

Chenfeng Ke

Associate Professor

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a. Major Professional Interests

Supramolecular chemistry, 3D-printing polymers, crystalline porous organic frameworks, organic cages, and carbohydrate recognition.

b. Education

Nankai University, China	Chemistry Advisor: Yu Liu	B.S., 2004
Nankai University, China	Supramolecular Chemistry Advisor: Yu Liu	Ph.D., 2009
Osaka University, Japan	Photochemistry, Exchange Student Advisor: Yoshihisa Inoue	2007–2008
University of Bristol, UK	Supramolecular Chemistry Advisor: Anthony P Davis	Newton fellow 2009–2011
Northwestern University, US	Supramolecular Chemistry Advisor: Sir Fraser Stoddart	Postdoc fellow 2011–2015

c. Appointments

2024–	Associate Professor with tenure, Chemistry, Washington University in St. Louis
2024	Research Associate Professor, Chemistry, Dartmouth College
2022–2023	Associate Professor with tenure, Chemistry, Dartmouth College
2015–2022	Assistant Professor, Chemistry, Dartmouth College
2011–2015	Postdoctoral Researcher, Northwestern University with Sir Fraser Stoddart
2009–2011	Newton Fellow of the Royal Society, University of Bristol, UK, with AP Davis

d. Awards and Honors

- Scholarly Innovation and Advancement Award, Dartmouth College, **2023**
- Top 10% of reviewers for Angewandte Chemie for the year **2022**
- Karen E. Wetterhahn Memorial Award for Distinguished Creative or Scholarly Achievement, **2022**, Dartmouth College
- Susan and Gib Myers 1964 Faculty Fellowship, **2022**, Dartmouth College
- American Chemical Society PMSE Young Investigator Award, **2021**
- Cram-Lehn-Pedersen Award in Supramolecular Chemistry, **2020**
- Beckman Young Investigator Award, **2019**, Arnold and Mabel Beckman Foundation
- CAREER Award, **2019**, National Science Foundation

- Cottrell Scholar Award, **2019**, Research Corporation for Science Advancement
- Junior Faculty Fellowship, **2018**, Dartmouth College
- Burke Research Award, **2015**, Dartmouth College
- Newton International Fellowship, **2009–2011**, Royal Society, UK
- Gold Prize, Nagai Poster Award, 5th Asian Cyclodextrin Conference, **2009**
- Ph.D. Thesis Award of Nankai University, **2009**
- Selected as one of the top 25 Chinese Ph.D. students (Major: Chemistry) to participate in the 59th Nobel Laureate Meeting at Lindau in Germany, **2009**
- First Class Scholarship at Nankai University, **2008–2009**
- SHI-XIAN YANG Scholarship at Nankai University in **2008**
- Outstanding Chinese Scholar in Western Japan, **2007–2008**
- Second Class Scholarship at Nankai University, **2003–2004**
- Third Class Scholarship at Nankai University, **2002–2003** and **2005–2006**

e. Grants and Fellowship

1. Grant: National Science Foundation, DMREF, lead PI, total award \$ 1,998,555, award to PI, \$421,114, 10/01/2023 – 9/30/2027.
 2. Grant: National Science Foundation, CAREER Award, PI, current, \$ 647,859, 04/14/2019 – 03/31/2024.
 3. Grant: Department of Energy, Basic Energy Science, PI, current, \$ 502,000, 08/01/2021-07/31/2024.
 4. Grant: Beckman Young Investigator Award, PI, current, \$ 600,000, 09/01/2019 – 08/31/2024.
 5. Grant: NSF EPSCoR, awarded, senior personnel, current, \$616,334 to C.K., 09/15/2018 – 09/14/2024.
 6. Grant: Cottrell Scholar Award, PI, current, \$100,000, 07/01/2019 – 06/30/2024.
 7. Grant: Army Research Office, Co-PI, expired, \$5,000. Gordon Research Conference 2022.
 8. Grant: National Science Foundation, CMMI, \$10,000, Co-PI, expired, \$10,000. Gordon Research Conference 2022.
 9. Grant: American Chemical Society, Petroleum Research Fund (ACS PRF), Doctoral New Investigator (DNI), PI, expired, \$110,000, 09/01/2018 – 08/31/2021.
 10. Grant: Qrons Inc., PI, expired, \$82,986 (year 1), \$75,580 (year 2), 03/19/2018 – 07/14/2020.
 11. Fellowship: Newton Fellowship Follow-on Scheme, *Royal Society*, PI, expired, UK 2015–2017 (£12,000).
- Dartmouth Internal Grants
12. Grant: Dartmouth CompX grant, PI, current \$40,000, 2023-2024.
 13. Grant: Dartmouth Scholarly Innovation and Advancement Award, PI, current, \$50,000, 2023-2025.
 14. Grant: G. Norman Albee Trust fund, Bank of America, PI, expired, \$10,000, 2020–2021.

15. Grant: The Gateway Initiative: CHEM 52 Organic Chemistry Course, Dartmouth Center for the Advancement of Learning, PI, \$14,000 plus four learning fellows per year.
16. Grant: Symposium: 3D-Printing 2019, PI, expired, \$31,000

g. Publications (undergraduate/high school student author is underlined>

Independent Career

- (60) Boyer, C. A.;* Blasco, E.,* and **Ke, C.***¹ "Unleashing the Potential of 3D Printing: Bridging Chemistry and Applications", *Small*, **2023**, *19*, 2309837. *Editorial*
- (59) Boyer, C. A.;* Blasco, E.,* and **Ke, C.***¹ "Addressing Real-World Challenges with 3D/4D Printing", *Advanced Materials Technology*, **2023**, *8*, 2301869. *Editorial*
- (58) Li, F.; Li, E.; Samanta, K.; Zheng, Z.; Wu, L.; Chen, A. D.; Farha, O.; Staples, R.; Niu, J.*; Schmidt-Rohr, K.*; **Ke, C.***¹ "Ortho-alkoxy-benzamide-directed formation of a single crystalline hydrogen-bonded crosslinked organic framework and its boron trifluoride uptake and catalysis", *Angewandte Chemie International Edition*, **2023**, *62*, e202311601.
- (57) Samanta, J.; Tang, M.; Zhang, M.; Hughes, R. P.; Staples, R.; **Ke, C.***¹ " Tripodal organic cages with unconventional CH•••O interactions for perchlorate remediation in water", *Journal of the American Chemical Society*, **2023**, *145*, 21723–21728.
- (56) Tang, M.; Zheng, D.; Samanta, J.; Tsai, E.; Qiu, H.; Read, A. R.*; **Ke, C.***¹ "Reinforced double-threaded slide-ring networks for accelerated hydrogel discovery and 3D-printing", *Chem* **2023**, *9*, 3515–3531. *Front Cover*
- (55) Smaldone, R. A.*; Brown, K. A.*; Gu, G. X.*; and **Ke, C.***¹ "Using 3D-printing as a research tool for materials discovery", *Device*, **2023**, *1*, 100014.
- (54) Busschaert, N.*; García-López, V.; **Ke, C.**; ⁵ McGuirk, C. M.; Shimizu, L. S.; Gerthoffer, M. C.; Bhattacharjee, N. "NASC: bringing together supramolecular chemists from across North America", *Supramolecular Chemistry*, **2023**, DOI: 10.1080/10610278.2023.2178724
- (53) Zheng, D.; Tang, M.; **Ke, C.***¹ "3D-Printed ketoenamine crosslinked polyrotaxane hydrogels and their mechanochromic responsiveness ", *Polymer Chemistry*, **2023**, *14*, 2159-2163. *2023 Polymer Chemistry Pioneering Investigators collection*
- (52) Zhang, M.; Liu, W.; Lin, Q.; **Ke, C.***¹ "Hierarchically templated synthesis of 3D-printed crosslinked cyclodextrins for lycopene harvesting", *Small*, **2023**, *advanced article*, DOI: 10.1002/sml.202300323.
- (51) Miao, T.; Zhong Z.; **Ke, C.***¹ "Advanced supramolecular design for direct ink writing of soft materials", *Chemical Society Reviews*, **2023**, *52*, 1614-1649. *Part of the themed collection: mechanically interlocked materials*
- (50) Zhang, M.; Samanta, J.; Atterberry, B. A.; Staples, R.; Rossini, A. J.; **Ke, C.***¹ "A crosslinked ionic organic framework for efficient iodine and iodide remediation in water", *Angewandte Chemie International Edition*, **2022**, e202214189.

- (49) Samanta, J.; Zhang, Y.; Zhang, M.; Chen A. D.; **Ke, C.*** 1[^] “Single-crystalline hydrogen-bonded crosslinked organic frameworks and their dynamic guest sorption”, *Accounts of Materials Research*, **2022**, *3*, 1186–1200.
- (48) Zhang, M.; Samanta, J.; **Ke, C.*** 1[^] “Assembling guests as cyclic tetramers in a porous hydrogen-bonded organic framework”, *Crystal Growth & Design*, **2022**, *22*, 3421–3427. *ACS editors' choice*.
- (47) Lin, Q.; **Ke, C.*** 1[^] “Conductive and anti-freezing hydrogels constructed by pseudo-slide-ring networks”, *Chemical Communications*, **2022**, *58*, 250-253.
- (46) Samanta, J.; Dorn, R. W.; Zhang, W.;* Jiang, X.; Zhang, M.; Staples, R.; Rossini. A. J.;* **Ke, C.*** 1[^] "An ultra-dynamic hydrogen-bonded cross-linked organic frameworks”, *Chem* **2022**, *8*, 253-267. doi:10.1016/j.chempr.2021.11.014. Highlighted by Chen *et al.* *Chem*, **2022**, *8*, 7-9.
- (45) Tang, M.; **Ke, C.*** 1[^] "Self-reinforced hydrogels toughen upon stretching" *Matter*, **2021**, *4*, 2664-2665.
- (44) Liang, R.; Samanta, J.; Shao, B.; Zhang, M.; Staples, R.; Chen, A.; Tang, M.; Wu, Y.; Aprahamian, I.;* **Ke, C.*** 1[^] "A heteromeric carboxylic-acid-based single crystalline crosslinked organic framework”, *Angewandte Chemie International Edition*, **2021**, *60*, 23176-23181. *Very Important Paper*.
- (43) Lin, Q.; Li. L.; Tang, M.; Uenuma, S.; Samanta, J.; Li, S.; Jiang, X.; Zou, L.; Ito, K.;* **Ke, C.*** 1[^] "Kinetically trapped 3D-printable cyclodextrin-based poly(pseudo)rotaxanes networks”, *Chem*, **2021**, *7*, 2442-2459. Highlighted by ScienceNet.cn, EurekAlert!, Dartmouth News, The Engineer and etc.
- (42) Li. L.; Lin, Q.; Tang, M.; Tsai, E.; **Ke, C.*** 1[^] "An integrated design of a polypseudorotaxane-based sea cucumber mimic", *Angewandte Chemie International Edition*, **2021**, *60*, 10186-10193. *Very Important Paper*. Highlighted by *ChemistryViews*.
- (41) Lin, Q.; Tang, M.; **Ke, C.*** 1[^] "Thermo-responsive 3D-printed polyrotaxane monolith", *Polymer Chemistry*, **2020**, *11*, 304–308. *2020 Emerging Investigators Collection*
- (40) Jiang, X.; Cui, X.; Duncan, A. J. E.; Li, L.; Hughes, R. P.; Staples, R. J.; Alexandrov, E. V.; Proserpio, D. M.; Wu, Y.; **Ke, C.*** 1[^] “Topochemical synthesis of single-crystalline hydrogen-bonded cross-linked organic frameworks and their guest-induced elastic expansion”, *Journal of the American Chemical Society*, **2019**, *141*, 10915–10923.
- (39) Li, L.; Lin, Q.; Tang, M.; Duncan A. J. E.; **Ke, C.*** 1[^] “Advanced polymer designs for direct-ink-write 3D printing”, *Chemistry – A European Journal*, **2019**, *25*, 10768–10781. *Concept paper*.
- (38) Zhang, M.; Li, L.; Lin, Q.; Tang, M.; Wu, Y.; **Ke, C.*** 1[^] “Hierarchical co-assembly-enabled 3D-printing of homogeneous and heterogeneous covalent organic frameworks”, *Journal of the American Chemical Society*, **2019**, *141*, 5154–5158. Highlighted by X–mol.
- (37) Q. Lin, L. Li, M. Tang, X. Hou, and **Ke, C.*** 1[^] "Rapid macroscale shape morphing of 3D-printed polyrotaxane monoliths amplified from pH-controlled nanoscale ring

- motions", *Journal of Materials Chemistry C*, **2018**, *6*, 11956–11960.
2018 Emerging Investigators Themed Issue.
- (36) Li, L.; Zhang, P.; Zhang, Z.; Lin, Q.; Wu, Y.; Cheng, A.; Lin, Y.; Thompson, C. M.; Smaldone, R. A.; **Ke, C.*** 1[^] “Hierarchical co-assembly enhanced direct ink writing”, *Angewandte Chemie International Edition*, **2018**, *57*, 5105–5109. **Very Important Paper** Highlighted by *Nature Review Materials*, *Science Daily*, *Materials Today*, *Science Newslines*, *EurekAlert!*, *3ders.org*, *R&D magazine*, *AZO Materials*, *3D Printing Industry*, *CMFE News*, *Domain-B*, *Interesting Engineering*, *3DPrint.com* and others.
- (35) Li, L.; **Ke, C.*** 1[^] “Welding molecules into polymeric chains in one fell swoop”, *Science China Materials*, **2018**, *61*, 1015–1016.
- (34) Lin, Y.; Jiang, X.; Kim, S. T.; Alahakoon, S. B.; Hou, X.; Zhang, Z.; Thompson, C. M.; Smaldone, R. A.; **Ke, C.*** 1[^] “An elastic hydrogen-bonded cross-linked organic framework for effective iodine capture in water”, *Journal of the American Chemical Society*, **2017**, *139*, 7172–7175.
 Highlighted by *The Chemical Engineer*, *EurekAlert!*, *phys.org*, *共同ニユース*, and *X-mol*
- (33) Lin, Q.; Hou, X.; **Ke, C.*** 1[^] Ring shuttling controls macroscopic motion in a three-dimensional printed polyrotaxane monolith. *Angewandte Chemie International Edition*, **2017**, *56*, 4452–4457.
 Highlighted by *3ders.org*, *Chem Europe*, *Inverse*, *Azonano*, *Science Newslines*, *EurekAlert!*, *phys.org*, *inverse*, *observer*, *Nanowerk*, *Health Medicinet*, *nwi.com*, *Health Medicine Network*, *The Conversation*, *Futurism*, *Science Newslines*, *X-mol*, and others.
- (32) **Ke, C.** 1[^] “Nanomachines: A light-powered clockwork”, *Nature Nanotechnology*, **2017**, *12*, 504–506.
- Postdoctoral Work with J. Fraser Stoddart and Anthony P. Davis*
- (31) X. Hou, **C. Ke**,* 1[^]3[^] J. F. Stoddart,* Cooperative capture synthesis: yet another playground for copper-free click chemistry. *Chemical Society Reviews*, **2016**, *45*, 3766–3780.
- (30) X. Hou, **C. Ke**, 3[^] Y. Zhou, Z. Xie, A. Alngadh, D. T. Keane, M. S. Nassar, Y. Y. Botros, C. A. Mirkin, and J. F. Stoddart,* “Concurrent covalent and supramolecular polymerization”, *Chemistry – A European Journal*, **2016**, *22*, 12301–12306.
- (29) X. Hou,[#] **C. Ke**,[#] 3[^] (equal contribution) C. Bruns, P. McGonigal, R. Pettman and J. F. Stoddart,* “Tunable solid-state fluorescent materials for supramolecular encryption”, *Nature Communications*, **2015**, *6*, Article 6884.
- (28) C. Cheng, P.R. McGonigal, S.T. Schneebeli, H. Li, N.A. Vermeulen, **C. Ke**, 3[^] J.F. Stoddart,* “An artificial molecular pump”, *Nature Nanotechnology*, **2015**, *10*, 547–553.
- (27) J. Han, X. Hou, **C. Ke**, 3[^] H. Zhang, N. L. Strutt, C. L. Stern, and J. F. Stoddart,* “Activation-enabled syntheses of functionalized pillar[5]arene derivatives”, *Organic Letters*, **2015**, *17*, 3260–3263.
- (26) X. Hou,[#] **C. Ke**,[#] 3[^] (equal contribution) C. Cheng, N. Song, A. K. Blackburn, A. A. Sarjeant, Y. Y. Botros, Y.-W. Yang and J. F. Stoddart,* “Efficient syntheses of pillar[6]arene-based hetero[4]rotaxanes using a cooperative capture strategy”, *Chemical Communications*, **2014**, *50*, 6196–6199.

- (25) C.Cheng, P. R. McGonigal, W. Liu, H. Li, N. Vermeulen, **C. Ke**, ³ M. Frasconi, C. Stern, W. Goddard III, J. F. Stoddart,* “Energetically demanding transport in a supramolecular assembly”, *Journal of the American Chemical Society*, **2014**, *136*, 14702–14705.
- (24) G. T. Spence, S. S. Lo, **C. Ke**, ³ H. Destecroix, A. P. Davis, G. V. Hartland, and B. D. Smith* “Near - infrared croconaine rotaxanes and doped nanoparticles for enhanced aqueous photothermal heating”, *Chemistry – A European Journal*, **2014**, *20*, 12628–12635.
- (23) M. Fathalla, N. L. Strutt, J. C. Barnes, C. L. Stern, **C. Ke**, ³ J. F. Stoddart* “Fluorescence enhancement of a porphyrin-viologen dyad by pseudorotaxane formation with cucurbit[7]uril”, *European Journal of Organic Chemistry*, **2014**, *14*, 2873–2877.
- (22) **C. Ke**, ³ N. L. Strutt, H. Li, X. Hou, K. J. Hartlieb, P. R. McGonigal, Z. Ma, J. Iehl, C. L. Stern, C. Cheng, Z. Zhu, N. A. Vermeulen, T. J. Meade, Y. Y. Botros and J. F. Stoddart,* “Pillar[5]arene as a co-factor in templating rotaxane formation”, *Journal of the American Chemical Society*, **2013**, *135*, 17019–17030.
- (21) **C. Ke**, ³ R. A. Smaldone, T. Kikuchi, H. Li, A. P. Davis, and J. F. Stoddart,* “Quantitative emergence of hetero[4]rotaxanes by template directed click chemistry”, *Angewandte Chemie International Edition*, **2013**, *52*, 381–387.
- (20) H. Li, Z. Zhu, A. C. Fahrenbach, B. M. Savoie, **C. Ke**, ³ J. C. Barnes, J. Lei, Y.-L. Zhao, L. M. Lilley, T. J. Marks, M. A. Ratner, and J. F. Stoddart,* “Mechanical bond-induced radical stabilization”, *Journal of the American Chemical Society*, **2013**, *135*, 456–467.
- (19) H. Li, C. Cheng, P. R. McGonigal, A. C. Fahrenbach, M. Frasconi, W.-G. Liu, Z. Zhu, Y. Zhao, **C. Ke**, ³ J. Lei, R. M. Young, S. M. Dyar, D. T. Co, Y.-W. Yang, Y. Y. Botros, W. A. Goddard, III, M. R. Wasielewski, R. D. Astumian and J. F. Stoddart,* “Relative unidirectional translation in an artificial molecular assembly fueled by light”, *Journal of the American Chemical Society*, **2013**, *135*, 18609–18620.
- (18) Z. Zhu, C. J. Bruns, H. Li, J. Lei, **C. Ke**, ³ Z. Liu, S. Shafaie, H. M. Colquhoun and J. F. Stoddart,* “Synthesis and solution-state dynamics of donor–acceptor oligorotaxane foldamers”, *Chemical Science*, **2013**, *4*, 1470–1483.
- (17) B. Sookcharoenpinyo, E. Klein, **C. Ke**³ and A. P. Davis,* “Nucleoside recognition by oligophenyl-based synthetic lectins”, *Supramolecular Chemistry*, **2013**, *25*, 650–655.
- (16) K. J. Hartlieb, A. N. Basuray, **C. Ke**, ³ A. A. Sarjeant, H. P. Jacquot de Rouville, T. Kikuchi, R. S. Forgan, J. W. Kurutz, J. F. Stoddart* “Chameleonic binding of the dimethyldiazaperopyrenium dication by cucurbit [8] uril”, *Asian Journal of Organic Chemistry*, **2013**, *2*, 225–229.
- (15) **C. Ke**, ³ H. Destecroix, M. P. Crump and A. P. Davis,* “A simple and accessible synthetic lectin for glucose recognition and sensing”, *Nature Chemistry*, **2012**, *4*, 718–723.
- (14) B. Sookcharoenpinyo, E. Klein, Y. Ferrand, D. B. Walker, P. R. Brotherhood, **C. Ke**, ³ M. P. Crump and A. P. Davis,* “High-affinity disaccharide binding by tricyclic synthetic lectins”, *Angewandte Chemie International Edition*, **2012**, *51*, 4586–4590.

Graduate Work with Yu Liu and Yoshihisa Inoue

- (13) C. Yang, **C. Ke**, ³ W. Liang, G. Fukuhara, T. Mori, Y. Liu and Y. Inoue,* “Dual supramolecular photochirogenesis: Ultimate stereocontrol of photocyclo-dimerization by a chiral scaffold and confining host”, *Journal of the American Chemical Society*, **2011**, *133*, 13786–13789.
- (12) Q. Wang, C. Yang, **C. Ke**, ³ G. Fukuhara, T. Mori, Y. Liu* and Y. Inoue,* “Wavelength-controlled supramolecular photocyclodimerization of anthracene-carboxylate mediated by γ -cyclodextrins”, *Chemical Communications*, **2011**, *47*, 6849–6851.
- (11) L. Li, **C. Ke**, ³ H.-Y. Zhang and Y. Liu,* “Coordination-induced switchable nanoparticle formation from naphthyl-bridged bis (β -cyclodextrin)”, *Journal of Organic Chemistry*, **2010**, *75*, 6673–6676.
- (10) **C. Ke**, ³ C. Yang, W. Liang, T. Mori, Y. Liu* and Y. Inoue,* “Critical stereocontrol by inter-amino distance of supramolecular photocyclodimerization of 2-anthracenecarboxylate mediated by 6-(ω -aminoalkylamino)- γ -cyclodextrins”, *New Journal of Chemistry*, **2010**, *34*, 1323–1329.
- (9) **C. Ke**, ³ C. Yang, T. Mori, T. Wada, Y. Liu,* and Y. Inoue,* “Catalytic enantiodifferentiating photocyclodimerization of 2-anthracenecarboxylic acid mediated by a non-sensitizing chiral metallocyclodextrin host”, *Angewandte Chemie International Edition*, **2009**, *48*, 6675–6677.
- (8) Y. Liu,* J. Shi, Y. Chen and **C. Ke**, ³ “A polymeric pseudorotaxane constructed from cucurbituril and aniline, and stabilization of its radical cation”, *Angewandte Chemie International Edition*, **2008**, *47*, 7293–7296.
- (7) Y. Liu,* **C. Ke**, ³ H.-Y. Zhang, J. Cui and F. Ding, “Complexation-induced transition of nanorod to network aggregates: Alternate porphyrin and cyclodextrin arrays”, *Journal of the American Chemical Society*, **2008**, *130*, 600–605.
- (6) **C. Ke**, ³ C. Yang, Z. Yang, W. Wu, T. Mori, Y. Inoue,* Y. Liu* “Synthesis of functionalized β -cyclodextrins by “click chemistry”, *Heterocycles* **2008**, *76*, 155–160.
- (5) Y. Liu,* **C. Ke**, ³ H.-Y. Zhang, W.-J. Wu, and J. Shi, “Reversible 2D pseudopolyrotaxanes based on cyclodextrins and cucurbit[6]uril”, *Journal of Organic Chemistry*, **2007**, *72*, 280–283.
- (4) **C. Ke**, ³ S. Hou, H.-Y. Zhang, Y. Liu,* K. Yang, and X.-Z. Feng,* “Controllable DNA condensation through cucurbit[6]uril in 2D pseudopolyrotaxanes”, *Chemical Communications*, **2007**, 3374–3376.
- (3) Y. Liu, S. Kang, Y. Chen, J. Shi, **C. Ke** ³ “Fluorescence sensing and selective binding of L- and D-tryptophan-modified permethylated β -cyclodextrins for aliphatic oligopeptides”, *Combinatorial Chemistry and High Throughput Screening* **2007**, *10*, 451–458
- (2) H. Wang, R. Cao, **C. Ke**, ³ Y. Liu,* T. Wada, and Y. Inoue,* “Diastereomeric molecular recognition and binding behavior of bile acids by L/D-tryptophan-modified β -cyclodextrins”, *Journal of Organic Chemistry*, **2005**, *70*, 8703–8711.
- (1) Y. Liu,* H. Wang, Y. Chen, **C. Ke**, ³ and M. Liu, “Supramolecular aggregates constructed from gold nanoparticles and L-Try-CD polypseudorotaxanes as captors for fullerenes”, *Journal of the American Chemical Society*, **2005**, *127*, 657–666.

Book Chapter

- (1) C. Yang, **C. Ke**, ^{3^} Y. Liu, Y. Inoue “*Reaction Control by Molecular Recognition – A Survey from the Photochemical Perspective*” in *Molecular Encapsulation: Organic Reactions in Constrained Systems*, Editors: U. H. Brinker, J.-L. Miesusset.

Patents

1. Chenfeng Ke and Qianming Lin, *Mechanically interlocked molecules-based materials for 3-D printing*, U.S. Patent No. US10954315B2. **Licensed to Qrons Inc**
2. Chenfeng Ke, Pengfei Zhang, Qianming Lin, and Longyu Li, *Three-dimensional printing with supramolecular templated hydrogels*, U.S. Patent Application No. US20200131383A1.
3. Chenfeng Ke, Qianming Lin, Longyu Li, and Miao Tang, *Cyclodextrin-based polyrotaxanes and protein hybrids as three-dimensional printing inks*, U.S. Patent Application No. 63/021,971
4. Chenfeng Ke and Mingshi Zhang, *Porous organic materials for iodine remediation in water*. US Patent Application No. 63/353,413

Prior to Independent career

5. Stoddart, J. F.; Hou, X.; **Ke, C.**; Pettman, R.B. Innotune LLC and Northwestern University, 2016. *Supramolecular encrypted fluorescent security ink compositions*. US Patent 11,267,979, 2022. **Licensed to Innotune LLC**
6. **Ke, C.**; and Davis, A.P.; University of Bristol, 2017. *Anthracenyl-tetralactam macrocycles and their use in detecting a target saccharide*. U.S. Patent US9937272B2. **Licensed to form Ziylo, Ltd; acquired by Novo Nordisk for 800 million USD in 2018.**

1^ I am lead author or corresponding author.

2^ My advisee, either student or postdoctoral fellow, is lead author or corresponding author.

3^ I published this with my dissertation advisor or postdoctoral advisor.

4^ I contributed a major fraction (>20%) to the paper, but neither I nor my advisees were lead authors.

5^ I contributed less than 20% to this publication.

h. Professional Talks and Conference Presentations

- University of Mississippi, “Supramolecular 3D Printing Materials”, Nov 2nd, 2023, Oxford, Mississippi.
- Molecular Foundry User Meeting, "Innovation in Molecular Crystalline Materials: Synthesis, Characterization, and Applications Symposium", Lawrence Berkeley National Laboratory, Berkeley, CA, invited speaker, August 11, 2023.
- 1st North American Supramolecular Chemistry (NASC), invited lecture, Tulane University, New Orleans, on December 19-20, 2022.

- 8th International Conference on Metal-Organic Frameworks and Open Framework Compounds, Keynote speaker, Dresden, Germany, Sept 4-7th, 2022
- 16th International Symposium of Macrocyclic and Supramolecular Chemistry (ISMSC2022), Eugene, Oregon, CLP award lecture, Jun 19-24, 2022
- GRC crystal engineering, invited speaker, Jun 19-24, 2022
- The University of Colorado, Boulder, departmental seminar, April 11th, 2022
- ACS spring meeting, 2022, PMSE Young Investigator forum, San Diego, Mar 20th, 2022
- Boston University, “Operating macroscale materials through molecular stimulations”, Jan 31st, 2022, Boston, Massachusetts.
- Materials Research Society, Fall meeting 2021, two contributed talks, Nov 30th and Dec 2nd, 2021, Boston, Massachusetts.
- University of Connecticut, Institute of Materials Science, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, Dec 3rd, 2021
- Clark University, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, Oct 14th, 2021
- The University of South Florida, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Oct 6th, 2021, Tempa, Florida
- The University of Florida, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Oct 5th, 2021, Gainesville, Florida
- Texas Tech University, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, September 29, 2021.
- The University of Massachusetts Amherst, Department of Polymer Science and Engineering, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, September 3, 2021, Amherst, Massachusetts
- Additive Manufacturing Using Dense Paste Direct Ink Write Virtual Workshop, Aug 17-18 2021
- ISMSC 2021 Virtual Symposium, July 12, 2021, CLP award lecture
- The Pennsylvania State University, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, March 17, 2021.
- University of New Hampshire, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, March 9, 2021.
- Texas A&M University, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals”, Virtual Meeting, February 18, 2021.
- Northwestern University, “Supramolecular 3D-Printing Polymers and Elastic Porous Organic Crystals” Virtual Meeting, November 4, 2020.
- Beckman New England Macro Workshop, “*Supramolecular Butterfly Effect Enabled 3D Printing*”, Virtual Meeting, June 9, 2020.
- NanoGe – Advanced Materials for Next Generation 3D Printing, Virtual Meeting, May 14, 2020.
- University of Washington, “*Supramolecular Chemistry at the Macroscopic Scale*”, February 27, Seattle, WA, US

- University of Massachusetts, Lowell, January 31, 2020, “*Supramolecular Chemistry at the Macroscopic Scale*”, Lowell, MA, US
- The Next Generation Smart Materials Workshop, “*Supramolecular 3D Printing Polymers*”, invited speaker, December 15, 2019, Savannah, Georgia, US
- Iowa State University, “*Supramolecular Chemistry in Macroscopic Scale*”, November 1, 2019, Ames, Iowa, US
- University of Iowa, “*Supramolecular Chemistry in Macroscopic Scale*”, October 31, 2019, Iowa City, Iowa, US
- University of Maryland, “*Crystals and 3D Printing Polymers? A Journey of Studying Polymer Networks’ Dynamic Behaviors*”, October 17, 2019, College Park, Maryland, US
- Washington University in St. Louis, “*Crystals and 3D Printing Polymers? A Journey of Studying Polymer Networks’ Dynamic Behaviors*”, October 10, 2019, St. Louis, Missouri, US
- POPs Satellite Meeting 2019, “*3D Printable Smart Polymers*”, invited speaker, September 13, 2019, Karlsruhe, Germany
- POPs 2019, 2nd International Symposium on Porous Organic Polymers, “*Hydrogen-bonded Crosslinked Organic Frameworks*”, invited speaker, September 10, 2019, Heidelberg, Germany
- 3D Printing 2019 Symposium, “*3D Printable Smart Polymers*”, Chair and organizing speaker, August 13, 2019, Hanover, New Hampshire, US
- ISMSC 2019, 14th International Symposium on Macrocyclic and Supramolecular Chemistry, “*Amplify Molecular Motions in a 3D-Printed Monolith*”, contributed speaker, June 2019 Lecce, Italy
- Gordon Research Conference, Artificial Molecular Switches and Motors, “*Polyrotaxane-Based Actuators Fabricated via 3D Printing*”, invited speaker, June 2019, Holderness, New Hampshire, US
- University of Connecticut, “*Crystals or 3D Printing Polymers? A Journey of Studying Polymer Networks’ Dynamic Behaviors*”, February 6, 2019, Storrs, Connecticut, US
- Hubei University, “*Smart Supramolecular 3D Printing Materials and Elastic Crystals*”, December 28, 2018, Wuhan, China
- Huazhong Agricultural University, “*Smart Supramolecular 3D Printing Materials and Elastic Crystals*”, December 27, 2018, Wuhan, China
- Nanjing Tech University, “*Smart Supramolecular 3D Printing Materials and Elastic Crystals*”, December 26, 2018, Nanjing, China
- Shanghai Jiaotong University, “*Smart Supramolecular 3D Printing Materials and Elastic Crystals*”, December 25, 2018, Shanghai, China
- Fudan University, “*Smart Supramolecular 3D Printing Materials and Elastic Crystals*”, December 24, 2018, Shanghai, China
- 10th Singapore International Chemical Conference (SICC-10), “*Smart Supramolecular 3D Printing Materials*”, invited speaker, December 18, 2018, Singapore

- University of Texas, Dallas, “*Crystals or 3D Printing Polymers? A Journey of Studying Polymer Networks’ Dynamic Behaviors*”, August 31, 2018, Dallas, Texas, US
- MRS 2018 Spring meeting, “*Hydrogen-Bonded Cross-Linked Organic Frameworks (HCOFs) for Radioactive Iodine Removal*”, April 5, 2018; “*Hierarchical Co-assembly Enhanced Direct Ink Writing*”, April 6, 2018, Phoenix, Arizona, US
- Hope College, “*Designing Hydrogen-bonded Polymeric Networks for 3D Printing and Radioactive Iodine Removal*”, March 16, 2018, Holland, Michigan, US
- Calvin College, “*Designing Hydrogen-bonded Polymeric Networks for 3D Printing and Radioactive Iodine Removal*”, March 15, 2018, Grand Rapids, Michigan, US
- ETH Zurich, Department of Materials, “*Developing Hydrogen-bonded Cross-linked Organic Frameworks (HCOFs)*”, December 13, 2017, Zurich, Switzerland
- University of Zurich, Department of Chemistry, “*Developing Supramolecular 3D Printing Materials*”, December 14, 2017, Zurich, Switzerland
- Advanced Materials for Energy and Bioengineering Applications (AMEBA) Symposium Program, “*Hierarchical Co-assembly Enhanced Direct Ink Writing*”, December 4, 2017, University of Vermont, Burlington, Vermont, US
- MRS 2017 Fall meeting, “*Developing Supramolecular 3D Printing Materials*”, November 27, 2017, Boston, Massachusetts, US
- 1st International Symposium on Porous Organic Polymers (POPS), invited speaker, “*Developing Hydrogen-bonded Cross-linked Organic Frameworks*”, September 4, 2017, Zhangjiajie, China
- Durham University, invited speaker, Department of Chemistry, “*Hydrogen-bonded Polymeric Materials for Water Purification and 3D Printing*”, June 30, 2017, Durham, UK
- The Golden Age of Chemistry, invited speaker, “*Developing Cyclodextrin-based Functional 3D Printing Materials*”, June 26, 2017, Nottingham, UK
- University of Massachusetts Amherst, invited speaker, Department of Polymer Science and Engineering, Spring 2017 Polymer Event, “*Hydrogen-bonded Polymeric Materials for Water Purification and 3D Printing*”, May 17, 2017, Amherst, Massachusetts, US
- ACS Spring 2017 National Meeting, “*Development of Cyclodextrin-based Functional 3D Printing Materials*”, April 3, 2017, San Francisco, California, US
- University of Massachusetts Amherst, Department of Chemistry, guest lecturer for Supramolecular Chemistry class, “*Synthesis of Mechanically Interlocked Molecules and Amplification of Their Motions Macroscopically*”, March 7, 2017

Prior to Dartmouth

- Lindau Nobel Laureate Meetings Alumni Forum, invited speaker, September 2014, Beijing, China
- Institute of Chemistry, Chinese Academy of Science, invited speaker, September 2014, Beijing, China
- Laboratory of Organic Chemistry, ETH Zurich, Young Investigators Forum, June 2014, Zurich, Switzerland
- 8th International Symposium on Macrocyclic and Supramolecular Chemistry, flash talk, July 2013, Arlington, Virginia, US

- School of Chemistry, University of Bristol, May 2013, Bristol, UK

Poster Presentations:

- Gordon Research Conference: Polymer 2017, “*Development of Supramolecular 3D Printing Materials*”
- Gordon Research Conference: Nanoporous Materials 2017, “*Visible Elastic Expansion of Single-crystalline Hydrogen-bonded Cross-linked Organic Frameworks (HCOFs)*”