

List of Core-contributed Publications:

Updated January 25, 2023

We'd like to express our gratitude to all of our users who are formally acknowledging the contributions of the [Centre for High-Throughput Phenogenomics \(CHTP\)](#) in their publications!

1. Mo L, Cheon J, Frostad JM. Quantifying and modeling the gelatinization properties of individual pulse-starch granules by ParCS. *Food Hydrocolloids* 135 (2023) 107896. doi: 10.1016/j.foodhyd.2022.107896 [Full text](#)
2. Tan M, Fernandes N, Williams KC, Ford NL, “In Vivo Micro-Computed Tomography Imaging in Liver Tumor Study of Mice Using Fenestra VC and Fenestra HDVC”, *NATURE SCIENTIFIC REPORTS*, 12:22399 (2022). doi: 10.1038/s41598-022-26886-5 [Full text](#)
3. Lees EW, Liu A, Bui JC, Ren S, Weber AZ, Berlinguette CP. Electrolytic Methane Production from Reactive Carbon Solutions. *ACS Energy Letters* 2022 7 (5), 1712-1718. doi: 10.1021/acseenergylett.2c00283 [Full text](#)
4. Hunt C, Zhang Z, Ocean K, Jansonius RP, Abbas M, Dvorak DJ, Kurimoto A, Lees EW, Ghosh S, Turkiewicz A, Garcés Pineda FA, Fork DK, Berlinguette CP. Quantification of the Effect of an External Magnetic Field on Water Oxidation with Cobalt Oxide Anodes. *Journal of the American Chemical Society* 2022 144 (2), 733-739. doi: 10.1021/jacs.1c08759 [Full text](#)
5. Zhang Z, Lees EW, Habibzadeh F, Salvatore DA, Ren S, Simpson GL, Wheeler DG, Liu A, Berlinguette CP. Porous metal electrodes enable efficient electrolysis of carbon capture solutions. *Energy Environ. Sci.*, 2022, 15, 705. doi: 10.1039/d1ee02608a [Full text](#)
6. Kurimoto A, Jansonius RP, Huang A, Marelli AM, Dvorak DJ, Hunt C, Berlinguette CP. Physical Separation of H₂ Activation from Hydrogenation Chemistry Reveals the Specific Role of Secondary Metal Catalysts. *Angew. Chem. Int. Ed.* 2021, 60, 11937–11942. doi: 10.1002/anie.202017082 [Full text](#)
7. Huang A, Cao Y, Delima RS, Ji T, Jansonius RP, Johnson NJJ, Hunt C, He J, Kurimoto A, Zhang Z, Berlinguette CP. Electrolysis Can Be Used to Resolve Hydrogenation Pathways at Palladium Surfaces in a Membrane Reactor. *JACS Au* 2021 1 (3), 336-343. doi: 10.1021/jacsau.0c00051 [Full text](#)
8. Coope RJ, Schlosser C, Corbett RD, Pleasance S, Tessier-Cloutier B, Pandoh P, Kirk H, Haile S, Zhao Y, Mungall AJ, Marra MA. Whole-slide laser microdissection for tumour enrichment. *J Pathol.* 2020 Nov 2. doi: 10.1002/path.5575. Epub ahead of print. PMID: 33135777 [Full text](#)
9. Zhang Z, Melo L, Jansonius RP, Habibzadeh F, Grant ER, Berlinguette CP. pH

- Matters When Reducing CO₂ in an Electrochemical Flow Cell. ACS Energy Letters 2020 5 (10), 3101-3107. doi: 10.1021/acseenergylett.0c01606 [Full text](#)
10. Lees EW, Mowbray BAW, Salvatore DA, Simpson GL, Dvorak DJ, Ren S, Chau J, Milton KL, Berlinguette CP. Linking gas diffusion electrode composition to CO₂ reduction in a flow cell. J. Mater. Chem. A, 2020, 8, 19493. doi: 10.1039/D0TA03570J [Full text](#)
 11. Li T, Lees EW, Zhang Z, Berlinguette CP. Conversion of Bicarbonate to Formate in an Electrochemical Flow Reactor. ACS Energy Letters 2020 5 (8), 2624-2630. doi: 10.1021/acseenergylett.0c01291 [Full text](#)
 12. Taherimakhsoosi N, MacLeod BP, Parlane FGL, Morrissey TD, Booker EP, Dettelbach, KE, Burlinguette CP. Quantifying defects in thin films using machine vision. npj Comput Mater 6, 111 (2020). doi: 10.1038/s41524-020-00380-w [Full text](#)
 13. Lees EW, Goldman M, Fink AG, Dvorak DJ, Salvatore DA, Zhang Z, Loo NWX, Berlinguette CP. Electrodes Designed for Converting Bicarbonate into CO. ACS Energy Letters 2020 5 (7), 2165-2173. doi: 10.1021/acseenergylett.0c00898 [Full text](#)
 14. Jansonius RP, Schauer PA, Dvorak DJ, MacLeod BP, Fork DK, Berlinguette CP. Strain Influences the Hydrogen Evolution Activity and Absorption Capacity of Palladium. Angew. Chem. Int. Ed. 2020,59,12192–12198. doi: 10.1002/anie.202005248 [Full text](#)
 15. Reyes A, Jansonius RP, Mowbray BAW, Cao Y, Wheeler DG, Chau J, Dvorak DJ, Berlinguette CP. Managing Hydration at the Cathode Enables Efficient CO₂ Electrolysis at Commercially Relevant Current Densities. ACS Energy Letters 2020 5 (5), 1612-1618. doi: 10.1021/acsenergylett.0c00637 [Full text](#)
 16. Cao Y, Li Y, Morrissey T, Lam B, Patrick BO, Dvorak DJ, Xia Z, Kelly TL, Berlinguette CP. Dopant-free molecular hole transport material that mediates a 20% power conversion efficiency in a perovskite solar cell. [Energy Environ. Sci., 2019, 12, 3502. doi: 10.1039/c9ee02983d [Full text](#)
 17. Panwar P, Law S, Jamroz A, Azizi P, Zhang D, Ciufolini M, Brömme D. Tanshinones that selectively block the collagenase activity of cathepsin K provide a novel class of ectosteric antiresorptive agents for bone. Br J Pharmacol. 2018 Mar;175(6):902-923. doi: 10.1111/bph.14133. Epub 2018 Feb 9. PubMed PMID: 29278432; PubMed Central PMCID: PMC5825304 [Full text](#)
 18. MacIver MR, Pawlik M, Hamza, H. Aggregate Density Changes during the Compression of Flocculated Silica. Powder Technology. 2019(350):43-50 doi: 10.1016/j.powtec.2019.03.017 [Full text](#)
 19. Dettelbach KE, He J, Johnson N, Huang A, Bottomley A, Lam B, Salvatore DA, Berlinguette CP. Kinetic Phases of Ag-Cu Alloy Films are Accessible through Photodeposition J. Mater. Chem. A 2019(7):711-715 doi:10.1039/C8 TA10138H

[Full text](#)

20. Christians JK, Amiri N, Schipilow JD, Zhang SW, May-Rashke KI. Pappa2 deletion has sex- and age-specific effects on bone in mice. *Growth Horm IGF Res.* 2019 Feb;44:6-10. doi: 10.1016/j.ghir.2018.10.006. Epub 2018 Oct 31. PubMed PMID: 30445407.
21. Page MM, Skovsø S, Cen H, Chiu AP, Dionne DA, Hutchinson DF, Lim GE, Szabat M, Flibotte S, Sinha S, Nislow C, Rodrigues B, Johnson JD. Reducing insulin via conditional partial gene ablation in adults reverses diet-induced weight gain. *FASEB J.* 2018 Mar;32(3):1196-1206. doi: 10.1096/fj.201700518R. Epub 2018 Jan 3. PubMed PMID: 29122848; PubMed Central PMCID: PMC5892722.
22. Cheng W, Moreno-Gonzales M, Krzyzskowski C, Dvorak DJ, Weekes DM, Tam B, Berlinguette CP. Solution-Deposited Solid-State Electrochromic Windows *iScience* 2018(10): 80-86 doi:10.1016/j.isci.2018.11.014 [Full text](#)
23. Sherbo RS, Delima RS, Chiykowski VA, MacLeod BP, Berlinguette CP. Complete Electron Economy by Pairing Electrolysis with Hydrogenation *Nat. Catal* 2018(1):501-507 doi:10.1038/s41929-018-0083-8 [Full text](#)
24. Sherbo RS, Moreno-Gonzalez M, Johnson N, Dvorak D, Fork DK, Berlinguette CP. Accurate Coulometric Quantification of Hydrogen Absorption in Palladium Nanoparticles and Thin Films *Chem. Mater* 2018(30):3963-3970 doi:10.1021/acs.chemmater.8b01324 [Full text](#)
25. Cheng W, He J, Dettelbach KE, Johnson NJJ, Sherbo RS, Berlinguette CP. Photodeposited Amorphous Oxide Films for Electrochromic Windows *Chem* 2018(4):821-832 doi:10.1016/j.chempr.2017.12.030 [Full text](#)
26. Dettelbach KE, Salvatore DA, Bottomley A, Berlinguette CP. Tracking precursor degradation during the photo-induced formation of amorphous metal oxide films *J. Mater. Chem. A.* 2018(6):4544-4549 doi:10.1039/C7TA10369G [Full text](#)
27. Pena B, Owen GR, Dettelbach KE, Berlinguette CP. Spin-coated epoxy resin embedding technique enables facile SEM/FIB thickness determination of porous metal oxide ultra-thin films *J. Microsc.* 2018 270 302-308 <https://onlinelibrary.wiley.com/doi/abs/10.1111/jmi.12683> [Full text](#)
28. Dettelbach KE, Kolbeck M, Huang A, He J, Berlinguette CP. Rapid Quantification of Film Thickness and Metal Loading for Electrocatalytic Metal Oxide Films *Chem. Mater.* 2017(29):7272-7277 doi:10.1021/acs.chemmater.7b01914 [Full text](#)

29. Barannyk O, Fraser R, Oshkai P. A correlation between long-term in vitro dynamic calcification and abnormal flow patterns past bioprosthetic heart valves. *J Biol Phys.* 2017 Jun;43(2):279-296. doi: 10.1007/s10867-017-9452-9. Epub 2017 May 29. PubMed PMID: 28555360; PubMed Central PMCID: PMC5471174. [Full text](#)
30. Speck FD, Dettelbach KE, Sherbo RS, Salvatore DA, Huang A, Berlinguette CP. On the Electrolytic Stability of Iron-Nickel Oxides *Chem* 2017(2):590-597 doi:10.1016/j.ch empr.2017. 03.006 [Full text](#)
31. Zahiri B, Sow PK, Kung CH, Mérida W. Active Control over the Wettability from Superhydrophobic to Superhydrophilic by Electrochemically Altering the Oxidation State in a Low Voltage Range. *Adv. Mater. Interfaces* 2017 Apr;4(12):1700121. Doi: 10.1002/admi.201700121 [Full text](#)
32. Lillie MA, Vogl AW, Gil KN, Gosline GM, Shadwick RE. Two Levels of Waviness Are Necessary to Package the Highly Extensible Nerves in Rorqual Whales. *Curr Biol.* 2017 Feb 16;25(9):R360-1. doi:10.1016/j.cub.2017.01.007. [Full text](#)
33. Zhang RH, Judson RN, Liu DY, Kast J, Rossi FM. The lysine methyltransferase Ehmt2/G9a is dispensable for skeletal muscle development and regeneration. *Skelet Muscle.* 2016 May 27;6:22. doi: 10.1186/s13395-016-0093-7. PubMed PMID: [27239264](#). [Full text](#)
34. Fang B, Pinaud BA, Wilkinson DP. Carbon-supported Pt Hollow Nanospheres as a Highly Efficient Electrocatalyst for the Oxygen Reduction Reaction. *Electrocatalysis.* Epub 2016 Apr 21; 7: 336. doi:10.1007/s12678-016-0311-4. [Full text](#)
35. Jaw JE, Tsuruta M, Oh Y, Schipilow J, Hirano Y, Ngan DA, Suda K, Li Y, Oh JY, Moritani K, Tam S, Ford N, van Eeden S, Wright JL, Man SF, Sin DD. Lung exposure to lipopolysaccharide causes atherosclerotic plaque destabilisation. *Eur Respir J.* 2016 Mar 23. pii: ERJ-00972-2015. doi: 10.1183/13993003.00972-2015. PubMed PMID: [27009170](#).
36. Pond J, Wang X, Flueckiger J, Reid A, Niegemann J, Liu A, Chrostowski L. Design and optimization of photolithography friendly photonic components. *Proceedings of the SPIE* 2016 Mar; 9751:. doi:10.1117/12.2211968.
37. Schroeder AA, Ford NL, Coil JM. Micro-computed tomography analysis of post space preparation in root canals filled with carrier-based thermoplasticized gutta-percha. *Int Endod J.* 2016 Feb 11. doi: 10.1111/iej.12618. PubMed PMID: [26865499](#).
38. Panwar P, Sør K, Guido RV, Bueno RV, Delaisse JM, Brømme D. A novel approach to inhibit bone resorption: exosite inhibitors against cathepsin K. *Br J Pharmacol.* 2016 Jan;173(2):396-410. doi: 0.1111/bph.13383. Epub 2015 Dec 16. PubMed PMID: [26562357](#).
39. Karimi D, Deman P, Ward R, Ford N. A sinogram denoising algorithm for low-dose computed tomography. *BMC Med Imaging.* 2016 Jan 22;16:11. doi: 10.1186/s12880-

016-0112-5. PubMed PMID: [26800667](#). [Full text](#)

40. Karimi, D., Ward, R. and Ford, N. A fast weighted stochastic gradient descent algorithm for image reconstruction in 3D computed tomography. 2015. [Full text](#)
41. Sow PK, Prass S, Mérida W. An Alternative Approach to Evaluate the Wettability of Carbon Fiber Substrates. *ACS Appl Mater Interfaces*. 2015 Oct 7;7(39):22029-35. doi: 10.1021/acsami.5b06952. Epub 2015 Sep 23. PubMed PMID: 26375575.
42. Panwar P, Lamour G, Mackenzie NC, Yang H, Ko F, Li H, Brömme D. Changes in Structural-Mechanical Properties and Degradability of Collagen during Aging-associated Modifications. *J Biol Chem*. 2015 Sep 18;290(38):23291-306. doi: 10.1074/jbc.M115.644310. Epub 2015 Jul 29. PubMed PMID: [26224630](#).
43. Gavelis GS, Hayakawa S, White RA 3rd, Gojobori T, Suttle CA, Keeling PJ, Leander BS. Eye-like ocelloids are built from different endosymbiotically acquired components. *Nature*. 2015 Jul 9;523(7559):204-7. doi:10.1038/nature14593. Epub 2015 Jul 1. PubMed PMID: [26131935](#).
44. Salvatore DA, Dettelbach KE, Hudkins JR, Berlinguette CP. Near-infrared-driven decomposition of metal precursors yields amorphous electrocatalytic films. *Sci Adv*. 2015 Mar 6;1(2):e1400215. doi: 10.1126/sciadv.1400215. eCollection 2015 Mar. PubMed PMID: 26601148; PubMed Central PMCID: PMC4643823.
45. Sharma V, Panwar P, O'Donoghue AJ, Cui H, Guido RV, Craik CS, Brömme D. Structural requirements for the collagenase and elastase activity of cathepsin K and its selective inhibition by an exosite inhibitor. *Biochem J*. 2015 Jan 1;465(1):163-73. doi: 10.1042/BJ20140809. PubMed PMID: [25279554](#).
46. Fang B, Bonakdarpour A, Reilly K, Xing Y, Taghipour F, Wilkinson DP. Large-scale synthesis of TiO₂ microspheres with hierarchical nanostructure for highly efficient photodriven reduction of CO₂ to CH₄. *ACS Appl Mater Interfaces*. 2014 Sep 10;6(17):15488-98. doi: 10.1021/am504128t. Epub 2014 Aug 25. PubMed PMID: [25140917](#).
47. Donzella V, Flueckiger J, Sherwali A, Talebi FardS, Grist SM, Chrostowski L. Compact and broad band directional coupler for sub-wavelength grating SOI components. 2014 IEEE Photonics Conference. doi:10.1109/IPCon.2014.6995286.
48. Panwar P, Du X, Sharma V, Lamour G, Castro M, Li H, Brömme D. Effects of cysteine proteases on the structural and mechanical properties of collagen fibers. *J Biol Chem*. 2013 Feb 22;288(8):5940-50. doi: 10.1074/jbc.M112.419689. Epub 2013 Jan 7. PubMed PMID: [23297404](#).
49. Wang X, Grist S, Flueckiger J, Jaeger NA, Chrostowski L. Silicon photonic slot waveguide Bragg gratings and resonators. *Opt Express*. 2013 Aug 12; 21(16):19029-39. doi: 10.1364/OE.21.019029. PubMed PMID: 23938818.