

Martin A.B. Hedegaard
Assistant Professor
Institute of Chemical Engineering, Biotechnology and Environmental Technology
E-mail: marhe@kbn.sdu.dk
Phone: 65507413
ORCID: <http://orcid.org/0000-0003-2972-0899>



Previous Positions and Education

2018- Associate Professor, University of Southern Denmark
2015-2018 Assistant Professor, Syddansk Universitet
2013-2015 Post Doc, University of Southern Denmark
2011-2013 Post Doc, Imperial College London
2008-2011 Ph.D, University of Southern Denmark
2002-2008 M.Sc. Physics and Technology, University of Southern Denmark

Publications

Complementary techniques to analyse pericellular matrix formation by human MSC within hyaluronic acid hydrogels. / Salzlechner, Christoph; Runge Walther, Anders; Schell, Sophie; Groth Merrild, Nicholas ; Haghghi, Tabasom; Huebscher, Isabella; Undt, Gerhard; Fan, Kathleen; Bergholt, Mads Sylvest; Hedegaard, Martin A.B.; Gentleman, Eileen.
In: *Materials Advances* , Vol. 1, No. 8, 01.11.2020, p. 2888-2896.

Raman spectroscopy as a tool for viability assessment of planktonic organisms in UV treated ballast water. / Andreasen, Mikkel; Lundgreen, Kim; Holbech, Henrik; Hedegaard, Martin A.B.
In: *Vibrational Spectroscopy*, Vol. 110, 103142, 01.09.2020.

Falcarindiol Purified from Carrots Leads to Elevated Levels of Lipid Droplets and Upregulation of Peroxisome Proliferator-Activated Receptor- γ Gene Expression in Cellular Models. / Andersen, Camilla Bertel; Runge Walther, Anders; Pipó-Ollé, Emma; K. Notabi, Martine; Juul, Sebastian; Eriksen, Mathias Hessellund; Lovatt, Adam Leslie; Cowie, Richard Henry; Linnet, Jes; Kobæk Larsen, Morten; El-Houri, Rime; Andersen, Morten Østergaard; Hedegaard, Martin A.B.; Christensen, Lars Porskjær ; Arnspang, Eva C.
In: *Frontiers in Pharmacology*, Vol. 11, 565524, 28.08.2020.

Translation Approach for Dentine Regeneration Using GSK-3 Antagonists. / Zaugg, L K; Banu, A; Walther, A R; Chandrasekaran, D; Babb, R C; Salzlechner, C; Hedegaard, M A B; Gentleman, E; Sharpe, P T.
In: *Journal of Dental Research*, Vol. 99, No. 5, 01.05.2020, p. 544-551.

Simple Defocused Fiber-Optic Volume Probe for Subsurface Raman Spectroscopy in Turbid Media. / Runge Walther, Anders; Andersen, Morten Østergaard; Dam, Christine; Karlsson, Frederikke ; Hedegaard, Martin A.B.
In: *Applied Spectroscopy*, Vol. 74, No. 1, 01.2020, p. 88-96.

An engineered, quantifiable in vitro model for analysing the effect of proteostasis- targeting drugs on tissue physical properties. / Loaiza, Sandra; Ferreira, Silvia A; Chinn , Tamara M.; Kirby, Alex; Tsolaki, Elena; Dondi, Camilla ; Parzych, Katarzyna; Strange, Adam P. ; Bozec, Laurent; Bertazzo, Sergio; Hedegaard, Martin A.B.; Gentleman, Eileen; Auner, Holger W.
In: *Biomaterials*, Vol. 183, 11.2018, p. 102-113.

Simple additive manufacturing of an osteoconductive ceramic using suspension melt extrusion. / Slots, Casper; Bonde Jensen, Martin; Ditzel, Nicholas; Hedegaard, Martin A B; Borg, Søren Wiatr; Albrektsen, Ole; Thygesen, Torben; Kassem, Moustapha; Andersen, Morten Østergaard.
In: *Dental Materials*, Vol. 33, No. 2, 2017, p. 198-208.

Quantitative multi-image analysis for biomedical Raman spectroscopic imaging. / Hedegaard, Martin A.B.; Bergholt, Mads Sylvest; Stevens, Molly M.
In: *Journal of Biophotonics*, Vol. 9, No. 5, 2016, p. 542-550.

Spatially resolved spectroscopic differentiation of hydrophilic and hydrophobic domains on individual insulin amyloid fibrils. / Deckert-Gaudig, Tanja; Kurouski, Dmitry; Hedegaard, Martin A B; Singh, Pushkar; Lednev, Igor K; Deckert, Volker.
In: Scientific Reports, Vol. 6, 33575, 2016.

Novel sparse feature selection methods identify unexpected global cellular response to strontium-containing materials. / Autfage, Helene; Gentleman, Eileen; Littmann, Elena ; Hedegaard, Martin A.B.; von Erlach, Thomas; O'Donnell, Mathew; Burden, Frank R. ; Winkler, David A.; Stevens, Molly M.
In: Proceedings of the National Academy of Sciences of the United States of America, Vol. 112, No. 14, 07.04.2015, p. 4280-4285.

High resolution Raman spectroscopy mapping of stem cell micropatterns. / von Erlach, Thomas; Hedegaard, Martin A.B.; Stevens, Molly M.
In: Analyst, Vol. 140, 2015, p. 1798-1803.

Membrane fouling from ammonia recovery analysed by ATR-FTIR imaging. / Thygesen, Ole; Hedegaard, Martin A.B.; Zarebska, Agata; Beleites, Claudia; Krafft, Christoph.
In: Vibrational Spectroscopy, Vol. 72, 2014, p. 119-123.

Model based variable selection as a tool to highlight biological differences in Raman spectra of cells. / Hedegaard, Martin A.B.; Cloyd, Kristy L.; Horejs, Christine-Maria; Stevens, Molly M.
In: Analyst, Vol. 139, 2014, p. 4629-4633.

Raman spectroscopic evidence of tissue restructuring in heat-induced tissue fusion. / Su, Lei; Cloyd, Kristy L.; Arya, Shobhit; Hedegaard, Martin A.B.; Steele, Joseph A. M. ; Elson, Daniel S.; Stevens, Molly M. ; Hanna, George B.
In: Journal of Biophotonics, Vol. 7, No. 9, 2014, p. 713-723.

Responsive poly (g-glutamic acid) fibres for biomedical applications. / Chung, Sangwon; Gentilini, Cristina; Callanan, Anthony; Hedegaard, Martin A.B.; Hassing, Søren; Stevens, Molly M. .
In: Journal of Materials Chemistry B, No. 10, 2013, p. 1397.-1401.

Characterization of Porcine Aortic Valvular Interstitial Cell 'Calcified' Nodules. / Cloyd, Kristy L. ; El-Hamamsy, Ismail; Boonrungsiman, Suwimon; Hedegaard, Martin A.B.; Gentleman, Eileen; Sarathchandra, Padmini; Colazzo, Francesca; Gentleman, Molly M. ; Yacoub, Magdi H. ; Chester, Adrian H. ; Stevens, Molly M.
In: P L o S One, Vol. 7, No. 10, e48154, 10.2012.

Laterally resolved and direct spectroscopic evidence of nanometer sized lipid and protein domains on a single cell. / Richter, Marc; Hedegaard, Martin A.B.; Deckert-Gaudig, Tanja; Lampen, Peter; Deckert, Volker.
In: Small, Vol. 7, No. 2, 2011, p. 209-214.

Solving Chemical Classification Problems using Polarized Raman Data. / Hassing, Søren; Jernshøj, Kit Drescher; Hedegaard, Martin A.B.
In: Journal of Raman Spectroscopy, Vol. 42, No. 1, 2011, p. 21-35.

Spectral Unmixing and Clustering Algorithms for assessment of single cells by Raman Microscopic Imaging. / Hedegaard, Martin A.B.; Matthaüs, Christian; Hassing, Søren; Krafft, Christoph; Diem, Max; Popp, Jürgen.
In: Theoretical Chemistry Accounts, Vol. 130, No. 4-6, 2011, p. 1249-1260.

Visualization and characterisation of defined hair follicle compartments by Fourier transform infrared (FTIR) imaging without labelling. / Lau, Katherine; Hedegaard, Martin A.B.; Kloepper, Jennifer E. ; Paus, Ralf; Wood, Bayden R. ; Deckert, Volker.
In: Journal of Dermatological Science, Vol. 63, No. 3, 2011, p. 191-198.

Discriminating isogenic cancer cells and identifying altered unsaturated fatty acid content as associated with metastasis status, using k-means clustering and partial least squares-discriminant analysis of Raman maps. / Hedegaard, Martin; Krafft, Christoph; Ditzel, Henrik J; Johansen, Lene E; Hassing, Søren; Popp, Jürgen.

In: Analytical Chemistry, Vol. 82, No. 7, 01.04.2010, p. 2797-802.

Application of Raman dispersion spectroscopy in 3-way multivariate data analysis . / Hedegaard, Martin A.B.; Hassing, Søren.

In: Journal of Raman Spectroscopy, Vol. 39, No. 4, 2008, p. 478-489.

Application of Raman dispersion spectroscopy in 3-way multivariate data analysis. / Hedegaard, Martin; Hassing, Søren.

In: Journal of Raman Spectroscopy, 2007.

Presentations