

**Chan Yul Yoo, Ph.D.**

Assistant Professor

School of Biological Sciences, University of Utah  
257 S 1400 E  
Salt Lake City, UT 84112

Phone: 801-585-1929 (ASB382A)

Email: chanyul.yoo@utah.edu

Profile: <https://www.biology.utah.edu/faculty/chan-yul-yoo/>Lab website: <https://chanyuloolab.org/>ORCID: <https://orcid.org/0000-0001-6159-7443>**Current Appointment**

<b>Assistant Professor</b> , School of Biological Sciences, University of Utah	2022 - current
--	----------------

**Prior Appointments**

Adjunct Assistant Professor, Oklahoma State University	2020 - 2021
Assistant Project Scientist, University of California Riverside, Advisor: Dr. Meng Chen	2015 - 2020
Hargitt Postdoctoral Fellow, Duke University, Advisor: Dr. Meng Chen	2013 - 2015
Postdoctoral Associate, Purdue University, Advisor: Dr. Mike Hasegawa&Mike Mickelbart	2012 - 2013

**Education**

<b>Ph.D.</b> Plant Molecular Genetics, Department of Horticulture, Purdue University Advisor: Dr. Mike Hasegawa	2011
<b>B.Sc.</b> Biology, Department of Biology, Yonsei University, South Korea	2004

**Publications**

Lee J, Olsen K, Bingman L, Senthilkumar S, Perkins S, Yoo H, **Yoo CY\*** (2024) Light-regulated chaperone controls the assembly of chloroplast RNA polymerase complex for initiating chloroplast biogenesis (In preparation) **\*Corresponding author**

Shin D, Cho K, Tucker E, Yoo CY, Kim J (2024) F-box proteins functioning in post-translational regulation of phenylpropanoid metabolism in tomato (Under Review)

Willige BC\*, **Yoo CY\***, Guzman PS (2024) What is going on within phytochrome B photobodies?  
*The Plant Cell* (In press) **\*Corresponding author**

Hwang Y\*, Han S\*, **Yoo CY\***, Hong L, You C, Le BH, Shi H, Zhong S, Hoecker U, Chen X, Chen M (2022) Anterograde signaling controls plastid transcription via sigma factors separately from nuclear photosynthesis genes. *Nature Commun* 13:7440 [[Link](#)] **\* Co-first authors**

**Yoo CY**, He J, Sang Q, Qiu Y, Long L, Kim RJ, Chong E, Hahm J, Morffy N, Zhou P, Strader L, Nagatani A, Mo B, Chen X, Chen M (2021) Direct photoresponsive inhibition of a p53-like transcription activation domain in PIF3 by *Arabidopsis* phytochrome B. *Nature Commun* 12:5614 [[Link](#)]

- F1000 recommendation, Featured in Editor's Highlights

Willige BC\*, Zander M\*, **Yoo CY**, Phan A, Garza RM, Trigg SA, He Y, Nery JR, Chen H, Chen M, Ecker JR, Chory J (2021) PHYTOCHROME INTERACTING FACTORS trigger environmentally responsive chromatin dynamics. *Nature Genet* 53:955-961 [[Link](#)]

- F1000 recommendation

Qiu Y\*, Pasoreck EK\*, **Yoo CY\***, He J, Wang H, Bajracharya A, Li M, Larsen H, Cheung S, Chen M (2021) RCB initiates *Arabidopsis* thermomorphogenesis by stabilizing the thermoregulator PIF4 in the daytime.

*Nature Commun* 12:2042 [[Link](#)] **\* Co-first authors**

- Featured in Editor's Highlights

**Yoo CY**, Han S, Chen M (2020) Nucleus-to-plastid phytochrome signaling in controlling chloroplast biogenesis. *Annu Plant Rev* 3:251-280 [[Link](#)]

Yoo CY, Pasoreck EK, Wang H, Cao J, Blaha GM, Weigel D, Chen M (2019) Phytochrome activates the plastid-encoded RNA polymerase for chloroplast biogenesis via nucleus-to-plastid signaling.

*Nature Commun* 10:2629 [\[Link\]](#)

- F1000 recommendation

Yang EJ\*, Yoo CY\*, Liu J\*, Wang H, Cao J, Li F, Pryer K, Sun T, Weigel D, Zhou P, Chen M (2019) NCP activates chloroplast transcription by controlling light-dependent dual nuclear and plastidial switches.

*Nature Commun* 10:2630 [\[Link\]](#) \* Co-first authors

Yoo CY, Williams D, Chen, M (2019) Quantitative analysis of photobodies. *Methods Mol Biol* 2026:135-141

[\[Link\]](#)

Yoo CY, Mano N, Finkler A, Weng H, Day IS, Reddy ASN, Poovaiah BW, Fromm H, Hasegawa, PM, Mickelbart MV (2019) A Ca<sup>2+</sup>/CaM-regulated transcriptional switch modulates stomatal development in response to water deficit. *Sci Rep* 9:12282 [\[Link\]](#)

Nevarez PA, Qiu Y, Inoue H, Yoo CY, Benfey PN, Schnell DJ, Chen M (2017) Mechanism of dual-targeting of the phytochrome signaling component HEMERA/pTAC12 to plastids and the nucleus. *Plant Physiol* 173:1953-1966 [\[Link\]](#)

Sandoval JF, Yoo CY, Gosney MJ, Mickelbart MV (2016) Growth of *Arabidopsis thaliana* and *Eutrema salsugineum* in a closed growing system designed for quantification of plant water use. *J. Plant Physiol* 193:110-118 [\[Link\]](#)

Huang H, Yoo CY, Bindbeutel RK, Goldsworthy J, Tielking A, Alvarez S, Naldrett MH, Evans B, Chen M, Nusinow DA (2016) PCH1 integrates circadian and light-signaling pathways to control photoperiod-responsive growth in Arabidopsis, *eLife* 5:e13292 [\[Link\]](#)

- F1000 recommendation

Zhou XF\*, Jin YH\*, Yoo CY, Lin XL, Kim WY, Yun DJ, Bressan RA, Hasegawa PM, Jin JB (2013) Cyclin H;1 regulates drought stress response and blue light-induced stomatal opening by inhibiting ROS accumulation in *Arabidopsis*. *Plant Physiol* 162:1030-1041 [\[Link\]](#)

Weng H, Yoo CY, Gosney MJ, Hasegawa PM, Mickelbart MV (2012) Poplar GTL1 is a calcium/calmodulin-binding transcription factor that functions in plant water use efficiency and drought tolerance. *PLoS ONE* 7:e32925 [\[Link\]](#)

Yoo CY, Hasegawa PM, Mickelbart MV (2011) Regulation of stomatal density by the GTL1 transcription factor for improving water use efficiency. *Plant Signal Behav* 6:1069-1071 [\[Link\]](#)

Miura K, Lee J, Gong Q, Ma S, Jin JB, Yoo CY, Miura T, Sato A, Bohnert HJ, Hasegawa PM (2011) *SIZ1* regulation of phosphate starvation-induced root architecture remodeling involves the control of auxin accumulation. *Plant Physiol* 155:1000-1012 [\[Link\]](#)

Yoo CY, Pence HE, Jin JB, Miura K, Gosney MJ, Hasegawa PM, Mickelbart MV (2010) The *Arabidopsis* GTL1 transcription factor regulates water use efficiency and drought tolerance by modulating via transrepression of *SDD1*. *Plant Cell* 22:4128-4141 [\[Link\]](#)

Yoo CY, Pence HE, Hasegawa PM, Mickelbart MV (2009) Regulation of transpiration to improve crop water use. *Crit Rev Plant Sci* 28:410-431 [\[Link\]](#)

Miura K, Lee J, Jin JB, Yoo CY, Miura T, Hasegawa PM (2009) Sumoylation of ABI5 by the *Arabidopsis* SUMO E3 ligase SIZ1 negatively regulates abscisic acid signaling.

*Proc Natl Acad Sci USA* 106:5418-5423 [\[Link\]](#)

Jin JB, Jin YH, Lee J, Miura K, Yoo CY, Kim WY, Van Oosten M, Hyun Y, Somers DE, Lee I, Yun DJ, Bressan RA, Hasegawa PM (2008) The SUMO E3 ligase, AtSIZ1 flowering by controlling a salicylic promotion pathway and through affects on FLC chromatin structure. *Plant J* 53:530-540 [\[Link\]](#)

Miura K, Jin JB, Lee J, **Yoo CY**, Stirm V, Miura T, Ashworth EN, Bressan RA, Yun DJ, Hasegawa PM (2007) SIZ1-mediated sumoylation of ICE1 controls CBF3/DREB1A expression and freezing tolerance in *Arabidopsis*. *Plant Cell* 19:1403-1414 [[Link](#)]

Lee J, Nam J, Park HC, Na G, Miura K, Jin JB, **Yoo CY**, Baek D, Kim DH, Jeong JC, Kim D, Lee SY, Salt DE, Mengiste T, Gong Q, Ma S, Bohnert HJ, Kwak SS, Bressan RA, Hasegawa PM, Yun DJ (2007) Salicylic acid-mediated innate immunity in Arabidopsis is regulated by SIZ1 SUMO E3 ligase. *Plant J* 49:79-90 [[Link](#)]

**Yoo CY**, Miura K, Jin JB, Lee J, Park HC, Salt DE, Yun DJ, Bressan RA, Hasegawa PM (2006) SIZ1 small ubiquitin-like modifier E3 ligase facilitates basal thermotolerance in *Arabidopsis* independent of salicylic acid. *Plant Physiol* 142:1548-1558 [[Link](#)]

### Awards/Fellowships

---

15th Annual CEPCEB Symposium Lightning Talk Award, UC Riverside	2017
Travel Grant Award for International Symposium on Plant Photobiology, Austin, TX	2015
The Hargitt postdoctoral Fellowship, Duke University	2013
Future of Science Scholarship, Keystone Symposium	2012
The Bilsland Fellowship, Purdue University	2011
Outstanding Poster Award, American Society of Plant Biologists (ASPB) Midwestern Annual Meeting	2010
Purdue Research Foundation (PRF) research fellowship	2009
Outstanding Teaching Award, Plant Physiology, Purdue University	2009
Travel Grant Award, 19th International Conference on Arabidopsis Research	2008

### Professional Activities

---

#### Editorial Boards

Associate Editor, Plant Abiotic Stress in <i>Frontiers in Plant Science</i>	2022 - Current
Early Career Reviewer Board Member, <i>Journal of Biological Chemistry</i>	2020 - Current

#### Journal Reviewers

*Nature Communications, Journal of Biological Chemistry, New Phytologist, Journal of Experimental Botany, Planta, Plant Cell Reports, BMC Genomics, American Journal of Botany, Frontiers in Plant Science, Journal of Integrative Plant Biology*

#### Grants Reviewers

National Science Foundation (NSF)	2023
Research Grant Council (RGC) of Hong Kong-Joint Research Scheme (JRS)	2022, 2023
National Science Center Poland (NCN)	2020
Research Grant Council (RGC) of Hong Kong	2020

### Teaching Activities

---

Instructor, BIOL 2021, Principles of Cell Science (Honors class)	2023 Fall
Guest lecturer, BIOL 6100 Scientific Writing	2023 Fall
Guest lecturer, BIOL 7961 Intro to MCEB Research	2023 Fall
Guest lecturer, BIOL 2870 Faculty Research Seminar	2023 Fall
Guest lecturer, BIOL 6100 Scientific Writing	2022 Fall
Guest lecturer, BIOL 7961 Intro to MCEB Research	2022 Fall
Guest lecturer, BIOL 2870 Faculty Research Seminar	2022 Fall
Guest lecturer, BPSC 250 Seminar in Plant Biology, UC Riverside	2019

### **Graduate Student Training**

---

Kate Christensen, MCEB PhD student	2023 - Current
Jiyeon Hyun, MECB rotation student	2023 Spring
Nathan Raymond, MCEB PhD student	2023 Fall

### **Undergraduate Student Training**

---

#### **University of Utah Undergraduate Researchers**

Alexandra (Lexie) Bingman, Biology major, SBS research scholar, UROP award	2023 - Current
Madi Dean, Kinesiology major, UROP award	2023 - Current
Sih-An Liao	2024 - Current
Sandhya Senthilkumar, Chemistry major	2022 - 2023
Scott Perkins, Biology major, UROP award	2022 - 2023

#### **University of Utah Science Research Initiative (SRI) Stream Students**

Abigail Bruzual	2023 - Current
Min Doan	2023 - Current
Quenna Yuan	2024 - Current
Claire DeSilvia	2024 - Current
Yejin Park	2024 - Current

### **Postdoctoral Training**

---

Jaehyung Lee, Ph.D.	2022 - Current
---------------------	----------------

### **Dissertation Committee**

---

Emmanuel Ngwoke, Hollien Lab, Biology	2022 - Current
---------------------------------------	----------------

### **University Committee**

---

Graduate Student Admission Committee	2023-2024
Graduate Student Admission Committee	2022-2023

### **Community Service**

---

Scientific Research Initiative (SRI) Research Stream Lab	2022 - Current
Faculty member of Bioscience PhD -Molecular Biology (MB) program	2022 - Current
Science Fair Judge, Uintah Elementary School	2024

### **Professional Societies**

---

American Society of Plant Biologists

### **Invited Seminars**

---

2023 International Conference on Arabidopsis Research (ICAR), Japan	2023
2022 International Conference of Korean Society of Plant Biologists	2022
SBS Science Retreat, University of Utah	2022
Daegu Gyeongbuk Institute of Science and Technology (DGIST), South Korea	2022

Curriculum Vitae	Chan Yul Yoo, Ph.D
Biological Sciences, Seoul National University, South Korea	2022
Korea Advanced Institute of Science & Technology (KAIST), South Korea	2022
Department of Biological Science, Sungkyunkwan University, South Korea	2022
National Institute of Ecology, South Korea	2022
Division of Biological Science, Wonkwang University, South Korea	2022
Korea Research Institute of Bioscience and Biotechnology (KRIB), South Korea	2022
Life Science International Symposium, Korea University, South Korea	2022
International Conference on Bio-IT convergence, South Korea	2022
Department seminar at Purdue University, West Lafayette, IN (Invited by Dr. Michael Mickelbart)	2021
Webinar series on Chloroplasts and Mitochondria (WebCaM) (Invited by Dr. Silvia Ramundo)	2020
Intrinsically Disordered Protein Scientific Interest Group (IDPSIG) symposium at Stanford University and Carnegie Institution for Science (Invited by Dr. Heather Meyer)	2020
ASPB - Plant Biology 2019 meeting Lightning talk at San Jose, CA	2019
Gordon Research Conference on Mitochondria and Chloroplasts at Lucca (Barga), Italy	2018
Center for Plant Cell Biology Symposium at UC Riverside, CA	2017
29th Annual Plant Molecular Biology Retreat at Asheville NC	2015
Department Plant Biology Spring seminar series at Duke University, NC	2014
Keystone Symposium - Nuclear Events in Plants Gene Expression and Signaling, Taos, NM	2012
Department seminar at Tel Aviv University, Tel Aviv, Israel (Invited by Dr. Hillel Fromm)	2011
Department seminar at Yonsei University, Seoul South Korea (Invited by Dr. Wootae Kim)	2010
Plant Biology Student/Postdoc seminar, Purdue University, West Lafayette, IN	2010
19th International Conference on Arabidopsis Research (ICAR) (minisymposium speaker), Montreal, Canada	2008
ASPB - Plant Biology 2007 meeting (minisymposium speaker), Chicago, IL	2007