BIOGRAPHICAL SKETCH

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NAME: Guofeng You

eRA COMMONS USER NAME (credential, e.g., agency login): Guofeng

POSITION TITLE: Distinguished Professor of Pharmaceutics

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Beijing University, Beijing, China	B.S.	1987	Pharmaceutical Chemistry
Clark University, Worcester, MA, U.S.A.	Ph.D.	1991	Biochemistry/Biophysics
Harvard Medical School, Boston, MA, U.S.A.	Post Doc	1996	Molecular Biology/Renal Physiology

A. Personal Statement

My research interests focus on elucidating the molecular and functional characteristics of drug/xenobiotic transporters, their implications in human physiology and diseases, and their applications to drug therapy.

I obtained my Ph.D. in the field of Biochemistry. Following my graduate work, I pursued 5 years of postdoctoral training in the Division of Nephrology, Department of Medicine, at Harvard Medical School, where I received intensive training in molecular, cellular, and animal work related to kidney transporters. I successfully cloned and characterized several novel organic solute transporters from kidney including urea transporters, Na^+/glucose cotransporters, and amino acid transporters. I was the first author on several original papers (e.g., *Nature, J. Biol. Chem.,* etc.), which described my work during this period. Since I became independent investigator, I have been continuing to work in the area of kidney transporters. I have a long-standing interest in the renal handling of organic solutes such as drugs and environmental toxins. Indeed, I was instrumental in the initial cloning of OAT1, the first member of drug/xenobiotic transporter (OAT) family in the kidney. My laboratory, standing at the forefront of a research area of highly pharmacological and clinical importance, has uncovered several mechanisms underlying the regulation of OATs. My laboratory is the first to report that OAT activity can be regulated by membrane trafficking, by glycosylation, by ubiquitination, and by sumoylation. Such investigation will have significant impact on the future design of strategies aimed at maximizing therapeutic efficacy and minimizing toxicity, and will permit insight into the molecular, cellular, and clinical bases of renal, hepatic, neurological and fetal toxicity and disease.

Ongoing projects:

R01 GM127788 Guofeng You (PI) 06/01/2018-03/31/2022 (with no-cost-extension to 03/31/2024)

"New Targets for Regulating Drug/Xenobiotic Transporter OAT"
The major goal of this project is to delineate the role of deubiquitinases and proteasome in OAT-mediated drug transport.

There is no overlap between the current application and this grant.

R01 GM097000 Guofeng You (PI) 06/07/2012-07/31/2021 (with no-cost-extension to 7/31/2023)

"Sumoylation: A Novel Mechanism for Regulating Drug/Xenobiotic Transporters OATs"
The major goal of this project is to delineate the role of sumoylation in OAT-mediated drug transport.

There is no overlap between the current application and this grant.

Citations:

1. Zhang J, Wang H, Fan Y, Yu Z, **You G.** (Dr. You as corresponding author)
   Regulation of organic anion transporters: role in physiology, pathophysiology, and drug elimination
   Pharmacology & Therapeutics, 2021, 217:107647. PMCID: PMC7770002

2. Fan Y, Liang Z, Zhang J, **You G.** (Dr. You as corresponding author)
   Oral Proteasomal Inhibitors Ixazomib, Oprozomib and Delanzomib Upregulate the Function of Organic Anion Transporter 3 (OAT3): Implications in OAT3-Mediated Drug-Drug Interactions
   Pharmaceutics, 2021, 13(3):314. PMCID: PMC7997269

3. Zhang J, **You G.** (Dr. You as corresponding author)
   Peptide Hormone Insulin Regulates Function, Expression, and SUMOylation of Organic Anion Transporter 3
   The AAPS Journal, 2021, 23(2):41. PMID: 33709304

4. Zhang J, Liu C, **You G.** (Dr. You as corresponding author)
   Ubiquitin-specific Peptidase 8 Regulates the Trafficking and Stability of the Human Organic Anion Transporter 1
   Biochimica et Biophysica Acta, 2020, 1864(12):129701. PMCID: PMC7863590

B. Positions, Scientific Appointments, and Honors

Positions

2013-Present	Distinguished Professor, Department of Pharmaceutics, Rutgers University, Piscataway, NJ
2008-2012	Professor, Department of Pharmaceutics, Rutgers University, Piscataway, NJ
2002-2007	Associate Professor, Department of Pharmaceutics, Rutgers University, Piscataway, NJ
1997-2001	Assistant Professor, Department of Medicine, Mount Sinai School of Medicine, NY, NY
1991-1996	Postdoctoral Fellow, Department of Medicine, Harvard Medical School, Boston, MA
1987-1991	Graduate Research Assistant, Department of Chemistry, Clark University, Worcester, MA

Scientific Appointments and Honors

2019-2022	Co-Editor, book "Drug Transporters, 3rd edition" published by Wiley & Son, NY, NY
2022	Member, NIH Fellowship Review Panel
2021	Member, Grant Review Committee, U.S. Department of Veterans Affairs
2021-Present	Member, Review/Evaluation Committee for Graduate Program in Pharmaceutical Science, Rutgers University
2021-Present	Member, Rutgers University Limited Submissions Standing Review Committee
2021-Present	Member, Student Advising Committee, Ernest Mario School of Pharmacy
2020-Present	Member, Curriculum Committee, Ernest Mario School of Pharmacy
2019-Present	Member, Promotion Committees, Rutgers University
2019-2020	Co-Chair, ACPE Steering Committee, Ernest Mario School of Pharmacy, Rutgers University
2020	Member, NIH Study Section for Grant Review (Special Emphasis Panel)
2019	Teaching Assistant and Graduate Assistant Professional Development Fund (To Dr. You's lab)
2019	Chair, "Molecular Cell Biology and Drug Discovery", Annual Congress of International Drug Discovery Science and Technology, Nanjing, China

2019	Chair, “Biopharmaceutics & Biotherapeutics”, International Conference on Pharm Science Research & Development, Paris, France
2019	Member, Scientific Mentoring and Grant Review Committee, VA Medical Center, NJ
2019	Chair, “Molecular Pharmaceutics & Drug Discovery”, International Conference on Toxicology and Applied Pharmacology, London, UK
2018	TA/GA Professional Development Award (To Dr. You’s lab)
2018-present	Co-organizer, “Lunch and Learn” Series, Exchange ideas between Rutgers Graduate Programs and Industry
2018	Member, NIH Study Section for Program Project Grants
2018	Member, NIH Special Emphasis Panel for grant review
2017	Co-Chair, Symposium “Transporters and Enzymes: Novel Insights into the Regulation of Drug Disposition and Response”, International Society for the Study of Xenobiotics meeting, Rhode Island
2015-2017	Guest Editor, Theme issue, Advanced Drug Delivery Reviews
2015	NIH Special Emphasis Panel Review for MIRA grants
2014-2020	Faculty Council, Rutgers University
2012-2014	Co-Editor, book “Drug Transporters, 2nd edition” published by Wiley & Son, NY, NY
2012-2013	Louis Bevier Graduate Fellowship Award, Rutgers University (to Dr. You’s lab)
2012-2013	Victor Stollar Fellowship Award, Rutgers University (to Dr. You’s lab)
2012-2014	Executive Council, Graduate School-New Brunswick, Rutgers University
2010-present	Editorial board, International Journal of Biochemistry and Molecular Biology
2006-present	Editorial board, Pharmaceutical Research
2012	NIH review panel for COBRE Pilot Project applications
2012	NIH Special Emphasis Panel for Program Project Grants
2011-2012	Co-Chair, Mission, Planning & Evaluation sub-committee, ACPE Steering Committee, School of Pharmacy, Rutgers University
2011	NIH Special Emphasis Panel for Program Project Grants
2011	Committee, Pharmaceutical Research Meritorious Manuscript Award, Pharmaceutical Research
2007-2011	Permanent member, NIH CMBK (now renamed as KMBD) study section
2008-2012	Drug Transport Focus Group Steering Committee, American Association of Pharmaceutical Scientists
2008-2011	Student and Postdoc Outreach and Development Committee, American Association of Pharmaceutical Scientists
2010	Co-chair, Symposium “Transport Proteins I: Regulatory mechanisms that modulate drug disposition and response”, American Association of Pharmaceutical Scientists, Georgia.
2009	Our paper (*J Biol. Chem.* 2008, 283:32570-9) was selected for Faculty of 1000 Biology, an award-winning online service that highlights the most interesting papers published in the biological sciences.
2007	Special journal section editor, for the section “Frontiers in Pharmaceutical Sciences”, of the journal Pharmaceutical Research
2007	Co-Editor, book “Drug Transporters” published by Wiley & Son, NY, NY
2007	NIH grant review Special Emphasis Panel "Research Centers of Excellence in Nephrology”
2007	Chair**,** Biennial New Jersey Pharmaceutical Conference, Piscataway, NJ
2006	Ad hoc reviewer, NIH study section CMBK
2005	Chair**,** for the section “Lamellar Delivery System for targeted Topical Application”, Biennial New Jersey Pharmaceutical Conference, Piscataway, NJ
2005	Graduate Education Committee, for section Pharmacokinetics, Pharmacodynamics and Drug Metabolism, American Association of Pharmaceutical Scientists Annual Meeting
2004	Ad Hoc Reviewer, NIH study section XNDA
2003	Co-Chair, Biotechnology, American Association of Pharmaceutical Scientists Annual Meeting
1997-2001	New Investigator Development Award, American Heart Association
1997-2001	J.T.Tai Foundation Fellowship, J.T.Tai Foundation.
1997-1999	Young Investigator Award, National Kidney Foundation
1995-1996	National Research Service Award, National Institute of Health.
1993-1994	American Heart Association Fellowship.

1993 Travel Award for the XXXII IUPS Congress in Glasgow, Scotland.

C. Contribution to Science

1. Cloning of novel kidney transporters, which paved way for understanding, at the molecular and cellular levels, the roles of these transporters in normal renal physiology and diseases. The first transporter I cloned was the urea transporter. Urea transporter plays a critical role in the urinary concentrating mechanism and in the regulation of nitrogen balance. The cloning of urea transporter corrected a misconception in the textbook for ~20 years that urea passes across the membrane through a simple diffusion process. Subsequently, I cloned a renal Na/glucose transporter, which has an important role in regulating plasma glucose level and has been implicated in the familial renal glycosuria and diabetic renal disorders. I was also instrumental in the cloning of the first member of the drug/xenobiotic transporter (OAT) family, which is involved in body disposition of many clinically important drugs including anti-viral therapeutics, anti-cancer drugs, antibiotics, antihypertensives, and anti-inflammatories. The successful cloning of these novel kidney transporters paved way for understanding, at the molecular and cellular levels, the roles of these transporters in normal renal physiology and diseases, which would have not been possible due to the lack of molecular probes and specific antibodies directed against the transporter proteins.

   a. **You, G.,** Smith, C.P., Kanai, Y., Lee, W-S., Stelzner, M., and Hediger, M.A.
   Expression cloning and characterization of the vasopressin-regulated urea transporter
   Nature 1993; 365:844-847

   b. **You, G**., Lee, W-S., Barros, E.J.G., Kanai, Y., Nigam, S.K., and Hediger, M.A.
   Molecular characteristics of Na-coupled glucose transporters in adult and embryonic kidney
   Journal of Biological Chemistry 1995; 270(49):29365-29371. PMID: 7493971

   c. Lopez-Nieto, C.E., **You, G.,** Barros, E., Beier, D., and Nigam, S.K.
   Molecular cloning and characterization of a novel member of the organic cation transporter family
   Journal of Biological Chemistry 1997;272(10):6471-6478. PMID: 9045672

   d. Hediger, M.A., **You, G.,** Smith, C.P., Lee, W-S., Kanai, Y., and Shayakul, C.
   Structure, regulation and physiological roles of urea transporters
   Kidney International 1996, Jun; 49(6):1615-1623. PMID: 8743465

2. Discovery of novel regulatory mechanisms and the structure-function relationship of the drug/xenobiotic transporter OAT family – Because of the successful cloning of OAT cDNAs, I, as an independent investigator, began to examine in detail the molecular mechanisms underlying the drug/toxin disposition by OAT family. I have made significant contribution in two major aspects: structure-function relationships and the regulation of OATs. My lab is the first to demonstrate that the activity of OATs can be regulated by membrane trafficking, by glycosylation, by ubiquitination, and by environmental pH. These studies have provided significant insights into the molecular and cellular basis of drug transport in the kidney under normal and pathophysiological conditions.

   a. Tanaka, K., Xu, W., Zhou, F., and **You, G.** (Dr. You as corresponding author)
   Role of glycosylation in the organic anion transporter 1 (OAT1).
   Journal of Biological Chemistry 2004; 279:14961-6, PMID:14749323

   b. Hong, M., Xu, W., Yoshida, T., Inouye, M., and **You, G.** (Dr. You as corresponding author)
   Human organic anion transporter hOAT1 forms homooligomers
   Journal of Biological Chemistry 2005, 280(37):32285-90, PMID:16046403

   c. Xu D., and **You, G.** (Dr. You as corresponding author)
   Loops and layers of post-translational modifications of drug transporters.
   Advance Drug Delivery Review. 2017, 116:37-44, PMCID: PMC5937717

   d. Fan, Y., and **You, G.** (Dr. You as corresponding author)

Proteasome Inhibitors Bortezomib and Carfilzomib Stimulate the Transport Activity of Human Organic Anion Transporter 1
Molecular Pharmacology, 2020, 97(6):384-391, PMCID: PMC7237869

3. Publication of the book "Drug Transporters" – In according with the advance in drug transport research, I, serving as a co-editor, published 1st, 2nd, and 3rd editions of the book "Drug Transporters". This book features chapters contributed by distinguished scientists in drug transport field and provides a reference guide for researchers in academia and the industry and scientists in government agencies. It is also an excellent text for graduate-level courses in the pharmaceutical and pharmacology fields.

   a. **You, G.,** and Morris M. (co-editors)
   Book: *Drug Transporters*, published, 2007, Wiley & Sons, New York, NY

   b. **You, G.,** and Morris M. (co-editors)
   Book: *Drug Transporters*, published, 2nd edition, 2014, Wiley & Sons, New York, NY

   c. **You, G.,** and Morris M. (co-editors)
   Book: *Drug Transporters*, published, 3rd edition, 2022, Wiley & Sons, New York, NY

4. Member of NIH study sections and guest editor for scientific journals
   I have served as permanent and ad hoc member on several NIH study sections and as guest editor for several scientific journals. Please see section B: Positions and Honors of this Biosketch.

Complete list of my publications: During the past 5 years, Dr. You's lab published 18 peer-reviewed papers and 14 abstracts. All the publications are with Dr. You as the corresponding author, and therefore are from Dr. You's own lab.

https://www.ncbi.nlm.nih.gov/sites/myncbi/guofeng.you.1/bibliography/40734383/public/?sort=date&direction=descending