

Asst. Prof. Stanislav Presolski

Yale-NUS College • Division of Science – Chemistry • Cendana Residential College
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EDUCATION

Ph.D. Organic Chemistry	The Scripps Research Institute (TSRI) , La Jolla, USA Advisor: M.G. Finn Thesis Title: <i>Ligand-Accelerated Cu^I-Catalyzed Azide–Alkyne Cycloaddition: Kinetic Studies and Reaction Mechanism</i>	2005 – 2011
B.A. Chemistry and Physics	Colby College , Waterville, USA <i>Full-year Study Abroad: St. Peter's College, Oxford University, UK</i> Advisor: Dasan M. Thamattoor Honors Thesis Summa Cum Laude	2001 – 2005

RESEARCH EXPERIENCE

Principal Investigator	Yale-NUS College , Singapore	July 2015 – present
Postdoctoral	Nanyang Technological University (NTU) , Singapore Advisor: Martin Pumera Project: <i>Chemically-modified 2D materials</i>	Nov. 2014 – June 2015
	Technical University Eindhoven (TU/e) , The Netherlands Advisor: E.W. (Bert) Meijer Project: <i>Supramolecular porphyrin architectures</i>	Aug. 2011 – Sept. 2014
Graduate	TSRI , La Jolla, California, USA Advisor: M.G. Finn Project: <i>Mechanism and optimization of the CuAAC reaction</i>	Aug. 2005 – May 2011
Undergraduate	Colby College , Waterville, Maine, USA Advisor: Dasan M. Thamattoor <i>Analytical and Physical-Organic Chemistry</i>	Feb. 2002 – May 2005

TEACHING EXPERIENCE

Assistant Professor	Yale-NUS College , Singapore	July 2015 – present
Research Coach	TU/e , Eindhoven, The Netherlands	Sept. 2012 – Dec. 2013

AWARDS & HONORS

Yale-NUS College	Tier 1 Internal Bridge Grant, SGD 100,000	Nov. 2019
	Teaching Innovation Grant, 3D Printed Models in Organic Chemistry	Feb. 2019
TSRI	Best Chemistry Talk, Graduate Program Symposium	Oct. 2010
	Best Chemistry Poster, Graduate Program Symposium	Sept. 2008
	Research Grant, Gustavus and Louise Pfeiffer Foundation	Jan. 2006
Colby College	Phi Beta Kappa Honor Society	May 2005
	Sigma Pi Sigma, National Physics Honor Society	May 2005
	First recipient of the " <i>Stan Award</i> ", Colby Chemistry Club	May 2005
	The American Institute of Chemists (AIC) award	April 2005
	Full merit-based 4-year scholarship, Davis UWC Foundation	Sept. 2001

PUBLICATIONS

Presolski, S.; Pumera, M. "Graphene Oxide: Carbocatalyst or Reagent?" *Angew. Chem. Int. Ed.* **2018**, *57*, 16713–16715.

Presolski, S. "Modification of Protein Scaffolds via Copper-Catalyzed Azide–Alkyne Cycloaddition" *Protein Scaffolds* (Udit A.) *Methods in Molecular Biology*, Humana Press, New York, NY **2018**, *1798*, 187–193.

Liu, Y.; Pujals, S.; Stals, P. J. M.; Pauloehrl, T.; **Presolski, S.**; Meijer, E. W.; Albertazzi, L.; Palmans, A. R. A, "Catalytically Active Single-Chain Polymeric Nanoparticles: Exploring Their Functions in Complex Biological Media" *J. Am. Chem. Soc.* **2018**, *140*, 3423–3433.

Presolski, S.; Wang, L.; Loo, A. H.; Ambrosi, A.; Lazar, P.; Ranc, V.; Otyepka, M.; Zboril, R.; Tomanec, O.; Ugolotti, J.; Sofer, Z.; Pumera, M. "Functional Nanosheet Synthons by Covalent Modification of Transition-Metal Dichalcogenides" *Chem. Mater.* **2017**, *29*, 2066–2073.

Moo, J. G. S.; **Presolski, S.**; Pumera, M. "Photochromic Spatiotemporal Control of Bubble-Propelled Micromotors by a Spiropyran Molecular Switch" *ACS Nano* **2016**, *10*, 3543–3552.

Liu, Y.; Pauloehrl, T.; **Presolski, S.**; Albertazzi, L.; Palmans, A. R. A.; Meijer, E. W. "Modular Synthetic Platform for the Construction of Functional Single-Chain Polymeric Nanoparticles: From Aqueous Catalysis to Photosensitization" *J. Am. Chem. Soc.* **2015**, *137*, 13096–13105.

Presolski, S.; Pumera, M. "Covalent functionalization of MoS₂" *Mater. Today* **2015**, *19*, 140–145.

Presolski, S. I.; van der Weegen, R.; Wiesfeld, J. J.; Meijer, E. W. "Efficient Routes to A₃B-type Meso-(4-Carboxyphenyl) Porphyrin Derivatives" *Org. Lett.* **2014**, *16*, 1864–1867.

Presolski, S. I.; Manzenrieder, F.; Mamidyala, S. K.; Finn, M. G. "Resin-Supported Catalysts for CuAAC Click Reactions in Aqueous or Organic Solvents" *ACS Comb. Sci.* **2012**, *14*, 527–530.

Presolski, S. I.*; Hong, V.*; Finn, M. G. "Copper-Catalyzed Azide–Alkyne Cycloaddition for Bioconjugation" *Curr. Protoc. Chem. Biol.* **2011**, *3*, 153–162. | *Invited paper, over 100 citations*

Presolski, S. I.; Hong, V.; Cho, S.-H.; Finn, M. G. "Tailored Ligand Acceleration of the Cu-Catalyzed Azide–Alkyne Cycloaddition Reaction: Practical and Mechanistic Implications" *J. Am. Chem. Soc.* **2010**, *132*, 14570–14576. | *Over 200 citations*

Hong, V.; **Presolski, S. I.**; Ma, C.; Finn, M. G. "Analysis and Optimization of Copper-Catalyzed Azide–Alkyne Cycloaddition for Bioconjugation" *Angew. Chem. Int. Ed.* **2009**, *48*, 9879–9883. | *Over 700 citations*

Rodionov, V. O.; **Presolski, S. I.**; Díaz, D. D.; Fokin, V. V.; Finn, M. G. "Ligand-Accelerated Cu-Catalyzed Azide–Alkyne Cycloaddition: A Mechanistic Report" *J. Am. Chem. Soc.* **2007**, *129*, 12705–12712. | *Over 400 citations*

Rodionov, V. O.; **Presolski, S. I.**; Gardinier, S.; Lim, Y.-H.; Finn, M. G. "Benzimidazole and Related Ligands for Cu-Catalyzed Azide–Alkyne Cycloaddition" *J. Am. Chem. Soc.* **2007**, *129*, 12696–12704. | *Over 300 citations*

Presolski, S. I.; Zorba, A.; Thamattoor, D. M.; Tippmann, E. M.; Platz, M. S. "A Search for Dichlorocarbene Ether Solvent Interactions" *Tet. Lett.* **2004**, *45*, 485–486.

SELECTED PRESENTATIONS

“Let There Be Light: Photochromic Spatiotemporal Control of Catalytic Micromotors” (oral) **Presolski, S.** Technical University of Eindhoven, The Netherlands, February 2020. | *Invited Symposium Speaker*

“Journey to the East: From Click Chemistry to Nanomaterials” (oral) **Presolski, S.** South China University of Technology, Guangzhou, China, January 2020. | *Invited Departmental Talk*

“Photochromic Catalysis: Synthesis and Kinetics of DTE-based CuAAC Ligands” (oral) **Presolski, S.** National University of Singapore, Singapore, November 2019. | *NUS Chemistry Departmental Talk*

“The Next Nobel Prize Winner For Paradigm Shifting Chemistry Unless a Biologist is Chosen” (oral) **Presolski, S.** Bar Bar Black Sheep, Singapore, August 2019. | *Singapore Science Social*

“Photo-spin Electrolysis: Better Water Splitting with Lasers and Magnets?” (oral) **Presolski, S.** NUS High School of Math and Science, Singapore, August 2019. | *Outreach Talk*

“Synthesis and CuAAC Kinetics of Photochromic DTE Ligands” (poster) Eun Jung Min; **Presolski, S.** Chemistry National Meeting, NUS, Singapore, May 2019.

“Functional A₃B Porphyrins: Synthesis, Supramolecular Chemistry and Photocatalytic Activity in Complex Biological Media” (oral) **Presolski, S.** Hiroshima University, Hiroshima, Japan, April 2019. | *Invited Speaker*

“BimPy₂-accelerated CuAAC and Ynoc deprotection in complex reaction media” (oral) **Presolski, S.** 70th Southeastern Regional Meeting of the American Chemical Society, Augusta, GA, November 2018. | *Invited Speaker*

“Liberal Arts (and Sciences!) in Theory and Practice” (oral) **Presolski, S.** National University of Singapore, Singapore, May 2018. | *NUS Faculty of Science Teaching Workshop*

“Covalent Modification of MoS₂ for Energy Harvesting Applications” (oral) **Presolski, S.** KIST-CAS-CEITEC Joint Workshop for Nanotechnology and Nanoscience, Seoul, Korea, December 2017. | *Invited Speaker*

“Ligand-accelerated CuAAC Mechanism – Elusive Intermediates and Practical Implications for ‘Click Chemistry’ Practitioners” (oral) **Presolski, S.** International Symposium on Reactive Intermediates and Unusual Molecules (ISRIUM), Sorrento, Italy, June 2017. | *Invited Speaker*

“Adventures at the Nanoscale: Control of Catalytic Motors and Functionalization of MoS₂” (oral) **Presolski, S.** Yale-NUS Science Division Symposium, Singapore, September 2016. | *Departmental Talk*

“Mechanistic Insights for CuAAC Optimization” (oral) **Presolski, S. I.**; Wang, L.; Finn, M. G. TSRI Graduate Program Symposium, Lake Arrowhead, CA, October 2010. | *Best Chemistry Talk Award*

“Successful Clicking: Mechanistic Insights to Avoid CuAAC Blunders” (oral) **Presolski, S. I.**; Hong, V.; Finn, M. G. 239th ACS National Meeting, San Francisco, CA, March 2010.

“Mechanistic Investigation of the Ligand-Accelerated CuAAC Reaction” (poster) **Presolski, S. I.**; Finn, M. G. TSRI Graduate Program Symposium, San Diego, CA. September 2008. | *Best Chemistry Poster Award*

“Experimental and theoretical study of a β-methoxycarbene” (poster) **Presolski, S. I.**; Thamattoor, D. M. 225th ACS National Meeting, New Orleans, LA. March 2003.