Rebekka S. Klausen
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POSITIONS

2019 to present	**Second Decade Society Associate Professor** Department of Chemistry Johns Hopkins University
2018 to 2019	**Second Decade Society Assistant Professor** Department of Chemistry Johns Hopkins University
2013 to 2018	**Assistant Professor** Department of Chemistry Johns Hopkins University

EDUCATION & TRAINING

2011 to 2013	**Columbia University, New York, NY** Department of Chemistry Postdoctoral Scholar with Prof. Colin Nuckolls
2005 to 2011	**Harvard University, Cambridge, MA** Department of Chemistry and Chemical Biology Ph.D. with Prof. Eric N. Jacobsen
2001 to 2005	**Boston College, Chestnut Hill, MA** Department of Chemistry B.S. *cum laude*, research with Prof. Steven D. Bruner

AWARDS & RECOGNITIONS

- 2022, ACS Macro Letters / Biomacromolecules / Macromolecules Young Investigator Award.
- 2022, Finalist, Blavatnik National Award (Chemistry).
- 2021, ACS Award in Pure Chemistry, American Chemical Society.
- 2021, Finalist, Blavatnik National Award (Chemistry).
- 2018, CAREER Award, National Science Foundation.
- 2017, Marion Milligan Mason Award, American Association for the Advancement of Science.
- 2017, Sloan Research Fellowship.
- 2017, American Chemical Society Division of Organic Chemistry (ORGN) Young Academic Investigator.
- 2017, American Chemical Society Division of Polymeric Materials: Science & Engineering (PMSE) Young Investigator.
- 2017, Johns Hopkins University Catalyst Award.
- 2016, George and Monique C. Braude Award, MD Division of the American Chemical Society.
- 2015, Early Career Research Award, Department of Energy.
- 2015, Doctoral New Investigator, Petroleum Research Fund.

PUBLICATIONS SINCE JOINING JHU (* = corresponding author)

1. Guan, W.; Lu, L.; Gittens, A. F.; Jiang, Q.; Klausen, R. S.*; Lin, S.* "Electrochemical Strategy to Si–Cl Homo- and Heterocoupling." *Angew. Chem. Int. Ed*. **2023**, e202303592, DOI: 10.1002/anie.202303592.
2. Wakefield, H. W.; Kevlishvili, I; Wentz, K. E.; Yao, Y.; Kouznetsova, T. B.; Melvin, S. J.;

Ambrosius, E. G.; Yao, G.; Herzog-Arbeitman, A.; Siegler, M. A.; Johnson, J. A.; Craig, S. L.; Kulik, H. J.; Klausen, R. S.* “Synthesis and Ring-Opening Metathesis Polymerization of a Strained trans-Silacycloheptene and Single-Molecule Mechanics of Its Polymer.” J*. Am. Chem. Soc*., **2023**, *145*, 10187-10196, DOI: 10.1021/jacs.3c01004.

3. Husted, K. E. L.; Brown, C.M.; Shieh, P.; Kevlishvili, I.; Kristufek, S. L.; Accardo, J. V.; Cooper, J. C.; Zafar, H.; Klausen, R. S.; Kulik, H. J.; Moore, J. S.; Sottos, N. R.; Kalow, J. A.; Johnson, J. A.* “Remolding and Deconstruction of Industrial Thermosets via Carboxylic Acid-catalyzed Bifunctional Silyl Ether Exchange.” *J. Am. Chem. Soc*., **2023**, *145*, 1916–1923, DOI: 10.1021/jacs.2c11858.
4. Gittens, A. F.; Jiang, Q.; Siegler, M. A.; Klausen, R. S.* “Conjugation in Isomeric Cyclosilane Thioethers.” *Organometallics*, **2022**, *41*, 3762-3769, DOI: 10.1021/acs.organomet.2c00501.
5. Ji, Y.; Catazaro, J.; Jiang, Q.; Melvin, S. J.; Jiang, J.; Klausen, R. S.* "Characterization of Styrene-Vinyl Alcohol Copolymers by CP-MAS NMR Spectroscopy." *Macromolecules,* **2022***, 55,* 7032–7038
6. Jiang, Q.; Gittens, A.; Wong, S.; Siegler, M. A.; Klausen, R. S.* "Highly Selective Addition of Cyclosilanes to Alkynes Enabling New Conjugated Materials." *Chem. Sci*. **2022**, *13*, 7587-7593.
7. Fang, F.; Jiang, Q.; Klausen, R. S.* "Poly(cyclosilane) Connectivity Tunes Optical Absorbance." *J. Am. Chem. Soc*. **2022**, 144, 7834-7843.
8. Wakefield, H.; Jiang, Q.; Klausen, R. S.* "Azaborine Isomer Effects on Benzylic Ion Stability and Reactivity: Consequences for BN2VN Ionic Polymerization." *Org. Biomol. Chem*. **2022**, *20*, 1407-1414.
9. Ballestero Martinez, E.; Ferguson, J. T.; Siegler, M. A.; Klausen, R. S.* "Isolation of a Cyclopentasilane from Magnesium Reduction of a Linear Hexasilane." *Eur. J. Org. Chem*. **2021**, *33*, 4641-4646.
10. Barrett, B. J.; Jimenez, D.; Klausen, R. S.*; Bragg, A. E.* "Intramolecular Photoinduced Charge Transfer and Recombination Dynamics in Vinyl-Arene Terminated Organosilanes." *J. Phys. Chem. B*, **2021**, *125*, 8460-8471.
11. Ji, Y.; Klausen, R. S.* “Chain Transfer to Solvent in BN 2-Vinylnaphthalene Radical Polymerization.” *J. Polym. Sci.* **2021**, 59, 2521.
12. Klausen, R. S.*; Ballestero-Martínez, E.; “Organosilicon and Related Group 14 Polymers”, Invited Chapter for Comprehensive Organometallic Chemistry IV. Editors: Karsten Meyer, Dermot O’Hare, Gerard Parkin. DOI: 10.1016/B978-0-12-820206-7.00098-6. https://www.sciencedirect.com/science/article/pii/B9780128202067000986
13. Jiang, Q.; Wong, S.; Klausen, R. S.* “Effect of Polycyclosilane Microstructure on Thermal Properties.” *Polym. Chem.* **2021**, *12,* 4785-4794.
14. Folster, C. P.; Nguyen, P. N.; Klausen, R. S.* “Reductive Halocyclosilazane Polymerization.” *Dalton. Trans*. **2020**, *49*, 16125–16132.
15. Ferguson, J. T.; Jiang, Q.; Marro, E. A.; Siegler, M. A.; Klausen, R. S.* “Long Range Coupling in Cyclic Silanes.” *Dalton Trans*. **2020**, *49*, 14951-14961.
16. Ji, Y.; Zhou, T.; van de Wouw, H. L.; Klausen, R. S.* “Organoborane Strategy for Polymers Bearing Alcohol, Ester, and Lactone Functionality.” *Macromolecules*, **2020**, *53*, 249-255.
17. Burns, D. A.; Press, E. M.; Siegler, M. A.; Klausen, R. S.; Thoi, V. S.* “Structural Dynamism of 2D Oligosilyl Metal-Organic Frameworks.” *Angew. Chem. Int. Ed.* **2020**, *59*, 763-768.
18. Marro, E. A.; Folster, C. P.; Press, E. M.; Im, H.; Ferguson, J. T.; Siegler, M. A.; Klausen, R. S.* “Stereocontrolled Syntheses of Functionalized *cis*- and *trans*-Siladecalins.” *J. Am. Chem. Soc.* **2019**, *141*, 17926–17936.
19. Dorn, R. W.; Marro, E. A.; Hanrahan, M. P.; Klausen, R. S.*; Rossini, A. J.* “Microstructural Investigation of Poly(1,4Si_6) by ^{29}Si Solid-State NMR Spectroscopy and DFT Calculations.” *Chem. Mater*. **2019**, *31*, 9168–9178.

20. Folster, C. P.; Nguyen, P. N.; Siegler, M. A.; Klausen, R. S.* "Tunable SiN Hybrid Conjugated Materials." *Organometallics*, **2019**, *38*, 2902–2909.
21. Marro, E. A.; Klausen, R. S.* "Conjugated Polymers Inspired by Silicon." *Chem. Mater*. **2019**, *31*, 2202–2211.
22. van de Wouw, H. L.; Klausen, R. S.* "BN Polystyrenes: Emerging Optical Materials & Versatile Intermediates." *J. Org. Chem.,* **2019**, *84*, 1117–1125.
23. Purkait, T. K.; Press, E. M.; Marro, E. A.; Siegler, M. A.; Klausen, R. S.* "Low-Energy Transition in SiB Rings." *Organometallics,* **2019**, *38*, 1688–1698.
24. Mendis, S. N.; Zhou, T.; Klausen, R. S.* "Syndioselective Polymerization of a BN Aromatic Vinyl Monomer." *Macromolecules* **2018**, *51*, 6859–6864.
25. van de Wouw, H. L.; Awuyah, E. C.; Baris, J. I.; Klausen, R. S.* "An Organoborane Vinyl Monomer with Styrene-like Radical Reactivity: Reactivity Ratios and Role of Aromaticity." *Macromolecules* **2018**, *51*, 6359–6368.
26. Marro, E. A.; Press, E. M. Siegler, M. A.; Klausen, R. S.* "Directional Building Blocks Determine Linear and Cyclic Silicon Architectures." *J. Am. Chem. Soc.* **2018**, 140, 5976–5986.
27. Folster, C.; Klausen, R. S.* "Metallocene Influence on Poly(Cyclosilane) Structure and Properties." *Polym. Chem*. **2018**, *9*, 1938–1941.
28. de Wouw, H. L.; Lee, J. Y.; Awuyah, E.; Klausen, R. S.* "A BN Aromatic Ring Strategy for Tunable Hydroxy Content in Polystyrene." *Angew. Chem. Int. Ed*. **2018**, *57*, 1673–1677.
29. Marro, E. A.; Press, E. M.; Purkait, T.; Jimenez, D.; Siegler, M. A.; Klausen, R. S.* "Cooperative Noncovalent Interactions Induce Ion Pair Separation in Diphenylsilanides." *Chem. Eur. J.* **2017**, *23*, 15633–15637.
30. van de Wouw, H. L.; Lee, J. Y.; Klausen, R. S.* "Gram-Scale Free Radical Polymerization of an Azaborine Vinyl Monomer." *Chem Commun.* **2017,** *53*, 7262–7265.
31. Zhou, J.; Folster, C. P.; Surampudi, S. K.; Jimenez, D.; Klausen, R. S.;* Bragg, A. E.* "Asymmetric Charge Separation and Recombination in Symmetrically Functionalized σ-π Hybrid Oligosilanes." *Dalton Trans*. **2017**, *46*, 8716–8726.
32. Press, E. M.; Marro, E. A.; Surampudi, S. K.; Siegler, M. A.; Tang, J.; Klausen, R. S.* "Synthesis of a Fragment of Crystalline Silicon: Poly(cyclosilane)." *Angew. Chem. Int. Ed*. **2017**, *56*, 568–572.
33. Zhou, J.; Surampudi, S. K.; Bragg, A. E.;* Klausen, R. S.* "Photoinduced Charge Separation in Molecular Silicon." *Chem. Eur. J*., **2016**, *22*, 6204–6207.
34. van de Wouw, H. L.; Lee, J. Y.; Siegler, M. A.; Klausen, R. S.* "The Innocent BN Bond." *Org. Biomol. Chem*. **2016**, *14*, 3256–3263.
35. van de Wouw, H. L.; Chamorro, J.; Quintero, M.; Klausen, R. S.* "Opposites Attract: Organic Charge Transfer Salts." *J. Chem. Educ*., **2015**, *92*, 2134–2139.
36. Surampudi, S.; Yeh, M.-L.; Siegler, M. A.; Hardigree, J. F. M.; Kasl, T. A.; Katz, H. E.; Klausen, R. S.* "Increased Carrier Mobility in End-Functionalized Oligosilanes." *Chem. Sci.*, **2015**, *6*, 1905–1909.

PUBLICATIONS (PHD AND POSTDOC)

37. Klausen, R. S.; Kennedy, C. R.; Hyde, A. M.; Jacobsen, E. N. "Chiral Thioureas Promote Enantioselective Pictet–Spengler Cyclization by Stabilizing Every Intermediate and Transition State in the Carboxylic Acid-Catalyzed Reaction." *J. Am. Chem. Soc*. **2017**, *139*, 12299–12309.
38. Su, T. A.; Li, H.; Klausen, R. S.; Kim, N.; Neupane, M.; Leighton, J.; Steigerwald, M. L.; Venkataraman, L.; and Nuckolls, C. "Silane and Germane Electronics." *Acc. Chem. Res*. **2017**, *50*, 1088–1095.
39. Su, T. A.; Li, H.; Klausen, R. S.; Widawsky, J. R.; Batra, A.; Steigerwald, M. L.; Venkataraman, L.; Nuckolls, C.* "Tuning Conductance in pi-sigma-pi Single-Molecule Wires." *J. Am. Chem. Soc*., **2016**, *138*, 7791–7795.

40. Su, T. A.; Li, H.; Zhang, V.; Neupane, M.; Batra, A.; Klausen, R. S.; Kumar, B.; Steigerwald, M. L.; Venkataraman, L.; Nuckolls, C. "Single-Molecule Conductance in Atomically Precise Germanium Wires." *J. Am. Chem. Soc*., **2015**, *137*, 12400–12405.
41. Klausen, R. S.; Widawsky, J.; Su, T. A.; Li, H.; Steigerwald, M. L.; Venkataraman, L.; Nuckolls, C. "Evaluating Atomic Components in Fluorene Wires." *Chem. Sci.,* **2014**, *5*, 1561–1564.
42. Su, T. A.; Widawsky, J. R.; Li, H.; Klausen, R. S.; Leighton, J.*; Steigerwald, M. L.*; Venkataraman, L.*; Nuckolls, C.* "Silicon Ring Strain Creates High Conductance Pathways in Single-Molecule Circuits." *J. Am. Chem. Soc*. **2013**, *135*, 18331–18334.
43. Klausen, R. S.; Widawsky, J.; Steigerwald, M. L.; Venkataraman, L.; Nuckolls, C.* "Conductive Molecular Silicon." *J. Am. Chem. Soc*. **2012**, *134*, 4541−4544.
44. Ahn, S.; Aradhya, S. V.; Klausen, R. S.; Capozzi, B.; Roy, X.; Steigerwald, M. L.; Nuckolls, C.; Venkataraman, L. "Electronic Transport and Mechanical Stability of Carboxyl Linked Single Molecule Junctions." *Phys. Chem. Chem. Phys*. **2012**, *14*, 13841–13845.
45. Yunmi, L.; Klausen, R. S.; Jacobsen, E. N. "Practical Enantioselective Synthesis of Tetrahydro-γ-carbolines Catalyzed by a Chiral Thiourea and Benzoic Acid." *Org. Lett*. **2011**, *13*, 5564−5567.
46. Klausen, R. S.; Jacobsen, E. N. "Weak Brønsted Acid-Thiourea Co-catalysis: Enantioselective, Catalytic Protio-Pictet−Spengler Reactions." *Org. Lett.* **2009**, 11, 887−890.

PATENT APPLICATIONS

1. Klausen, R. S.; van de Wouw, H. L.; Lee, J. Y. "Organoborane Polymers for Tunable Hydrophilicity and Wettability." US Patent App. 16/756,613. Filed: October 16, 2018. Publication Date: 2020/08/20.
2. Klausen, R. S.; Ji, Yuyang. "Organoborane Polymers for Lactone-Functionalized Polymers." PCT/US62/942,253. Filed: December 2, 2019.

CURRENT FUNDING

1. **Multilength-Scale Synthesis of Silicon Materials**, DE-SC0020681, sole PI
   Source: Department of Energy, Materials Chemistry Program
   Dates: July 15, 2020–July 14, 2023
   Amount: $500,000

2. **Iterative Macromolecular Functionalization**, CHE-175279, sole PI
   Source: National Science Foundation; Chemistry Division; Macromolecular, Supramolecular, and Nanochemistry (MSN)
   Dates: 06/01/23–05/31/26
   Amount: $510,000

3. **Major Research Instrumentation (MRI), Track 1: Acquisition of a 500 MHz Solid State NMR Spectrometer and Broad Band Probes**, CHE–2018176, PI (with co-PI's: Prof. Sara Thoi, Johns Hopkins University; Prof. Howard Fairbrother, Johns Hopkins University; Prof. Adelina Voutchkova-Kostal, George Washington University)
   Source: National Science Foundation
   Dates: 08/01/2020–07/31/2023
   Amount: $559,783

4. **CCI Phase 2: Molecularly Optimized Networks (MONET)**, co-PI and Vice Director of Informal Science Communication, PI: Dr. Stephen Craig, Duke University
   Source: National Science Foundation
   Dates: September 1, 2021–August 31, 2026
   Amount: $20,000,000 (co-PI share: $1,240,000)

5. **Selective PFAS Removal Through Sustainable Design**, PI, with co-PI, Dr. Carsten Prasse, JHU, Environmental Health and Engineering
   Source: JHU Discovery Award
   Dates: September 1, 2022–August 31, 2023
   Amount: $100,000 (co-PI share: $60,000)

SYNERGISTIC ACTIVITIES

- Associate Editor, *Polymer Chemistry* (to begin October 1, 2023)
- Executive Leadership Team, NSF Center for the Chemistry of Molecularly Optimized Networks (MONET), 2021-present.
- Mentor, Summer Undergraduate Research Excellence (SURE), joint program JHU-Trinity Washington University, 2022-present.
- Mentor, First Generation Undergraduate Research Experience (FiGURE), Johns Hopkins University, 2021-present.
- Editorial Advisory Board: *Macromolecules*, 2019-2021.
- Co-Organizer, Power Hour, Polymers Gordon Research Conference, 2019 and 2017.
- Presenter, Hopkins on the Hill, 2019. One of two presenters representing the Krieger School of Arts and Sciences at a showcase of the range, value, and impact of federally funded research and programming at Johns Hopkins University.
- Presenter, Women Serious about Science, Baltimore Polytechnic Institute, 2018 and 2013.
- Participant, Leadership Program for Women Faculty, Johns Hopkins University School of Medicine, 2017–2018.
- Founder and Organizer, Pathways to Your Career Seminar Series, Johns Hopkins University, 2015-present.
- Mentor, Chemistry Women Mentoring Network (ChemWMN), 2014-present.

SELECTED INVITED SEMINARS (KEYNOTE, AWARD, AND NAMED LECTURES ONLY)

- **264th American Chemical Society Fall Meeting**, Chicago, IL
  Award Lecture: ACS Macro Letters/Biomacromolecules/Macromolecules Young Investigator Award in Honor of Rebekka Klausen and Changle Chen
  Date: August 24, 2022
- **264th American Chemical Society Fall Meeting**, Chicago, IL
  Keynote Lecture: PMSE (Polymeric Materials Science and Engineering) Future Faculty Symposium
  Date: August 22, 2022
- **University College London**, London, England
  Named Lecture: Physical and Chemical Society Lecture
  Date: November 2, 2021
- **261st American Chemical Society Spring Meeting**, San Antonio, TX
  Named Lecture: ACS Award in Pure Chemistry Award Symposium in honor of R.S. Klausen
  Date: April 5, 2021
- **University of Victoria**, Department of Chemistry, Victoria, British Columbia, Canada.
  Named Lecture: Xerox Lecture
  Date: January 20, 2020
- **University of California, Los Angeles**, Department of Chemistry, Los Angeles, CA.
  Named Lecture: Organization for Cultural Diversity in Science (OCDS) Invited Speaker
  Date: October 19, 2017.
- **University of Maryland, College Park**, Department of Chemistry, College Park, MD.
  Named Lecture: Alliance for Diversity in Science and Engineering (ADSE) Invited Speaker.
  Date: May 25, 2017.
- **American Academy of Arts and Sciences**, Washington, DC.

Named Lecture: Mason Award Ceremony
Date: December 15, 2016.

- **MD Section of the American Chemical Society**, Baltimore, MD.
  Named Lecture: Braude Award Lecture in honor of Rebekka Klausen
  Date: October 26, 2016.