**William A Maza, Ph.D.**
Spectroscopy and Dynamics Section, Code 6121, Chemistry Division,
US Naval Research Laboratory, Washington, D.C. 20375
Ph: 202-404-1648
william.a.maza.civ@us.navy.mil
ORCID: 0000-0002-9126-2959

## *EXPERIENCE:*

| | |
|---|---|
| 2020-present | Research Chemist, US Naval Research Laboratory, Washington, D.C. |
| 2019-2020 | Jerome and Isabella Karle Research Fellow, US Naval Research Laboratory, Washington, D.C. |
| 2016-2019 | National Research Council Postdoctoral Research Fellow, US Naval Research Laboratory, Washington, D.C. |
| 2013-2016 | Postdoctoral Researcher, Virginia Tech, Blacksburg, VA |

## *EDUCATION:*

**PH.D. | MAY 2013 | UNIVERSITY OF SOUTH FLORIDA, TAMPA, FL**

**Major**: Biophysical Chemistry
**Advisor**: Randy W. Larsen
**Thesis Title:** ***"Reaction enthalpy and volume profiles for excited state reactions involving electron transfer and proton-coupled electron transfer."***

## *CURRENT RESEARCH AREAS:*

- Characterization of catalytic and electrochemical processes in solid oxide fuel cells (SOFC) by *operando* spectroscopic and imaging methodologies.
- Using time-resolved spectroscopies to describe the degradation mechanisms of PFAS by the hydrated electron.
- Transition metal sensing in water using optical absorption and fluorescence spectroscopy.
- Using steady-state and time-resolved spectroscopy to characterize light-activated processes and materials.

## *PAST RESEARCH AREAS:*

- Thermodynamic and conformational changes associated with small ligand binding/diffusion, electron transfer, and proton-coupled electron transfer reactions in heme proteins
- Synthesis of porphyrin and Ru(II)$(bpy)_3$ analogues for the study of proton-coupled electron transfer reactions
- Photophysical characterization of dyes
- Electrostriction around charge-separated states in reverse micelles
- Measuring Fluorescence/Forster resonance energy transfer (FRET) using photoacoustic calorimetry
- Development of photo- and electro-catalytically active metal-organic frameworks for oxygen reduction/evolution reactions and carbon dioxide reduction
- Hydrogen storage materials
- Characterization of solid-state electrolytes
- Development and characterization of catalytic metal-organic materials for the use as cathodes (oxygen reduction reaction) in solid acid fuel cells (SAFC) and other devices.

## *PEER REVIEWED PUBLICATIONS:*

1. Alidokht, L.; Fitzpatrick, K.; Butler, C.; Hunsucker, K.Z.; Braga, C.; **Maza, W.A.**; Fears, K.P.; Arekhi, M.; Lanzarini-Lopes, M. UV-emitting glass: A promising strategy for biofilm inhibition on transparent surfaces. *Biofilm*, **2024**, 8, 100186.

2. **Maza, W.A.**; Pomeroy, E.M.; Steinhurst, D.; Tsoi, S.; Kirtley, J.; Eigenbrodt, B.; Owrutsky, J.C.; Walker, R.A. Insight into carbon removal from solid oxide fuel cells via *operando* spectroscopy. *ACS Appl. Energy Mater.*, **2024**, doi: 10.1021/acsaem.3c03127.
3. **Maza, W.A.**; Breslin, V.M.; Owrutsky, J.C. Early steps in the advanced reduction process of the hydrated electron: lessons learned from transient spectroscopy. *Curr. Opinion Chem. Engineer.*, **2024**, 44, 101015.
4. **Maza, W.A.**; Ridenour, J.A.; Chaloux, B.C.; Epshteyn, A.; Owrutsky, J.C. Linear perfluoroalkyl carboxylate reduction dynamics with solvated electrons from ferrocyanide and sulfite. *Environ. Sci.: Advances*, **2023**, 2, 1641-1650.
5. **Maza, W.A.**; Steinhurst, D.; Pomeroy, E.D.; Kee, R.J.; Ricote, S.; Walker, R.A.; Owrutsky, J.C. Comparison of Carbon Deposition and Removal from Ni-YSZ and Ni-BCZY Composites Using Operando *Optical* Methods. *ECS Trans.*, **2023**, 111, 1271.
6. Pomeroy, E.D.; Steinhurst, D.; Tsoi, S.; Kirtley, J.D.; Eigenbrodt, B.; Owrutsky, J.C.; **Maza, W.A.**; Walker, R.A. Spatially Heterogeneous Chemistry Observed using NIRTI on SOFC Anodes. *ECS Trans.*, **2023**, 111, 1709.
7. Dysart, J.L.; Wolfgang, J.D.; Smith, A.D.; Atoyebi, O.F.; Wallace, J.M.; **Maza, W.A.**; Wang, Z.; Laskoski, M. Characterization of eumelanin as an additive in high-temperature phthalonitrile-based resin blends. *Macromol. Chem. Phys.*, **2023**, 224, 2300074.
8. **Maza, W.A.**; Breslin, V.M.; Feygelson, T.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Degradation of perfluorooctane sulfonate by sub bandgap irradiation of hydrogen terminated nanodiamond. *Appl. Catal. B. Environ.*, **2023**, 325, 122306.
9. Thum, M.D.; Kolacz, J.; Ratchford, D.C.; Camarella, G.; **Maza, W.A.**; Lundin, J.G. Dynamic interference colors in electrospun microfibrous mats. *Adv. Opt. Mater.*, **2022**, 10, 2200192.
10. Giles, S.L.; Kastl, A.M.; Purdy. A.P.; Leff, A.C.; Ratchford, D.C.; **Maza, W.A.**; Baturina, O.A. Surface- and Structural-Dependent Reactivity of Titanium Oxide Nanostructures with 2-Chloroethyl Ethyl Sulfide under Ambient Conditions. *ACS Appl. Mater. Interfaces.* **2022**, 14, 9655-9666.
11. Ridenour, J.A.; **Maza, W.A.**; Chaloux, B.C.; Epshteyn, A. Manipulation of the Thermochromic Transition Temperature in a Classic Metal–Organic Complex by Selective Anion Doping. *Inorg. Chem.*, **2022**, 61, 8834-8842.
12. Johnson, M.J.; Boris, D.R.; Breslin, V.M.; **Maza, W.A.**; Petrova, T.B.; Walton, S.G. Low power degradation of perfluorooctane sulfonate (PFOS) in water using a nanosecond pulsed atmospheric pressure plasma. *Plasma Sources Sci. Technol.*, **2022**, 31, 085001.
13. Purdy, A.P.; **Maza, W.A. (co-first author)**; Lanetti, M.G.; McPherson, K.N.; Yesinowski, J.P.; Chaloux, B.L.; Epshteyn, A. A solid, amorphous, lithiated carbon phosphonitride displaying lithium ion conductivity. *J. Solid State Chem.*, **2022,** 305, 122649.
14. **Maza, W.A.**; Etz, B.D.; Schutt, T.C.; Chaloux, B.C.; Breslin, V.M.; Pate, B.B.; Shukla, M.K.; Owrutsky, J.C.; Epshteyn, A. Impact of sub-micellar aggregation on reduction kinetics of perfluorooctanoate by the hydrated electron. *Environ. Sci. Technol. Lett.*, **2021**, 9, 226-232.
15. **Maza, W.A.**; Pomeroy, E.D.; Steinhurst, D.A.; Walker, R.A.; Owrutsky, J.C. *Operando* optical studies of sulfur contamination in syngas operation of solid oxide fuel cells. *J. Power Sources*, **2021**, 510, 230398.
16. **Maza, W.A.**; Breslin, V.M.; Owrutsky, J.C.; Pate, B.B.; Epshteyn, A. Nanosecond Transient Absorption of Hydrated Electrons and Reduction of Linear Perfluoroalkyl Acids and Sulfonates. *Environ. Sci. Technol. Lett.*, **2021**, 8, 525-530.
17. **Maza, W.A.**; Steinhurst, D.A.; McIntyre, M.D.; Walker, R.A.; Owrutsky, J.C. *Operando* optical studies of solid oxide fuel cells operating on CO and simulated syngas fuels. *J. Power Sources*, **2021**, 492, 229598.

18. Pomeroy, E.D.; **Maza, W.A.**; Steinhurst, D.A.; Owrutsky, J.C.; Walker, R.A. Electrochemical sulfur oxidation in solid oxide fuel cells studied by thermal imaging and chronocoulometry. *J. Electrochem. Soc.,* **2020**, 167,164511.
19. **Maza, W.A.**; Tsoi. S.D.; Steinhurst, D.A.; Eigenbrodt, B.C.; Walker, R.A.; Owrutsky, J.C. *Operando* studies of carbon removal and partial oxidation in solid oxide fuel cells. *ECS Trans.*, **2019**, 91, 629-640.
20. Pomeroy, E.D.; **Maza, W.A.**; Steinhurst, D.A.; Owrutsky, J.C.; Walker, R.A. Assessing sulfur-induced degradation mechanisms in SOFCs with chronocoulometry and *operando* optical imaging. *ECS Trans.*, **2019**, 91, 1815-1825.
21. **Maza, W.A.**; Breslin, V.M.; DeSario, P.A.; Epshteyn, A.; Owrutsky, J.C.; Pate, B.B. Nanosecond transient absorption studies of the pH-dependent hydrated electron quenching by $HSO_3^-$. *Photochem. Photobiol. Sci.*, **2019**, 18, 1526-1532.
22. Rowe, J.; Hay, J.M.; **Maza, W.A.**; Capleski, R.C.; Soderstrom, E.; Troya, D.; Morris, A.J. Systematic investigation of the excited state properties of anthracene-dicarboxylic acids. *J. Photochem. Photobiol. A - Chem.*, **2017**, 337, 207-215.
23. Celis-Salazar, P.J.; Epley, C.C.; Ahrenholtz, S.R.; **Maza, W.A.**; Usov, P.M.; Morris, A.J. Proton-coupled electron transport in anthraquinone-based zirconium metal-organic frameworks. *Inorg. Chem.*, **2017**, 56, 13741-13747.
24. Zhu, J.; **Maza, W.A.**; Morris, A.J. Light-harvesting and energy transfer by ruthenium(II)-polypyridyl doped zirconium(IV) metal-organic frameworks: A look towards solar cell applications. *J. Photochem. Photobiol. A - Chem.*, **2017**, 344, 64-77.
25. Usov, P.M.; Huffman, B.; Epley, C.E.; Kessinger, M.C.; Zhu, J.; **Maza, W.A.**; Morris, A.J. A Study of Electrocatalytic Properties of Metal-Organic Framework, PCN-223 for the Oxygen Reduction Reaction. *ACS Appl. Mater. Inter.,* **2017**, 9, 33539-33543.
26. Lin, S.Y.; Galvan, Y.P.; **Maza, W.A.**; Epley, C.C.; Zhu, J.; Kessinger, M.C.; Pushkar, Y.; Morris, A.J. Electrochemical water oxidation by a catalyst-modified metal-organic framework thin film. *J. Mater. Chem. C.*, **2017**, 10, 514-522.
27. Usov, P.M.; Ahrenholtz, S.R.; **Maza, W.A.**; Stratakes, B.; Epley, C.C.; Kessinger, M.C.; Zhu, J.; Morris, A.J. Cooperative electrochemical water oxidation by Zr nodes and Ni-porphyrin linkers of a PCN-224 MOF thin film. *J. Mater. Chem. A.*, **2016**, 4, 16818-16823.
28. Padilla, R.; **Maza, W.A.**; Dominjanni, A. J., Morris, A. J., Winkel, B. S. J., Brewer, K. J. Pushing the limits of structurally diverse light-harvesting Ru(II) metal-organic chromophores for PDT. *Photochem. Photobio. A: Chem.*, **2016**, 322-323, 67-75.
29. Qin, M.**; Maza, W.A. (co-first author)**; Stratakes, B.; Ahrenholtz, S.R.; Morris, A.J.; He, Z. "Nanoparticulate Ni(OH)2 films synthesized from macrocyclic Nickel(II) cyclam for hydrogen production in microbial electrolysis cells. *J. Electrochem. Soc.*, **2016**, 163, F437-F442.
30. **Maza, W.A.**; Haring, A.J.; Ahrenholtz, S.R.; Epley, C.C.; Lin, S.Y.; Morris, A.J. Ruthenium(II)-polypyridyl Zirconium(IV) metal-organic frameworks as a new class of sensitized solar cells." *Chem. Sci.*, **2016**, 7, 719-727.
31. **Maza, W.A.**, Padilla, R., Morris, A.J. Concentration dependent dimensionality of resonance energy transfer in a post-synthetically doped morphologically homologous analogue of UiO-67 MOF with a ruthenium(II) polypyridyl complex. *J. Am. Chem. Soc.*, **2015**, 137, 8161-8168.
32. **Maza, W.A.**; Ahrenholtz, S.R.; Epley, C.C.; Day, C.S.; Morris, A.J. Solvothermal growth and photophysical characterization of a ruthenium(II) tris-(2,2′-bipyridine)-doped zirconium UiO-67 metal organic framework thin film. *J. Phys. Chem. C.*, **2014**, 118, 14200-14210.
33. **Maza, W.A.**; Morris, A.J. Photophysical characterization of a ruthenium(II) tris-(2,2′-bipyridine)-doped zirconium UiO-67 metal organic framework. *J. Phys. Chem. C.*, **2014**, 118, 8803-8817.

34. **Maza, W.A.**; Vetromile, C.M.; Kim, C.S.; Xu, X.; Zhang, X.P.; Larsen, R.W. Spectroscopic investigation of the non-covalent association of the nerve agent simulant diisopropyl methylphosphonate (DIMP) with zinc(II) porphryins. *Inorg. Chem.*, **2013**, 117, 11308-11315.
35. Whittington, C.L.**; Maza, W.A. (co-first author)**; Woodcock, H.L.; Larsen, R.W. Understanding ion sensing in Zn(II) porphyrins: Spectroscopic and computational studies of nitrite/nitrate binding. *Inorg. Chem.*, **2012**, 51, 4756-4762.
36. Nacheva, K.P.; **Maza, W.A.**; Mayer, D.Z., Fronczek, F.; Larsen, R.W.; Manetsch, R. Fluorescent properties and resonance energy transfer of 3,4-bis(2,4-difluorophenyl)-maleimide. *Org. Biom. Chem.*, **2012**, 10, 7840-7846.

## *INVITED BOOK CHAPTERS:*

1. Larsen, R.W.; Maza, W.A.; Word, T.A.; Vetromile, C.M. "Application of photoacoustic calorimetry in chemistry and biology," in Trends in Photochem. Photobio. 2013,14:47-68.
2. Larsen, R.W.; Vetromile, C.M.; Maza, W.A.; Pham, K.; Mikšovská, J. "Exploring biomolecular thermodynamics in aqueous and non-aqueous environments using time-resolved photothermal methods," in Proteins in solution and at interfaces: methods and applications in biotechnology and materials science, ed. by Ruso, J.M. and Pineiro, A., Wiley-Interscience: New York, 2013, pg 449.
3. Maza, W.A.; Morris, A.J., Mul, G. "Nanomaterials as green technologies for the sequestration and reduction of carbon dioxide," in Green Photo-Active Nanomaterials: Sustainable Energy and Environmental Remediation. Royal Society of Chemistry: Cambridge, 2016, pg 202.

## *PRESENTATIONS:*

1. **Maza, W.A.**; Mokdad, A.; Larsen, R.W. Photoinduced intermolecular electron transfer dynamics between perylenetetracarboxylic acid and cytochrome C. South East Regional Meeting of the American Chemical Society – Atlanta, GA – November 2006.
2. **Maza, W.A.**; Parulekar, S. N.; Bisht, K.S.; Larsen, R.W. Synthesis and photophysical properties of three calix[4]resorcarenes of amphiphilic character. South East Regional Meeting of the American Chemical Society – Greenville, SC – October 2007.
3. **Maza, W.A.**; Parulekar, S. N.; Bisht, K.S.; Larsen, R.W. Synthesis and photophysical properties of three calix[4]resorcarenes of amphiphilic character. Florida Annual Meeting and Exposition – Kissimmee, FL –May 2008.
4. **Maza, W.A.**; Larsen, R.W. Time-resolved thermodynamics of inter-molecular eletron transfer between water soluble anionic free-base porphyrins and ubiquinone. South East Regional Meeting of the American Chemical Society – Nashville, TN – November 2008.
5. **Maza, W.A.**; Larsen, R.W. Time-resolved thermodynamics of intermolecular electron transfer between water soluble anionic free-base porphyrins and ubiquinone. Biophysical Society International Meeting – Boston, MA – February 2010.
6. **Maza, W.A.**; Larsen, R.W. Time-resolved enthalpy and volume changes associated with inter-molecular electron transfer between an anionic free-base porphyrin and cytochrome c. Florida Annual Meeting and Exposition – Innisbrook, FL – May 2011.
7. **Maza, W.A.**; Masella, V.; Larsen, R.W. Photophysical studies of ruthenium(II) tris-(2,2′-bipyridine) in decane/cetyltrimethylammonium bromide reverse micelles. Florida Inorganic and Materials Symposium – Gainesville, FL – October 2011. Awarded first place in poster session.
8. **Maza, W.A.**; Vetromile, C.; Lewis-Ballester, A.; Yeh, S.R.; Larsen, R.W. Time-resolved enthalpy and volume changes for CO-photorelease from indoleamine 2,3-dioxygenase. Biophysical Society International Meeting – San Diego, CA – February 2012.

9. **Maza, W.A.**; Larsen, R.W. A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET. Raymond N. Castle Student Research Conference – Tampa, FL - April 2012.
10. **Maza, W.A.**; Larsen, R.W. A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET. Florida Annual Meeting and Exposition – Innisbrook, FL – May 2012.
11. **Maza, W.A.**; Larsen, R.W. A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET. Florida Inorganic and Materials Symposium – Gainesville, FL – October 2012.
12. **Maza, W.A.**; Larsen, R.W. A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET. American Chemical Society National Meeting – Philadelphia, PA – October 2012.
13. **Maza, W.A.**; Larsen, R.W. A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET. South East Regional Meeting of the American Chemical Society – Raleigh, NC – November 2012.
14. **Maza, W.A.**; Pham, K.; Mikšovská, J.; Larsen, R.W. Biophysical Society International Meeting – Philadelphia, PA - "A non-radiative method for measuring Förster resonance energy transfer efficiencies using photoacoustic calorimetry: PAC-FRET." February 2013.
15. **Maza, W.A.**; Mikšovská, J.; Larsen, R.W. Molar enthalpy and volume changes for the gated electron transfer reaction between uroporphyrin and cytochrome c probed on the nanosecond to microsecond timescale by photoacoustic calorimetry. American Chemical Society National Meeting – New Orleans, LA – April 2013.
16. Morris, A.J.; **Maza, W.A.** Gordon Research Conference, Photochemistry – Easton, MA – Solar energy harvesting and storage by metal-organic frameworks. July 2013.
17. **Maza, W.A.**; Morris, A.J. Preparation and photophysical characterization of a Ru(II)tris-(2,2'-bipyridyl) doped zirconium UiO-67 metal organic framework thin film. NC Photochem Photochemistry Symposium – Raleigh, NC – October 2013.
18. Morris, A.J.; Ahrenholtz, S.R.; **Maza, W.A.** Metal Organic Frameworks (MOFs) for Photoelectrochemical Solar Fuel Generation. Gordon Research Conference, Renewable Energy: Solar Fuels – Ventura, CA – January 2014.
19. **Maza, W.A.**; Haring, A.J.; Ahrenholtz, S.R.; Epley, C.C.; Lin, S.Y.; Morris, A.J. Synthesis and photophysical characterization of Zr-based mesoporous metal-organic framework thin films incorporating doped ruthenium bis-(2,2'-bipyridine)(5,5'-dicarboxy-2,2'-bipyridine). Virginia Tech Nanooptics and Spectroscopy Workshop – Blacksburg, VA – May 2014.
20. Morris, A.J.; Ahrenholtz, S.R.; **Maza, W.A.** Metal organic frameworks (MOFs) for photoelectrochemical solar energy conversion. Gordon Research Conference, Electron donor-acceptor interactions – Newport, RI – August 2014.
21. Morris, A.J.; Ahrenholtz, S.R.; **Maza, W.A.** Controlling electron transfer properties in PCNs for solar water splitting. American Chemical Society National Meeting – San Francisco, CA – August 2014.
22. Morris, A.J.; Ahrenholtz, S.R.; **Maza, W.A.** Porous coordination networks for artificial photosynthesis. Electrochemical Society Meeting – Cancun, Mexico – October 2014.
23. **Maza, W.A.**; Haring, A.J.; Ahrenholtz, S.R.; Epley, C.C.; Day, C.S.; Morris, A.J. Homogeneous Energy Transfer between Ruthenium(II) bis-(2,2'-bipyridyl) (5,5'-dicarboxy-2,2'-bipyridyl) Metal Centers Doped into a Zirconium(IV)-based Metal-Organic Framework and its Application as a DSSC. American Chemical Society National Meeting – Denver, CO – March 2015.

24. **Maza, W.A.**; Ahrenholtz, S.R.; Morris, A.J. Toward Electrochemical carbon dioxide reduction by porous coordination networks. American Chemical Society National Meeting – Denver, CO – March 2015.
25. **Maza, W.A.**; Morris, A.J. Metal organic framework solar cells: a new class of sensitized light harvesting devices. Electrochemical Society Meeting – Phoenix, AZ – October 2015.
26. **Maza, W.A.**; Morris, A.J. Photochemistry of metal organic frameworks: ruthenium polypyridyl excited state chemistry in a new type of supramolecular material. American Chemical Society National Meeting – San Diego, CA – March 2016.
27. Lin, S.Y.; Ahrenholtz, S.R.; Pavel, U.; **Maza, W.A.**; Morris, A.J. Photo- and electro-catalytic water oxidation by metal organic frameworks. American Chemical Society National Meeting – Philadelphia, PA – August 2016.
28. **Maza, W.A.**; Chaloux, B.; Epshteyn, A. Hydrogen uptake by an iron amino-borohydride Zr(IV)-metal organic framework hybrid below 300 $^{o}$C. American Chemical Society National Meeting – Washington, D.C. – August 2017.
29. Chaloux, B.; **Maza, W.A.**; Epshteyn, A. Triethylammonium cyanide: a recyclable reagent for cyanophosphine synthesis. American Chemical Society National Meeting – Washington, D.C. – August 2017.
30. Celis-Salazar, P.; Epley, C.C.; Ahrenholtz, S.R.; **Maza, W.A.**; Usov, P.; Morris, A.J. Proton-coupled electron transport in anthraquinone-based metal organic frameworks. American Chemical Society National Meeting – Washington, D.C. – August 2017.
31. Lin, S.Y.; Pineda-Galvez, Y.; **Maza, W.A.**; Epley, C.C.; Zhu, J.; Kessinger, M.; Pushkar, Y.; Morris, A.J. Investigations of water oxidation by catalysts incorporated metal-organic frameworks. American Chemical Society National Meeting – Washington, D.C. – August 2017.
32. **Maza, W.A.**; Lin, S.Y.; Morris, A.J. Design strategies to coupling chemistries in dual/multi-function MOF arrays. American Chemical Society National Meeting – Washington, D.C. – March 2018.
33. Tsoi, S.; **Maza, W.A.**; Steinhurst, D.A.; Kirtley, J.D.; Walker, R.A.; Owrutsky, J.C. *In-situ* studies of carbon removal from Ni-YSZ SOFC anodes using mixtures of $O_2$ and $H_2$. Electrochemical Society Meeting – Seattle, WA – May 2018.
34. **Maza, W.A.**; Tsoi, S.; Steinhurst, D.A.; Owrutsky, J.C. *Operando* spectroscopy of the electrochemical oxidation of carbon monoxide over Ni-YSZ anode-supported solid oxide fuel cell: a study of simulated syngas mixtures. Power Sources Conference – Denver, CO – June 2018.
35. **Maza, W.A.**; Breslin, V.; Plymale, N.T.; DeSario, P.; Epshteyn, A.; Owrutsky, J.C.; Pate, B.B. Degradation of polyfluorooctanesulfonate (PFOS) by solvated electrons. SERDP/ESTCP Meeting – Washington, D.C. – November 2018.
36. **Maza, W.A.**; Tsoi, S.; Steinhurst, D.A.; Eigenbrodt, B.C.; Walker, R.A.; Owrutsky, J.C. *Operando* studies of carbon removal and contaminants in solid oxide fuel cells. American Physical Society National Meeting – Boston, MA – March 2019.
37. **Maza, W.A.**; Breslin, V.; Plymale, N.T.; DeSario, P.; Epshteyn, A.; Owrutsky, J.C.; Pate, B.B. $Na_2SO_3$ versus $K_4Fe(CN)_6$ as photochemical sources of hydrated electrons for reduction of PFASs: pH effects. American Chemical Society Meeting – Orlando, FL – April 2019. Outstanding Presentation Award.
38. **Maza, W.A.**; Tsoi, S.; Steinhurst, D.A.; Eigenbrodt, B.C.; Walker, R.A.; Owrutsky, J.C. *Operando* studies of carbon removal and contaminants in solid oxide fuel cells. American Chemical Society National Meeting – Orlando, FL – April 2019.
39. Chakrabory, A.; **Maza, W.A.**; Morris, A.J. Bridging biological inspiration and materials synthesis: metal-organic framework artificial photosynthetic arrays. American Chemical Society National Meeting – Orlando, FL – April 2019.

40. Pomeroy, E.D.; **Maza**, **W.A.**; Steinhurst, D.A.; Owrutsky, J.C.; Walker, R.A. Assessing Sulfur-Induced Degradation Mechanisms in SOFCs with Chronocoulometry and Operando Optical Spectroscopy. SOFC XCI Meeting, Kyoto, Japan, Sept 2019.
41. **Maza, W.A.**; Tsoi, S.; Steinhurst, D.A.; Eigenbrodt, B.C.; Walker, R.A.; Owrutsky, J.C. Operando Studies of Carbon Removal and Partial Oxidation in Solid Oxide Fuel Cells. SOFC XVI Meeting, Kyoto, Japan, Sept 2019.
42. **Maza, W.A.**; Pomeroy,E.D.; Steinhurst, D.; Tsoi, S.; Walker, R.A.; Owrutsky, J.C. Probing Sulfur Contamination Mechanisms in Solid Oxide Fuel Cells Using *operando* Methods. Electrochemical Society Meeting, Atlanta, GA, October 2019.
43. Ananth, R.; Snow, A.; Hinnant, K.; Giles, S.; Zhuang, X.; **Maza, W.A.**; Weise, N.; Fleming, J.; Farley, J.; Stubblefield, W.; Field, J.; Jennings, E. Relative Roles of Aqueous Film Formation and Foam Degradation on Fire Suppression by Foams Containing Fluorosurfactants. SERDP-ESTCP Symposium, Washington, D.C., December 2019.
44. **Maza, W.A.**; Breslin, V.M.; Plymale, N.T.; DeSario, P.A.; Feygelson, T.; Epshteyn, A.; Owrutsky, J.C.; Pate, B.B. Degradation of Perfluorooctanesulfonate (PFOS) by Solvated Electrons. SERDP-ESTCP Symposium, Washington, D.C., December 2019.
45. **Maza, W.A.;** Pomeroy, E.D.; Steinhurst, D.A.; Tsoi, S.D.; Walker, R.A.; Owrutsky, J.C. Probing sulfur contamination mechanisms in solid oxide fuel cells using operando methods. Electrochemical Society Fall Meeting, Atlanta, GA, October 2019.
46. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.I.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Degradation of Perfluorooctane sulfonate (PFOS) by sub-bandgap irradiation of hydrogen terminated detonation nanodiamond, American Chemical Society Spring National Meeting, Philadelphia, PA, March 2020.
47. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.I.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Degradation of Perfluorooctane sulfonate (PFOS) by sub-bandgap irradiation of hydrogen terminated detonation nanodiamond, Materials Research Society Meeting, Phoenix, AZ, April 2020.
48. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.I.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Perfluorooctane sulfonate degradation by sub-bandgap irradiation of hydrogen terminated detonation nanodiamond, American Chemical Society Fall National Meeting, San Fransisco, CA, August 2020.
49. **Maza, W.A.;** Pomeroy, E.D.; Steinhurst, D.A.; Walker, R.A.; Owrutsky, J.C. Operando optical studies of sulfur contamination in syngas operation of solid oxide fuel cells. PRiME 2020, Honolulu, HI, October 2020.
50. Pomeroy, E.D.; **Maza, W.A.;** Steinhurst, D.A.; Walker, R.A.; Owrutsky, J.C. Accessing Sulfur-Induced Degradation Mechanisms in SOFCs with Operando Thermal Imaging and Chronocoulometry. PRiME 2020, Virtual, October 2020
51. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Perfluorooctane sulfonate degradation by sub-bandgap irradiation of hydrogen terminated detonation nanodiamond. Materials Research Society Fall Meeting, Virtual, November 2020.
52. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.I.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Degradation of Perfluorooctane sulfonate (PFOS) by sub-bandgap irradiation of hydrogen terminated detonation nanodiamond, SERDP-ESTCP Symposium, Washington, D.C., December 2020.
53. Boris, D.R.; Johnson, M.J.; Breslin, V.M.; **Maza, W.A.;** Petrova, T.B.; Walton, S.G. Low power degradation of PFOS in water using a nanosecond pulsed atmospheric pressure plasma. SERDP-ESTCP 2020 Symposium, Virtual, December 2020.
54. **Maza, W.A.** Cationic metal-organic frameworks for the adsorption of anionic contaminants in water. American Chemical Society Spring Meeting, Virtual, April 2021.

55. **Maza, W.A.;** Breslin, V.M.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A.Reduction of linear perfluoroalkyl acids and sulfonates by hydrated electrons studied by nanosecond transient absorption. American Chemical Society Spring Meeting, Virtual, April 2021.
56. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.; DeSario, P.A.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. The degradation of perfluorooctane sulfonate (PFOS) by UV-irradiation of hydrogen terminated detonation nanodiamond (HDND). American Chemical Society Fall Meeting, Virtual, August 2021.
57. **Maza, W.A.;** Chaloux, B.C.; Breslin, V.M.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. The Initial Reduction of Linear Perfluoroalkyl Surfactants as Studied by Nanosecond Transient Absorption. Presented at the American Chemical Society Spring National Meeting, San Diego, CA, March 21-24, 2022.
58. **Maza, W.A.;** Chaloux, B.C.; Breslin, V.M.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Pre-Micellar Aggregation Effects on the Initial Reduction of PFOA. Presented at the American Chemical Society Spring National Meeting, San Diego, CA, March 21-24, 2022.
59. Thum, M.D.**;** Kolacz, J.; Ratchford, D.C.; Camarella, G.A.; **Maza, W.A.**; Lundin, J.G. Dynamic Color Change in Electrospun Nanofibrous Mats. Presented at the American Chemical Society Spring National Meeting, San Diego, CA, March 21-24, 2022.
60. Ridenour, J.A.**;** **Maza, W.A.**; Chaloux, B.C., Epshteyn, A.; Altering Thermochromic Transition Temperatures in a Classic Example of Metal-Organic Hybrid Complex Thermochromism. Presented at the American Chemical Society Spring National Meeting, San Diego, CA, March 21-24, 2022.
61. **Maza, W.A.;** Breslin, V.M.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. PFOA Quenching of Hydrated Electrons in Ferrocyanide and Sulfite Solutions. Presented at the American Chemical Society Fall Meeting, Chicago, IL, August 21-25, 2022.
62. **INVITED: Maza, W.A.;** Breslin, V.M.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Kinetics of PFAS Reduction by the Hydrated Electron: Lessons Learned from Nanosecond Transient Absorption. Presented at the American Chemical Society National Meeting, Chicago, IL, August 21-25, 2022.
63. **Maza, W.A.;** Breslin, V.M.; Feygelson, T.I.; Pate, B.B.; Owrutsky, J.C.; Epshteyn, A. Reductive Degradation of Perfluoroalkyl Substances (PFAS) by the Hydrated Electron. Presented at the Inaugural Hybrid Department of Defense 6.1 Basic Research Conference, Alexandria, VA, September 6-9, 2022.
64. Ashberry, H.M; Ridneour. J.A.; **Maza, W.A.**; Chaloux, B.C.; Hudak, B.M., Epshteyn, A. Pyrolysis of Conductive 2D and 3D Coordination Polymers for Use as Solid Acid Fuel Cell Electrode Materials. Presented at the Inaugural Hybrid Department of Defense 6.1 Basic Research Conference, Alexandria, VA, September 6-9, 2022.
65. Ridneour. J.A.**;** Ashberry, H.M.; **Maza, W.A.**; Chaloux, B.C.; Baturina, O.A.; Hudak, B.M.; Epshteyn, A.; Electrochemically Active Metal-Organic Framework Derivatives for Solid Acid Fuel Cells. Presented at the Inaugural Hybrid Department of Defense 6.1 Basic Research Conference, Alexandria, VA, September 6-9, 2022.
66. Johnson, M.J.**;** **Maza, W.A.**; Boris, D.R.; Petrova, T.B.; Walton, S.G. Low power degradation of perfluorooctane sulfonate (PFOS) in water using a nanosecond pulsed atmospheric pressure plasma. AVS 68th International Symposium and Exhibition, Pittsburgh, PA, November 6-11, 2022.
67. Pomeroy, E.D.**;** **Maza, W.A.**; Steinhurst, D.; Owrutsky, J.C.; Walker, R.A. Spatially heterogeneous chemistry observed using NIRTI on SOFC anodes. 18th International Symposium on Solid Oxide Fuel Cells (SOFC-XVIII), Boston, MA, May 28-June 2, 2023.
68. **Maza, W.A.;** Steinhurst, D.A.; Pomeroy, E.D.; Kee, R.J.; Ricote, S.; Walker, R.A.; Owrutsky, J.C. Comparison of carbon deposition and removal from Ni-YSZ and Ni-BCZY composites using operando optical methods. 18th International Symposium on Solid Oxide Fuel Cells (SOFC-XVIII), Boston, MA, May 28-June 2, 2023.

**69.** Dysart, J.L.**;** Wolfgang, J.W.; Smith, A.; Atoyebi, O.F.; Wallace, J.M.; **Maza, W.A.**; Rogers, R.E.; Maxwell, J.R.; Lin, C.; Diskerson, M.; Wang, Z.; Laskoski, M. Characterization of melanin as an additive in high-temperature phthalonitrile-based resin blends. National Space and Missile Materials Symposium, Tucson, AZ, June 26-29, 2023.

**70.** Ridenour, J.A.**;** Ashberry, H.; Hudak, B.; Baturina, O.; Chaloux, B.; **Maza, W.A.**; Epshteyn, A. Pyrolysis of conductive 2D coordination polymers for use as solid acid fuel cell electrode materials. 49th Annual Power Sources Conference, Fort Washington, MD, June 27-30, 2023.

71. Epshteyn, A.**;** **Maza, W.A.**; Greenberg, B.L.; Ridenour, J.A.; Ashberry, H.M.; Hudak, B.M.; Baturina, O.A.; Feygelson, B.N.; Chaloux, B.L. MOF-based architectures towards Higher Activity oxygen reduction reaction catalysts. Fall National Meeting of the American Chemical Society, San Francisco, CA, August 13-17, 2023.

72. **Maza, W.A.**; Owrutsky, J.C. PFAS quenching of hydrated electrons. Spring National Meeting of the American Chemical Society, New Orleans, LA, March 16-21, 2024.

73. **Maza, W.A.**; Beasley, M.A.; Atoyebi, O.F.; Tuck, S.M.; Pyles, C.G.; Dunkelberger, A.D.; Kolel-Veetil, M.K.; Fears, K.P. Stimuli-responsive cyclic peptide polymer nanomaterials. Spring National Meeting of the American Chemical Society, New Orleans, LA, March 16-21, 2024.

74. Atoyebi, O.F.; Beasley, M.A.; **Maza, W.A.**; Tuck, S.M.; Kolel-Veetil, M.K.; Dunkelberger, A.D.; Fears, K.P. Synthesis and characterization of self-assembled cyclic peptide nanotubes through light actuation. Spring National Meeting of the American Chemical Society, New Orleans, LA, March 16-21, 2024.

## *PATENTS:*

1. Epshteyn, A.; Huba, Z.J.; Maza, W.A.; First Row Transition Metal Amino Borohydrides. US2017024063, 2018.

2. Pate, B.B.; Maza, W.A.; Breslin, V.M.; DeSario, P.A.; Feygelson, T.I.; Epshteyn, A.; Owrutsky, J.C.; Hangarter. C. “Nanodiamond reduction photochemistry.” US11858817, 2024.