Curriculum Vitae
Thuc-Quyen Nguyen

ADDRESS Thuc-Quyen Nguyen
Chemistry and Biochemistry Department
University of California
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BIRTH PLACE: Vietnam

CITIZENSHIP: USA, 1996

APPOINTMENT

07/18 – Present **Director**
Center for Polymers and Organic Solids (CPOS)
University of California, Santa Barbara

07/12 – Present **Professor**
Department of Chemistry and Biochemistry
University of California, Santa Barbara

07/10 – 07/12 **Associate Professor**
Department of Chemistry and Biochemistry
University of California, Santa Barbara

07/04 – 07/10 **Assistant Professor**
Department of Chemistry and Biochemistry
University of California, Santa Barbara

09/01 – 06/04 **Research Associate**
Chemistry Department and Nanocenter, Columbia University
Research Interests: Organic semiconducting materials for molecular electronics and optoelectronic devices; Self-assembly.
Advisors: Prof. Louis E. Brus and Prof. Colin Nuckolls

EDUCATION

01/99 - 06/01 **Ph.D. in Physical Chemistry**
University of California, Los Angeles
Thesis: Controlling Interchain Interactions in Conjugated Polymers: the Studies of Physical and Electronic Properties of PPV-Derivatives for Plastic Optoelectronic Devices
Advisor: Prof. Benjamin J. Schwartz

01/98 - 12/98 **M.S. in Physical Chemistry**

University of California, Los Angeles

09/95 - 12/97 **B.S. in Chemistry (Cum Laude)**
University of California, Los Angeles

09/93 - 08/95 **Associate of Science**
Santa Monica College

HONORS AND AWARDS

2024	Fellow of the European Academy of Sciences (EurASc)
2024	French National Centre for Scientific Research (CNRS) Chimie Ambassador in Chemical Sciences
2023	De Gennes Prize for Materials Chemistry from Royal Society of Chemistry
2023	Elected to the US National Academy of Engineering
2023	Wilhelm Exner Medal
2023	Fellow of the US National Academy of Inventors
2021	Visiting Professor, CY Cergy Paris Université
2021, 2022	Women in Materials Science by Advanced Materials
2020, 2021	The Stanford University's list of the World Top 2% Highly Cited Scientists
2020	UCSB Outstanding Graduate Student Mentor Award
2019	Fellow of the American Association for the Advancement of Science (AAAS)
2019	The World's Most Influential Scientific Minds; Top 1% Highly Cited Researchers in Cross-Field by Clarivate Analytics
2019	Hall of Fame, Advanced Materials
2019	Beaufort Visiting Scholar, St John's College, Cambridge University
2019	Visiting Professor, Linkoping University, Sweden
2018	The World's Most Influential Scientific Minds; Top 1% Highly Cited Researchers in Materials Science by Clarivate Analytics
2017	The World's Most Influential Scientific Minds; Top 1% Highly Cited Researchers in Materials Science by Clarivate Analytics
2017	Vietnamese Creative Gold Book (Sách Vàng Sáng Tạo Việt Nam)
2016	Fellow of the Royal Society of Chemistry
2016	The World's Most Influential Scientific Minds; Top 1% Highly Cited Researchers in Materials Science by Thomson Reuters
2015	The World's Most Influential Scientific Minds; Top 1% Highly Cited

	Researchers in Materials Science by Thomson Reuters
2015	Humboldt Research Award for Senior Scientists
2015	Visiting Professor, Kyoto Institute of Technology, Japan
2014	Among 14 Scientists in the US selected by the National Academy of Science to participate in the Writer's Retreat, the Science & Entertainment Exchange
2014 – 2016	Visiting Professor, King Abdulaziz University, Saudi Arabia
2013	Visiting Professor, Nanyang Technological University, Singapore
2010	NSF American Competitiveness and Innovation (ACI) Fellows
2009	Alfred P. Sloan Foundation Research Fellow
2009	Keynote Speaker at the UCSB Women of Color in Academia
2008	NSF Division of Materials Research, Distinguish Lecture
2008	Camille Dreyfus Teacher Scholar Award
2007	Harold J. Plous Memorial Award and Lectureship, one of the UCSB's two most prestigious faculty honors.
2006	NSF Faculty Early Career Development Award
2006	Academic Outreach to the Community Recognition honored by the UCSB and Santa Barbara County
2005	Office of Naval Research Young Investigator Award
2001	National Research Council Award
2001	Dissertation Award for Outstanding Performance in Research in Physical Chemistry, University of California, Los Angeles
2000	UC President's Dissertation Award
2000	Graduate Student Award, MRS Fall 2000 Meeting
2000	Outstanding Innovative Research Award of the Advanced Materials at the International Conference on Synthetic Metals
1998	George Gregory Research Fellowship, UCLA

PROFESSIONAL ACTIVITIES (Advisory Boards, Editor, Committees, etc.)

2024	Chair of the Pre-screening Committee, VinFuture Prize (https://vinfutureprize.org/)
2023 – Present	Co-Chair, Organic Photonics + Electronics, Society of Photo-Optical Instrumentation Engineers (SPIE)
2023 – 2026	Panelist for Advanced Grants, European Research Council
2023 – 2026	Scientific Advisory Board for SOLEN Elite Center, Denmark
2024	Co-Vice Chair, Gordon Research Conference on "Electronic Processes in

	Organic Materials"
2022	Panelist evaluator for Center Grant, Southern University of Denmark Climate Cluster
2022 – Present	Advisory Board Member of *Energy Advances* (Royal Society of Chemistry)
2022	Co-Chair, Gordon Research Conference on "Hybrid Electronic and Photonic Materials and Phenomena"
2022	Advisory Board Member of *Cell Reports Physical Science* (Cell Press)
2021 – Present	Co-Chair, Conference on Organic, Hybrid, and Perovskite Photovoltaics (OHPV), Society of Photo-Optical Instrumentation Engineers (SPIE)
2021	Faculty Moderator for the ACS Bridge Program "Postdoc to Faculty" Workshop
2021 – Present	Co-Chair, Pre-screening Committee of the VinFuture Prize
2020	Helped establish the VinFuture Foundation in Vietnam to honor exceptional scientific works that create meaningful changes in everyday life of millions of people. There are 4 prizes: Grand Prize ($3 million US dollars), Special Prize for Outstanding Achievements in Emerging Fields ($500,000 US dollars), Special Prize for Outstanding Female Innovators ($500,000 US dollars), and Special Prize for Innovators from Developing Countries ($500,000 US dollars).
2020 – Present	International Advisory Board Member for the European Conference on Molecular Electronics (ECME)
2020 – Present	Co-Chair of Advisory Council of the VinFuture Prize Foundation
2020 – Present	International Advisory Board Member of *Advanced Materials* (Wiley-vch)
2020 – Present	Molecular Foundry's Scientific Advisory Board Member at the Lawrence Berkeley National Laboratory.
2020 – Present	Advisory Board Member of *Materials Advances* (Royal Society of Chemistry)
2020	Member of *Ta Quang Buu Prize* Committee
2020 – Present	Advisory Board Member of *Journal of Materials Chemistry C* (Royal Society of Chemistry)
2020 – Present	Advisory Board Member of *Chemical Physics Reviews* (American Institute of Physics, AIP)
2019 – Present	Scientific Advisory Board Member of the VinUniversity
2019	Member of *Ton Duc Thang University Prizes* Committee
2019 – Present	Advisory Board Member of *Mater* (Elsevier)
2019 – Present	Advisory Board Member of *Material Chemistry Frontiers* (Royal Society of Chemistry)

2019	Member of the Wiley Young Researcher Award Committee
2018 – Present	External Advisory Board Member of the California State University Northridge Partnerships for Research and Education in Materials (CSUN-PREM)
2018 – 2021	Scientific Advisory Board Member of the Institute of Big Data - VinGroup
2018 – 2019	Advisory Committee Member of the Institute for Terahertz Science and Technology, UCSB
2018 – Present	Editorial Advisory Board of *Advanced Functional Materials*
2018	Member of the *Ta Quang Buu Prizes* Committee
2018 – 2021	Member of the *ACS Award Committee*
2016 – 2022	Advisory Board Member of the Institute of Advanced Materials at Universitat Jaume, Spain
2016 – Present	Editorial Advisory Board Member of *ACS Energy Letters*
2016 – Present	Advisory Editorial Board Member of *Journal of Advanced Materials and Devices*
2015 – Present	Editorial Board Member of *ChemPlusChem*
2015 – Present	Program Committee for the SPIE Organic Photovoltaics Conference, the SPIE Optics + Photonics Meeting
2014 – Present	International Advisory Board for the Electroluminescence and Organic Optoelectronics Conference
2013	Member of the ACS Editor Search Committee - ACS Photonics and Optoelectronics
2013 – 2022	Scientific Editor of *Materials Horizons* (Royal Society of Chemistry)
2013 – Present	Editorial Board Member of *Materials Horizons* (Royal Society of Chemistry)
2013 – 2016	International Advisory Board Member of the International Conference on Synthetic Metals (ICSM)
2012 – 2015	Editorial Board Member of *Advances in Natural Sciences: Nanoscience and Nanotechnology*
2010 – 2013	Advisory Board Member of *Polymer Chemistry*
2010 – Present	International Advisory Board Member for the Functional Pi-Electron Systems Conference
2006 – 2018	International Advisory Committee for the International Workshop on Functional Materials and the Advanced Materials Science and the Nanotechnology

RESEARCH INTEREST

Understanding electronic properties of novel organic semiconductors; controlling metal-organic interfaces in organic optoelectronic devices; molecular self-assemblies; device physics of organic solar cells, light-emitting diodes, field-effect transistors, organic electrochemical transistors, ratchets, and photodetectors; doping in organic semiconductors; exciton diffusion; charge generation, transport and recombination; biomaterials and bioelectronics.

PROFESSIONAL ASSOCIATION/SOCIETY MEMBERSHIPS

Materials Research Society (Member)
SPIE (Lifetime member)
US National Academy of Engineering (Lifetime member)
US National Academy of Inventors, Fellow
American Chemical Society (Member)
American Association for the Advancement of Science (AAAS), Fellow
Royal Society of Chemistry, Fellow
Alexander von Humboldt, Fellow

PUBLICATION METRICS

Google Scholar H-index: 102
Number of citations: > 38,800

PUBLICATIONS (Total: 310 published)

https://scholar.google.com/citations?user=4vCYjQ4AAAAJ&hl=en

BOOK CHAPTERS

1. "Organic Solar Cell Materials and Devices Characterization by Conductive and Photoconductive Atomic Force Microscopy," Xuan-Dung Dang, Michele Guide and Thuc-Quyen Nguyen. Page 73-113.

Book title: "*Scanning Probe Microscopy for Energy Research*." Edited by Dawn A. Bonnell and Sergei V. Kalinin. World Scientific. ISBN#978-981-4434-70-6

2. "Charge Injection Mechanism in PLEDs and Charge Transport in Conjugated Polyelectrolytes," Peter Zalar and Thuc-Quyen Nguyen. Page 315-344.

Book title: "*Conjugated Polyelectrolytes: Fundamentals and Applications*." Edited by Bin Liu and Guillermo Bazan. Wiley-VHC. ISBN#978-3-527-33143-7

3. "Solution-Processed Molecular Bulk Heterojunction Solar Cells," Jianhua Liu, Bright Walker and Thuc-Quyen Nguyen. Pages 95-133.

Book title: "*Organic Photovoltaics: Materials, Device Physics, and Manufacturing*

Technologies," 2nd Edition. Edited by Christoph Brabec, Ullrich Scherf, Vladimir Dyakonov Wiley-VHC. ISBN#978-3-527-33225-0, 642 pages, June 2014

PATENTS & INVENTIONS

1. **US8318532B2** "Enhancing performance characteristics of organic semiconducting films by improved solution processing," Guillermo C. Bazan, Alexander Mikhailovsky, Daniel Moses, Thuc-Quyen Nguyen, Jeffrey Peet, Cesare Soci
2. **US10892421B2** "Organic small molecule semiconducting chromophores for use in organic electronic devices," Gregory C. Welch, Corey V. Hoven, Thuc-Quyen Nguyen, Guillermo C. Bazan
3. **US11974500B2** "Molecular semiconductors containing diketopyrolopyrrole and dithioketopyrrolopyrrole chromophores for small molecule or vapor processed solar cells," Thuc-Quyen Nguyen, Arnold Bernarte Tamayo, Bright Walker, Tyler Kent, Chunki Kim, Mananya Tantiwiwat
4. **US9000423B2** "Processing additive for single-component solution processed organic field-effect transistors," Guillermo C. Bazan, Thuc-Quyen Nguyen, Lei Ying, Peter Zalar, Yuan Zhang
5. **US11233207B2** "Narrow bandgap non-fullerene acceptors and devices including narrow bandgap non-fullerene acceptors," Martin Seifrid, Guillermo C. Bazan, Jaewon Lee, Thuc-Quyen Nguyen, Benjamin R. Luginbuhl
6. **US20120232239A1** "All-conjugated triblock polyelectrolytes electron injection layer," Guillermo C. Bazan, Lei Ying, Zhao Chen, Thuc-Quyen Nguyen
7. **US8729221B2** "Conjugated copolymers chiral side chain for organic thin film transistors," Guillermo C. Bazan, Lei Ying, Peter Zalar, Thuc-Quyen Nguyen
8. **WO2010048319A1** "Cationic conjugated polyelectrolyte electron injection layers altered with counter anions having oxidative properties," Thuc-Quyen Nguyen, Andres Garcia, Jacek Brzezinski
9. **US20200328357A1** "Organic solar cell and photodetector materials and devices," Jaewon Lee, Soe-Jin Ko, Jianfei Huang, Martin Seifrid, Hengbin Wang, Thuc-Quyen Nguyen, Guillermo C. Bazan
10. **US20190334094A1** "Inert solution-processable molecular chromophores for organic electronic devices," Guillermo C. Bazan, Thomas S. Van Der Poll, Thuc-Quyen Nguyen, John Love
11. **US20080015269A1** "Hybrid polymer light-emitting devices," Guillermo C. Bazan, Renqiang Yang, Andres Garcia, Thuc-Quyen Nguyen, Hongbin Wu
12. **US20090230362A1** "Conjugated oligoelectrolyte electron transporting layers," Guillermo C. Bazan, Yunhua Xu, Renqiang Yang, Thuc-Quyen Nguyen
13. **WO2021217133A1** "Organic photodetector materials and devices," Jianfei Huang,

Jaewon Lee, Hengbin Wang, Guillermo C. Bazan, Thuc-Quyen Nguyen

14. **WO2020264404A1** "Compositions and methods of fabrication of near infrared devices," Guillermo C. Bazan, Jaewon Lee, Seyeong Song, Ziyue Zhu, Thuc-Quyen Nguyen, Seo-Jin Ko

PRESENTATIONS (32 Plenary/Keynote talks and 304 invited talks/seminars)

1. "Controlling Interchain Interactions in Conjugated Polymers for Desired Applications," X International Macromolecular Colloquium, Gramado, Brazil, April 10-13, 2005 (**Plenary talk**)
2. "Plastic Solar Cells," NATIONAL RESEARCH SYMPOSIUM, November 16-18, 2006, Jackson, Mississippi (**Keynote Talk**)
3. "Plastic Solar Cells: Progress and Challenges," the 5th International Workshop on Advanced Materials Science and Nanotechnology, Hanoi, Vietnam, November 8-12, 2010 (**Plenary talk**)
4. "Organic Solar Cells: Current Progress and Challenges," 8th Workshop of Computational Chemistry and Molecular Spectroscopy, October 22-26, 2012, Punta de Tralca, Chile (**Plenary talk**)
5. "Plastic Solar Cells," 6th International Workshop on Advanced Materials Science and the Nanotechnology (IWAMSN), October 30 - November 2, 2012, Ha Long Bay, Vietnam (**Plenary talk**)
6. "Solution-processed Small Molecules for Applications in Solar Cells and Thin Film Transistors," the 7th Solvay-COPE Symposium on Organic Electronics, Bordeaux, France, May 16-17, 2013 (**Plenary talk**)
7. "Probing Nanostructures and Optoelectronic Devices," Summer School on "Organic Electronics", Biarritz, France, May 28 - June 1, 2013 (**Plenary talk**)
8. "Organic Solar Cells: Current Progress and Challenges," 7th International Workshop on Advanced Materials Science and Nanotechnology (IWAMSN 2014) Vietnam, November 2-6, 2014 (**Keynote**)
9. "Solution-Processed Organic Solar Cells: Current Progress and Challenges," Emerging Energy Technologies Summit, Melbourne, Australia, December 5-7, 2016 (**Plenary talk**)
10. "Understanding Fill Factor in High Voc Bulk Heterojunction Solar Cells", Organic & Perovskite Solar Cells Conference, Heraklion, Greece, October 19-22, 2016 (**Plenary talk**)
11. "Understanding Open-Circuit Voltage in Organic Bulk Heterojunction Solar Cells," the Hybrid Organic Photovoltaic (HOPV) Conference, Lausanne, Switzerland, May 22-24, 2017 (**Keynote talk**)
12. "Understanding Open-Circuit Voltage in Organic Bulk Heterojunction Solar Cells," *13th* International Symposium on Functional π-Electron Systems (Fπ-*13*), Hong Kong, June 04 - 09, 2017 (**Plenary talk**)

13. "Solution-Processed Organic Solar Cells: Current Progress and Challenges," International Symposium on Chemistry for Solar Energy Application (C-SEA), Osaka, Japan, August 30-31, 2017 (**Plenary talk**)
14. "Understanding Open-Circuit Voltage in Organic Bulk Heterojunction Solar Cells," the 86th Polymers and Organic Materials for Electronics and Photonics: Science for Applications, Prague, Czech Republic, September 10 - 14, 2017 (**Plenary talk**)
15. "Nanoscale Characterization of Organic Solar Cells by Conductive and Photoconductive Atomic Force Microscopy," Nanotech Conference, Anaheim, May 15-18, 2018 (**Keynote talk**)
16. "Understanding Loss Mechanisms in Bulk Heterojunction Organic Solar Cells," *14th* International Symposium on Functional π-Electron Systems (Fπ-*14*), Berlin, Germany, June 2 - 7, 2019 (**Plenary talk**)
17. "Solution-Processed Organic Solar Cells for Energy-Efficient Buildings" 18TH INTERNATIONAL SYMPOSIUM ON NOVEL AROMATIC COMPOUNDS (ISNA-18), Sapporo City, Hokkaido Prefecture, Japan, July 21-26, 2019 (**Plenary talk**)
18. "The Role of Interfacial and Bulk Morphology on Organic Solar Cell Performance," 14th International Symposium on Flexible Organic Electronics (ISFOE21), Thessaloniki, Greece, July 5-8, 2021 (**Keynote**)
19. "Organic Semiconductors for Optoelectronics and Energy Applications," Brazilian Materials Research Society Virtual Meeting, August 29-September 2, 2021 (**Plenary talk**)
20. "Conjugated Polyelectrolytes for Organic Electrochemical Transistors," 78th International Workshop & 6th Orbitaly – Fundamental Mechanisms to Drive Progresses in Organic and Large-Area Bioelectronics, Erice, Sicily, July 3-9, 2022 (**Keynote talk**)
21. "Organic Semiconductors for Optoelectronic Devices," IEEE International Conference on Flexible, Printable Sensors and Systems, Vienna, Austria, July 10-13, 2022 (**Plenary talk**)
22. "High-Detectivity Wearable Organic Photodetectors for Self-Powered Pulse Rate and Oximetry Measurements," "From Bench to Bedside" Symposium, Danube Private University, Austria, May 22, 2023 (**Plenary talk**)
23. "Electrifying the World with Solar Energy," Wilhelm Exner Medal Lecture, Vienna, May 23, 2023 (**Plenary talk**)
24. "Understanding Degradation Mechanisms in Organic Solar Cells," International Conference on Hybrid and Organic Photovoltaics (HOPV) 2023, London, UK, June 12-14, 2023 (**Keynote talk**)
25. "Organic Solar Cells: Current Progress and Challenges,"15th International Symposium on Functional Pi Electron Systems, North Carolina, June 6-9, 2023 (**Plenary talk**)
26. "Organic Solar Cells: Current Progress and Challenges," SPIE Optics and Photonics meeting, San Diego, USA, August 20-24, 2023 (**Plenary talk**)
27. "Designing Organic Semiconductors for Electrochemical Transistors," 16th European

Conference of Molecular Electronics (ECME), Bari (Italy), 2 - 6 October 2023 (**Plenary talk**)

28. "The Role of Organic Photovoltaics in Transition to Renewable Energy," Pure and Applied Chemistry International Conference 2024, Bangkok, Thailand, January 26-27, 2024 (**Keynote talk**)
29. "Understanding Degradation Mechanisms in Organic Photovoltaics," International Conference on Hybrid and Organic Photovoltaics, Valencia, Spain, May 13-15, 2024 (**Keynote talk**)
30. "Developing Organic Photodetectors for Shortwave Infrared Sensing," International Conference on Science and Technology of Synthetic Electronics Materials, Dresden, Germany, June 23 – 28, 2024 (**Plenary talk**)
31. "Improving Bulk Heterojunction Organic Solar Cell Stability Using Cross-linkers," 17th International Symposium on Flexible Organic Electronics, Thessaloniki, Greece, July 1-4, 2024 (**Keynote**)
32. "Organic Photodetectors: Materials Design, Device Engineering, and Applications," 6th IEEE International Flexible Electronics Conference (IFETC), Bologna, Italy, September 15-18, 2024 (**Keynote**)

MENTORING (the past 20 years)

- MS Students: 9
- PhD Students: 35
- Postdoctoral Scholars: 28
- Visiting Scientists: 52
- Undergraduate students: 60
- High school teacher and students: 8

MENTORING 60 YOUNG STUDENTS, RESEARCHERS AND FACULTY OUTSIDE OF UCSB

- From the US, Thailand, Ethiopia, Germany, Italy, Sweden, Korea, China, Japan, Vietnam, France, Saudi Arabia, Singapore, Canada, UK, Austria, Australia, Switzerland
- 38 are females
- They are not part of the Nguyen research team

CO-ORGANIZING 35 CONFERENCES AND WORKSHOPS

TEACHING EXPERIENCE: 4th generation of educator