

Alireza Abbaspourrad

CONTACT INFORMATION

Yongkeun Joh Assistant Professor of Food Chemistry and Ingredient Technology (August 2015-present)

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EDUCATION

- **Harvard University, Cambridge, USA**

Postdoctoral Fellow, School of Engineering and Applied Sciences, SEAS 2009-2015

Research: *Engineering Soft Materials at Liquid-Liquid Interfaces using Microfluidics*

- **University of Campinas, Campinas, Brazil**

Postdoctoral Fellow, Center for Semiconductor Components, CCS 2008-2009

Research: *Design and Fabrication of Gas Microsensors using Decorated Carbon Nanotubes*

- **Materials and Energy Research Center, Tehran, Iran**

Research Scientist, Materials and Energy Research Center, MERC 2006-2007

Research: *Electrochemical Synthesis of Conductive Polymers: Effects of Dopant on Conductivity*

- **University of Alberta, Edmonton, Canada**

Visiting Scholar, Nanotechnology Research Centre, NRC 2003-2004

Research: *Patterning Silicon with Au and Ag Nanoparticles using Poly(styrene-*b*-4-vinylpyridine)*

- **Isfahan University of Technology, Isfahan, Iran**

Ph.D. in Organic Chemistry 2001-2006

Dissertation: *Vapor-Phase Organic Reactions using Surface-Modified ZSM-5 Zeolites*

- **Ferdowsi University of Mashhad, Mashhad, Iran**

M.Sc. in Organic Chemistry 1998-2000

Dissertation: *Synthesis of Benzoxazine 2,4-dithione Derivatives using Solvent-free Condition*

B.Sc. in Chemistry (Shahid Beheshti, Lorestan) 1994-1998

HONORS AND AWARDS

2019, Cornell University, College of Agriculture and Life Science, Rising Star Faculty Award

RESEARCH PUBLICATION

(H-INDEX: 39, I10-INDEX: 118, CITATIONS AS OF 01/20/2022: 5626)

https://scholar.google.com/citations?hl=en&user=wJg1hOkAAAAJ&view_op=list_works&sortby=pubdate

CORRESPONDING AUTHOR UNDERLINED

194. A. Mokhtare, B. Davaji, P. Xie, M. Yaghoobi, Z. Rosenwaks, A. Lal, G. Palermo, A. Abbaspourrad. “Non-contact ultrasound oocyte denudation”. *Lab on a Chip*, DOI: 10.1039/D1LC00715G, (2022).

193. N. Ahmadkhani, M. Hosseini, M. Saadatmand, A. Abbaspourrad. “The influence of the female reproductive tract and sperm features on the design of microfluidic sperm-sorting devices”. *Journal of Assisted Reproduction and Genetics*, DOI: 10.1007/s10815-021-02377-w (2022).

192. A. Zarei, L. Khazdooz, S. Madarshahian, M. Enayati, I. Mosleh, T. Lin, B. Yan, G. Ufheil, T. Wooster, A. Abbaspourrad. “Synthesis, Stability, and Bioavailability of Nicotinamide Riboside Trioleate Chloride”. *Nutrients*, DOI: 10.3390/nu14010113 (2022).

191. M. Zaferani, S. Suarez, A. Abbaspourrad. “Mammalian sperm hyperactivation regulates navigation via physical boundaries and promotes pseudo-chemotaxis”. *Proceedings of the National Academy of Sciences*, 118 (44), e2107500118, (2021).

190. M. Azizi, A. Nguyen, B. Dogan, S. Zhang, K. Simpson, A. Abbaspourrad. “Gradient-Based Microfluidic Platform for One Single Rapid Antimicrobial Susceptibility Testing”. *ACS Sensor*, 6, 4, 1560-1571 (2021).

189. M. Azizi, A. Nguyen, B. Dogan, S. Zhang, K. Simpson, A. Abbaspourrad. “Antimicrobial Susceptibility Testing in a Rapid Single Test via an Egg-like Multivolume Microchamber-Based Microfluidic Platform”. *ACS Applied Materials & Interfaces*, DOI: 10.1021/acsami.0c23096 (2021).

188. A. Nguyyen, M. Azizi, M. Yaghoubi, K. Simpson, A. Abbaspourrad. “Diffusion-Convection Hybrid Microfluidic Platform for Rapid Antibiotic Susceptibility Testing”. *Analytical Chemistry*, 93, 5789-5796 (2021).

187. Y. Li, R. Gillilan, A. Abbaspourrad. “Tuning C-Phycocyanin Photoactivity via pH-Mediated Assembly-Disassembly”. *Biomacromolecules*, DOI: 10.1021/acs.biomac.1c01095 (2021).

186. M. Zaferani, F. Javi, A. Mokhtare, P. Li, A. Abbaspourrad. “Rolling controls sperm navigation in response to the dynamic rheological properties of the environment”. *eLife*, DOI:10.7554/eLife.68693 (2021).

185. I. Mosleh, A. Khosropour, H. Aljewari, C. Carbrello, X. Qian, R. Wickramasinghe, **A. Abbaspourrad**, **R. Beitle**. "Cationic covalent organic framework as an ion exchange material for efficient adsorptive separation of biomolecules". *ACS Applied Materials & Interfaces*, 13, 29, 35019-35025 (2021).
184. M. Yaghoubi, M. Azizi, A. Mokhtare, **A. Abbaspourrad**. "Progressive bovine sperm separation using parallel microchamber-based microfluidics". *Lab on a Chip*, 10, 923-938 (2021).
183. M. Azizi, B. Davaji, A. Nguyyen, A. Mokhtare, S. Zhang, P. Gibney, K. Simpson, **A. Abbaspourrad**. "Biological small-molecule assays using gradient-based microfluidics". *Biosensors and Bioelectronics*, 178, 117038 (2021).
182. I. Mosleh, **A. Abbaspourrad**. "Peptide-directed Pd-decorated Au and PdAu nanocatalysts for degradation of nitrite in water". *RSC Advances*, 11, 32615-32621 (2021).
181. R. Ravanfar, **A. Abbaspourrad**. "Monitoring the heme iron state in horseradish peroxidase to detect ultratrace amounts of hydrogen peroxide in alcohols". *RSC Advances*, 11, 9901-9910 (2021).
180. M. Nie, M. Azizi, I. Kresztes, A. Kierulf, **A. Abbaspourrad**. "Nature-Derived Amphiphilic Polymers Crosslinked by Calcium Ions for Microencapsulation Applications". *ACS Applied Polymer Materials*, 3, 1415-1425 (2021).
179. A. Zarei, L. Khazdooz, M. Enayati, S. Madarshahian, T. Woosterb, G. Ufheil, **A. Abbaspourrad**. "Dihyronicotinamide riboside: synthesis from nicotinamide riboside chloride, purification and stability studies". *RSC Advances*, 11, 21036-21047 (2021).
178. H. Torabi, I. Mosleh, M. Davaritouchaee, **A. Abbaspourrad**. "Xylose-rich Horse Manure Hydrolysate as the Sole Carbon Source for Bacterial Production of Polyhydroxy Butyrate Using Engineered *Escherichia coli*". *ACS Sustainable Chemistry & Engineering*, DOI: 10.1021/acssuschemeng.1c03521 (2021).
177. Y. Li, Z. Zhang, **A. Abbaspourrad**. "Improved thermal stability of phycocyanin under acidic conditions by forming soluble complexes with polysaccharides". *Food Hydrocolloids*, 106852 (2021).
176. P. Li, A. Kierulf, **A. Abbaspourrad**. "Application of granular cold-water-swelling starch as a clean-label oil structurant". *Food Hydrocolloids*, DOI: 10.1016/j.foodhyd.2020.106311 (2021).
175. M. Lu, I. Mosleh, **A. Abbaspourrad**. "Engineered Microbial Routes for Human Milk Oligosaccharides Synthesis". *ACS Synthetic Biology*, 10, 923-938 (2021).
174. M. Davachi, N. Pottkal, H. Torabi, **A. Abbaspourrad**. "Development and characterization of probiotic mucilage based edible films for the preservation of fruits and vegetables". *Scientific Reports*, 178, 16608 (2021).
173. T. Lin, G. Meletharayil, R. Kapoor, **A. Abbaspourrad**. "Bioactives in bovine milk: chemistry, technology, and applications". *Nutrition Reviews*, 79, 48-69 (2021).
172. Q. Guo, Z. Zhang, Y. Dadmohammadi, Y. Li, **A. Abbaspourrad**. "Synergistic effects of ascorbic acid, low methoxy pectin, and EDTA on stabilizing the natural red colors in acidified

beverages”. *Current Research in Food Science*, 4, 873-881 (2021).

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169. C. Tan, Y. Dadmohammadi, M. Lee, **A. Abbaspourrad**. “Combination of copigmentation and encapsulation strategies for the synergistic stabilization of anthocyanins”. *Comprehensive Reviews in Food Science and Food Safety*, DOI: 10.1111/1541-4337.12772 (2021).

168. A. Zarei, L. Khazdooz, S. Soltani, A. Najafi, H. Aghaei, **A. Abbaspourrad**. “Synthesis of arylhydrazone-based molecular switches using aryldiazonium silica sulfate nanocomposites and analysis of their isomerization”. *Dyes and Pigments*, 194, 109544 (2021).

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166. J. Wang, Y. Dadmohammadi, A. Jaiswal, **A. Abbaspourrad**. “Elucidating the Interaction Mechanism of Folic Acid with Ovalbumin by Multispectroscopic and Molecular Simulation Methods”. *ACS Food Science & Technology*, DOI: 10.1021/acsfoodscitech.1c00017 (2021).

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161. C. Tan, M. Lee, M. Arshadi, M. Azizi, **A. Abbaspourrad**. “Spiderweb-like metal-organic framework multifunctional foam”. *Angewandte Chemie*, DOI:10.1002/anie.201916211 (2020).

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Engineering, 6, 2822-2831 (2020).

158. R. Ravanfar, C. Bayles, **A. Abbaspourrad**. "Structural chemistry enables fluorescence of amino acids in the crystalline solid state". *Crystal Growth Design*, DOI:10.1021/acs.cgd.9b01430 (2020).

157. M. Abdolmaleki, M. Riasi, M. Enayati, A. Norton, S. Chatterjee, L. Yeghiazarian **A. Abbaspourrad**. "A digital imaging method for evaluating the kinetics of vapochromic response". *Talanta*, 209, 120520 (2020).

156. M. Liu, M. Arshadi, F. Javi, P. Lawrence, M. Davachi, **A. Abbaspourrad**. "Green and facile preparation of hydrophobic bioplastics from tea waste". *Journal of Cleaner Production*, DOI:10.1016/j.jclepro.2020.123353 (2020).

155. Z. Zhang, Y. Li, **A. Abbaspourrad**. "Improvement of the colloidal stability of phycocyanin in acidified conditions using whey protein-phycocyanin interactions". *Food Hydrocolloids*, DOI:10.1016/j.foodhyd.2020.105747 (2020).

154. L. Zhang, **A. Abbaspourrad**, S. Parsa, J. Tang, F. Cassiola, M. Zhang, S. Tian, C. Dai, L. Xiao, **D. Weitz**. "Core-shell nanohydrogels with programmable swelling for conformance control in porous media". *ACS Applied Materials & Interfaces*, 30, 34217-34225 (2020).

153. A. Kierulf, J. Whaley, W. Liu, M. Enayati, C. Tan, M. Herrera, Z. You, **A. Abbaspourrad**. "Protein content of amaranth and quinoa starch plays a key role in their ability as Pickering emulsifiers". *Food Chemistry*, 139, 126246 (2020).

152. Z. Zhang, S. Cho, Y. Dadmohammadi, Y. Li, **A. Abbaspourrad**. "Improvement of the storage stability of C-phycocyanin in beverages by high-pressure processing". *Food Hydrocolloids*, 110, 106055 (2020).

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147. S. Garakani, **M. Davachi**, Z. Bagher, A. Esfahani, N. Jenabi, Z. Atoufi, M. Khanmohammadi, **A. Abbaspourrad**, H. Rashedi, M. Jalessi. "Fabrication of chitosan/polyvinylpyrrolidone hydrogel scaffolds containing PLGA microparticles loaded with

dexamethasone for biomedical applications”. *International Journal of Biological Macromolecules*, 164, 356-370 (2020).

146. M. Taghizadeh, S. Aryan, M. Rouhi, M. Sobhiyeh, F. Askari, M. Gholipourmalekabadi, S. Sohrabvandi, M. khajavi, M. Davachi, **A. Abbaspourrad**, R. Mohammadi, A. Mortazavian. “Photo-crosslinked gelatin–polyvinyl alcohol composite films: UV–riboflavin treatment for improving functional properties”. *Journal of Food Processing & Preservation*, DOI: 10.1111/jfpp.14550 (2020).

145. H. Zamani, S. Zamani, Z. Zhang, **A. Abbaspourrad**. “Exceptional colloidal stability of acidified whey protein beverages stabilized by soybean soluble polysaccharide”. *Journal of Food Science*, DOI:10.1111/1750-3841.15041 (2020).

144. M. Amiri, R. Roohi, M. Arshadi, **A. Abbaspourrad**. “2,4-D adsorption from agricultural subsurface drainage by canola stalk-derived activated carbon: insight into the adsorption kinetics models under batch and column conditions”. *Environmental Science & Pollution Research*, DOI:10.1007/s11356-020-08211-7 (2020).

143. M. Lee, Y. Dadmohammadi, C. Tan, **A. Abbaspourrad**. “Mitigating the astringency of acidified whey protein in proteinaceous high internal phase emulsions”. *ACS Applied Bio Materials*, DOI:10.1021/acsabm.0c00767 (2020).

142. C. Gong, M. Lee, M. Godec, Z. Zhang, **A. Abbaspourrad**. “Ultrasonic encapsulation of cinnamon flavor to impart heat stability for baking applications”. *Food Hydrocolloids*, 99, 105316 (2020).

141. B. Yan, S. Davachi, R. Ravanfar, Y. Dadmohammadi, T. Deisenroth, T. Pho, R. Darji, **A. Abbaspourrad**. “Improvement of vitamin C stability in vitamin gummies by encapsulation in casein gel”. *Food Hydrocolloids*, DOI:10.1016/j.foodhyd.2020.106414 (2020).

140. S. Zhang, Z. Zhang, Y. Dadmohammadi, Y. Li, A. Jaiswal, **A. Abbaspourrad**. “Whey protein improves the stability of C-phycoerythrin in acidified conditions during light storage”. *Food Chemistry*, DOI:10.1016/j.foodchem.2020.128642 (2020).

139. M. Selig, S. Gamaleldin, G. Celli, M. Marchuk, D. Smilgies, **A. Abbaspourrad**. “The stabilization of food grade copper-chlorophyllin in low pH solutions through association with anionic polysaccharides”. *Food Hydrocolloids*, 105255 (2020).

138. G. Celli, Y. Dadmohammadi, R. Tiwari, K. Raghupati, W. Mutilangi, **A. Abbaspourrad**. “Instantaneous interaction of mucin with pectin- and carrageenan-coated nanoemulsions”. *Food Chemistry*, 131, 125795 (2020).

137. F. Sharifi, A. Jash, **A. Abbaspourrad**, S. Rizvi. “Generation of ironized and multivitamin-loaded liposomes using venturi-based rapid expansion of supercritical solution (Vent-RESS)”. *Green Chemistry*, DOI:10.1039/C9GC04018H (2020).

136. S. Davoodi, M. Davachi, A. Ghorbani, S. Shekarabi, **A. Abbaspourrad**. “Development and characterization of salvia macrosiphon/chitosan edible films”. *ACS Sustainable Chemistry & Engineering*, 8, 1487-1496 (2020).

135. Z. Zhang, Y. Li, M. Lee, R. Ravanfar, O. Padilla-Zakour, **A. Abbaspourrad**. “The impact of high-pressure processing on the structure and sensory properties of egg white-whey protein mixture

at acidic conditions”. *Food and Bioprocess Technology*, 13, 379389 (2020).

134. S. Garakanial, M. Khanmohammadi, Z. Atoufi, S. Kamravad, M. Setayeshmehr, R. Alizadehd, F. Faghihi, Z. Bagher, M. Davachi, **A. Abbaspourrad**. “Fabrication of chitosan/agarose scaffolds containing extracellular matrix for tissue engineering applications”. *International Journal of Biological Macromolecules*, 143, 533 (2020).

133. S. Qiu, M. Punzalan, **A. Abbaspourrad**, O. Padilla-Zakour. “High water content, maltose and sodium dodecyl sulfate were effective in preventing the long-term retrogradation of glutinous rice grains-A comparative study”. *Food Hydrocolloids*, 98, 105247 (2020).

132. Y. Li, Z. Zhang, M. Paciuli, **A. Abbaspourrad**. “Extraction of phycocyanin: A natural blue colorant from dried spirulina biomass: Influence of processing parameters and extraction techniques”. *Journal of Food Science*, DOI:10.1039/c9ta10320a (2020).

131. E. Farid, M. Davachi, M. Pezeshki-Modaress, S. Taranejoo, J. Seyfi, I. Hejazi, M. Hakim, F. Najafi, C. Amico, **A. Abbaspourrad**. “Preparation and characterization of polylactic-co-glycolic acid/insulin nanoparticles encapsulated in methacrylate coated gelatin with sustained release for specific medical applications”. *Journal of Biomaterials Science, Polymer Edition*, DOI:10.1080/09205063.2020.1725863 (2020).

130. M. Dinari, N. Mokhtari, S. Taymouri, M. Arshadi, **A. Abbaspourrad**. “Covalent polybenzimidazole-based triazine frameworks: A robust carrier for non-steroidal anti-inflammatory drugs”. *Materials Science and Engineering: C*, 108, 110482 (2020).

129. M. Arshadi, M. Azizi, H. Souzandeh, C. Tan, M. Davachi, **A. Abbaspourrad**. “Robust, sustainable and multifunctional nanofibers with smart switchability for water-in-oil and oil-in-water emulsion separation”. *Journal of Materials Chemistry A*, DOI:10.1039/c9ta10320a (2019).

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127. M. Lee, R. Ravanfar, C. Tan, **A. Abbaspourrad**. “Ultrastable Water-in-Oil High Internal Phase Emulsions Featuring Interfacial and Biphasic Network Stabilization”. *ACS Applied Materials & Interfaces*, 11, 29, 26433-26441 (2019).

126. C. Tan, M. Arshadi, M. Lee, M. Godec, M. Azizi, B. Yan, H. Eskandarloo, T. Deisenroth, R. Darji, T. Van Pho, **A. Abbaspourrad**. “A robust aqueous core-shell-shell coconut-like nanostructure for stimuli-responsive delivery of hydrophilic cargo”. *ACS Nano*, DOI:10.1021/acsnano.9b03049 (2019).

125. Z. Zhang, M. Azizi, M. Lee, P. Davidowsky, P. Lawrence, **A. Abbaspourrad**. “A versatile, cost-effective, and flexible wearable biosensor for in situ and ex situ sweat analysis, and personalized nutrition assessment”. *Lab on a Chip*, DOI:10.1039/c9lc00734b (2019).

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121. M. Enayati, H. Eskandarloo **A. Abbaspourrad**. “One-pot synthesis of cross-linked polymer networks as a hydrophilic super-adsorbent for efficient recovery of heparin”. *ACS Applied Polymer Materials*, 1 (2), 230-238 (2019).
120. M. Arshadi, H. Taghvaei, M. Lee, H. Eskandarloo, **A. Abbaspourrad**. “Carbon dioxide absorption in water/nanofluid by a symmetric amine-based nanodendritic adsorbent”. *Applied Energy*, 242, 1562-1572 (2019).
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115. H. Karimi-MalehEmail, R. Farahmand, R. Hosseinpour, J. Alizadeh, **A. Abbaspourrad**. “Determination of ferulic acid in the presence of butylated hydroxytoluene as two phenolic antioxidants using a highly conductive food nanostructure electrochemical sensor”. *Chemical Papers*, 73, 2441-2447, (2019).
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112. B. Najaf Oshani, **M. Davachi**, I. Hejazi, J. Seyfi, H. Khonakdar, **A. Abbaspourrad**. “Enhanced compatibility of starch with poly(lactic acid) and poly(-caprolactone) by incorporation of POSS nanoparticles: Study on thermal properties”. *International Journal of Biological Macromolecules*, 141, 578-584 (2019).
111. **M. Davachi**, B. Heidari, R. Sahraeian, **A. Abbaspourrad**. “The effect of nanoperlite and its silane treatment on the crystallinity, rheological, optical, and surface properties of polypropylene/nanoperlite nanocomposite films”. *Composites Part B: Engineering*, 175, 107088 (2019).
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treatment of tumors: A numerical study”. *Electrochimica Acta*, 307, 129-147 (2019).

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Inventors: M. Yaghoubi, **A. Abbaspourrad**

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Title: *Thickeners and nutritional products to promote safe swallowing for individuals with dysphagia and methods of making and using for*

Inventors: J. Amani, M. Jedwab, M. Enayati, **A. Abbaspourrad**

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Title: *Gradient-based microfluidic circuit, device, and method for performing an assay*

Inventors: M. Azizi, **A. Abbaspourrad**

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Title: *Multi-volume microchamber-based microfluidic platform and use thereof*

Inventors: M. Azizi, **A. Abbaspourrad**

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Inventors: M. Enayati, S. Madarshahian, G. Ufheil, B. Yan, **A. Abbaspourrad**

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Inventors: M. Enayati, S. Madarshahian, G. Ufheil, B. Yan, **A. Abbaspourrad**

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Title: *Piezo catalysis promoted degradation of perfluorooctanoic acid*

Inventors: A. Khojastegi, **A. Abbaspourrad**

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Title: *Natural fluorescent polyhedral amino acid crystals for efficient entrapment and systemic delivery of hydrophobic small molecules*

Inventors: R. Ravanfar, **A. Abbaspourrad**

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 Title: *Systems and methods for making and using gel microspheres*
 Inventors: D. Weitz, **A. Abbaspourrad**, J. Fan, W. Zhang
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 Inventors: M. Lee, **A. Abbaspourrad**
12. **U.S. Pat. Appl. Serial No. 62/826,171** 2020
 Title: *Extraction of heparin from porcine mucosa by nano-bioadsorbents*
 Inventors: M. Arshadi, H. Eskandarloo, **A. Abbaspourrad**
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 Title: *Systems and methods for controlling the release from enzyme-responsive microcapsules with a smart natural shell*
 Inventors: **A. Abbaspourrad**, R. Ravanfar
10. **U.S. Pat. Pub. No.: 20190308192** 2019
 Title: *Rheotaxis-based separation of motile sperm and bacteria using a microfluidic corral system*
 Inventors: M. Zaferani, **A. Abbaspourrad**, S. H. Cheong
9. **Granted: U.S. Pat. No.: 9878299** 2018
 Title: *Methods for encapsulation of actives within droplets and other compartments*
 Inventors: **A. Abbaspourrad**, C. Choi, M. Caggioni, T. Zhu, C. Wesner, D. Weitz
8. **Granted: U.S. Pat. No.: 9718044** 2017
 Title: *Compositions comprising encapsulated actives within droplets and other compartments*
 Inventors: **A. Abbaspourrad**, C. Choi, M. Caggioni, T. Zhu, C. Wesner, D. Weitz
7. **U.S. Pat. Pub. No.: 20170319443A1** 2017
 Title: *Multiple emulsions comprising rigidified portions*
 Inventors: **A. Abbaspourrad**, C. Choi, M. Caggioni, T. Zhu, C. Wesner, D. Weitz
6. **U.S. Pat. Pub. No.: 20160375413A1** 2016
 Title: *Multiple emulsions and techniques for the formation of multiple emulsions*

Inventors: **A. Abbaspourrad**, S.-H. Kim, D. Weitz

5. **U.S. Pat. Pub. No.: 20160144329A1** 2016

Title: *Systems for encapsulation of actives within droplets*

Inventors: **A. Abbaspourrad**, H. Zhang, D. Weitz

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Title: *Nanostructured active therapeutic vehicles and uses thereof*

Inventors: K. Parker, **A. Abbaspourrad**, L. Deravi, N. Carroll, J. Lind, and D. Weitz

3. **U.S. Pat. Pub. No.: 61/505,001** 2016

Title: *Methods for encapsulation of actives within droplets and other compartments*

Inventors: **A. Abbaspourrad**, S.-H. Kim, D. Weitz

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Title: *Systems and methods for forming droplets, including encapsulated droplets*

Inventors: S.-H. Kim, **A. Abbaspourrad**, D. Weitz

1. **U.S. Pat. Appl. Serial No.: 61/728,478** 2012

Title: *Particles for uptake or sensing oil and other applications, and related methods*

Inventors: **A. Abbaspourrad**, N. Carroll, D. Weitz

GRADUATE FIELD MEMBERSHIPS

- **Food Science**
- **Materials Science**

RESEARCH AND EXTENSION GRANT REVIEW PANELS

- February 2018: NSF Review Panel, Biological and Environmental Interactions of Nanoscale Materials, Washington DC
- December 2017: Bill and Melinda Gates Foundation (online)

REVIEWER FOR PEER REVIEWED JOURNALS (2016-2020)

1. ACS Nano
2. ACS Applied Materials & Interfaces

3. ACS Sustainable Chemistry Engineering
4. Journal of Colloid and Interface Science
5. Soft Matter
6. ACS Sustainable Chemistry & Engineering
7. Polymer
8. Journal of Materials Chemistry A
9. Food Chemistry
10. Food Hydrocolloids
11. Journal of Food Science

TEACHING EXPERIENCE

- Polymers: Proteins and Hydrocolloids (2017-2021)
- Chemistry and Functional Properties of Ingredients (2016-2022)
- Polymer Chemistry (2006-2008)
- Concepts of Product Development (2017-2018)
- General Chemistry I & II (2006-2008)
- Organic Chemistry I & II (2006-2008)
- Introduction to Spectroscopy (2006-2008)
- Advanced Organic Chemistry (2006-2008)
- Organic Synthesis (2006-2008)

OTHER CURRENT PROFESSIONAL ACTIVITIES

PROFESSIONAL SOCIETIES

- Materials Research Society (MRS)
- American Chemical Society (ACS)
- Institute of Food Technologists (IFT)

OTHERS

- **NSF Review Panel, Washington DC, 2018**

Division Biological and Environmental Interactions of Nanoscale Materials

- **Technical Advisory Board, Bill and Melinda Gates Foundation, 2018-2019, 2021**
Prioritization of Micronutrient Innovation
- **Scientific Advisory Board, multiple international companies.**
- **Served as consultant, Bill & Melinda Gates Foundation, 2021-Present**