QIANLI RICK CHU, Ph.D.

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EDUCATION

Ph.D. University of Iowa, Iowa City, IA *Jul. 2001 - Dec. 2005*
B.Sc. Shanghai University, P. R. China *Sept. 1993 - Jun. 1997*

PROFESSIONAL EXPERIENCE

Associate Professor of Chemistry *Aug. 2015 - Present*
University of North Dakota
Assistant Professor of Chemistry *Aug. 2009 – Jul. 2015*
University of North Dakota

Postdoctoral Research Scholar *Oct. 2006 – May.2009*
University of Pittsburgh
Advisor: *Prof. Dennis P. Curran*
Postdoctoral Research Scholar *Oct. 2005 - Sept. 2006*
Fluorous Technologies, Inc.

Research Assistant *Sept. 2001 - Sept. 2005*
University of Iowa
Advisor: *Prof. Leonard R. MacGillivray*
Research Assistant *Jul. 1997 - Jun. 2001*
Shanghai Institution of Organic Chemistry, Chinese Academy of Sciences
Advisor: *Prof. Shizheng Zhu*

AWARDS & DISTINCTIONS

- Brown & Williamson Distinguished Guest Speaker Award, University of Louisville, Louisville, KY, April 5, **2019**
- Invited manuscript for *ChemComm* Emerging Investigators Themed Issue **2014**
- Invited manuscript for *CrystEngComm* North America IYCr Celebration Themed Issue **2014**
- Invited manuscript for *CrystEngComm* New Talent Americas Themed Issue **2012**
- Excellence in Synthetic Chemistry Award, **Dec. 2007** (by MGK Scientific, LLC.)
- IUCr Poster Award at the XIIIth International Symposium Symposium on Supramolecular Chemistry, **Jul. 2004** (by **I**nternational **U**nion of **Cr**ystallography)
- Distinguished Overseas Chinese Graduate Student Award, **Nov. 2003** (by Ministry of Education of the People's Republic of China and the China Scholarship Council)
- Excellent Research Paper Award, **Sept. 2003** (by Shanghai Science & Technology Association)
- Shanghai Distinguished Research Award, **Apr. 2002** (by Science and Technology Commission of Shanghai Municipality)
- Fluorine-Containing Donor-Acceptor Complex (*J. Am. Chem. Soc.*, **2001**, *123*, 11069) was highlighted by *C&EN News* **2001**, *79(44)*, 22.

PUBLICATIONS (*Corresponding Author)

48. Shahni, R. K.; Mabin, M.; Wang, Z.; Shaik, M.; Ugrinov, A.; **Chu, Q. R.*** Synthesis and Characterization of BPA-free Polyesters by Incorporating a Semi-rigid Cyclobutanediol Monomer *Polym. Chem.* **2020**. *Accepted Manuscript,* 10.1039/d0py01098g

47. Wang, Z.; Scheuring, M.; Mabin, M.; Shahni, R.; Wang, Z. D.; Ugrinov, A.; Butz, J.; **Chu, Q. R.*** Renewable Cyclobutane-1,3-dicarboxylic Acid (CBDA) Building Block Synthesized from Furfural via Photocyclization *ACS Sustainable Chem. Eng.* **2020**, *8*, 8909-8917.

46. Amjaour, H.; Wang, Z.; Mabin, M.; Puttkammer, J.; Busch, S.; and **Chu, Q. R.*** "Scalable Preparation and Property Investigation of a c*is*-Cyclobutane-1,2-Dicarboxylic Acid from *β-trans*-Cinnamic Acid" *Chem. Commun.* **2019**, *55*, 214-217.

45. Wang, Z. D.; Elliott, Q.; Wang, Z.; Setien, R. A.; Puttkammer, J.; Ugrinov, A.; Lee, J.; Webster, D. C.*; and **Chu, Q. R.*** "Furfural-Derived Diacid Prepared by Photoreaction for Sustainable Materials Synthesis" *ACS Sustainable Chem. Eng.* **2018**, *6*, 8136-8141

44. **Chu, Q.**; Duncan, A. J. E.; Papaefstathiou, G. S.; Hamilton, T. D.; Atkinson, M. B. J.; Mariappan, S. V. S.; MacGillivray, L. R.,* "Putting Cocrystal Stoichiometry to Work: A Reactive Hydrogen-Bonded 'Superassembly' Enables Nanoscale Enlargement of a Metal-Organic Rhomboid via a Solid-State Photocycloaddition" *J. Am. Chem. Soc.* **2018**, *140*, 4940-4944.

43. Wang, Z.; Miller, B.; Butz, J.; Randazzo, K.; Wang, Z. D.; and **Chu, Q. R.*** "Polyladderane Constructed from Gemini Monomer via Photoreaction" *Angew. Chem. Int. Ed.* **2017**, *56*, 12155-12159.

42. Wang, Z.; Miller, B.; Mabin, M.; Shahni, R.; Wang, Z. D.; Ugrinov, A.; and **Chu, Q. R.*** "Cyclobutane-1, 3-Diacid (CBDA): A Semi-Rigid Building Block Prepared by [2+ 2] Photocyclization for Polymeric Materials" *Sci. Rep.* **2017**, *7 (1)*, 13704.

41. Hou, X.; Butz, J.; Chen, J.; Wang, Z. D.; Zhao, J. X.; Shiu, T.; **Chu, Q. R. *** "Low Molecular Weight Organogelators Derived from Threefold Symmetric Tricarbamates" *Tetrahedron Lett.* **2017***, 58*, 101–105. *(Front Cover of the 1st Issue in 2017)*

40. Randazzo, K.; Wang, Z.; Wang, Z. D.; Butz, J.; **Chu, Q. R**.* "Lighting the Way to Greener Chemistry: Incandescent Floodlights as a Facile UV Light Source for Classic and Cutting-Edge Photoreactions" *ACS Sustainable Chem. Eng*. **2016**, *4*, 5053-5059.

39. Wang, Z.; Kastern, B.; Randazzo, K.; Ugrinov, A.; Butz, J.; Seals, D.; Sibi, M. P. and **Chu Q. R.*** "Linear Polyester Synthesized from Furfural-Based Monomer by Photoreaction in Sunlight" *Green Chem.* **2015**, *17(10)*, 4720-4724 (*Featured as a Cover Story*).

38. Wang, Z.; Randazzo, K.; Hou, X.; Simpson, J.; Struppe, J.; Ugrinov, A.; Kastern, B.; Wysocki, E.; **Chu, Q. R.*** "Stereoregular Two-Dimensional Polymers Constructed by Topochemical Polymerization. *Macromolecules.* **2015**, *48(9)*, 2894-2900.

37. Hou, X.; Wang, Z.; Overby, M.; Ugrinov, A.; Oian, C.; Singh, R.; and **Chu Q.*** "A Two-Dimensional Hydrogen Bonded Organic Framework Self-Assembled from a Three-Fold Symmetric Carbamate" *Chem. Commun.* **2014**, *50*, 5209-5211. (*Invited, Emerging Investigators Themed Issue 2014*)

36. Chen, J.; Wu, X.; Hou, X.; Su, X.; **Chu, Q.**; Fahruddin, N.; and Zhao J.* "Shape-Tunable Hollow Silica Nanomaterials Based on Soft-templating Method and Their Application as Drug Carrier" *ACS Appl. Mater. Interfaces,* **2014***, 6,* 21921–21930.

35. Wang, Z.; Lee, J.; Oian, C.; Hou, X.; Wang, Z.; Ugrinov, A.; Singh, R. K.; Wysocki, E.; **Chu Q. R.*** "An Unsaturated Hydrogen Bonded Network Generated from Three-fold Symmetric

Carbamates" *CrystEngComm* **2014**, *16*, 1776-1779. *(Invited, North America 2014 IYCr Celebration Themed Issue)*

34. Hou, X.; Wang, Z.; Lee, J.; Wysocki, E.; Oian, C.; Schlak, J.; and **Chu Q.*** "Synthesis of Polymeric Ladders by Topochemical Polymerization" *Chem. Commun.* **2014**, *50*, 1218-1220.
33. Singh, R.; Hou, X.; Overby, M.; Schober, M. and **Chu, Q.* "**Hydrogen Bonded Chiral Sheet Self-assembled from a C_3-Symmetric Tricarbamate" *CrystEngComm* **2012**, *14*, 6132–6135. (*Invited, New Talent Americas Themed Issue 2012*)
32. Hou, X.; Schober M. and **Chu, Q.*** "A Chiral Nanosheet Connected by Amide Hydrogen Bonds". *Cryst. Growth Des*. **2012**, *12*, 5159-5163.
31. Singh, R.; Schober, M.; Hou, X.; Seay, A. and **Chu, Q.*** "Facile and Efficient Synthesis of C_3-Symmetric Benzoxazine: A Novel Tri-arm Molecular Scaffold" *Tetrahedron Lett.* **2012**, *53*, 173-175.
30. **Chu, Q.**;* O'Neal, K.; Osipov, M.; Ngwendson, J. N.; Geib, S. J.; Weber S. G.; Curran, D. P.; "Synthesis, Characterization, and Applications of Fluorous Resorcin[4]arenes" *New J. Chem.* **2010**, *34*, 2732-2734. (*RSC Fluorine Chemistry Themed Issue 2011*)
29. Solovyev A., **Chu Q.**, Geib S. J., Fensterbank L., Malacria M., Lacôte E., Curran D. P. "Substitution Reactions at Tetracoordinate Boron: Synthesis of N-Heterocyclic Carbene Boranes with Boron-Heteroatom Bonds." *J. Am. Chem. Soc.* **2010**, *132,* 15027-15080.
28 Walton, J. C.; Brahmi, M. M.; Fensterbank, L.; Lacôte, E.; Malacria, M.; **Chu, Q.**; Ueng, S.-H.; Solovyev, A.; Curran, D. P. "EPR Studies of the Generation, Structure, and Reactivity of *N*-Heterocyclic Carbene Borane Radicals" *J. Am. Chem. Soc.* **2010**, *132,* 2350-2358.
27. **Chu, Q.**; Makhlouf Brahmi, M.; Solovyev, A.; Ueng, S-H; Curran, D. P.; Malacria, M.; Fensterbank, L.; Lacote, E. "Ionic and Organometallic Reductions with N-Heterocyclic Carbene Boranes" *Chem. Eur. J.* **2009**, *15*, 12937-12940.
26. Osipov, M.; **Chu, Q.**; Geib, S. J.; Curran, D. P. and Weber S. G. "Synthesis of Deep-cavity Fluorous Calix[4]arenes as Molecular Recognition Scaffolds" *Beilstein J. Org. Chem.* **2008***, 4, No. 36. (Online journal, no page number)*
25. **Chu, Q.**; Henry, C.; Curran, D. P. "Second-Generation Tags for Fluorous Chemistry Exemplified with a New Fluorous Mitsunobu Reagent" *Org. Lett.* **2008***, 10,* 2453-2456.
24. **Chu, Q.**; Yu, M. S.; Curran, D. P. "CBS Reductions with a Fluorous Prolinol Immobilized in a Hydrofluoroether Solvent" *Org. Lett.* **2008**, *10*, 749-752.
23. MacGillivray, L. R.; Papaefstathiou, G. S.; Friscic, T.; Hamilton, T. D.; Bučar, D-K.; **Chu, Q.**; Varshney, D. B.; Georgiev, I. G. "Supramolecular Control of Reactivity in the Solid State: From Templates to Ladderanes to Metal-Organic Frameworks." *Acc. Chem. Res.* **2008**, *41*, 280-291.
22. **Chu, Q.**; Yu, M. S. and Curran D. P. "New Fluorous/Organic Biphasic Systems Achieved by Solvent Tuning" *Tetrahedron* **2007**, *63*, 9890–9895.
21. Bučar, D-K.; Papaefstathiou, G. S.; Hamilton, T. D.; **Chu, Q.**; Georgiev, I. G. MacGillivray, L. R.; "Template-Controlled Reactivity in the Organic Solid State via Principles of Coordination-Driven Self-Assembly." *Eur. J. Inorg. Chem.* **2007**, *29*, 4559-4568.
20. Zhang, W.; Williams, J. P.; Lu, Y.; Nagashima, T.; **Chu, Q. "**Fluorous synthesis of sclerotigenin-type benzodiazepine-quinazolinones." *Tetrahedron Lett.* **2007**, *48*, 563-565.
19. **Chu, Q.**; Zhang, W. and Curran, D. P. "A Recyclable Fluorous Organocatalyst for Diels-Alder Reactions" *Tetrahedron Lett.* **2006**, *47*, 9287-9290.

18. Huang, Q.; Wang, Z.; **Chu, Q.**; Zhu, S. "Crystal Structure of a Supramolecular Complex Formed between 1-bromo-2-iodotetrafluoroethaneand *N*,*N*,*N*′,*N*′-tetramethylethylenediamine" *J. Incl. Phenom. Macro.* **2006**, *54*, 177-180.

17. **Chu, Q.**; Swenson, D. C.; MacGillivray, L. "A Single-Crystal-to-Single-Crystal Reaction Mediated by Argentophilic Forces Converts a Self-Assembled Complex into a Coordination Network." *Angew. Chem. Int. Ed.* **2005**, *44*. 3569-3572. (*Has been cited for 275 times based on Scifinder*)

16. **Chu, Q.**; Wang, Z.; Huang, Q.; Zhu, S. "Fluorine-Containing Donor-Acceptor Complexes: Crystallographic Study of the Interactions between Electronegative Atoms (N, O, S) and Halogen Atoms (I, Br)" *New J. Chem.* **2003**, *27(10),* 1522-1527.

15. Zhu, S.; Mao, Y.; Qin, C.; **Chu Q.** and Hu, C. "A Convenient Preparation of Octafluoro[2, 2]paracyclophane and Dodecafluoro[2, 2]Paracyclophane" *Tetrahedron Lett.* **2002**, *43*, 669-671.

14. **Chu, Q.**; Wang, Z.; Huang, Q.; Zhu S. "Fluorine-Containing Donor-Acceptor Complex: Infinite Chain Formed by Oxygen-Iodine Interaction" *J. Am. Chem. Soc.*, **2001**, *123*, 11069-11070. (*Highlighted by C&EN News* **2001**, *79(44)*, 22.)

13. **Chu, Q.**; Song, L.; Jin, G.; Zhu, S. "Study on the Reaction of Fluorinated *α, β*-Unsaturated Carbonyl Compounds with Nitrogen and Sulfur Dinucleophiles" *J. Fluorine Chem.* **2001**, *108*, 51-56.

12. Song, L.; **Chu, Q.**; Zhu, S. "Synthesis of Fluorinated Pyrazole Derivatives from *β*-Alkoxyvinyl Trifluoroketones" *J. Fluorine Chem.* **2001,** *107,* 107-112.

11. **Chu, Q.**; Wang, Y.; Zhu, S. "A Novel Method for Preparation of Trifluoromethyl Substituted 2,3-Dihydro-1,4-diazepine and Benzimidazole" *Synth. Commun.* **2000**, *30(4)*, 677-687.

10. Zhu, S.; Qin, C.; Xu, G.; **Chu, Q.**; Huang, Q. "Reactions of 5-Trifluoroacetyl-3,4-dihydro-2H-pyran with Zinc Reagents" *J. Fluorine Chem.* **1999,** *99*, 141-144.

9. Zhu, S.; Qin, C.; Wang, Y.; **Chu, Q. "**Preparation of 1-Trifluoroacetyl Indolizineand their Derivatives *via* the Cycloaddition of Pyridinium N-Ylides with 4-Ethoxyl-1,1,1-trifluoroethyl-3-ne-one" *J. Fluorine Chem.* **1999**, *99*, 183-187.

8. Xu, B.; Xu, G.; Qin, C.; Xu, Y.; **Chu Q.**; and Zhu, S. "Synthesese and Reactions of N-Perfluoroalkanesulfonylimino Sulfurous Dichlorides" *Heteroat. Chem.* **1999**, *10(1),* 41-48.

7. Zhu, S.; Xu, G.; **Chu, Q.**; Xu,Y.; Qin, C.; "Synthesis of Fluorine-Containing Symmetrical N, N-Alkylidene Bisamides" *J. Fluorine Chem.* **1999**, *93,* 69-71.

6. Zhu, S.; Xu, G.; Qin, C.; Xu, Y.; **Chu, Q.** and DesMarteau, D. D. "Chemical Transformation of Bis((perfluoroalkyl)sulfonyl)methanes and 1,1,3,3-Tetraoxopolyfluoro-1,3-dithiaycloalkanes" *Heteroat. Chem.* **1999**, *10(2),* 147-151.

5. Zhu, S.; Xu, G.; Qin, C.; **Chu, Q.** and Xu, Y. "Study on the Nucleophilic Reaction of 5-Trifluoroacetyl-3,4-dihydro-2H-pyran" *Monatsh. Chem.* **1999**, *130,* 671-680.

4. Zhu, S.; Xu, G.; Qin, C.; Xu, Y.; **Chu, Q.** "Preparation and Reaction of Bis(perfluoroalkanesulfonyl)methyl Halides" *Chin. J. Chem.* **1998**, *16*(3), 264-271.

3. Zhu, S.; **Chu, Q.**; Xu, G.; Qin, C.; Xu, Y. "A Convenient One-Pot Synthesis of Per(or poly) fluoroalkanesulfonyl Substituted Cyclopropanes" *J. Fluorine Chem.* **1998**, *91*, 195-198.

2. Zhu, S.; Xu, G.; Qin, C.; Xu, Y.; **Chu, Q. "**Synthesis of Diethyl N-(Perfluoroalkanesulfonyl) phosphoramidates and N-(Perfluoroalkanesulfonyl)phosphoramidic Acid" *Phosphorus Sulfur Silicon Relat. Elem.* **1998**, *140,* 53-61.

1. Zhu, S.; Qin, C.; Xu, G.; Xu, Y.; **Chu, Q.** "A Convenient Synthesis of a New Push-pull Alkenes: β-Alkoxyl Vinyl Trifluoromethyl Sulfones" *Tetrahedron Lett.* **1998**, *39*, 5265-5268.

PATENTS

5. Chu Q.; Shahni, R. K.; "Polymers Comprising 1,3-Cyclobutane Dimethanol (CBDO-1)" Provisional Patent Filed on Aug. 25, **2020**, Appln. No.: 17/001,966
4. Chu Q.; Wang, Z.; "Cyclobutane-Containing Thermally Cleavable Polymers" Patent Filed on Nov. 25, **2019**, US 62/775,277
3. Chu Q.; Wang, Z.; "Method of Making Cyclobutane-1, 2-Diacids Degradable Building Blocks for Materials" Patent Filed on Nov. 25, **2019**, US 62/775,275
2. Chu Q.; Wang, Z.; "Cycolbutane-1, 3-Diacid Building Blocks" Application Filed on Jun. 30, **2017**, WO2019006435A1, US20190002387A1
1. Chu Q. "Carbon Dioxide Capture and Conversion to a Carbamate Salt and Polyurea" Application Filed on Jan. 23, **2014**, WO2014014606A1, US20140024800A1,

SELECTED PRESENTATIONS

(**O**: Oral presentation, **P**: Poster presentation, Presenter)

65.(P) "Lighting the Way to Greener Chemistry: Cyclobutane-Containing Building Blocks (CBs) and Polymers (CBPs) Synthesized Using Photoreaction" Chu, Q. R.; Wang, Z.; Shahni, R.; Amjaour, H.; Wang, Z. D.; and Mabin, M. *24th Annual Green Chemistry & Engineering Conference (Virtual), Seattle, WA* (Jun. 18, **2020**)

64.(O) "Cyclobutane-Containing Polymers (CBPs) and Building Blocks (CBs) Synthesized Using Photoreaction" Chu, Q. R. *NDSU-KU Symposium, Fargo, ND* (Oct. 3, **2019**)

63.(O) "Organic Materials Constructed Using Supramolecular Principles: From Chiral Organic Frameworks to Polycyclobutanes" Chu, Q. R. *Department of Chemistry, University of Louisville, Louisville, KY* (Apr. 5, **2019**)

62.(O) "Lighting the Way to Greener Chemistry: Synthesis of Cyclobutane-containing Building Blocks for Sustainable Materials Using Photoenergy" Chu, Q. R. *ND EPSCoR Annual State Conference, Fargo, ND* (Mar. 27, **2019**)

61.(P) "Renewable Cyclobutane-Containing Building Blocks Synthesized via Photoreaction" Chu, Q. R. *A Summit for Translating Bio-based Materials Research to Industry*, Fargo, ND (Feb. 25, **2019**)

60.(P) "Biorenewable Cyclobutane-Containing Diacid Building Blocks (CBDAs) Synthesized Using Photoenergy" Chu, Q. R. *Bruker/MIT Symposium*, Cambridge, MA (Feb. 23, **2019**)

59.(O) "Towards Sustainable Materials: From Chiral Organic Frameworks to Polycyclobutanes" Chu, Q. R. *Department of Chemistry, University of California, Riverside*, Riverside, CA (Nov. 9, **2018**)

58.(O) "Construction of Cyclobutane-containing Polymer (CBP) by Using [2+2] Photo-cycloaddition" Chu, Q. R. *256th American Chemical Society (ACS) National Meeting*, Boston, MA (Aug. 23, **2018**)

57.(O) "Polycyclobutane Synthesized Using Supramolecular Principles" Chu, Q. R. *Atwood Bash to Celebrate the 75th Birthday of Prof. Jerry Atwood*, Newry, ME (Jun. 29, **2018**)

56.(P) "Cyclobutanedicarboxylic Acids (CBDAs): Promising Building Blocks for Materials Synthesized from Renewable Sources via Photoreaction" Chu, Q. R. *Gordon Research Conferences: Crystal Engineering*, Newry, ME (Jun. 26, **2018**)

55.(O) "RPPAC Seminar: Scientific Citation" Chu, Q. R. *Center for Sustainable Materials Science (CSMS) Online Meeting*, IVN locations – UND (host): Gamble 130 NDSU: EML 183; other sites can connect via Polycom, Web Browser, or Telephone. (Nov. 29, **2017**)

54.(O) "Polycyclobutane (PCB) Synthesized via Photoreaction" Chu, Q. R. *254th American Chemical Society (ACS) National Meeting*, Washington, D.C. (Aug. 22, **2017**)

53.(O) "Synthesis of Polycyclobutane from Biomass-Derived Starting Materials" Chu, Q. R. *The 2017 Great Lakes Regional Meeting (GLRM)*, Fargo, ND (Jun. 28, **2017**)

52.(P) "Polycyclobutanes (PCBs) Constructed Using Supramolecular Principles" Chu, Q. R. *Bruker/MIT Symposium*, Cambridge, MA (Feb. 25, **2017**)

51.(O) "Materials Synthesized Using Symmetric Building Blocks: From Chiral Helix to Sustainable Polycyclobutane" Chu, Q. R. *Department of Chemistry and Chemical Biology, University of California, Merced*, Merced, CA (Jan. 20, **2017**)

50.(O) "Synthesis and Characterization of Polycyclobutanes (PCBs)" Chu, Q. R. *252th ACS National Meeting*, Philadelphia, PA (Aug. 25, **2016**)

49.(O) "Organic Materials Constructed Using Supramolecular Principles: From Hydrogen Bonded Frameworks to Polycyclobutanes" Chu, Q. R. *Telluride Scientific Research Conference: The First "Energy and Movement in Coherent Chemical Systems" Workshop,* Telluride, CO (Jul. 6, **2016**)

48.(P) "Bioinspired Synthesis of Ladder and Two-dimensional Polymers" Chu, Q. R. Professor *Stephen F. Martin 70th Birthday Symposium, University of Texas at Austin*, Austin, TX (Feb. 6, **2016**)

47.(O) "Synthesis of Chiral and Stereoregular Materials from Achiral Molecules" Chu, Q. R. *Department of Chemistry and Chemical Biology, Northeastern University*, Boston, MA (Oct. 23, **2015**)

46.(O) "Construction of Chiral Materials Using Supramolecular Atropisomers" Chu, Q. R. *250th ACS National Meeting*, Boston, MA (Aug. 16, **2015**)

45.(O) "Construction of Organic Nanostructures Using Symmetric Building Blocks: From Supramolecular Helix to Biomass Derived 2D Polymer" Chu, Q. R. *Department of Chemistry, Kansas State University*, Manhattan, KS (Apr. 2, **2015**)

44.(O) "Bioinspired Synthesis of Organic Nanomaterials: From Supramolecular Helix to Two-dimensional Polymer" Chu, Q. R. *Department of Chemistry, University of Connecticut*, Storrs, MA (Feb. 6, **2015**)

43.(O) "Construction of Organic Nanomaterials: From Supramolecular Sheet to Two-dimensional Polymer" Chu, Q. R. *Department of Chemistry, University of Massachusetts Lowell*, Lowell, MA (Jan. 30, **2015**)

42.(O) "Synthesis of Organic Nanostructures: From Supramolecular Helix to Biomass Derived Two-Dimensional Polymer" Chu, Q. R. *Department of Chemistry, University of Manitoba*, Winnipeg, Canada (Jan. 9, **2015**)

41.(O) "Bioinspired Synthesis of Organic Nanomaterials: From Supramolecular Helix to Biomass Derived 2D Polymer" Chu, Q. R. *Department of Chemistry, University of New Hampshire*, Durham, NH (Dec. 2, **2014**)

40.(O) "Construction of Organic Nanostructures Using Symmetric Building Blocks: From Supramolecular Helix to Biomass Derived 2D Polymer" Chu, Q. R. *Department of Chemistry, Iowa State University*, Ames, IA (Nov. 14, **2014**)

39.(O) "Bioinspired Approach Construction of Organic Nanomaterials: From a Supramolecular Helix to Biomass Derived 2D Polymers" Chu, Q. R. *Department of Chemistry, Tufts University*, Medford, MA (Sept. 23, **2014**)

38.(O) "Construction of Polymeric Ladders from Plant-Derived Raw Materials" Chu, Q. R.; Hou, X.; Wang, Z.; Wysocki, E.; and Randazzo, K. XXIVth *Midwest Organic Solid-State Chemistry Symposium*, Iowa City, IA (Jun. **2014**)

37.(P) "Construction of Ladder and Two-dimensional Polymers by Topochemical Polymerization" Chu, Q. R. *Gordon Research Conferences: Crystal Engineering*, Waterville Valley, NH (Jun. **2014**)

36.(O) "Synthesis of Ladder and Two-dimensional Polymers Using Biomass-derived Building Blocks" Chu, Q. R. *NDSU-UND Sustainable Materials Science Meeting*, Fargo, ND (May **2014**)

35.(O) "Construction of Organic Nano-structures Using Symmetric Building Blocks: From Supramolecular Helix to Biomass Derived 2D Polymer" Chu, Q. R. *Chemistry Department, University of North Dakota*, Grand Forks, ND (Mar. **2014**)

34.(O) "Ladder and Two-dimensional Polymers via a Bio-inspired Approach" Chu, Q. R. *Chemistry Department, University of Massachusetts Boston*, Boston, MA (Nov. **2013**)

33.(O) "Synthesis of Ladder and Two-dimensional Polymers by Topochemical Photo-polymerization" Chu, Q. R *ACS Northeast Regional Meeting (NERM)*, New Haven, CT (Oct. **2013**)

32.(P) "Construction of Covalently Bonded Nanoladders" Chu, Q. R. *Bruker/MIT Symposium*, Cambridge, MA (Feb. **2013**)

31.(O) "Construction of Nano-structures Using Symmetric Molecules as Building Blocks" Chu, Q. R. *Department of Chemistry and Biochemistry, North Dakota State University*, Fargo, ND (Nov. **2012**)

30.(P) "Chiral Sheets Self-assembled from C_3-Symmetric Supramolecular Atropisomers" Chu, Q. R.; Hou, X.; Singh, R.; Schober, M. *Annual Meeting of American Crystallographic Association*, Boston, MA (Jul. **2012**)

29.(P) "Organic Chiral Sheets Connected by Hydrogen Bonds" Chu, R. Q. *Gordon Research Conferences: Crystal Engineering*, Waterville Valley, NH (Jun. **2012**)

21.(O) "Using Molecules to Build Molecules: My Journal in Chemistry" Chu, Q. R. *Recruiting Seminar:*

i) Shanghai University, P. R. China (Sept. **2010**)
ii) Fudan University, P. R. China (Sept. **2010**)
iii) East China University of Science and Technology, P. R. China (Sept. **2010**)
iv) Shanghai Institute of Organic Chemistry, P. R. China (Sept. **2010**)
v) University of Minnesota Morris, Morris, MN (Mar. **2010**)
vi) Saint Cloud State University, Saint Cloud, MN (Mar. **2010**)
vii) Luther College, Decorah, IA (Feb. **2010**)
viii) University of Minnesota Duluth, Duluth, MN (Jan. **2010**)

20.(O) "Using Molecules to Build Molecules: My Journal in Chemistry" Chu, Q. R. *Department of Physics and Astrophysics, University of North Dakota*, Grand Forks, ND (Dec. **2009**)

19.(O) "Using Molecules to Build Molecules: Template-directed Solid-state Synthesis and Fluorous Organocatalysis" Chu, Q. R. *Chemistry Department, University of North Dakota*, Grand Forks, ND (Jan. **2009**)

18.(O) "Using Molecules to Build Molecules: Template-directed Solid-state Synthesis and Fluorous Organocatalysis" Chu, Q. R. *Center for Molecular Discovery, Boston University,* Boston, MA (Dec. **2008**)

17.(O) "Architecture on a Nanoscale: Covalently Bonded Fibers and Tubes" Chu, Q. R. *Department of Chemistry, Louisiana State University*, Baton Rouge, LA (Nov. **2008**)

16.(O) "Synthesis of Molecules and Materials via Reversible Bonding Strategies" Chu, Q. R. *Department of Chemistry*, *City College, City University of New York,* New York, NY (Dec. **2007**)

15.(O) "Synthesis of Molecules and Materials via Reversible Bonding Strategies" Chu, Q. R. *Department of Chemistry*, *University at Albany, State University of New York, Albany, NY* (Dec. **2007**)

14.(O) "Towards Shape-oriented Separation: Transport of Organic Cations through Fluorous Bulk Membrane" Chu, Q.; Curran, D. P. *234th ACS National Meeting & Exposition,* Boston, MA (Aug. **2007**)

13.(P) "A) Using Molecules to Build Molecules; B) Active Transport of Organic Cations through Fluorous Bulk Membranes by Nanohosts" Chu, Q.; MacGillivray, L. R.; Curran, D. P. *234th ACS National Meeting & Exposition*, Boston, MA (Aug. **2007**)

12.(P) "Synthesis, Characterization and Applications of Fluorous Hosts" Chu, Q.; Curran, D. P. *The 2nd International Symposium on Fluorous Technologies (ISoFT'07)*, Yokohama-Kamakura, Japan (Jul. **2007**)

11.(O) "Dynamic Mutation - A Novel Method for Crystal Structure Prediction" Chu, Q.; MacGillivray, L. R. *Midwest Organic Solid-State Chemistry Symposium XVII*, Iowa City, IA (Jun. **2006**)

10.(O) "Computational Studies of Electronic Effects of Substituents within Photoreactive Molecular Assemblies Derived from the Solid State" Chu, Q.; Jensen, J. H.; MacGillivray, L. R. *Midwest Organic Solid-State Chemistry Symposium XVI*, West Lafayette, IN (May **2005**)

9.(P) "Metal-Organic Hosts Constructed *via* Template-controlled Solid-state Synthesis" Chu, Q.; Hamilton, T. D.; MacGillivray, L. R. *Annual Meeting of the American Crystallographic Association*, Orlando, FL (May **2005**)

8.(O) "Towards Generality in Template-controlled Reactivity: 'Template Switching' in Metal-Organic Solids" Chu, Q.; MacGillivray, L. R. *39th Midwest Regional Meeting of ACS*, Manhattan, KS (Oct. **2004**)

7.(O) "Inorganic Salts That Function as Linear Templates by Directing the [2+2] Photodimerization in the Solid State" Chu, Q.; MacGillivray, L. R. *228th ACS National Meeting*, Philadelphia, PA (Aug. **2004**)

6.(P) "Inorganic Salts That Function as Linear Templates by Directing Assembly and Reactivity of Olefins in the Solid State" Chu, Q.; MacGillivray, L. R. *XIIIth International Symposium on Supramolecular Chemistry*, Notre Dame, IN (Jul. **2004**)

5.(O) "Directed Assembly and Reactivity of Olefins in the Solid State Using Silver Salts" Chu, Q.; MacGillivray, L. R. *Midwest Organic Solid-State Chemistry Symposium XV,* Carbondale, IL (Jun. **2004**)

4.(O) "Inorganic Salts That Function as Linear Templates by Directing the [2+2] Photodimerization in the Solid State" Chu, Q.; MacGillivray, L. R. *38th Midwest Regional Meeting of ACS, Columbia*, MO (Nov. **2003**)

3.(P) "Metal-Organic Squares Constructed *via* Linear Templates" Chu, Q.; MacGillivray, L. R. *39th IUPAC Congress*, Ottawa, Canada (Aug. **2003**)

2.(O) "A Metal-Organic Square Constructed Using a Linear Template" Chu, Q.; Papaefstathiou, G. S.; Hamilton, T. D.; MacGillivray, L. R. XIVth *Midwest Organic Solid-State Chemistry Symposium*, Minneapolis, MN (Jun. **2003**)

1.(O) "A Metal-Organic Square Constructed Using a Linear Template" Chu, Q.; MacGillivray, L. R. *225th ACS National Meeting*, New Orleans, LA (Mar. **2003**)

PROFESSIONAL AFFILIATIONS

- *Alpha Chi Sigma:* A Professional Chemistry Fraternity (Dec. 2003 - present)
- American Chemical Society (Sept. 2001 - present)
- American Crystallographic Association (Jun. 2004 - present)

SERVICES

Workshop, Symposium, and Conference Session Organized and/or Chaired

- Organizing Committee Chair, the Midwest Organic Solid-State Chemistry Symposium XXVI (the 26th MOSSCS), *Grand Forks, ND.* Jun. 3-4, 2016.
- Organizing Committee Member, the Midwest Organic Solid-State Chemistry Symposium XIII (the 13th MOSSCS*)*, *Iowa City, IA*, Jun. 7-8, 2002.
- Organizing Committee Chair, "X-ray Structure Determination of Table Sugar" Annual Mini Workshop, *Grand Forks, ND.* Summer 2012 - Present.
- Section Discussion Leader, *Crystals to Covalent Networks*, Gordon Research Conference: Crystal Engineering, *Newry, ME,* Jun. 26, 2018.
- Section Chair, *General Topics: New Synthesis & Characterization of Polymers*, 256th American Chemical Society (ACS) National Meeting, *Boston, MA*, Aug. 23, 2018.

Proposal Reviewers

- Invited Proposal Reviewer, American Chemical Society (ACS), Petroleum Research Fund (PRF) Grant Program, spring 2020.
- Invited Proposal Reviewer, American Chemical Society (ACS), Petroleum Research Fund (PRF) Grant Program, summer 2019.
- Invited Proposal Reviewer, American Chemical Society (ACS), Petroleum Research Fund (PRF) Grant Program, summer 2018.
- Invited Proposal Reviewer, the National Science Foundation (NSF), Macromolecular, Supramolecular and Nanochemistry (MSN) Program in the Division of Chemistry (CHE), spring 2017.

Committees

- Chemistry Department Lecture Committee Chair (Aug. 2019 – Present)
- Chemistry Department Graduate Admission Committee (Aug. 2009 - Jul. 2014, Aug. 2020 - Present)
- Chemistry Department Lecture Committee (Aug. 2014 – May 2019)
- Chemistry Department Seminar Grading Committee Chair (Aug. 2018 – May 2019)
- Chemistry Department Seminar Grading Committee (Aug. 2013 – May 2018)
- Chemistry Department Graduate Program Committee (Aug. 2014 – May 2019)
- Chemistry Department Safety Committee (Aug. 2011 - Jul. 2012, Aug. 2015 – Jul. 2016)
- Chemistry Department Recoding Secretary (Jan. 2011 - Jun. 2011)
- ND CSMS Faculty Research Seed Grant Committee (Jul. 2014 - Jun. 2019)
- UND Faculty Research Seed Grant Committee (Jan. 2012 - Dec. 2012)

RESEARCHERS AND STUDENTS MENTORED (POSITION)

Postdoctoral Research Scholars

Zhihan Wang, Ph.D. *Nov. 2017 – Jul. 2018*
(Faculty, Eastern New Mexico University, NM)
Xiaodong Hou, Ph.D. *Oct. 2009 – Sept. 2014*
(Lab Director/Lecture, Environmental Analytical Research Laboratory, UND, ND)
Julius N. Ngwendson, Ph.D. *Jun. 2009 – Aug. 2010*
(Faculty, Department of Chemistry, Normandale Community College, Bloomington, MN)

Graduate Students

Brent Kastern *Jan. 2020 – Present*
McKenzie Roman (*Combined BS/MS program*) *Aug. 2019 – Present*
Joseph Robertson *Aug. 2018 – Present*
Dominic Nkemngong *Aug. 2017 – Present*
Houssein Amjaour *Aug. 2016 – Present*
Rahul Shahni *Aug. 2015 – Present*
Zijun Wang *Aug. 2013 – Dec. 2016*
(*Scientist: Capacitor Sciences Inc. Menlo Park, CA*)
Zhihan Wang *Jun. 2012 – May 2017*
(Faculty, Eastern New Mexico University, NM)
Rajiv K. Singh *Aug. 2009 – May 2012*
(Faculty, Southeast Kentucky Community & Technical College, KY)

Undergraduate Students

Nicholas Mathias *May 2020 – Present*
Ross Domier *Jan. 2020 – Present*
Zachary Meduna *May 2019 – Present*
Briana Krupinsky *Jan. 2019 – Present*
Richard Sather III (*Medical School Student, U. of Minnesota)* *Aug. 2018 – Present*
Micah Mabin (*Travelling in USA*) *Apr. 2016 – Aug. 2019*
Alexandra Rios Diaz (*Chemical Technician at NAES Corporation*) *Dec. 2017 – Dec. 2019*
Sullivan Busch *(Undergraduate Student at UND)* *Jan. 2018 – Mar. 2019*
Austin Rebel *(Student in Physician Assistant Program, UW-La Crosse)* *Jan 2017 – May 2018*
Benjamin Nelson (*USA Military*) *Jan. 2017 – Dec. 2017*
Mark Scheuring (*Chemical Technician, LKT Labs*) *Jan 2017 – Dec. 2017*
Tiffany Shiu (*Software Engineer, Google LLC*) *May 2016 – Dec. 2017*
Jenna Puttkammer *(Medical School Student, U. of Minnesota)* *Mar. 2016 – May 2018*
Quintin Elliott *(Ph.D. Student, Dept. of Chem., Florida State U.)* *Jan. 2016 – Jul. 2017*
Benjamin Miller *(Applying for Medical School)* *Feb. 2015 – May 2017*
Jonathan Butz *(Scientist, Cargill, Inc.)* *May 2015 – Jan. 2017*
David Seals *(Undergraduate Student at UND)* *Sept. 2014 – May 2015*
Katelyn Randazzo *(Ph.D. Student, Dept. of Chem. Eng., Princeton U.)* *Feb. 2014 – Aug. 2016*
Joseph Lee *(Applying for Medical School)* *May 2012 – Dec. 2015*
Erin Wysocki *(Undergraduate Student at UND)* *May 2013 – Aug. 2014*
Jennifer Schlak *(Ph.D. Student, Southern Illinois U.)* *Jan. 2013 – Dec. 2013*
Casey Oian *(Ph.D. Student, Dept. of Chem., Texas A&M U.)* *Mar. 2012 – Aug. 2013*
Molly Overby *(Emergency Medical Technician in Minneapolis)* *Jun. 2011 – May. 2013*
Nicole Larson *(Undergraduate Student at UND)* *Aug. 2012 – Dec. 2012*
Matthew Schober *(Student at U. of Minnesota, Twin Cities)* *Feb. 2010 – Aug. 2012*
Alys Seay *(Graduate Student, Union College)* *Sept. 2011 – Dec. 2011*
Monty S. Bulzomi *(Student at U. of Minnesota, Twin Cities*) *Sept. 2009 – May 2010*