Asst. Prof. Stanislav Presolski

https://www.yale-nus.edu.sg/about/faculty/stanislav-presolski/

EDUCATION

Ph.D. Organic Chemistry	**The Scripps Research Institute (TSRI)**, La Jolla, USA Advisor: M.G. Finn | Thesis Title*: Ligand-Accelerated Cu^{I}-Catalyzed Azide–Alkyne Cycloaddition: Kinetic Studies and Reaction Mechanism*	2005 – 2011
B.A. Chemistry and Physics	**Colby College**, Waterville, USA *Full-year Study Abroad: **St. Peter's College**, Oxford University, UK* Advisor: Dasan M. Thamattoor | Honors Thesis | Summa Cum Laude: 3.94/4.00	2001 – 2005

RESEARCH EXPERIENCE

Principal Investigator	**Yale-NUS College**, Singapore Research supervisor to 8 final-year students (***4 outstanding thesis awards***)	July 2015 – present
Postdoctoral	**Nanyang Technological University** (NTU), Singapore Advisor: Martin Pumera | *Chemically-modified 2D materials*	Nov. 2014 – June 2015
	Technical University Eindhoven (TU/e), The Netherlands Advisor: E.W. (Bert) Meijer | *Supramolecular porphyrin architectures*	Aug. 2011 – Sept. 2014
Graduate	**TSRI**, La Jolla, California, USA Advisor: M.G. Finn | *Mechanism and optimization of the CuAAC reaction*	Aug. 2005 – May 2011
Undergraduate	**Colby College**, Waterville, Maine, USA Advisor: Dasan M. Thamattoor | *Analytical and Physical-Organic Chemistry*	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

GRANTS, AWARDS & HONORS

Yale-NUS College	Early Career **Teaching Award**	Feb. 2023
	Ministry of Education **Tier 2 Grant** Lead PI, SGD 1.2M (US$850,000)	Aug. 2022
	Tier 1 Internal Bridge Grant, SGD 140,000 (US$100,000)	Sept. 2020
	Shortlisted for Early Career Teaching Award	2019-2022
	Teaching Innovation Grant: 3D-Printed Models in Organic Chemistry	Feb. 2019
	Instrument grants: benchtop NMR (US$100,000), prep HPLC-MS (US$180,000), UV-Vis (US$30,000), laser equipment (US$50,000) lead and co-PI	2016-2020
TSRI	Best Chemistry Talk, Graduate Program Symposium	Oct. 2010
	Best Chemistry Poster, Graduate Program Symposium	Sept. 2008
Colby College	Phi Beta Kappa Honor Society	May 2005
	Sigma Pi Sigma, National Physics Honor Society	May 2005
	Inaugural recipient of eponymous *"**Stan Award**"*, Colby Chem Club	May 2005
	The American Institute of Chemists (AIC) award	April 2005
	Full merit-based 4-year scholarship, Davis UWC Foundation	Sept. 2001

PUBLICATIONS

Web of Science citation percentile median: 88th |Scopus field-weighted impact: 2.98
Google Scholar citations: 3700+, median 70+, h-index 13 | Undergraduate authors

Eun, J. M.; Shin, H.; **Presolski, S.** "Dithienylethene Ligand for Photoswitchable CuAAC Click Chemistry" *manuscript in preparation*.

Majee, D.; Ramanauskaitė, G.; **Presolski, S.** "Electronic Influences on the Dynamic Range of Photoswitchable Dithienylethene-Thiourea Organocatalysts" *J. Org. Chem.* **2023**, *88*, 4372−4378.

Majee, D.; **Presolski, S.** "Dithienylethene-Based Photoswitchable Catalysts: State of the Art and Future Perspectives" *ACS Catal.* **2021**, *11*, 2244–2252.

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 MoS_2" *Mater. Today* **2015**, *19*, 140–145. | *Over 200 citations*

Presolski, S. I.; van der Weegen, R.; Wiesfeld, J. J.; Meijer, E. W. "Efficient Routes to A_3B-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 450 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 350 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 1,200 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 500 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 450 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

"Photoswitchable CuAAC Ligands: Design, Performance, and Dynamic Range Challenges" (poster) **Presolski, S.** Artificial Molecular Switches and Motors Gordon Research Conference, New London, NH, June **2023**.

"Photoswitchable CuAAC with Dithienylethene-Oxazoline Ligands" (poster) Eun, J. M.; Shin, H.; Yip, J. Q.; Majee, D.; **Presolski, S.** Fall ACS National Meeting, Chicago, Il, August **2022**.

"Dithienylethene-Based Organocatalysts: Chasing the Dynamic Range Using Electronic Effects" (poster) Majee, D.; Ramanauskaitė, G.; **Presolski, S.** Fall ACS National Meeting, Chicago, Il, August **2022**.

"Photoswitchable Dithienylethene Catalysts: Performance Comparison by a Dynamic Range Metric" (oral) **Presolski, S.** Fall ACS National Meeting, Chicago, Il, August **2022**. | *Selected for Sci-Mix poster session*

"A_3B meso-(4-carboxyphenyl) Porphyrins: Facile Synthesis and Diverse Photochemical Applications" (poster) Khoo, K.; **Presolski, S.** Spring ACS National Meeting, San Diego, CA, March **2022**.

"Dithienylethene Ligands: Design, Synthesis, and Photoswitchable CuAAC" (oral on-line) **Presolski, S.** Occidental College, Los Angeles, CA, November **2020**. | *Invited Speaker*

"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*

"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, J. M.; **Presolski, S.** Chemistry National Meeting, NUS, Singapore, May **2019**.

"Functional A_3B Porphyrins: Synthesis, Supramolecular Chemistry and Photocatalytic Activity in Complex Biological Media" (oral) **Presolski, S.** Hiroshima University, Hiroshima, Japan, April **2019**. | *Invited Speaker*

"$BimPy_2$-acclerated 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*

"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 MoS_2 for Energy Harvesting Applications" (*oral*) **Presolski, S.** KIST-CAS-CEITEC Joint Workshop for Nanotechnology and Nanoscience, Seoul, Korea, December **2017**. | *Invited Speaker*

"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*

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

SERVICE

Assistant Professor **Yale-NUS College**, Singapore July 2015 – present

- Active member of a number of college affairs and curriculum development committees
- Faculty advisor to *The Mocktant* – the first satirical student publication in Singapore
- Capstone supervisor to 8 final-year students (**4 outstanding thesis awards**)

Teacher Training **TU/e**, Eindhoven, The Netherlands Sept. 2013 – May 2014

- Participated in a series of training courses on the fundamentals of higher education and the latest pedagogical methods for activating students, course design, examinations, and evaluation (***50 hrs***)
- Redesigned and improved my inquiry-based research course with the newly-acquired knowledge

Lab Management **TSRI**, San Diego, California, USA Oct. 2010

- Attended a 2-day leadership symposium on best practices in academic research (***15 hrs***)

Instructor **Colby College**, Waterville, Maine, USA Sept. 2004 – May 2005

- Conducted training in the traditional Korean martial art of Tang Soo Do at a student-run club

Community Service **Oxford University**, Oxford, United Kingdom Oct. 2003 – June 2004

- Volunteered with the JACARI home teaching program, providing after-school math and science tutoring services to immigrant children