating the translational potential of microneedles for use in the older population. *Drug Delivery and Translational Research*, pp.1-10.

Cass AE, Sharma S. Microneedle enzyme sensor arrays for continuous in vivo monitoring. In *Methods in enzymology* 2017 Jan 1 (Vol. 589, pp. 413-427). Academic Press.

Dul, M., Stefanidou, M., Porta, P., Serve, J., O'Mahony, C., Malissen, B., Henri, S., Levin, Y., Kochba, E., Wong, F.S. and Dayan, C., 2017. Hydrodynamic gene delivery in human skin using a hollow microneedle device. *Journal of Controlled Release*.

Ripolin, A., Quinn, J., Larrañeta, E., Vicente-Perez, E.M., Barry, J. and Donnelly, R.F., 2017. Successful Application of Large Microneedle Patches by Human Volunteers. *International Journal of Pharmaceutics*.

Thakur, R.R.S., Tekko, I.A., Al-Shammari, F., Ali, A.A., McCarthy, H. and Donnelly, R.F., 2016. Rapidly dissolving polymeric microneedles for minimally invasive intraocular drug delivery. *Drug Delivery and Translational Research*, pp.1-16.

Vicente-Pérez, Eva M., Helen L. Quinn, Emma McAlister, Shannon O'Neill, Lezley-Anne Hanna, Johanne G. Barry, and Ryan F. Donnelly. "The Use of a Pressure-Indicating Sensor Film to Provide Feedback upon Hydrogel-Forming Microneedle Array Self-Application In Vivo." *Pharmaceutical Research* (2016): 1-9.

Döge, Nadine, et al. "Ethyl cellulose nanocarriers and nanocrystals differentially deliver dexamethasone into intact, tape-stripped or sodium lauryl sulfate-exposed ex vivo human skin-assessment by intradermal microdialysis and extraction from the different skin layers." *Journal of Controlled Release*(2016).

Sharma, S., Saeed, A., Johnson, C., Gadegaard, N. and Cass, A.E., 2016. Rapid, low cost prototyping of transdermal devices for personal healthcare monitoring. *Sensing and Bio-Sensing Research*.

McCaffrey, J., McCrudden, C.M., Ali, A.A., Massey, A.S., McBride, J.W., McCrudden, M.T., Vicente-Perez, E.M., Coulter, J.A., Robson, T., Donnelly, R.F. and McCarthy, H.O., 2016. Transcending epithelial and intracellular biological barriers; a prototype DNA delivery device. *Journal of Controlled Release*, 226, pp.238-247.

Larrañeta, E., Stewart, S., Fallows, S.J., Birkhäuser, L.L., McCrudden, M.T., Woolfson, A.D. and Donnelly, R.F., 2016. A facile system to evaluate in vitro drug release from dissolving microneedle arrays. *International journal of pharmaceutics*, 497(1), pp.62-69.

Lutton, R.E., Larrañeta, E., Kearney, M.C., Boyd, P., Woolfson, A.D. and Donnelly, R.F., 2015. A novel scalable manufacturing process for the production of hydrogel-forming microneedle arrays. *International journal of pharmaceutics*, 494(1), pp.417-429.

Garland, M.J., Caffarel-Salvador, E., Migalska, K., Woolfson, A.D. and Donnelly, R.F., 2012. Dissolving polymeric microneedle arrays for electrically assisted transdermal drug delivery. *Journal of controlled release*, 159(1), pp.52-59.

Lutton, R.E., Larrañeta, E., Kearney, M.C., Boyd, P., Woolfson, A.D. and Donnelly, R.F., 2015. A novel scalable manufacturing process for the production of hydrogel-forming microneedle arrays. *International journal of pharmaceutics*, 494(1), pp.417-429.

McCrudden, M.T., Torrisi, B.M., Al-Zahrani, S., McCrudden, C.M., Zaric, M., Scott, C.J., Kissenpfennig, A., McCarthy, H.O. and Donnelly, R.F., 2015. Laser-engineered dissolving microneedle arrays for protein delivery: potential for enhanced intradermal vaccination. *Journal of Pharmacy and Pharmacology*, 67(3), pp.409-425.

Donnelly, R.F., McCrudden, M.T., Alkilani, A.Z., Larrañeta, E., McAlister, E., Courtenay, A.J., Kearney, M.C., Singh, T.R.R., McCarthy, H.O., Kett, V.L. and Caffarel-Salvador, E., 2014. Hydrogel-forming microneedles prepared from "super swelling" polymers combined with lyophilised wafers for transdermal drug delivery. *PloS one*, 9(10), p.e111547.

Larrañeta, E., Moore, J., Vicente-Pérez, E.M., González-Vázquez, P., Lutton, R., Woolfson, A.D. and Donnelly, R.F., 2014. A proposed model membrane and test method for microneedle insertion studies. *International journal of pharmaceutics*, 472(1), pp.65-73.

Donnelly, R.F., Morrow, D.I., McCrudden, M.T., Alkilani, A.Z., Vicente-Pérez, E.M., O'Mahony, C., González-Vázquez, P., McCarron, P.A. and Woolfson, A.D., 2014. Hydrogel-Forming and Dissolving Microneedles for Enhanced Delivery of Photosensitizers and Precursors. *Photochemistry and photobiology*, 90(3), pp.641-647.

Donnelly, R.F., Mooney, K., Mccrudden, M.T., Vicente-Pérez, E.M., Belaid, L., González-Vázquez, P., Mcelnay, J.C. and Woolfson, A.D., 2014. Hydrogel-Forming Microneedles Increase in Volume During Swelling in Skin, but Skin Barrier Function Recovery is Unaffected. *Journal of pharmaceutical sciences*, 103(5), pp.1478-1486.

Thakur, R.R.S., Fallows, S.J., McMillan, H.L., Donnelly, R.F. and Jones, D.S., 2014. Microneedle-mediated intrascleral delivery of in situ forming thermoresponsive implants for sustained ocular drug delivery. *Journal of Pharmacy and Pharmacology*, 66(4), pp.584-595.

Ryan, E., Garland, M.J., Singh, T.R.R., Bambury, E., O'Dea, J., Migalska, K., Gorman, S.P., McCarthy, H.O., Gilmore, B.F. and Donnelly, R.F., 2012. Microneedle-mediated transdermal bacteriophage delivery. *European Journal of Pharmaceutical Sciences*, 47(2), pp.297-304.

Garland, M.J., Migalska, K., Tuan-Mahmood, T.M., Singh, T.R.R., Majithija, R., Caffarel-Salvador, E., McCrudden, C.M., McCarthy, H.O., Woolfson, A.D. and Donnelly, R.F., 2012. Influence of skin model on in vitro performance of drug-loaded soluble microneedle arrays. *International journal of pharmaceutics*, 434(1), pp.80-89.

Pattani, A., McKay, P.F., Garland, M.J., Curran, R.M., Migalska, K., Cassidy, C.M., Malcolm, R.K., Shattock, R.J., McCarthy, H.O. and Donnelly, R.F., 2012. Microneedle mediated intradermal delivery of adjuvanted recombinant HIV-1 CN54gp140 effectively primes mucosal boost inoculations. *Journal of controlled release*, 162(3), pp.529-537.

Raj Singh, T.R., Garland, M.J., Migalska, K., Salvador, E.C., Shaikh, R., McCarthy, H.O., David Woolfson, A. and Donnelly, R.F., 2012. Influence of a pore-forming agent on swelling, network parameters, and permeability of poly (ethylene glycol)-crosslinked poly (methyl vinyl ether-co-maleic acid) hydrogels: Application in transdermal delivery systems. *Journal of Applied Polymer Science*, 125(4), pp.2680-2694.

Donnelly, R.F., Majithiya, R., Singh, T.R.R., Morrow, D.I., Garland, M.J., Demir, Y.K., Migalska, K., Ryan, E., Gillen, D., Scott, C.J. and Woolfson, A.D., 2011. Design, optimization and characterisation of polymeric microneedle arrays prepared by a novel laser-based micromoulding technique. *Pharmaceutical research*, 28(1), pp.41-57.

Donnelly, R.F., Garland, M.J., Morrow, D.I., Migalska, K., Singh, T.R.R., Majithiya, R. and Woolfson, A.D., 2010. Optical coherence tomography is a valuable tool in the study of the effects of microneedle geometry on skin penetration characteristics and in-skin dissolution. *Journal of controlled release*, 147(3), pp.333-341.