

**Publication List R.M.A. Heeren
(February 2022)**

2022

1. Combined quantitative (phospho)proteomics and mass spectrometry imaging reveal temporal and spatial protein changes in human intestinal ischemia-reperfusion
Anna Kip, Juan Valverde Barrantes, Maarten Altelaar, Ron Heeren, Cornelis Dejong, Steven Olde Damink, Benjamin Balluff, and Kaatje Lenaerts
Journal of Proteome Research (2022) 21 49-66
2. Automated 3D Sampling and Imaging of Uneven Sample Surfaces with LA-REIMS
Sylvia P. Nauta, Pascal Huysmans, Gabrielle J. M. Tuijthof, Gert Eijkel, Martijn Poeze, Tiffany Porta Siegel and Ron M. A. Heeren
J. Am. Soc. Mass Spec. (2022) 33 111-122

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3. Clinical importance of high-mannose, fucosylated, and complex N-glycans in metastatic breast cancer
Klára Šcupáková, Oluwatobi T. Adelaja, Benjamin Balluff, Vinay Ayyappan, Caitlin M. Tressler, Ashley M. Cimino-Mathews, Marissa J. White, Pedram Argani, Ron M.A. Heeren, and Kristine Glunde
J. Clin. Invest. (2021) 6 e146945
4. Biomarkers for Knee Osteoarthritis detected with Mass Spectrometry: A Systematic Review
Mirella J.J. Haartmans, Kaj S. Emanuel, Gabrielle J.M. Tuijthof, Ron M. A. Heeren, Pieter J. Emans, Berta Cillero-Pastor
Exp. Rev. Proteomics (2021) 18 693-706
5. Machine learning for grading esophageal dysplasia using mass spectrometry and histological imaging
Manon Beuque, Marta Martin-Lorenzo, Benjamin Balluff, Henry C. Woodruff, Marit Lucas, Daniel M. de Bruin, Janita E van Timmeren, Onno J.de Boer, Ron M.A. Heeren, Sybren L Meijer, Philippe Lambin
Computers in Biology and Medicine (2021) 138 104918
6. Spatially resolved immunometabolism to understand infectious disease progression
Roel Tans, Shoumit Dey, Nidhi Sharma Dey, Grant Calder, Peter O'toole, Paul M. Kaye and Ron M. A. Heeren
Frontiers in Microbiology (2021) 12 709728
7. Isomer-resolved imaging of prostate cancer tissues reveals specific lipid unsaturation profiles associated with lymphocytes and abnormal prostate epithelia
Reuben S.E. Young, Andrew P. Bowman, Elizabeth D. Williams, Benjamin Shepherd, Aurel Perren, Berwyck L.J. Poad, Shane R. Ellis, Ron M.A. Heeren, Martin C. Sadowski & Stephen J. Blanksby
Frontiers Endocrinology (2021) 12 689600
8. Mass spectrometry imaging of lipids with isomer resolution using high-pressure ozone-induced dissociation
Britt Claes, Andrew Bowman, Berwyck Poad, Reuben Young, Ron Heeren, Stephen Blanksby and Shane Ellis
Analytical Chemistry (2021) 93 9826-9834
9. Abdominal fascial healing in the first postoperative week: a MALDI-TOF mass spectrometry imaging to investigate lipids in rats
Hong Liu, Jianhua Cao, Benjamin Balluff, Audrey C. H. M. Jongen, Marion J. Gijbels, Jarno Melenhorst, Ron M.A. Heeren, Nicole D. Bouvy
J. Mass Spec. Adv. Clin. Lab (2021) 20 35-41
10. Mass spectrometry imaging of L-[ring-13C6]-labelled phenylalanine and tyrosine kinetics in non-small cell lung carcinoma
Jianhua Cao, Benjamin Balluff, Martijn Arts, Ludwig J. Dubois, Luc J. C. van Loon, Tilman M. Hackeng, Hans M. H. van Eijk, Gert Eijkel, Lara R. Heij, Zita Soons, Steven W. M. Olde Damink and Ron M.A. Heeren
BMC Cancer & metabolism (2021) 9 26
11. Sox9 determines translational capacity during early chondrogenic differentiation of ATDC5 cells by regulating expression of ribosome biogenesis factors and ribosomal proteins
Marjolein M.J. Caron, Maxime Eveque, Berta Cillero-Pastor, Ron M. A. Heeren, Bas Housmans, Andy Cremers, Mandy J. Peffers, Lodewijk W. van Rhijn, Guus van den Akker, Tim J.M. Welting
Front. Cell Dev. Biol. (2021) 9 686096
12. A novel dual ionization modality source for infrared laser ablation post-ionization mass spectrometry imaging to study fungicide metabolism and transport
Pieter C. Kooijman, Sybille Lamprecht, Marc Lamshoeft, Birte Beine, Bart J.H.T. Verhoeven, Shane R.

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Int. J. Mass Spec. (2021) 465 116602
13. Heterogeneity in lipid and protein cartilage profiles associated with human osteoarthritis with or without type 2 diabetes mellitus
M.R. Eveque-Mourroux, P.J. Emans, B.S.R. Claes, F.G. Bouwman, R.M.A. Heeren, B. Cillero-Pastor
J. Prot. Res. (2021) 20 2973-2982
 14. Quantitative Mass Spectrometry Imaging of Drugs and Metabolites: a Multiplatform Comparison
Lieke Lamont, Darya Hadavi, Brent Viehmann, Bryn Flinders, Ron M. A. Heeren, Rob J. Vreeken and Tiffany Porta Siegel
Anal. Bioanal. Chem. (2021) 413 2779-2791
 15. Identification of a distinct lipidomic profile in the osteoarthritic synovial membrane by mass spectrometry imaging
Beatriz Rocha, Berta Cillero-Pastor, Cristina Ruiz-Romero, Martin R. L. Paine, Juan D. Cañete, Ron M A Heeren, Francisco J. Blanco
Osteoarthritis and Cartilage (2021) 29 750-761
 16. Passivation Properties and Formation Mechanism of Amorphous Halide Perovskite Thin Films
Susan Rigter, Xueying Li, Rishi Kumar, David Fenning, Philippe Massonnet, Shane Ellis, Ron Heeren, Katrine Svane, Aron Walsh and Erik Garnett
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 17. Auto-aggressive CXCR6+ CD8 T cells cause liver immune pathology in NASH.
Michael Dudek, Dominik Pfister, Sainitin Donakonda, Pamela Filpe, Annika Schneider, Melanie Laschinger, Daniel Hartmann, Norbert Hüser, Philippa Meiser, Felix Bayer, Donato Inverso, Jennifer Wigge, Marcial Sebode, Rupert Öllinger, Roland Rad, Susanne Roth, Silke Hegenbarth, Martina Anton, Adrien Guillot, Andrew Bowman, Danijela Heide, Florian Müller, Cristina Garcia-Caceres, Tim Gruber, Gabriel Seifert, Agnieszka M. Kabat, Jan-Philipp Malm, Simon Reider, Maria Effenberger, Adrian Billeter, Beat Müller-Stich, Edward J. Pearce, Friedrich Koch-Nolte, Rafael Käser, Herbert Tilg, Robert Thimme, Tobias Böttler, Frank Tacke, Jean-Francois Dufour, Dirk Haller, Peter Murray, Ron M.A. Heeren, Dietmar Zehn, Jan P. Böttcher, Mathias Heikenwälder and Percy A. Knolle
Nature (2021) 592 444-449
 18. Metabolic plasticity in cancer activates apocryphal pathways for lipid desaturation
Reuben S.E. Young, Andrew P. Bowman, Elizabeth D. Williams, Kaylyn D. Tousignant, Charles L. Bidgood, Venkateswara R. Narreddula, Rajesh Gupta, David L. Marshall, Berwyck L.J. Poad, Colleen C. Nelson, Shane R. Ellis, Ron M.A. Heeren, Martin C. Sadowski and Stephen J. Blanksby
Cell Rep. (2021) 34 108738
 19. Molecular cellophane
Ron M.A. Heeren
Nat. Meth. (2021) 18 242-243
 20. Batch-effects in MALDI mass spectrometry imaging
Benjamin Balluff, Carsten Hopf, Tiffany Porta Siegel, Heike I. Grabsch, Ron M.A. Heeren
J. Am. Soc. Mass Spec. (2021) 32 628-635
 21. Mass spectrometry imaging of phosphatidylcholine metabolism in lungs administered with therapeutic surfactants and isotopic tracers.
Shane R. Ellis, Emily Hall, Madhuriben Panchal, Bryn Flinders, Jens Madsen, Grielof Koster, Ron. M. A. Heeren, Howard W. Clark, Anthony D. Postle
J. Lipid Res. (2021) 62 100023
 22. Quantitative mass spectrometry imaging to study drug distribution in the intestine following oral dosing
Lennart R.S. Huizing, James McDuffie, Filip Cuyckens, Marjolein van Heerden, Tatiana Koudriakova, Ron M.A. Heeren and Rob J. Vreeken
Anal. Chem. (2021) 93 2144-2151
 23. Ion Imaging of Native Protein Complexes using Orthogonal Time-of-Flight Mass Spectrometry and a Timepix Detector
Anjusha Mathew, Ronald Buijs, Gert B. Eijkel, Frans Giskes, Andrey Dyachenko, Jerre van der Horst, Dimitry Byelov, Dirk-Jan Spaanderman, Albert J. R. Heck, Tiffany Porta Siegel, Shane R. Ellis, and Ron M. A. Heeren
J. Am. Soc. Mass Spec. (2021) 32 569-580
 24. Mass spectrometry spatial-omics on a single conductive slide
Stephanie Mezger, Alma Mingels, Otto Bekers, Ron M.A. Heeren and Berta Cillero-Pastor
Anal. Chem. (2021) 93 2527-2533
 25. Multi-label per-pixel quantitation in mass spectrometry imaging
Frédéric Dewez, Edwin De Pauw, Ron M.A Heeren, and Benjamin Balluff
Anal. Chem. (2021) 93 1393-1400

26. Proteomics analysis of human intestinal organoids during hypoxia and reoxygenation as a model to study ischemia-reperfusion injury
Anna Kip, Zita Soons, Ronny Mohren, Annet Duivenvoorden, Anjali Röth, Berta Cillero-Pastor, Ulf Neumann, Cornelis De Jong, Ron M.A. Heeren, Steven Olde Damink and Kaatje Lenaerts
Cell Death & Disease (2021) 12 95
27. Spatial differentiation of metabolism in prostate cancer tissue by MALDI-TOF MSI
Maria K. Andersen, Therese S. Høiem, Britt S.R. Claes, Benjamin Balluff, Marta Martin-Lorenzo, Elin Richardsen, Sebastian Krossa, Helena Bertilsson, Ron M.A. Heeren, Morten B. Rye, Guro F. Giskeødegård, Tone F. Bathen, May-Britt Tessem
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28. Chemical Derivatization in Mass Spectrometry Imaging
Carla Harkin, Karl W. Smith, Faye L. Cruickshank, C. Logan Mackay, Bryn Flinders, Ron M. A. Heeren, Tara Moore, Simon Brockbank and Diego F Cobice
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29. Real-time lipid patterns to classify viable and necrotic liver tumors
Pierre-Maxence Vaysse, Heike I. Grabsch, Mari F.C.M. van den Hout, Marc H.A. Bemelmans, Ron M. A. Heeren, Steven W.M. Olde Damink and Tiffany Porta Siegel
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30. Systematic review: Diagnostic accuracy of biomarkers of alcohol use in patients with liver disease
Janique Arnts, Benedict Vanlerberghe, Sylvia Roozen, Cleo L Crunelle, Ad Masclee, Steven WM Olde-Damink, Ron Heeren, Alexander van Nuijs, Hugo Neels, Frederik Nevens, Jef Verbeek
Alcoholism: Clinical and Experimental Research (2021) 45 25-37
31. Monitoring the three-dimensional distribution of endogenous species in the lungs by MALDI-MSI
Bryn Flinders, Josie Morrell, Peter S. Marshall, Lisa E. Ranshaw, Ron M.A. Heeren and Malcolm R. Clench
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32. Infrared laser desorption and mass spectrometry analysis of non-covalent protein complexes
Pieter C. Kooijman, Anjusha Mathew, Shane R. Ellis, and Ron M.A. Heeren
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33. Experimental and data analysis considerations for three-dimensional mass spectrometry imaging in biomedical research
D. R. N. Vos, S. R. Ellis, B. Balluff and R. M. A. Heeren
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34. Real-time drug detection using a diathermic knife combined to Rapid Evaporative Ionisation Mass Spectrometry
Laura Van Hese, Pierre-Maxence Vaysse, Tiffany Porta Siegel, Ron M.A. Heeren, Steffen Rex and Eva Cuypers
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35. Sample preparation of bone tissue for MALDI-MSI for forensic and (pre)clinical applications
Michiel Vandenbosch and Sylvia P. Nauta, Anastasiya Svirikova, Martijn Poeze, Ron M.A. Heeren, Tiffany Porta Siegel, Eva Cuypers, Martina Marchetti-Deschmann
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36. Nanomechanical Sampling of Material for Nanoscale Mass Spectrometry Chemical Analysis
Olga Ovchinnikova, Matthias Lorenz, Ryan Wagner, Ron Heeren, Roger Proksch
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38. Stromal vapors for real-time molecular guidance of breast-conserving surgery
Pierre-Maxence Vaysse, Loes F. S. Kooreman, Sanne M. E. Engelen, Bernd Kremer, Steven W. M. Olde Damink, Ron M. A. Heeren, Marjolein L. Smidt and Tiffany Porta Siegel
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39. Dynamics of molecules observed at crude oil-gas interfaces by time of flight-secondary ion mass spectrometric imaging
Peter W.F. Arisz, Jos B.M. Pureveen, Ron M.A. Heeren
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40. Atheroma-specific lipids in *Ildr*^{-/-} and *apoe*^{-/-} mice using 2D and 3D matrix-assisted laser desorption/ionization mass spectrometry imaging
Jian Hua Cao, Pieter Goossens, Marta Martin Lorenzo, Frédéric Dewez, Kim van Kuijk, Britt Claes,

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41. MS imaging-guided microproteomics for spatial omics on a single instrument
 Frédéric Dewez, Janina Oejten, Corinna Henkel, Romano Hebel, Heiko Neuweger, Edwin De Pauw, Ron M.A Heeren, and Benjamin Balluff
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 42. Investigating of sex determination through MALDI MS analysis of peptides and proteins in fingermarks through comprehensive statistical modelling
 Cameron Heaton, Charles S. Bury, Ekta Patel, Robert Bradshaw, Florian Wulfert, Ron M. Heeren, Laura Cole, Leeanna Marchant, Neil Denison, Richard McColm and Simona Francese
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 43. INSPIRE: A European Training Network to Foster Research and Training in Cardiovascular Safety Pharmacology.
 Pieter-Jan D. Guns, Brian D. Guth, Stefan Braam, Georgios Kosmidis, Elena Matsa, Annie Delaunois, Vitalina Gryshkova, Sylvain Bernasconi, Harry Knot, Yair Shemesh, Alon Chen, Michael Markert, Miguel Fernandez, Damiano Lombardi, Céline Grandmont, Berta Cillero-Pastor, Ron M.A. Heeren, Wim Martinet, Jeanette Woolard, Matt Skinner, Vincent F.M. Segers, Constantijn Franssen, Emeline M. Van Craenenbroeck, Paul G.A. Volders, Thomas Pauwelyn, Dries Braeken, Paz Yanez, Krystle Correll, Xi Yang, Helen Prior, Gábor Kismihók, Guido R. Y. De Meyer and Jean-Pierre Valentin
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 44. Beelden van een blad: Limburgse wijnen onderzocht met laser- en massaspectrometrie
 Frans Smeets en Ron M.A. Heeren
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 45. Spatial Localization of Vitamin D Metabolites in Mouse Kidney by Mass Spectrometry Imaging
 Karl Smith, Bryn Flinders, Paul Thompson, Faye Cruickshank, Colin Mackay, Ron Heeren and Diego Cobice
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 46. Simultaneous Detection of Zinc and Its Pathway Metabolites Using MALDI MS Imaging of Prostate Tissue
 Maria K. Andersen, Sebastian Krossa, Therese S. Høiem, Rebecca Buchholz, Britt S. R. Claes, Benjamin Balluff, Shane R. Ellis, Elin Richardsen, Helena Bertilsson, Ron M. A. Heeren, Tone F. Bathen, Uwe Karst, Guro F. Giskeødegård, and May-Britt Tøsse
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 47. Integrative metabolic pathway analysis reveals novel therapeutic targets in osteoarthritis
 Beatriz Rocha, Berta Cillero-Pastor, Gert Eijkel, Patricia Fernandez-Puente, Martin Paine, Cristina Ruiz-Romero, Ron Heeren, Valentina Calamia, and Francisco J Blanco
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 48. Spatially resolved proteomics in osteoarthritis: State of the art and new perspectives
 M. Eveque-Mourroux, B. Rocha, F.P.Y. Barre, Ron M.A. Heeren and B. Cillero-Pastor
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 50. LipostarMSI: comprehensive, vendor-neutral software solution for visualisation, data analysis and automated molecular identification in mass spectrometry imaging
 Sara Tortorella, Paolo Tiberi, Andrew P. Bowman, Britt S. R. Claes, Klára Šcupáková, Ron M. A. Heeren, Shane R. Ellis, Gabriele Cruciani
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 Jessica Wappler, Martijn Arts, Anjali Röth, Ron M.A. Heeren, Ulf Peter Neumann, Steven W. Olde Damink, Zita Soons, Thorsten Cramer
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Philippe Massonnet and Ron M.A. Heeren
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Naomi Vos, Ron M. A. Heeren, Benjamin Balluff and Shane R. Ellis
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63. Precise coregistration of mass spectrometry imaging, histology, and laser microdissection-based omics
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64. MALDI-mass spectrometry imaging to investigate lipid and bile acid modifications caused by lentil extract used as a potential hypocholesterolemic treatment
Michele Genangeli, Annemarie Heijens, Alice Rustichelli, Noortje Dien Schuit, Maria Vittoria Micioni Di Bonaventura, Carlo Cifani, Sauro Vittori, Tiffany Porta Siegel and Ron M.A. Heeren
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Serena Lazzaro, Nina Ogrinc Potocnik, Lieke Lamont, Graziella Vecchio, Giuseppe Pappalardo and Ron M.A. Heeren
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Boštjan Jencic, Luka Šepec, Primož Vavpetic, Mitja Kelemen, Zdravko Rupnik, Matjaž Vencelj, Katarina Vogel-Mikuš, Nina Ogrinc Potocnik, Shane R. Ellis, Ron M.A. Heeren, Primož Pelicon
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