

## CURRICULUM VITAE

September 2017

**NAME:** Zheng (Jake) Chen, Ph.D.

**PRESENT TITLE:** Associate Professor

**WORK ADDRESS:** Department of Biochemistry and Molecular Biology  
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**CITIZENSHIP:** U.S.A.

### UNDERGRADUATE EDUCATION:

1990-1995 Tsinghua University, Beijing, China.  
B.S. in Biological Sciences.

### GRADUATE EDUCATION:

1996-2003 Columbia University, New York.  
Ph.D. in Molecular Biology and Biochemistry.

### POSTGRADUATE TRAINING:

2003-2008 Postdoctoral fellow, Department of Biochemistry,  
UT Southwestern Medical Center, Dallas.

### ACADEMIC AND ADMINISTRATIVE APPOINTMENTS:

2008-2009 Instructor, Department of Biochemistry,  
UT Southwestern Medical Center, Dallas.

2009-2016 Assistant Professor, tenure-track  
Dept. of Biochemistry and Molecular Biology  
UT McGovern Medical School at Houston.

2016-present Associate Professor, with tenure  
Dept. of Biochemistry and Molecular Biology  
UT McGovern Medical School at Houston.

2010-present Regular member, University of Texas,  
Graduate School of Biomedical Sciences at Houston.

**PROFESSIONAL ORGANIZATIONS (AND COMMITTEES OF THESE):**

**LOCAL:**

2010-present	John S. Dunn Gulf Coast Consortium for Chemical Genomics
2012-present	Texas Medical Center Digestive Diseases Center
2013-2015	UTMS Circadian Clock Club ( <i>as organizer</i> )
2016-present	UTHealth Consortium on Aging
2017-present	TMC Center for Translational Environmental Health Research

**REGIONAL:**

2009-present	Texas Society for Circadian Biology and Medicine, formerly known as SouthEastern and Central Texas Society for Clocks (SECTS) <i>Served as organizer for 2014 and 2017 meetings at UTHealth</i>
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**NATIONAL:**

2009-present	Society for Research on Biological Rhythms (SRBR) <i>Serving on the 2014 SRBR Membership Committee</i> <i>Serving as panelist for junior faculty workshop and abstract reviewer for 2016 SRBR conference</i>
2011-present	American Heart Association
2017-present	Metabolomics Association of North America (MANA)

**HONORS AND AWARDS:**

1996: Faculty Fellowship, Columbia University.  
2003: Dissertation with distinction, Columbia University.  
2005: T32 NIH neuroscience training grant, UT Southwestern Medical Center.  
2011: Scientist Development Grant award, American Heart Association National Center.  
2012: Pilot/Feasibility Award, TMC Digestive Diseases Center (DDC).  
(one of four highlighted projects in DDC's successful NIH renewal)  
2017: Dean's Teaching Excellence Award, UTHealth McGovern Medical School

**EDITORIAL POSITIONS:**

2017-2019: Editorial Board Member, Scientific Reports.

**SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:**

2015: NIH/NIA, P01 teleconference review panel.  
2016-2017: CASIS (Center for the Advancement of Science in Space, managing

partner of National Laboratory on the International Space Station), as a Subject Matter Expert in biology.

2017: NIH, K99/R00 review panel for March and July cycles.

#### **SERVICE ON THE UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT HOUSTON COMMITTEES:**

2012-2015: Chemical Safety Committee.

*Served as Vice Chair and chaired meetings in 2013.*

2014-2017: Animal Welfare Committee.

*Serve as chair or member to review protocol monthly.*

*Serve as member to conduct annual facility inspection.*

2014-2017: Inter-Faculty Council, as representative of GSBS.

*As member on 1-2 Subcommittees per year.*

2014-2017: Faculty Development Leave Review Committee.

*Reviewed packets for three UHealth faculty members.*

2016: Review panel for the 2016 Women's and Children's Seed Fund (UHealth & Rice).

#### **SERVICE ON THE UNIVERSITY OF TEXAS MEDICAL SCHOOL AT HOUSTON COMMITTEES:**

2014-2017: Interviewed approximately 15 medical student candidates per year.

#### **SERVICE ON GRADUATE SCHOOL COMMITTEES:**

2010: Graduate exam committee. Eun Ah Kim (Dent laboratory).

2010: BMB Program, Recruiting Committee.

2010: BMB Program, Admissions Committee.

2010: Advisory Committee. William Gerard O'brien (Lee laboratory).

2011: Advisory Committee. Vinay S. Nath (Lee laboratory).

2011-2013: BMB Program Web Page Committee.

*In charge of "Disease group" laboratory images for new BMB website.*

2011-2016: BMB Supervisory Committee. Kai-Lieh Huang (Shyu laboratory).

2013: BMB Program Workshop Committee.

2013: BMB Program, Admissions Committee.

2013: BMB Program, Exam Committee, Kaiqi Sun (Xia laboratory).

2014: BMB Program, Admissions Committee.

2014: BMB Program, Workshop Committee.

*Director, in charge of scheduling and organization.*

2014: Student Scholarship Committee.

2014: BMB Exam Committee, Drew Dolino (Jayaraman laboratory).

2014: BMB Exam Committee, Hong Liu (Xia laboratory).

2014: BMB Exam Committee, Scott Collum (Wagner laboratory).

2015: BMB Exam Committee, Kemly Philip (Blackburn laboratory).

2015: BMB Program, Workshop Committee.

*Director, in charge of scheduling and organization.*

2015: Student Scholarship Committee.

2015: Faculty mentor for GSBS Individual Development Plan.

2015: BMB Exam Committee, Caitlin Nurik (Jayaraman laboratory).

2015: BMB Exam Committee, Morayo Adebisi (Xia laboratory).

2015 - present: MMG Advisory Committee: Naomi Bier (Koehler laboratory).

2015 - 2017: BMB Advisory Committee: Gabrielle Gloston (Chen and Yoo lab).

As Chair.

2015: BMB Faculty Recruitment Committee.

2016: BMB Program, Workshop Committee.

*Director, in charge of scheduling and organization.*

2016: Student Scholarship Committee.

2016: BMB Exam Committee, Douglas B. Litwin (Jayaraman laboratory).

2016: BMB Ph.D. defense Committee, Kaiqi Sun (Xia laboratory).

2016: Reshaping GSBS, Community Working Group.

*Chair, Subcommittee 2*

2016: BMB Advisory Committee: Hong Liu (Xia laboratory)

2016: Baylor College of Medicine, Graduate School of Biomedical Sciences.

Thesis Committee: Jonathan M. Mercado (Francis Tsai laboratory)

2017 - present: Advisory Committee: Ryan Cassidy (Tong laboratory, IMM)

2017: BMB Exam Committee: Jessica Chen (Boehning lab), Josh Ko (Blackburn lab).

2017: BCB Workshop Committee (chair).

**SERVICE ON UTMSH AFFILIATED HOSPITAL COMMITTEES: N/A.**

**SERVICE TO THE COMMUNITY:**

2009-present: *ad hoc* manuscript reviewer for the following journals:

*Cell Metabolism, PNAS, Aging, J. Molecular and Cellular Cardiology, J. Visualized Experiments, Expert Opinion on Drug Discovery, Cancer Research, Chronobiology International, J. Physiol. Pharmacol., Human Molecular Genetics, Biochimie, Nutrition and Metabolism, J. Biological Rhythms, OncoTarget, PLoSOne, Int. J. Obesity, Scientific Reports, Molecular Metabolism, J. Vascular Research, Molecules, Frontiers in Neurology, Cell Reports, Frontiers in Microbiology, American J. Physiol., Recent Patents on Anti-Cancer Drug Discovery.*

2010-present: hosting seminar speakers at least twice a year.

2011: UT GSBS - student recruitment activities & student poster competition judge.

2012: UT GSBS - student recruitment activities.

2012: Shanghai Jiao Tong University (SJTU),  
as an external reviewer of faculty candidates.  
2012, 2017: SCBA Texas Chapter Annual Symposium,  
as a judge for trainee presentations.  
2012: UT MS Research Retreat,  
introduced the keynote speaker Dr. Joe Takahashi.  
2013-2014: Organizer, the UT MS Clock Club bi-monthly meeting.  
2014 & 2017: Co-organizer, also secured funds from UTHealth to host Texas clock  
research conferences.  
2014: Interviewed 6 Ph.D. or M.D./Ph.D. candidates.  
2014: Session Chair at the 10th Vahouny Fiber Symposium, Bethesda.  
2014-2015: Interviewed 18 medical student candidates.  
2015-2016: Interviewed 25 medical student candidates; interview day lunch.  
2015-2016: Interviewed 7 M.D./Ph.D. and 3 Ph.D. student candidates.  
2016: Faculty mentor, GCC/Keck Center T32 Training Interdisciplinary  
Pharmacology Scientists (TIPS).  
2017: Referent for faculty promotion/tenure: Rodrigo Morales, Jun Li.  
2018: Therapeutics Symposium Chair, biannual SRBR research conference, FL.

#### **SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**

2015-2017: Gabrielle Gloston (GSBS MS/PhD program, MS degree awarded).

#### **SPONSORSHIP OF POSTDOCTORAL FELLOWS:**

2009-2010: Keon-Hee Kim  
*Before relocation due to family reason, had a brief but productive stint,  
published one paper.*  
2010-2014: Baokun He (currently research associate at UT Health, Pediatrics).  
*First- or co-first author on 4 publications/manuscripts.*  
2014-2015: Kwon Jeong.  
*First author on one publication.*  
2016: Jee-Hwan Choe (joint recruitment with Dr. Yoo).  
2016-present: Yoon-Jin Kim (joint recruitment with Dr. Yoo).

#### **SPONSORSHIP OF MEDICAL STUDENTS:**

2012: Zachary Tyler Brady (Texas A&M Medical School).  
2013: Ting-Yu "Bryan" Yeh (School of Medicine, Fujen Catholic University, ROC).  
2014: Lei "Peter" Jin (medical graduate).  
2015: Steven Lee (UTHealth MS)

#### **SPONSORSHIP OF UNDERGRADUATE/HIGH SCHOOL STUDENTS:**

2013: Christopher A. Ayoub (Oberlin College), currently MD/PhD student at OSU.  
2013: Brian Ji (UIUC)

2014: Youngmin Shin, Korea (Soongsil University, Seoul, Korea).  
2015: Seonghwa Kim, Korea (Chungnam National University, Korea).  
2015: Fatma Ozguc (UC Berkeley)  
2015: Jihwan Park (Memorial HS, Houston; joint sponsorship with Dr. Yoo)  
2015: Michael Jin (U. Houston; joint sponsorship with Dr. Yoo)  
2015: Osvaldo Alquicira (U. Houston, bio major, graduated 2015)  
2016 & 2017: Sally Yan (Clements HS, Houston)  
2017: Sajiv Saksena (Cypress Creek HS, Houston)

### **TEACHING RESPONSIBILITIES:**

2010-2015: Medical Biochemistry Conference Leader,  
Block II - energy metabolism  
UT Medical School at Houston.  
16 lectures/year, help design and proctor exams.  
2016: Medical Biochemistry Conference Leader,  
UT Medical School at Houston.  
4 lecture hours.  
2010-present: Current Methods, High Throughput Chemical Screen.  
UT GSBS Houston.  
1 lecture/year, help design and proctor exams.  
2012-present: Ethical Dimensions of Biomedical Sciences, UT GSBS Houston.  
12 lectures/year.  
2017- : Integrative and Molecular Physiology, GSBS elective.  
1 lecture.

### **MENTORING ACTIVITIES:**

2013-2015: Seung-Hee (Sally) Yoo.  
*Previously a Research Assistant Professor in my lab, obtained an R01 award in 2015, now a Tenure-Track Assistant Professor in Biochemistry and Molecular Biology Department.*  
2013-present: Kazunari Nohara.  
*Instructor in my lab, as first-author published three papers and one book chapter, another in preparation.*  
2010-2014: Baokun He.  
*Former postdoc, first author on three papers.*  
2010-2012: Eun-Hyeon Song.  
*Former lab technician from Korea, entered graduate program at Penn State.*

### **CURRENT GRANT SUPPORT:**

**Agency:** NIH/NIA.  
**Project:** R01 AG045828 (RFA-AG-13-007)

**Title:** Role of clock-modulating small molecules against aging.  
**Role:** PI.  
**Award period and amount:** 08/01/2013 – 05/31/2018.  
\$175,289/yr direct cost. 35% salary support. Total: \$1,160,000.

**Agency:** NIH/NIGMS.

**Project:** R01 GM114424

**Title:** Function and regulation of the circadian factor Period2.

**Role:** Co-I. (PI: Seung-Hee Yoo)

**Award period and amount:** 4/01/2015 – 03/31/2020.

Total: \$1,482,250.

*I currently receive 15% salary support as the only co-I and a key contributor.*

*Dr. Yoo obtained this R01 grant when she was a Research Assistant Professor with full salary support from my lab.*

**Agency:** The Robert A. Welch Foundation.

**Project ID:** Research Grant AU-1731.

**Title:** Molecular mechanism of a clock-enhancing natural product.

**Role:** PI.

**Award period:** 06/01/2016 – 05/31/2019.

\$65,000/yr direct cost. Total: \$195,000.

*Second Renewal.*

**Agency:** NIH/NIA. (PA-16-287)

**Project:** Administrative supplement 3R01AG045828-04S2 for R01 AG045828

**Title:** Role of clock-modulating small molecules against aging.

**Role:** PI.

**Award period and amount:** 04/01/2017 – 05/31/2018.

Total: \$69,300.

**Agency:** Elysium Health, Inc.

**Project ID:** Sponsored Research Agreement.

**Title:** Function of CRY and FAD in nutrient sensing.

**Role:** co-PI (PI: Yoo).

**Award period and amount:** 8/01/2017 – 7/31/2019.

15% salary support. \$400,000 direct cost, \$120,000 indirect cost.

Total: \$520,000.

**Agency:** NIH/NIA. (PA-17-008)

**Project:** Administrative supplement 3R01AG045828-05S1 for R01 AG045828

**Title:** Role of clock-modulating small molecules against aging.

**Role:** PI.

**Award period and amount:** 09/01/2017 – 05/31/2018.

Total: \$154,000.

**PENDING GRANT SUPPORT:**

N/A.

**PAST GRANT SUPPORT:**

**Agency:** The Robert A. Welch Foundation.

**Project ID:** Research Grant AU-1731.

**Title:** "Identification and Characterization of Small Molecules as Chemical Probes of the Circadian Clock", "Molecular mechanisms of action of clock modulating small molecules".

**Role:** PI.

**Award period and amount:** 06/01/2010 – 05/31/2016, two 3-year grant periods.  
\$60,000 - \$65,000/yr direct cost. Total: \$340,000.

*Received invitation to renew notices for both renewal cycles.*

**Agency:** NIH/NIA. (RFA-AG-13-007)

**Project:** Diversity supplement 3R01AG045828-04S1 for R01 AG045828

**Title:** Role of clock-modulating small molecules against aging.

**Role:** PI.

**Award period and amount:** 09/01/2016 – 05/31/2018.

Total: \$66,034.

**Agency:** American Heart Association, National Center.

**Project ID:** Scientist Development Grant 11SDG7600045.

**Title:** Small Molecule Probes of Circadian Coordination of Cardiometabolic Functions.

**Role:** PI.

**Award period and amount:** 07/01/2011 – 06/30/2015.

15% salary support. \$70,000/yr direct cost, and \$7,000/yr indirect cost.

Total: \$308,000.

*This grant was ranked at 6.6%, and a related Beginning Grant-in-aid application to the AHA Southwest Affiliates was also funded but declined.*

**Agency:** Matsutani America and Matsutani Labs.

**Project ID:** Sponsored Laboratory Testing Agreement.

**Title:** Anti-diabetic role of Fibersol-2 in mouse Type 2 Diabetes models & Anti-inflammatory and prebiotic roles of Fibersol-2.

**Role:** PI.

**Award period and amount:** 8/09/2012 – 12/31/2014.

10% salary support. \$229,552 direct cost, \$68,866 indirect cost.

Total: \$298,418.

**Agency:** Texas Medical Center Digestive Diseases Center.



**Project:** 2012 Pilot/Feasibility Award.

**Title:** Rescue of GI functions in Clock<sup>m/m</sup> mutant mice by clock-enhancing compounds.

**Role:** PI.

**Award period and amount:** 03/01/2012 – 02/28/2013.  
\$25,000 direct cost. Total: \$25,000.

**Agency:** NIH.

**Project:** 1RC4HD067977-01.

**Title:** Autoantibodies in Preeclampsia: Pre-Symptomatic Markers and Therapeutic Targets.

**Role:** Co-investigator. PIs: Kellems and Xia.

**Award period and amount:** 09/27/2010 – 08/31/2011.  
5% salary support. Total: \$5,500.

## **PUBLICATIONS:**

### **A. Abstracts (since 2009)**

2010: 12th biannual Society for Research on Biological Rhythms, FL. **Z. Chen**, S.-H. Yoo, K. Kim, K.-H. Kim, E. Buhr, D. Ferster, J. Takahashi, S. McKnight. “Novel small molecules as potent enhancers and modulators of the circadian clock”.

2010: BMB Program retreat. **Z. Chen**, K.-H. Kim, S.-H. Yoo, K. Kim, E. Buhr, D. Ferster, J. Takahashi, S. McKnight. “High-throughput screening identified novel small molecules capable of enhancing and altering the circadian clock”.

2011: BMB Program retreat. B. He., **Z. Chen**. “Identification of diverse modulators of central and peripheral circadian clocks by high throughput chemical screening”.

2012: BMB program retreat. B. He, E. Song, Y. Park, **Z. Chen**. “Role of a clock-enhancing small molecule in circadian and metabolism genes expression via retinoic-acid-related orphan receptors (RORs)”.

2012: 13th biannual Society for Research on Biological Rhythms, FL. B. He, Y. Park, E. Song, J. Takahashi, S.-H. Yoo, **Z. Chen**, “Small molecular probes of the circadian clock and output functions”.

2012: First Annual Texas SACT conference. Y. Park, **Z. Chen**. “High-throughput screening of clock-modulating small molecules using a cell-based kinetic assay”.

2013: BMB program retreat. “CEM5, a natural flavone, activates the circadian clock to protect against metabolic syndrome”.

2013: AHA Scientific Sessions, Dallas. B. He, Y. Park, S.-H. Yoo, **Z. Chen**.

“Identification of clock-modulating small molecules with protective roles against the metabolic syndrome”.

2014: 9<sup>th</sup> Annual Chicago Diabetes Day, Chicago. B. He, K. Nohara, K. Shimomura, **Z. Chen**. “Gut microbiota confer a protective role of Fibersol-2 against metabolic syndrome”. One of eight poster awards.

2014: Keystone symposium on microbiome, Big Sky, Montana. B. He, S.-H. Yoo, K. Shimomura, **Z. Chen**. “A key role of gut microbiota in mediating protection against metabolic syndrome by Fibersol-2”.

2014: ADA Scientific Sessions, San Francisco. B. He, S.-H. Yoo, K. Shimomura, **Z. Chen**. “Gut microbiota confer a protective role of Fibersol-2 against metabolic syndrome”. Selected for audio guided tour.

2015: BMB program retreat. K. Jeong, S.-H. Yoo, **Z. Chen**. “Autophagy regulates the circadian clock by inhibiting CLOCK-mediated BMAL1 degradation”.

2015: BMB program retreat. K. Nohara, Y. Shin, N. Park, K. Jeong, B. He, N. Koike, S.-H. Yoo, **Z. Chen**. “Ammonia-lowering activities and CPS1 induction mechanism of a natural flavonoid”.

2015: AHA Scientific Sessions, Orlando. K. Jeong, B. He, K. Nohara, S.-H. Yoo, **Z. Chen**. “Genetic and Pharmacological Regulation of Circadian Energy Metabolism”.

## **B. Refereed Original Articles in Journals**

### Before UTHealth:

1. **Chen, Z.** and Manley, J.L.: Robust mRNA transcription in chicken DT40 cells depleted of TAF31 suggests both functional degeneracy and evolutionary divergence. **Mol. Cell Biol.** 20:5064-5076, 2000.
2. **Chen, Z.** and Manley, J.L.: In vivo analysis of the histone 3-like TAF9 and a TAF9-related factor, TAF9L. **J. Biol. Chem.** 278:35172-35183, 2003.
3. **Chen, Z.** and Manley, J.L.: Core promoter elements and TAFs contribute to the diversity of transcriptional activation in vertebrates. **Mol. Cell Biol.** 23, 7350-7362, 2003.
4. **Chen, Z.**, Odstrcil, E.A., Tu, B.P., and McKnight, S.L.: Restriction of nuclear DNA replication to the reductive phase of the metabolic cycle protects genome integrity. **Science** 316:1916-1919, 2007.
5. Bertolucci, C., Colognesi, I., Caruso, P., Aguzzi, J., **Chen, Z.**, Cavallari, N., Foa,

A., Tosini, G., Bernardi, F., and Pinotti, M.: Evidence for an overlapping role of CLOCK and NPAS2 transcription factors in liver circadian oscillators. **Mol. Cell Biol.** 28:3070-3075, 2008.

At UTHealth, as Assistant Professor:

6. **Chen, Z.\***, Yoo, S.H., Park, Y.S., Kim, K.H., Wei, S., Buhr, E., Ye, Z.Y., Pan, H.L., and Takahashi, J.S.\*: Identification of Diverse Modulators of Central and Peripheral Circadian Clocks by High Throughput Chemical Screening. **Proc. Natl. Acad. Sci. USA** 109:101-106, 2012. (\*: corresponding authors; highlighted on the cover).
7. Yoo, S.H., Mohawk, J.A., Slepka, S.M., Shan, Y., Huh, S., Hong, H.K., Kornblum, I., Kumar, V., Koike, N., Xu, M., Nussbaum, J., Liu, X., **Chen, Z.**, Chen, Z.J., Green, C.B., and Takahashi, J.S.: Competing E3 ubiquitin ligases determine circadian period by regulated degradation of CRYPTOCHROME in nucleus and cytoplasm. **Cell** 152:1091-1105, 2013. (cover article)
8. Umemura, Y., Koike, N., Matsumoto, T., Yoo, S.H., **Chen, Z.**, Yasuhara, N., Takahashi, J.S., and Yagita, K.: Transcriptional Program of Kpna2/Importin- $\alpha$ 2 Regulates Cellular Differentiation-Coupled Circadian Clock Development in Mammalian Cells. **Proc. Natl. Acad. Sci. USA** 111:E5039-48, 2014.
9. He, B., Nohara, K., Ajami, N.J., Michalek, R.D., Tian, X., Wong, M., Losee-Olson, S.H., Petrosino, J.F., Yoo, S.H., Shimomura, K., and **Chen, Z.**: Transmissible microbial and metabolomic remodeling by soluble dietary fiber improves metabolic homeostasis. **Scientific Reports** 5:10604, 2015.
10. Nohara, K., Shin, Y., Park, N., Jeong, K., He, B., Koike, N., Yoo, S.H., and **Chen, Z.**: Ammonia-lowering activities and carbamoyl phosphate synthetase 1 (CPS1) induction mechanism of a natural flavonoid. **Nutrition and Metabolism** 12:23, 2015.
11. Jeong, K., He, B., Nohara, K., Park, N., Shin, Y., Kim, S., Shimomura, K., Koike, N., Yoo, S.H., and **Chen, Z.**: Dual attenuation of proteasomal and autophagic BMAL degradation in Clock $\Delta$ 19/+ mice contributes to improved glucose homeostasis. **Scientific Reports** 5:12801, 2015.
12. Lu, H., Chu, Q., Xie, G., Han, H., **Chen, Z.**, Xu, B., and Yue, Z.: Circadian gene expression predicts patient response to neoadjuvant chemo-radiation therapy for colorectal cancer. **Int. J. Clin. Exp. Pathol.** 8:10985-10994, 2015.
13. He, B., Nohara, K., Park, N., Park, Y.S., Guillory, B., Zhao, Z., Garcia, J.M., Koike, N., Lee, C.C., Takahashi, J.S., Yoo, S.H., and **Chen, Z.**: The small molecule Nobiletin targets the molecular oscillator to enhance circadian rhythms

and protect against metabolic syndrome. **Cell Metabolism** 23: 610-21, 2016. *(highlighted in the journals of Cell Metabolism and Cell Chemical Biology; UTHHealth news release, reported by ScienceDaily; 30min live interview on Doctor Radio at Sirius XM, host Dr. Nieca Goldberg; phone interview/news article by Emmanuel Briseno for The Daily Texan)*

14. Lee, E., Cho, E., Kang, D.H., Jeong, E.H., **Chen, Z.**, Yoo, S.H., and Kim, E.Y.: Pacemaker-neuron-dependent disturbance of the molecular clockwork by a Drosophila CLOCK mutant homologous to the mouse CLOCK $\Delta$ 19. **Proc. Natl. Acad. Sci. USA**, 113 (33): E4904-E4913, 2016.

At UTHHealth, as tenured Associate Professor:

15. Nohara K., **Chen, Z.**, Yoo S.H. A filtration-based method of preparing high-quality nuclei from cross-linked skeletal muscle for chromatin immunoprecipitation. **J. Visualized Experiments** 125: e56013, 2017. PMID: 28715394.
16. Jung, H., Lee, D., Ryu, H., Choi, B., Go, Y., Lee, N., Yoon, J.H., Park, S., Lee, D., Kim, S., Son, H., Lee, S., Lee, I., Choi, K.Y., Ryu, S.H., Nohara, K., Yoo, S.H., **Chen, Z.**, and Kim, K.T. Myricetin improves endurance capacity and mitochondrial function by activating SIRT1 and PGC-1 $\alpha$ . **Scientific Reports** 7:6237, 2017. PMID: 28740165.
17. Ma, X., Lin, L., Yue, J., Wu, C.S., Guo, C.A., Wang, R., Yu, K.-J., Devaraj, S., Murano, P., **Chen, Z.**, and Sun, Y. Suppression of ghrelin exacerbates HFCS-induced adiposity and insulin resistance. **Int. J. Molecular Sciences**, 18, 1302, 2017.
18. Hughes, M.E., .... **Chen, Z.**, .... Hogenesch, J.B. Guidelines for genome-scale analysis of biological rhythms. **J. Biological Rhythms**, 2017 (in press).
19. Yoo, S.H., Kojima, S., Shimomura, K., Koike, N., Buhr, E., Furukawa, T., Ko, C., Gloston, G., Ayoub, C., Nohara, K., Reyes, B., Tsuchiya, Y., Yoo, O.-J., Yagita, K., Lee, C., **Chen, Z.**, Yamazaki, S., Green, C.B., and Takahashi, J.S.: Period2 3'-UTR and microRNA-24 regulate circadian rhythms by repressing PERIOD2 protein accumulation. **Proc. Natl. Acad. Sci. USA**, in press.
20. Xiang, Y., Ye, Y., Lou, Y., Yang, Y., Ozguc, F.M., Diao, L., Karmouty-Quintana, H., Xia, Y., Blackburn, M., Kellems, R., **Chen, Z.**, Yoo, S.-H., Shyu, A.-B., Mills, G.B., L. Han. Comprehensive characterization of alternative polyadenylation in human cancer. **J. National Cancer Institute**, in press.

#### **Research articles revised / submitted:**

- Ye, Y., Xu, J., Xiang, Y., Ozguz, F.M., **Chen, Z.**, Takahashi, J.S., Yoo, S.-H., L. Han. Landscape of pharmacogenomics of circadian genes in cancer therapy. Submitted.
- Ribas-Latre, A., Fekry, B., Kwok, C., Baumgartner, C., Shivshankar, S., Sun K., **Chen, Z.**, and Eckel-Mahan, K.: Rosiglitazone Reverses High Fat Diet-Induced Changes in Circadian BMAL1 Function in Insulin Sensitive Tissues. Submitted.

- Nohara, K., Mallampalli, V., Nemkov, T., Kim, Y., Koike, N., Han, L., Mileykovskaya, E., Takahashi, J.S., A., D'alessandro, Dowhan, W., Yoo, S.H., and **Chen, Z.**: Bimodal enhancement of mitochondrial function in skeletal muscle by the clock-enhancing small molecule Nobiletin promotes healthy aging. In preparation.

### C. Invited, Refereed Review Articles in Journals

#### Before UTHealth:

1. **Chen, Z.**, McKnight, S.L.: A conserved DNA damage response pathway responsible for coupling the cell division cycle to the circadian and metabolic cycles. **Cell Cycle** 6:2906-2912, 2007. (highlighted on the cover)

#### At UTHealth, as Assistant Professor:

2. **Chen, Z.\***, Yoo, S.H., and Takahashi, J.S.\*: Small molecule modifiers of circadian clocks. **Cell. Mol. Life Sci.** 70:2985-2998, 2013. Published online on Nov. 16, 2012. (\*: corresponding authors)

3. Nohara K., Yoo S.H., **Chen, Z.**: Manipulating the circadian and sleep cycles to protect against metabolic disease. **Front. Endocrinol.** 6:35, 2015. doi: 10.3389/fendo.2015.00035

4. He, B., **Chen, Z.**: Molecular targets for small-molecule modulators of the circadian clock. **Curr. Drug Metab.** 17(5): 503-512, 2016.

#### At UTHealth, as tenured Associate Professor:

5. Gabrielle Gloston, Yoo, S., **Chen, Z.**: Clock-enhancing small molecules and potential applications in chronic diseases and aging. **Front. Neurol.** 8:100, 2017. doi: 10.3389/fneur.2017.00100

6. **Chen, Z.**, Yoo, S., and Takahashi, J.S.: Development and Therapeutic Potential of Small Molecule Regulators of Circadian Systems. **Annu. Rev. Pharmacol. Toxicol.** 58, 2018. (in press, as the ONLY corresponding author)

7. **Chen, Z.**: What is next for chronobiology and drug discovery. **Expert Opinion on Drug Discovery** 2017, Sept 11: 1-5. DOI: 10.1080/17460441.2017.1378179.

8. Burish, M.J., **Chen, Z.**, Yoo, S.-H.: Cluster headache is, in part, a circadian disorder, **JAMA Neurology** 2017 (submitted).

## D. Book Chapters

### Before UTHealth:

1. **Chen, Z.**, Tu, B.P., and McKnight, S.L.: Biological and medical relevance of circadian and metabolic cycles. **Seasonal Affective Disorder**, 2nd ed., 43-69, 2009. Oxford University Press. Eds. T. Partonen & S. R. Pandi-Perumal.

### At UTHealth, as tenured Associate Professor:

2. Nohara, K., Yoo, S., and **Chen, Z.**: Developing circadian therapeutics against age-related metabolic decline. **Circadian Rhythms and Their Impact on Ageing**. Editors: S.M. Jazwinski, S.M. Hill, V.P. Perrepelitsa. Springer Press (in press).

## E. Books

## F. Other Professional Communications (since 2009)

1. Presentations (oral unless otherwise noted)
  - 2009: Faculty Research retreat, UT-Medical School at Houston.
  - 2009: SouthEastern and Central Texas Society for Clocks (SECTS), Texas A&M.
  - 2009: National Institute of Biological Sciences, Beijing, China.
  - 2009: Institute of Biochemistry and Cell Biology, CAS, Shanghai, China.
  - 2010: 12<sup>th</sup> biannual Society for Research on Biological Rhythms, FL.
  - 2010: Florida State University, College of Medicine.
  - 2011: MCB Workshop (keynote speaker), Baylor College of Medicine (BCM), TX.
  - 2012: 13<sup>th</sup> biannual Society for Research on Biological Rhythms, FL.
  - 2012: Collaborative Research Workshop, UT Medical School at Houston.
  - 2013: Texas A&M, College Station.
  - 2013: Pediatric Gastroenterology Research Workshop, BCM.
  - 2013: Lorentz Research Workshop, Leiden, the Netherlands.
  - 2013: NIA, circadian aging grantee meeting.
  - 2013: U. of Cincinnati/Children's Hospital.
  - 2013: AHA Scientific sessions, Dallas.
  - 2014: U. of Pennsylvania, Philadelphia.
  - 2014: Keystone symposium on microbiome, Montana (poster).
  - 2014: 10<sup>th</sup> Vahouny Fiber Symposium, Bethesda.
  - 2014: 14<sup>th</sup> biannual Society for Research on Biological Rhythms, Symposium Presentation.
  - 2014: Lurie Children's Research Center RNA Symposium, Northwestern University, Chicago.
  - 2014: ADA Scientific Sessions, San Francisco (poster, selected for guided

audio tour).

- 2014: Annual Meeting of Japanese Association for Dietary Fiber Research (JDF), Tokyo (invited as keynote speaker).
- 2014: Korean American Biomedical Scientists Symposium, west coast (2 Posters).
- 2015: SouthEastern and Central Texas Society for Clocks (SECTS), Dallas.
- 2015: U. Houston, PPS seminar, Houston.
- 2015: UT Houston IBP Seminar Series, Houston.
- 2015: U. Kentucky Physiology Seminar Series.
- 2015: Annual SCBA-TX Chapter Symposium, Houston.
- 2015: AHA Scientific Sessions, Orlando (Poster).
- 2016: UT BMB retreatment, faculty lecture.
- 2016: The J.T. Willerson MD Cardiovascular Seminars, Houston.
- 2016: U. Florida Aging Seminar Series, Gainesville.
- 2016: 15<sup>th</sup> biannual Society for Research on Biological Rhythms, Florida. Clock and Therapy workshop panel.
- 2016: UT IMM Center for Metabolic and Degenerative Diseases Seminar Series, Houston, TX.
- 2016: UT IMM Seminar Series, Houston, TX.
- 2016: Texas A&M, 2016 CTEHR Clock Symposium (the Center for Translational Environmental Health Research), College Station, TX.
- 2016: Texas A&M, SIBOR Workshop, Montgomery, TX.
- 2017: The 38th International Union of Physiological Sciences Congress, "The rhythms of the intestine", Brazil (invited and partially paid for by the Scandinavian Physiological Society).
- 2017: Center for Inflammation & Epigenetics, Houston Methodist Research Institute, Houston.
- 2017: South Texas Nutrition Obesity Symposium, College Station, TX.
- 2017: Annual Faculty Research Retreat, UT McGovern Medical School.
- 2017: Cell Symposia: Metabolic disease therapies. San Diego (poster).
- 2018: 16<sup>th</sup> biannual Society for Research on Biological Rhythms, Florida. Symposium chair: therapeutics targeting circadian rhythms (invited).

## 2. Non-refereed Publications

AHA abstract: "Identification of clock-modulating small molecules with protective roles against the metabolic syndrome". *Circulation*, 2013; 128: A16612.

AHA Abstract 15771: "Genetic and Pharmacological Regulation of Circadian Energy Metabolism". Kwon Jeong; Baokun He; Seung-Hee Yoo; Zheng (Jake) Chen. *Circulation*, 2015; 132 (Suppl 3): A15771.

## 3. Letters to the Editor

## 4. Scientific Exhibits

## 5. Videos

6. Other:
- 2013: Disclosure to Office of Technology Management, **Chen, Z.**, He, B., and Yoo, S.H.
- 2014: was interviewed for a commentary on *BioTechniques*. <http://www.biotechniques.com/news/High-fat-diet-rewires-the-circadian-clock/biotechniques-349434.html> .
- 2015: was interviewed for a *UTHealth Insider* article on Dr. Spudich's recent Science publication <https://inside.uthouston.edu/inside/story.htm?id=208d59ee-fd9f-47b1-bdfc-edc6c2097841> .
- 2015: was interviewed by a researcher at Jacksonville University, FL, to provide expert opinion on autophagy and sleep.
- 2016: Confidential Disclosure Agreement (CDA) with Elysium Health, a start-up company focusing on dietary supplements for healthy aging.
- 2017: Disclosure to Office of Technology Management, **Chen, Z.**, Yoo, S.H. and Takahashi, J.S.
- 2017: Provisional patent, "Use of Polymethoxylated Flavones to Ameliorate Circadian Rhythm Disorders", Serial number 62/468,227. Filing date: March 7, 2017.
- 2017: was interviewed by Matthew Ankeny, for an Elysium Health Inc. web article on circadian rhythm and health.

**G. Visiting Professorship:** N/A.