

CHENG, KUAN-CHEN Ph.D.

Professor

Work Address

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Education

- 2006/09 – 2010/08 **Ph.D.**, Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA, USA
Thesis title: Enhanced Production of Bacterial Extracellular Polysaccharides and Material Property Analysis.
- 2003/09 – 2005/06 **M.S.**, Microbiology & Biochemistry, National Taiwan University, Taipei, Taiwan.
Master Thesis: Development of Functional Fermented Foods from Black Soybean by Submerged Culture of *Rhizopus* spp.
- 1997/09 – 2001/06 **B.S.**, Agriculture Chemistry, National Taiwan University, Taipei, Taiwan.
Graduation Project: Enhanced Production of Extracellular Amylase by *Thermobifida fusca*.

Academic and Professional Appointments

- 2019/08 ~ present **Professor**
Research interests include bioconversion of agricultural raw and waste commodities into value added products; strain development; microbial genetic engineering; novel bioreactors; downstream processing; design and characterization of new biomaterials; modeling of biosystem.
- 2015/08 ~ 2019/07 **Associate Professor**, Institute of Food Science & Technology/ Institute of Biotechnology, National Taiwan University, Taipei, Taiwan.
- 2016/06 ~ **Consultant** of China Medical University Hospital, Taichung, Taiwan
- 2016/06 ~ 2016/09 **Visiting scholar**, Department of Food Science, Rutgers University, NJ, USA
- 2015/02 – 2015/07 **Adjunct Assistant Professor**, Department of Food Science, National Pingtung University of Science and Technology, Pingtung, Taiwan

- 2012/08 - **Group Leader of Research** of National Center for Food Safety Education and Research (NCFSER), NTU
- 2011/08 – 2015/07 **Assistant Professor**, Institute of Food Science & Technology/ Institute of Biotechnology, National Taiwan University, Taipei, Taiwan.
- 2010/08 – 2011/07 **Post-Doc fellow**, Chemical and Environmental Engineering, The University of Arizona, Tucson, AZ
- National Alliance for Advanced Biofuels and Bio-products (NAABB)
 - Algae cultivation.
 - Evaluating water quality for algal cultivation.
 - Supervise graduate students and manage lab.
 - Write technical reports, peer-reviewed publications and grants proposal.
- 2006/09 – 2010/08 **PhD Graduate Assistant**, Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA.
- Selection of additives on bacterial cellulose production.
 - Enhanced bacterial cellulose production using biofilm reactor.
 - Material property analysis of bacterial cellulose composite.
 - Medium optimization of pullulan production.
 - Pullulan production using biofilm reactor and its property analysis.
 - Modeling of pullulan production kinetics.
 - HACCP plan for chocolate ice cream production.
 - Project of industrial-scale ethanol production using continuous fermentation.
 - Plant tissue culture and molecular biology (BIOTC 459/ lab).
 - Animal cell culture and tissue engineering (BIOTC 489/ lab).
- 2017/06~
2017/06~
2012/09~ **Member of** Anti-aging and Health Society of Taiwan.
- 2012/09~ **Lifetime member of** Agricultural Association of Taiwan.
- 2012/09~ **Lifetime member of** Taiwan Association for Food Science and Technology.
- 2012/09~ **Lifetime member of** *Taiwanese Journal of Agricultural Chemistry and Food Science*.
- 2008/08- 2010/08 **Coordinator of Microbiol Engineering Lab.** Dept. of Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA.
- Lab management.
 - Communicate with other labs.
- 2010/01- 2010/05 **Teaching Assistant of Microbiological Engineering Lab.** Dept. of Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA.
- Served as a lab TA (Microbial cultivation, bioreactor operation, and data analysis by using HPLC and spectrophotometer).

- 2008/08 – 2008/12 **Teaching Assistant of Engineering Elements of Biotechnology and Microbiology Lab.** Dept. of Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA.
- Served as a lab TA (Microbial cultivation, fermentation, and data analysis).
- 2008/07 **Supervisor for Pennsylvania Governor’s School for the Agricultural Sciences (PGSAS).** Dept. of Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA.
- Supervised two high school students in their independent study project entitled “Enhanced Ethanol Fermentation”.
- 2005/08 – 2006/08 **Associate Researcher,** Proteomic Department, Biomedical Engineering Center, Industrial Technology Research Institute, Hsin-Chu, Taiwan.
- Proteomics for tissue engineering applications - Isolation, purification and identification of candidate cancer markers in human fluids.
 - Identification and comparison of short peptide using Mass spectrometry.
- 2003/09 – 2005/06 **Research Assistant of National Science Council,** Taipei, Taiwan.
- Development of functional foods from fermented black soybean (Submerged and solid state fermentations).
 - Human cell line tests of cytotoxic activity of fermented black soybean.
 - Expression of cholesterol oxidase gene from *Arthrobacter simplex* in *Pichia pastoris*.
- 2004/02 – 2004/06 **Teaching Assistant of Applied Microbiology Lab.** Department of Agriculture Chemistry, National Taiwan University, Taipei, Taiwan.
- Served as a TA and lecturer of lab. (Microbial selection and cultivation, fermentation, and data analysis)
- 2000/06 – 2001/09 **Research Assistant,** Department of Agriculture Chemistry, National Taiwan University, Taipei, Taiwan.
- Enhanced production and purification of extracellular amylase.
- 1998/06 – 1998/08 **Summer Intern,** Department of Agriculture Chemistry, National Taiwan University, Taipei, Taiwan.
- Study on the folic acid content in Taiwanese traditional food.
 - In vivo animal experiment (rat) on blood cholesterol concentration.

Teaching

Production, characterization and application of biomaterials (2 credits; 100%)

Study and Writing in Applied and Food Microbiology (2 credits; 100%)

Microbial fermentation engineering (2 credits; 50%)

Food fermentation (2 credits; 50%)

Food microbiology (3 credits; 50%)
 Food microbiological analysis (1.5 credit; 100%)
 Selected topics in advanced biotechnology (II) (3 credits; 33%)
 Bioresource chemistry (2 credits; 30%)
 Food biotechnology (2 credits; 10%)
 Special Topics in Food Science (2 credits; 10%)
 Research and Experimental Methods in Food Science and Technology (I) (2 credits; 10%)
 Research and Experimental Methods in Food Science and Technology (II) (2 credits; 10%)
 Food safety and regulation (3 credits; 10%)
 Applied microbiology and biotechnology (2 credits; 25%)

Special Skills

Fermentation: medium evaluation, anaerobic/aerobic cultivation, bioreactor operation and design, modeling of cultivation kinetics, submerged/solid state fermentation (bacteria, yeast, fungi), aseptic techniques.

Biomaterials property analysis: FTIR, X-ray diffraction analysis, viscosity meter, microscopy (FE-SEM, TEM), thermogravimetric analysis (TGA), dynamic mechanical analysis (DMA).

Molecular biology: polymerase chain reaction (PCR), yeast two-hybrid, gene transformation.

Biochemistry: enzyme purification and analysis, enzyme-linked immunosorbent assay (ELISA), Western blot, Northern blot, Southern blot, two-dimensional polyacrylamide gel electrophoresis.

Food Processing Engineering: heat exchanger, steam oven, freeze dryer, Good manufacturing practices (GMP), Sanitary standard operating procedures (SSOP), Hazard analysis and critical control points (HACCP), element analysis.

Animal cell and tissue culture: MTT assay, flow cytometry, gene transfection, cell fusion, cell stain.

Plant cell and tissue culture: genome DNA isolation, gene transformation, plant tissue propagation, embryo rescue.

Proteomics: mass spectrometry (GC/MALDI/SELDI; GC/MS), peptide sequencing.

Chemistry: pH meter, chromatography (HPLC, FPLC, TLC, IC, ESCA).

Software: Proficient in SigmaPlot, Word, PowerPoint, Excel, DNAsist, MATLAB, AutoCad, STELLA, finite element (FEM and BEM) computer program.

Language: Fluent in Mandarin and English; Teaching in English (with Pennsylvania State University Teaching Certificate)

Honors, Awards, and Professional Recognitions

2022/10	2022 Shang-Fa Yang Excellence in Agriculture Young Scientist Award , The Shang-Fa Yang Memorial Foundation
2022/10	ELSEVIER 2021 Top 2% Scientist of the world
2022/06	Yong Scholar Research Award , CH Biotech
2022/03	Award of Excellence in Research , Health Food Society of Taiwan
2021/12	Award for Teaching Excellence in English of college, NTU (110)
2021/11	ELSEVIER 2020 Top 2% Scientist of the world

2020/08 **Excellent Junior Research Investigator Grant**, Dept. of Eng. & Technol., MOST, Taiwan

2019/11 **Academic award of Food research** (Taiwan Association for Food and Technology)

2019/06 **Technology achievement award of Agricultural Chemical Society of Taiwan** (2019.06)

2017/08 ~ 2020/07 **Excellent Junior Research Investigator Grant**, Dept. of Eng. & Technol., MOST, Taiwan

2017/06 **Academic award of Agricultural Chemical Society of Taiwan** (2017.06)

2016/10 **Chiang-Hsu Lien-Chen Food Technology Honorary Award** (Taiwan Association for Food and Technology) °

2016 **Teaching award** of college, NTU.

2016/06 Tseng, TN, Lo, K, Lin, SP, Lin, YY, Cheng, KC* (2016). Excellent poster award. 54th Agricultural Chemical Society of Taiwan Annual Meeting.

2015/09 Lin, SP and **Cheng, KC*** 2015 Mini Symposium: Frontier of Biotechnology Award of excellent thesis.

2015/09 Hsu, KD and **Cheng, KC*** 2015 Mini Symposium: Frontier of Biotechnology, Best research thesis.

2015/06 Chu, CY, Lo, YC, **Cheng, KC**, Lu, TJ, Wang, RB, Lin, PY (2015). Excellent poster award. 53th Agricultural Chemical Society of Taiwan Annual Meeting.

2015/06 Lin, SP, Tsai, YS, Tseng, TN, Huang, YH, **Cheng, KC*** (2015). 53th Agricultural Chemical Society of Taiwan Annual Meeting.

2015/03 2015 Health Food Society of Taiwan Conference “Excellent Poster” Huang TJ.; Hsu KD.; Chen, CJ; **Cheng, KC***. Poster title: Skin Whitening Effects from Extracts of Submerged Cultures of *Ganoderma weberianum*.

2013 ~ 2016 **Excellent Junior Research Investigator Grant**, Dept. of Life Science, NSC, Taiwan

2013 ~ 2015 **Excellent Junior Research Investigator Grant**, Dept. of Eng. & Technol., NSC, Taiwan

2013/08 ~ 2014/07 **Outstanding Performance Faculty Awards** -Additional stipend from College of Bioresources and Agriculture, National Taiwan University

2009/04 **Second place winner** for the poster presentation at Gamma Sigma Delta graduate research exhibition at Penn State University, 2009, University park, PA, USA.

2007/08 ~ 2010/07 Graduate Assistantship. Agricultural and Biological Engineering, Pennsylvania State University, University Park, PA, USA.

2009/1 ~ present **Gamma Sigma Delta**. The Honor Society of Agriculture. Life time membership.

2008/12 ~ present **Alpha Epsilon**. The Honor Society of Agric., Food, and Biological Engineering. Life time membership.

2008/12 ~ present **Institute of Biological Engineering (IBE)**

2008/8 **Third place winner** for poster presentation at Northeast Agricultural and Biological Engineering Conference (NABEC), 2008, Aberdeen, MD.

2008/8 ~ present **American Society of Agricultural and Biological Engineers (ASABE)**

1997, 1999/01, 04, 05 **Fellowship**, Association of Paper Manufacturing Taiwan

1998/01, 04, 05 **Scholarship**, Chu-Nan Credit Cooperative Association

2005/06 **Biotechnology program certification** (20 credits)

Scholarly Service

1. Reviewer for CITD, Industrial Devp. Bureau, Ministry of Economic Affairs (2021/4~)
2. 中華民國教育部 教學實踐研究計畫 審查委員 (2022/02~)
3. **Council member** of Taiwan Association for Lactic Acid Bacteria (2021.12~2023.11)
4. **Executive council member** of Agricultural Chemical Society of Taiwan (40th;2021.10~2023.09)
5. **Executive council member** of Taiwan Associate for Food Science and Technology (2021.12~2023.11)
6. **Board of supervisors** of Taiwan Associate for Food Science and Technology (2019.12~2021.11)
7. **Advisory committee member** of health food for Taiwan Food and Drug Administration (2020.01~2021.12)
8. **General secretary** of Agricultural Chemical Society of Taiwan (39th;2019.10~2021.09)
9. **General secretary** of Taiwan Association for Food Protection (Affiliate of International Association for Food Protection) (2018.2~2022.12)
10. **Council member** of Agricultural Chemical Society of Taiwan (2017.8~2019.7)
11. **Preliminary and secondary reviewer** of National Primary and High School Science Fair for Ministry of Education, Taiwan. (2017, 2018, 2019)
12. **Convener** for 56th Annual meeting of Agricultural Chemical Society of Taiwan (2017/6)
13. **Organization Committee** for the 5th International Conference on Life Science & Biological Engineering (LSBE 2016), Kyoto, Japan. (2016/11/22~24)
14. **Organization Committee** for International Symposium on Life Science and Biological Engineering (ISLSBE 2016), Tokyo, Japan. (2016/8/25~27)
15. **Board** of Automation, College of Bioresources and Agriculture, NTU. (2016/8~)
16. **3rd Fermentation Technology Conference**—chairman /Organizer (2016/5/4)
17. **Committee member** of Higher Education Forum (2016/4~)
18. **Board** of Institutional Animal Care and Use Committee, Shih Chien University (2016/4~2018/3)
19. **Managing editor** of *Taiwanese Journal of Agricultural Chemistry and Food Science* (2016/1~)
20. **Organization Committee** for 2015 Conference of Taiwan Association for Food Science and Technology (2015/10)
21. **Council member** of Taiwan Associate for Food Science and Technology (2016.1 ~ 2017.12, 2018.1 ~ 2016.12)
22. **Council member** of Taiwan Associate for Food Protection (2016.2~2018.2)
23. **Committee** of 1st International conference on research, development and innovation in

- nanotechnology (2014/9~)
24. **2nd Fermentation Technology Conference**—chairman /Organizer (2014/10/30)
 25. NTU-UIUC 2014 Global Issues Forum –Urban Agriculture and Food Safety/Security - participants (2014/11/03~04)
 26. **Host** of 2013 Mini Symposium: Frontiers in Biotechnology (2013/8/24~25)
 27. **Council member** of NTU Biochemical Science and Technology School Alumni Association (2013/11~2015/12)
 28. **Editorial board**, College of Bioresources and Agriculture (院刊), NTU (2012/8~2014/7)
 29. **International affairs committee (board)** of Graduate Institute of Food Science and Technology (2012/4/1~)
 30. **Director of research**, National Center for Food Safety Education and Research, NCFSER. National Taiwan University, Taipei, Taiwan. - (2012/8~2015/7)
 31. **General Affairs**, NTU Food Science and Technology School Alumni Association , (2011/9~)
 32. **Local Organization Committee** of 2011 International Conference on Food Factors- (2011)

Journal Editorial Board

- Editorial board**, *Henry Journal of Nutrition & Food Science* (2015/10 ~ present)
- Editorial board**, *SM Journal of Food and Nutritional Disorders* (2015~present)
- Editorial board**, *Journal of Food Processing and Beverages* (2013~present)
- Editorial board**, *International Food Research* (2013~present)
- Editorial board**, *Journal of Industrial Microbiology & Biotechnology* (2011-present)
- Guest Editor**, *International Journal of Chemical Engineering* (2011)
- Managing editor**, *Taiwanese Journal of Agricultural Chemistry and Food Science* (2016~2019)

Project reviewer for Croatian Science Foundation (**Croatia**); Agency for Science, Technology and Research (A-Star) (**Singapore**); National Science Center, Poland (**Poland**)

Reviewer for *Transactions of the ASABE*, *Journal of Basic Microbiology*, *Carbohydrate Polymers*, *Folia Microbiologica*, *African Journal of Biotechnology*, *Food Biotechnology*, *Journal of Industrial Microbiology & Biotechnology*, *Enzyme and Microbial Technology*, *Biocatalysis and Agricultural Biotechnology*, *Bioprocess and Biosystems Engineering*, *Journal of Energy Resources Technology*, *Bioresource Technology*, *Industrial & Engineering Chemistry Research*, *Biotechnology for Biofuels*, *Journal of Food and Drug Analysis*, *ScienceAsia*, *Food and Bioprocess Technology*, *Molecules*, *CLEAN*, *Industrial & Engineering Chemistry Research*, *Journal of Agricultural Science and Technology*, *Journal of Traditional and Complementary Medicine*, *Critical Review in Microbiology*, *Journal of Food Science*, *BioMed Research International*, *Food Chemistry*, *International Journal of Biological Macromolecules*, *Applied Biochemistry and Biotechnology*, *Current Applied Physics*, *Journal of Food Science and Engineering*, *PLOS ONE*, *Process Biochemistry*, *Scientific World Journal*, *Journal of Molecular Catalysis B: Enzymatic*, *Food & Function*, *International Journal of Food Engineering*, *Journal of Environmental Sciences*, *Journal of Natural Fibers*, *Phytochemical Analysis*, *Science Education Monthly* (Taiwan), *Journal of*

International Cooperation, Acta Alimentaria, Journal of marine Science and technology, 科學教育月刊 (Taiwan), Journal of Marine Science and Technology, Marine Drugs, Journal of Biomedical Materials Research: Part A, Saudi Journal of Biological Sciences, Sustainable Environment Research, Energy Conversion and Management, Biochemical Engineering Journal, Journal of Microbial & Biochemical Technology, Journal of Science and Engineering Technology, Cereal Chemistry, Bioprocess and Biosystems Engineering, International Journal of Genetics and Molecular Biology, Advances in Polymer Technology, Applied Energy. Scientific Reports, AIMS Bioengineering, Biotechnology and Bioengineering, Electronic Journal of Biotechnology, Applied Sciences, ACS Sustainable Chemistry & Engineering, Microorganisms, Sustainable Environment Research, 3 Biotech, International Journal of Food Science and Technology, Fuel, Archives of Dermatological Research, Journal of Genetic Engineering and Biotechnology, International Journal of Food Properties, Biological Engineering Journal, International Journal of Food Microbiology, Biotechnology Progress, Energies, Brazilian Journal of Microbiology, Current Medicinal Chemistry, Bioscience, Biotechnology, and Biochemistry, Food Hydrocolloids, Journal of Polymers and the Environment, Journal of Natural Fibers, Biomass Conversion and Biorefinery, Journal of Applied Polymer Science, Journal of Nanostructure in Chemistry, Probiotics and Antimicrobial Proteins, Journal of Functional Foods, Critical reviews in Biotechnology, Plant Physiology and Biochemistry, Separation Science and Technology, RSC Advances, Macromolecular Bioscience, Smart Science, Heliyon, Biotechnology Letters, Journal of Food Processing and Preservation, ACS Applied Materials & Interfaces, Bioengineered, Journal of Chemical Technology and Biotechnology, Journal of Polymers and the Environment, Environmental Science and Pollution Research, Industrial Crops & Products, Biopolymers, Food and Bioproducts Processing, Future Foods, Food Chemistry Advances, Microbial Biotechnology, Fermentation, 水產研究, 宜大生物資源學刊, 台灣農學會報.

Patent

1. Liu, JR, **Cheng, KC** and Lee A. (2016) *Bacillus amyloliquefaciens* and uses of zearalenone detoxification. (R.O.C. #: I545193).
2. **Cheng, KC** and Lin, SP (2016) New Acetobacter with high bacterial cellulose productivity. (R.O.C. #:I567194).
3. Hsu, KD and **Cheng, KC** (2019). Extract of *Ganoderma formosanum* mycelium and preparation method thereof. (R.O.C. #I645861).2019.01

Publications

Invited and Peer Reviewed Technical Articles

1. **Cheng, KC**, Demirci, A and Catchmark, JM, Advances in biofilm reactors for production of value-added products. **2010**. *Applied Microbiology and Biotechnology* 87:445-456.
2. **Cheng, KC**, Demirci, A and Catchmark, JM, Current knowledge of pullulan – from a production aspect. **2010**. *Current Topics in Biotechnology*. 5:29-48.
3. **Cheng, KC**, Catchmark, JM and Demirci, A, Bacterial cellulose – from an application aspect. **2010**. *Current Topics in Biotechnology*. 5:1-20.
4. **Cheng, KC** and Ogden, KL, Algal biofuels: the research. *Chemical Engineering Progress* **2011**. 107:42-47.

5. **Cheng, KC**, Demirci A. and Catchmark, JM, Pullulan: biosynthesis, production, and applications. **2011** *Applied Microbiology and Biotechnology*. 92(1):29-44.
6. Satyanarayan, RSD, **Cheng KC**, and Demirci, A, Electrolyzed oxidizing water technology. **2011**. Resource Magazine of *American Society of Agricultural Engineers*. September/October:12-13.
7. Kimura, S, Tung, YC, Pan, MH, Su, NW, Lai, YJ* and **Cheng, KC***. Black garlic: a critical review on its production, bioactivity and application. **2017**. *Journal of Food and Drug Analysis* 25(1):62-70.

Peer Reviewed Articles

8. Lu, JJ, Cheng, MC, Khumsupan, D, Hsieh, CC, Hsieh, CW, **Cheng, KC***. **2023**. Evaluation of fermented turmeric milk by lactic acid bacteria to prevent UV- induced oxidative stress on human fibroblast cell. *Molecules*. (**under review**)
9. Lin, SP, Singajaya, S, Lo, TY, Santoso, SP, Hsu, HY, **Cheng, KC***. **2023**. Evaluation of porous bacterial cellulose produced from foaming templating with different additives and its application in 3D cell culture. *International Journal of Biological Macromolecules*. (**In revision**)
10. Hsieh, CC, Yu, SH, Kuo, HC, Cheng, KW, Hsu, CC, Lin, YP, Khumsupan, D, Lin, SP, Hsieh, CW, **Cheng, KC***. **2023**. Extracts of fermented *Chenopodium formosanum* (Djulis) sprouts attenuate PM2.5-induced alveolar macrophage inflammatory stress response via NF- κ B pathway regulation. *Food Chemistry*. ()
11. Hsieh, CC, Yu, SH, Cheng, KW, Liou, YW, Hsu, CC, Hsieh, CW, Kou, CH, **Cheng, KC***. **2023**. Solid-State Fermentation for Large-Scale Production of Fermented *Chenopodium formosanum* (Djulis) Sprouts and their Metabolites Analysis. *Food Research International*. (**under review**)
12. Lai, YT, Chen, CH, Lo, YC, Hsieh, CW, Hsu, FC, **Cheng, KC***. **2023**. Application of aroma-producing yeasts and ageing technology in Kyoho fortified wine. *Australian Journal of Grape and Wine Research*. (**under review**)
13. Khumsupan, D, Lin, SP, Hsieh, CW, Santoso, SP, Chou YJ, Hsieh, KC, Lin, HW, Ting, Y, **Cheng, KC***. **2023**. Current and potential applications of atmospheric cold plasma in the food industry: A review. *Antioxidants*. (**under review**)
14. Hsu, FC, Lin, WT, Hsieh, KC, **Cheng, KC**, Wu, JSB, Ting, Y*. **2023**. Mitigating the allergenicity of peanut allergen Ara h 1 by cold atmospheric pressure argon plasma jet. *Journal of the Science of Food and Agriculture* (doi: 10.1002/jsfa.12454)
15. Lai, YT, Hou, CY, Lin, SP, Lo, YC, Chen, CH, Hsieh, CW, Lin, HW, **Cheng, KC***. **2023**. Sequential culture with aroma-producing yeast strains to improve the quality of Kyoho wine. *Journal of Food Science*. (doi: 10.1111/1750-3841.16468)
16. Hsiao, YF, Shao, YC, Wu, YT, Hsu, WK, **Cheng, KC**, Yu, CC, Chou, CH, Hsieh, CW*. **2023**. Physicochemical properties and protective effects on UVA-induced photoaging in Hs68 cells of *Pleurotus ostreatus* polysaccharides by fractional precipitation. *International Journal of Biological Macromolecules*. (doi.org/10.1016/j.ijbiomac.2022.12.254)
17. Angkawijaya, AE, Bundjaja, V, Santoso, SP, Go AW, Lin, SP, **Cheng, KC**, Soetaredjo, FE, Ismadji, S. **2023**. Biocompatible and biodegradable copper-protocatechuic metal-organic frameworks as rifampicin carrier. *Biomaterials Advances*. (DOI:10.1016/j.bioadv.2022.213269)

18. Sulistiyo CD, **Cheng, KC**[§], Suandi HJ, Yuliana M, Hsieh, CW, Ismadji, S, Angkawijaya, AE, Go AW, Hsu, HY, Tran-Nguyen, PL, Santoso, SP*. 2022. Removal of hexavalent chromium using durian in the form of rind, cellulose, and activated carbon: Comparison on adsorption performance and economic evaluation. *Journal of Cleaner Production*. 380:135010. (IF=11.072)
19. Tang, Y, Mak Ch, Zhang, J, Jia, G, **Cheng, KC**, Song, H, Yuan, M, Zhao, S, Kai, JJ, Colmenares, JC, Hsu, HY*. 2022. Unravelling the interfacial dynamics of band-gap funneling in bismuth-based halide perovskites. *Advanced Materials*. (doi.org/10.1002/adma.202207835) (IF=32.086)
20. Khumsupan, D, Lin, SP, Chou, YJ, Hsieh, KC, Hsu, HY, Ting, Y, **Cheng, KC***. 2022. Applications of atmospheric cold plasma in agricultural, medical, and bioprocessing industries. *Applied Microbiology and Biotechnology*. 106: 7737-7750.
21. Chan, KH, Cheng, CK, Gavahian, M, Yudhistira, B, Santoso, SP, **Cheng, KC***, Hsieh, CW*. 2022. The Impact of Different Pretreatment Processes (Freezing, Ultrasound and High Pressure) on the Sensory and Functional Properties of Black Garlic (*Allium sativum* L.). *Molecules*. 27, 6992.
22. Santoso SP*, Kurniawan, A, Angkawijaya, AE, Shuwanto, H, Warmadewanthi, IDAA, Hsieh, CW, Hsu, HY, Soetaredjo, FE, Ismadji, S, **Cheng, KC**. 2023. Removal of heavy metals from water by macro-mesoporous calcium alginate–exfoliated clay composite sponges. *Chemical Engineering Journal*. 452(2):139261. (IF=14.66)
23. Punthi, F, Yudhistira, B, Gavahian, M, Chang, CK, **Cheng, KC**, Hou, CY, Hsieh, CW*. 2022. Pulsed electric field-assisted drying: A review of its underlying mechanisms, applications, and role in the fresh produce plant-based food preservation. *Comprehensive Reviews in Food Science and Food Safety*. 21(6):5109-5130. (IF=15.786)
24. Chen, HY, Lin, CH, Hou, CY, Lin, HW, Hsieh, CW, **Cheng, KC***. 2022. Production of Siamenoside I and Mogroside IV from *Siraitia grosvenorii* using immobilized β -glucosidase. *Molecules*. 27:6352.
25. Hou, CY, Hsieh, CC, Huang, YC, Kuo, CH, Chen, MH, Hsieh, CW, **Cheng, KC***. 2022. Development of functional fermented dairy products containing Taiwan djulis (*Chenopodium formosanum* Koidz.) in regulating glucose utilization. *Fermentation*. 8:423.
26. Santoso, SP*, Aliwarga, HK, Laysandra, L, Angkawijaya, AE, Soetaredjo, FE, Putro, JN, Yuliana, M, Pasila, F, **Cheng, KC**, Hsu, HY, Ismadji, S. 2022. Trends on the development of hybrid supercapacitor electrodes from the combination of graphene and polyaniline. *Fine Chemical Engineering*. 3:47-65.
27. **Cheng, KC**, Hsiao, HC, Hou, YC, Hsieh, CW, Hsu, HY, Chen, HY, Lin, SP*. 2022. Improvement in violacein production by utilizing formic acid to induce quorum sensing in *Chromobacterium violaceum*. *Antioxidants*. 11:849.
28. Tang, Y, Mak, CH, Jia, G, **Cheng, KC***, Kai, JJ, Hsieh, CW, Meng, F, Niu W, Li, FF, Shen, HH, Zhu X, Chen, HM, Hsu, HY*. 2022. Lead-free hybrid perovskite photocatalysts: surface engineering, charge-carrier behaviors, and solar-driven applications. *Journal of Materials Chemistry A*. 10:12296-12316. (IF=14.511)
29. Lin, H[§], **Cheng, KC**[§], Lin, JA, Hsieh, LP, Chou, CH, Wang, YY, Lai, PS, Chu, PC, Hsieh, CW. 2022. *Pholiota nameko* polysaccharides protect against ultraviolet

- A-induced photoaging by regulating matrix metalloproteinases in human dermal fibroblasts. *Antioxidants*. 11:739.
30. Lin, SP, Huang, SH, Ting, Y, HY, Hsu, **Cheng, KC***. 2022. Evaluation of detoxified sugarcane bagasse hydrolysate by atmospheric cold plasma for bacterial cellulose production. *International Journal of Biological Macromolecules* 204:136-143.
 31. Chen, BK, Chang, CK, **Cheng, KC**, Hou CY, Lin, JA, Chen, MH, Santoso, SP, Chen, CP, Hsieh, CW*. 2022. Using the response surface methodology to establish the optimal conditions for preserving bananas (*Musa acuminata*) in a pulsed electric field and to decrease browning induced by storage at a low temperature. *Food Packaging and Shelf Life*. 31:100804.
 32. Santoso, SP, Angkawijaya AE, Bundjaja V, Kurniawan A, Yuliana M, Hsieh, CW, Go AW, **Cheng, KC**, Soetaredjo Fe, Ismadji S. 2022. Investigation of the influence of crosslinking activation methods on the physicochemical and Cu(II) adsorption characteristics of cellulose hydrogels. *Journal of Environmental Chemical Engineering*. 10:106971.
 33. Hou, CY[§], Huang, PH[§], Lai, YT, Lin, SP, Liou, BK, Lin, HW, Hsieh*, CW, Hsu, HU, **Cheng, KC***. 2022. Screening and identification of yeasts from fruits and their co-culture for cider production. *Fermentation*.8:1.
 34. Fu, LM, Shih, MK, Hsieh, CW, Ju, WJ, Tain, YL, **Cheng, KC**, Hsu, JH, Chen, YW, Hou, CY*. 2021. Design of an integrated microfluidic paper-based chip and inspection machine for the detection of mercury in food with silver nanoparticles. *Biosensors*. 11, 491.
 35. Kuo, HC[§], Liu, YW[§], Lum, CC, Hsu, KD, Lin, SP, Hsieh, CW, Lin, HW, Lu, TY*, **Cheng, KC***. 2021. *Ganoderma formosanum* exopolysaccharides inhibit tumor growth via immunomodulation. *International Journal of Molecular Sciences*. 22:11251.
 36. Lai, YT[§], Hsieh, CW[§], Lo, YC, Liou, BK, Lin, HW, Hou, CY*, **Cheng, KC***. 2021. Isolation and identification of aroma-producing non-*Saccharomyces* yeasts and their fermentation for wine making. *LWT-Food Science and Technology* 154:112653.
 37. Lin, H, Lin, TY, Lin, JA, **Cheng, KC**, Santoso, SP, Chou, CH, Hsieh, CW*. 2021. Effect of *Pholiota nameko* polysaccharides inhibiting methylglyoxal-induced glycation damage *in vitro*. *Antioxidants*. 10:1589.
 38. Chen, HY, Hsieh, CW, Chen, PC, Lin, SP, Lin, YF*, **Cheng, KC***. 2021. Development and Optimization of Djulis Sourdough Bread Fermented by Lactic Acid Bacteria and Its Bioactivity. *Molecules*.26(18), 5658.
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 63. 周志展、鄭光成 (2018)；透過反應曲面法優化養基條件提升 *Komactobacter intermedius* BCRC 910677 細菌纖維素產量。第 48 次台灣食品科學技術學會。第 150 頁(B068)，台北，台灣。2018/11/30。(In Chinese)
 64. 陳宏岳、鄭光成、丁俞文 (2018)；Immobilization of Laccase for Ginkgolic Acid Degradation in *Gb* Leaf Extract。第 48 次台灣食品科學技術學會。第 151 頁(B087)，台北，台灣。2018/11/30。(In Chinese)
 65. 簡則宇、陳宏岳、鄭光成 (2018)；以天貝模式進行固態發酵以開發機能性台灣藜產品。第 48 次台灣食品科學技術學會。第 151 頁(B096)，台北，台灣。2018/11/30。(In Chinese)
 66. 周妤柔、丁俞文、鄭光成 (2018)；以低溫大氣電漿處理提高綠豆的發芽率及 GABA 含量。第 48 次台灣食品科學技術學會。第 153 頁(C016)，台北，台灣。2018/11/30。

(In Chinese)

67. 林琬婷、丁俞文、鄭光成 (2018)；以常溫壓電漿降低花生過敏原 Ara h1 的含量。第 48 次台灣食品科學技術學會。第 153 頁(C017)，台北，台灣。2018/11/30。(In Chinese)
68. 鄭浩淇、陳宏岳、鄭光成 (2018)；紅藜進行乳酸發酵之乳酸菌篩選及抗氧化能力探討-反應曲面法。第 48 次台灣食品科學技術學會。第 156 頁(C066)，台北，台灣。2018/11/30。(In Chinese)
69. **Cheng, KC** and Wu, MC. (2017)。以固定化漆酶分解銀杏葉萃取物中銀杏酸之研究(B045)。台灣食品科技學會第四十七次會員大會。2017/12/01，高雄，台灣。第168頁。(In Chinese)
70. 林芷晴、許凱迪、**鄭光成** (2017)。Evaluation of inhibitory effects of exopolysaccharide from *Ganoderma formosanum* on lung tumor and its mechanism (B073). 台灣食品科技學會第四十七次會員大會。2017/12/01，高雄，台灣。第170頁。
71. 林彥沂、許凱迪、**鄭光成** (2017)。The anti-proliferation activity of *Ganoderma formosanum* extracts on prostate cancer cells. B074 台灣食品科技學會第四十七次會員大會。2017/12/01，高雄，台灣。第170頁。
72. Chou, PF, Shen, SC, Wu, J, **Cheng, KC**, Ting, YW* (2017/08). Non-thermal plasma enhanced germination and higher gamma-aminobutyric acid (GABA) concentration in brown rice. 254th American Chemical Society (ACS) national meeting, Washington, DC, USA.
73. Lai YT and **Cheng KC*** (2017). Identification, optimization, functional evaluation of esterification microorganism from Kinmen Kaoliang yellow water. American Society of Agricultural and Biological Engineers (ASABE) annual international meeting. Poster NO. 1700103, 2017/7/18, Spokane, WA, USA.
74. Wen N and **Cheng KC*** (2017). Study on fungal isolation and changes of antioxidant activities in miso fermentation with different soybean varieties - American Society of Agricultural and Biological Engineers (ASABE) annual international meeting. Poster NO. 1700104, 2017/7/18, Spokane, WA, USA.
75. 賴佳暖、游若箴、**鄭光成** (2017)；篩選黃水中具澱粉酶活性放線菌之研究。第 55 屆台灣農業化學會。第 87 頁，台北，台灣。2017/06/24。(In Chinese)
76. 陳品潔、游若箴、**鄭光成** (2017)；探討 *Lactobacillus reuteri* DSM17938 胞外活性多醣抗氧化、抗發炎及最適化生產之研究。第 55 屆台灣農業化學會。第 86 頁，台北，台灣。2017/06/24。(In Chinese)
77. 陳宇軒、許凱迪、**鄭光成** (2017)；一種用於美白藥物篩選的 Enzyme-based TLC 平台之建立。第 55 屆台灣農業化學會。第 72 頁，台北，台灣。2017/06/24。(In Chinese)

78. 陳宏岳、丁俞文、鄭光成 (2017) ; Reduce of phytic acid in soymilk by using spent coffee grounds as an immobilizer for phytase 。第 55 屆台灣農業化學會。第 86 頁，台北，台灣。2017/06/24。(In Chinese)
79. Hsu, KD, Lum, CC and **Cheng, KC**. (2016). Extract of *Ganoderma formosanum* Mycelium as a Highly Potent Tyrosinase Inhibitor. American Society of Agricultural and Biological Engineers (ASABE) annual international meeting. Poster NO.162494313, 2016, Orlando, United State of America, 74 pp.
80. Tseng, TN, Lo, KY, Lin, SP, Lin, YY and **Cheng, KC** (2016). The evaluation of PVA/dextran/chitosan hydrogel in wound dressing. June 28, 2016. 第五十四屆台灣農業化學會。優良壁報論文獎。June 28, 2016。台北，台灣。第45頁。
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82. Lee, HH, Lin, PY, Hsu, KD, **Cheng, KC** and Lu, TJ. (2016)。不同收穫時間的臺灣紫芝及赤芝菌絲發酵物其(1,3;1,6)- β -D-葡萄糖聚糖與靈芝酸含量變化。第五十四屆台灣農業化學會。June 28, 2016。台北，台灣。第86頁。(In Chinese)
83. Hsu, KD, Lum, CC, Wu, SP and **Cheng, KC** (2016). Anti-melanogenesis effect of *Ganoderma formosanum* extract on B16-F10 melanoma cell line and *in vivo* zebrafish model. International Conference on Health Care and Aging. Health Food Society of Taiwan. Mar. 5, Taipei, Taiwan.
84. Tsai, YS, Huang, LT, Huang, YH and **Cheng, KC** (2015). Evaluation of material properties and healing efficiency of bacteria cellulose as wound dressing. 2015 Asia Pacific Agriculture Undergraduate Student Project Competition. National Pingtung University of Science and Technology, Nov. 27, Kenting, Taiwan. (**Best poster award and First Prize**)
85. Hsu, KD; Wang, CS; Huang; Chen, HJ; Lum, CC; Wu, SP and **Cheng, KC** (2015) Inhibition of Melanin Synthesis by *Ganoderma formosanum* Extracts and Its Application to Zebrafish Lightening Model. Agricultural Biotechnology Research Center of Academia Sinica (ARBC) 16th Annual Poster Competition. Oct. 14, Taipei, Taiwan.
86. Wang, CS, Hsu, KD, Lee, MH, Huang, TJ and **Cheng, KC** (2015). Anti-melanogenic activity of *Ganoderma weberianum* extracts. 2015 Asia Pacific Agriculture Undergraduate Student Project Competition. National Pingtung University of Science and Technology, Nov. 27, Kenting, Taiwan. (**Second Prize**)
87. Huang, YT and **Cheng, KC** (2015). Development of a pullulan bioactive packaging system to extend shelf life of frozen tilapia fillets 。Poster #: 1112, p-23 , Biomaterials

- International, June 1-5, Kenting, Taiwan.
88. Chu, CY, Lo, YC, **Cheng, KC**, Lu, TJ, Wang, RB and Lin, PY. (2015)。酵母菌在 PCS 固定化系統內對羅漢果皂苷的生物機轉之研究 (A103)。第五十三屆臺灣農業化學會。六月三十號，臺北，台灣。第 49 頁。(優良壁報論文獎) (In Chinese)
 89. Lin, SP, Tsai, YS, Tseng, TN, Huang, YH and **Cheng, KC**. (2015)。Production of bacterial cellulose with various additives in PCS rotating disk bioreactor and its material properties analysis (A105)。第五十三屆臺灣農業化學會。六月三十號，臺北，台灣。第 50 頁。(優良壁報論文獎)
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 92. Wu, WH, Liu, WH and **Cheng, KC** (2015)。利用芋頭農業資材以嗜高溫酵母菌 *kluyveromyces marxianus K21* 發酵生產乙醇之研究。Taiwan Biomass Energy Industry Association Conference–The 16th annual general meeting。104/01/23。
 93. Huang, TJ, Hsu, KD, Chen, CJ and **Cheng, KC**. (2015)。Skin Whitening Effects from Extracts of Submerged Cultures of *Ganoderma weberianum*. Health Food Society of Taiwan- 2015 annual general meeting, Phytochemicals and Health International Conference.
 94. Hsu, KD, Wang, CS, Huang, TJ and **Cheng, KC**. (2015)。Anti-melanogenic Activity of *Ganoderma formosanum* Extracts. Health Food Society of Taiwan- 2015 annual general meeting, Phytochemicals and Health International Conference.
 95. **Cheng, KC** and Pua, X. (2014) Optimization of glucose release from taro peel waste for lactic acid bacteria cultivation. Society for Industrial Microbiology and Biotechnology (SIMB), St. Luis, MO, USA. (Poster# 28), p. 50.
 96. **Cheng, KC** and Chen, CT. (2014) Effect of plasticizers and cross-linking degrees on the physical properties of modified pullulan films. Society for Industrial Microbiology and Biotechnology (SIMB), St. Luis, MO, USA. (Poster# 30), p. 50.
 97. Hsu, KD, Wang, CS, Huang, TJ and **Cheng, KC** (2014). Effects of *Ganoderma formosanum* extracts on tyrosinase activity. Food Science Annual Meeting, Poster NO.B012, 2014, Kaohsiung, Taiwan, 144 pp.
 98. Chiou, YT, Liu, JR and Cheng, KC. (2014)。具致癌物降解能力之乳酸菌株篩選。Taiwan Association for Food Science and Technology- 44th annual general meeting。Poster No.:B058。147pp.
 99. Chen, HY, Liu, JR and Cheng, KC. (2014)。蜂王漿及蜂蛹蛋白水解物中降血壓肽之研究。Taiwan Association for Food Science and Technology- 44th annual general meeting。Poster No.:A050。141pp.
 100. Yao, YJ, Yu, RC and **Cheng, KC** (2013). Immobilized β -glucosidase for Isoflavone in black soymilk. 51th Agricultural Chemical Society of Taiwan。
 101. Erh, MH and **Cheng, KC** (2013) Studies on isoflavone deglycosylation and

- bioactivities in black soymilk fermented by *Rhizopus oligosporus* NTU-5 in a PCS bioreactor. 51th Agricultural Chemical Society of Taiwan ◦
102. Lin, SP and Cheng, KC (2013). Continuous Bacterial Cellulose Production in a PCS Rotating Disk Bioreactor. 2013 International Conference on Life Science & Biological Engineering, Tokyo.
 103. **Cheng, KC***, Lin, SP and Chen, KI (2013). Semi-continuous bacterial cellulose production in a rotating disk pcs bioreactor. Society for Industrial Microbiology and Biotechnology (SIMB), San Diego, CA, USA. (Poster# 3), p. 32.
 104. **Cheng, KC**, Wu, JY and Liu, WH (2013). Enhancements of isoflavone aglycones, total phenolic content and antioxidant activity in fermented black soybean by *Rhizopus* spp. Society for Industrial Microbiology and Biotechnology (SIMB), San Diego, CA, USA. (Poster# 5), p. 32.
 105. **Cheng, KC** and Demirci, A (2012). Continuous pullulan fermentation in a PCS biofilm reactor. (#285-01). International Food Technologist, IFT12 Annual Meeting, 110 pp, NV, USA
 106. Lin, SP and **Cheng, KC*** (2012). Bacterial cellulose production by *Gluconacetobacter xylinum* in the rotating PCS semi-continuous bioreactor and its materials property analysis. 2012 Mini Symposium Frontiers in Biotechnology, National Taiwan University, Taipei, Taiwan.
 107. Yao, YJ, Yu*, RC and **Cheng*, KC** (2012). Immobilized β -glucosidase for isoflavone deglycosylation in black soymilk. Cross-Strait Food Nutrition and Safety Meeting. pp. 17. Jiangnan University, Jiangsu, PRC.
 108. **Cheng, KC**, Demirci, A and Catchmark, JM (2011). Continuous pullulan fermentation in a PCS biofilm reactor. Northeast Agricultural and Biological Engineering Conference (NABEC) conference. #11-009, 8 pp.
 109. **Cheng, KC**, Catchmark, JM and Demirci, A (2011). Effects of CMC Addition on Bacterial Cellulose Production in a Biofilm Reactor and Its Paper Sheets Analysis. Northeast Agricultural and Biological Engineering Conference (NABEC) conference (#11-008). 1 pp.
 110. **Cheng, KC**, Catchmark, JM and Demirci, A (2010). Enhanced pullulan production in a PCS biofilm reactor by using response surface methodology. Gamma Sigma Delta Undergraduate and Graduate Annual Research Expo, College of Agricultural Sciences, The Pennsylvania State University, University Park, PA.
 111. **Cheng, KC**, Catchmark, JM and Demirci, A (2010). College of Engineering Research Symposium 2010. The Pennsylvania State University, University Park, PA, pp. 8.
 112. **Cheng, KC**, Yassin, NBM and Chicoski, CH (2009). A second thought- Does biofuel really help our environment Final exhibition of Plant Tissue Culture and Biotechnology (BIOTC 459). The Pennsylvania State University, University Park, PA.
 113. **Cheng, KC**, Catchmark, JM and Demirci, A (2009). Enhanced production of bacterial cellulose by using biofilm reactor and its material property analysis Gamma Sigma Delta Undergraduate and Graduate Annual Research Expo, College of Agricultural Sciences, The Pennsylvania State University, University Park, PA. (2nd place)
 114. **Cheng, KC**, Catchmark, JM and Demirci, A (2009). Enhanced production of bacterial cellulose by using PCS biofilm reactor and its materials property analysis. 2009 Graduate Exhibition, The Pennsylvania State University, University Park, PA.
 115. **Cheng, KC**, Izmirlioglu, G and Tuysuz, GA (2009). A HACCP plan for chocolate ice

cream production. Paper No. 095994. American Society of Agricultural Engineers (ASABE) Conference. p26.

116. Keklik, NM, **Cheng, KC** and Turhan, I (2008). An industrial-scale plant design for ethanol production from sugar beet molasses by *Sacchomyces cerevisiae*. Northeast Agricultural and Biological Engineering Conference (NABEC) conference. p28.

Oral presentation

1. **Cheng, KC.** (2022/12/23) Fermentation of *Chenopodium formosanum* and its functional studies. Annual meeting of Taiwan Association for Lactic Acid Bacteria, New Taipei City, Taiwan. 2022/12/23. Pp 106-134. (**Invited speech**)
2. **Cheng, KC.** (2022/11/28) Applied microbiology in agriculture, biotechnology and food. Shang-Fa Yang Memorial Lecture, SINICA, Taipei, Taiwan (2022/11/28)
3. **Cheng, KC.** (2022/11/1) Sugarcane bagasse via coaxial electrospinning as the support for *Kluyveromyces marxianus* K21 immobilization in bioethanol production. 21th World Congress of Food Science & Technology Future of Food: Innovation, Sustainability & Health. IUFOST Annual Meeting, Oct 31~ Nov 3, Singapore.
4. **Cheng, KC.** (2022/10/27) Value-added fermented foods and their applications. International Symposium on Novel and Sustainable Technology (2022-ISONST). Oct 27, Tainan, Taiwan. (**Keynote speaker**)
5. **Cheng, KC.** (2022/08/16). Applied microbiology in Food, Agriculture and Biotechnology. Award ceremony, CH Biotech, Nantou, Taiwan. (**Invited speech**)
6. **Cheng, KC.** Current progress of *Ganoderma formosanum* research. CLSU-UC-SEARCA International Summer Short-term program 2022. Aug 5, 2022. (Webinar) (**Plenary speaker**)
7. **Cheng, KC.** Value-added Fermented Foods and their Applications. Department of Chemical Engineering, National Taiwan University of Science and Technology (2022/03/10)
8. **Cheng, KC.** Value-added Fermented Foods and their Applications. Department of Entomology, National Taiwan University (2022/03/01)
9. **Cheng, KC** (2022/01/07). Value-added Fermented Foods and their Applications. 2021 TwIChE Annual Meeting, Kaohsiung, Taiwan.
10. **Cheng, KC** (2021/12/23). Future foods: trends and innovations. Food Taipei Mega Show. Taipei, Taiwan. (**Invited speech**)
11. **Cheng, KC** (2021/10/20). Fermented *Chenopodium formosanum* Koidz and its bioactivity. In Session 16: Food bioactivities and their health benefits. International Conference and Exhibition on Nutraceuticals and Functional Foods 2021. ISNFF, Nanjing, China, Oct 17-20, 2021. P. 91. (Webinar)
12. **Cheng, KC** (2021/10/01). Value-added Fermented Foods and their Applications. China Medical University, Taichung, Taiwan.
13. **Cheng, KC** (2021/08/27). Application of Microorganisms in Food Technology.

- Symposium of Food Science and Application. TRK Intl. C., Taipei, Taiwan (**Invited speech**). (Webinar)
14. **Cheng, KC** (2020/10/23). Application of Microorganisms in Food Technology. Cheng-Han Biotech R&D, Nantou, Taiwan.
 15. **Cheng, KC** (2020/9/8). Application of Microorganisms in Food Technology. Department of Nursing, Chang Gung University of Science and Technology, Chiayi, Taiwan (**Invited speech**).
 16. **Cheng, KC** (2020/5/18). Bioactivity of *Ganoderma* spp. and their possible applications. Department of Dentistry, National Yang-Ming University, Taipei, Taiwan (**Invited speech**).
 17. **Cheng, KC** (2019/10/31). Bioactivity of *Ganoderma* spp. and their possible applications. Department of Dentistry, National Yang-Ming University, Taipei, Taiwan (**Invited speech**).
 18. **Cheng, KC** (2019/5/6). Bioactivity of *Ganoderma* spp. and their possible applications. Department of Biotechnology, National Formosa University, Yulin, Taiwan (**Invited speech**).
 19. **Cheng, KC** (2019/11/26). Bioactivity of *Ganoderma* spp. and their possible applications. The international conference of food safety and health (FSAH). Taichung, Taiwan. P9. (**Invited speaker**)
 20. **Cheng, KC** (2018/12/20). Current progress of *Ganoderma formosanum* study. Hong Kong International Conference on Engineering and Applied Science (HKICEAS 2018). Hong Kong. p16. (**Keynote speaker**)
 21. **Cheng, KC** (2018/12/17). Immobilized β -Glucosidase for Mogrosides Deglycosylation from Lo Han Kuo. 9th International Conference on Nutrition and Physical Activity (NAPA2018). Taichung, Taiwan. (**Invited speech**)
 22. **Cheng, KC** (2018/12/07). Current progress of *Ganoderma formosanum* study. 2018 Joint International Conference on Bioresources and Agriculture (Sunchon National University and National Taiwan University). Suncheon, Korea.
 23. **Cheng, KC** (2018/10/25). Current progress of *Ganoderma* spp. study. Department of Cosmetic Science, Providence University, Taichung, Taiwan.
 24. **Cheng, KC** (2018/10/02). *From tradition to modernity: a role of fermentation and bioprocessing in agriculture*. Department of Microbiology, Soochow University, Taipei, Taiwan.
 25. **Cheng, KC** (2018). *From tradition to modernity: a role of fermentation and bioprocessing in Agriculture*. 2018 Asia-Pacific Conference on Engineering & Natural Sciences (APICENS), Taipei, Taiwan (2018/03/14) [**Keynote speaker**]
 26. **Cheng, KC** (2018/03/28). *From tradition to modernity: a role of fermentation and bioprocessing in agriculture*. The 4th Fermentation workshop, Taipei, Taiwan [**Invited speech**]
 27. **Cheng, KC** (2018/03/21). *From tradition to modernity: a role of fermentation and*

- bioprocessing in agriculture*. Department of Food Science, Fu Jen Catholic University.
28. **Cheng, KC** (2018/03/09). *From tradition to modernity: a role of fermentation and bioprocessing in agriculture*. Department of Food Science and Technology, National Chung Hsing University, Taichung, Taiwan.
 29. **Cheng, KC** (2017). *From tradition to modernity: a role of fermentation and bioprocessing in agriculture*. College of Engineering, Widya Mandala Surabaya Catholic University, Surabaya, Indonesia (2017/11/13) [**Invited speech**]
 30. **Cheng, KC** (2017). Production of bacterial cellulose and its application in wound healing. The 6th International Conference on Life Science & Biological Engineering (LSBE 2017), Fukuoka, Japan. (2017/11/6~9) [**Keynote speaker**]
 31. **Cheng, KC** (2017)。台灣紫芝研究發展現況分享。中山醫學大學專題演講。台中，台灣。(2017/05/05)
 32. **Cheng, KC** (2017)。台灣紫芝研究發展現況分享。中國醫藥大學藥學系專題演講。台中，台灣。(2017/05/17)
 33. **Cheng, KC** (2017)。台灣紫芝研究發展現況分享。國立海洋大學食品科學系專題演講。基隆，台灣。(2017/03/09)
 34. **Cheng, KC** (2017)。細菌纖維素的生產與其在傷口敷料應用之研究。中原大學生物科技學系-生物科技講座。桃園，台灣。(2017/03/02)
 35. **Cheng, KC** (2017). Status of Dr. Cheng's group. Dept. of Applied Biology and Chemical Technology, Hong Kong PolyU, HK. (2017.01.24)
 36. **Cheng, KC** (2016). Recent advances of wound dressings using bacterial cellulose. NTU-UTokyo joint conference, Taipei, Taiwan. (Nov. 30-Dec. 1)
 37. **Cheng, KC** (2016). Recent advance of *Ganoderma formosanum* cultivation and its bioactivity. The 5th International Conference on Life Science & Biological Engineering (LSBE 2016), Kyoto, Japan. (2016/11/22~24) [**Keynote speaker**]
 38. **Cheng, KC (2016)**. Applied microbiology and food technology. Features university lectures. May 9, National Quemoy University, Kinmen, Taiwan.
 39. **Cheng, KC** (2016). Recent advances for polysaccharides production by using immobilized system. Trends and Advanced in Food Fermentation in the theme "Nurturing a learning community, innovating for more inclusive society". Apr. 20-21, 2016, University of Santo Tomas, Manila, Philippines.
 40. **Cheng, KC** (2016). Submerged cultivation of *Ganoderma formosanum* and its bioactivity. Trends and Advanced in Food Fermentation in the theme "Nurturing a learning community, innovating for more inclusive society". Apr. 20-21, 2016, University of Santo Tomas, Manila, Philippines.
 41. **Cheng, KC**. Application and production of bacterial cellulose. Department of Plant Pathology and Microbiology, NTU. Taipei, Taiwan. 2015.10.8.
 42. **Cheng, KC** (2015). Application and production of bacterial cellulose. National Pingtung University of Science and Technology. Apr. 16, 2015, Pingtung, Taiwan.
 43. **Cheng, KC** (2015). Application of pullulan as active packaging. National Pingtung University of Science and Technology. May 13, 2015, Pingtung, Taiwan.
 44. **Cheng, KC**. Improvement on Physical property of crosslinked pullulan films for food packaging. 2014 International Conference on Food Security and Production. Pingtung,

- Taiwan. 2014.11.4-5.
45. **Cheng, KC.** Production, characterization and application of bacterial cellulose. 2014 Joint International Conference on Agriculture. Dec. 18, 2014, Suncheon, Korea. pp. 1196~1217.
 46. **Cheng, KC.** Isoflavone aglycones enrichment in soymilk by agricultural waste-based immobilized β -glucosidase. 2013. The First EITA Conference on Agricultural Science and Technology, Biosystems Engineering, Ithaca, New York, USA. June 27-28.
 47. **Cheng, KC.** Bioconversion of isoflavone glucosides to aglycones in black soybean using immobilized enzyme system. 2013 Joint International Conference on Agriculture. Nov. 27, 2013, Taipei, Taiwan. pp. 99~119.
 48. **Cheng, KC.** 2013 Fermentation Biotechnology Workshop in Taiwan. Application of biofilms in bioconversion/fermentation, pp.12.National Pingtung University of Science and Technology. 2013.10.21.
 49. **Cheng, KC.** 2013 International Symposium on Novel Application of Algal Biomass Resources. Biofuels production from microalgae: from benchtop to outdoors, pp. 2. National Taiwan Ocean University. **2013.10.25.**
 50. **Cheng, KC.** The future and prospect of food fermentation. International Fermentation Town Solidarity Meeting. Jeonju, Korean. **2012.** Oct. 19.
 51. **Cheng, KC.** Applications of PCS biofilm reactor in fermentation/bioconversion: Bacterial cellulose production as an example. **2011.** Institute of Food Science and Technology, National Taiwan University. Taipei, Taiwan. Apr 13.
 52. **Cheng, KC.** Applications of PCS biofilm reactor in fermentation/bioconversion: Bacterial cellulose production as an example. **2011.** Department of Animal Sciences, University of Florida. Gainesville, FL, USA. May 2.
 53. Catchmark, J.M, **Cheng, KC** and Demirci, A Enhanced production of microbial cellulose. **2009.** Technical Association of the Pulp and Paper Industry International Conference on Nanotechnology for the Forest Products Industry. Edmonton, Canada. June.

Postdoctoral Fellow Mentored

Dr. Wang, Hsueh-Ting 2018/02 ~
 Dr. Chen, Kuan-I 2012/1 – 2013/1; 2015/8 ~ 2016/8
 Dr. Wu, Chun-Nan 2015/8 ~ 2016/8
 Dr. Ko, Chih-Yuan 2015/8 ~ 2016/8

Research Assistant

Hsieh, Fen-Ju (2015/1~10)
 Shang, Qian-Wen (2016/8~)

Fang, Yi-Wen (2016/8~)

Graduate Students Mentored

Lai Yen-Tso PhD student– 2017/8 ~
Chan Yu-Hin PhD student 2017/8 ~
Chen Hung-Yueh Ph.D. student 2016/2 ~
Lin, Shin-Ping Ph.D. student – 2011/09 – 2017/5 (1 yr visiting to Penn State Univ.)
Hsu, Kai-Di Ph.D. student – 2013/08 – 2017/6
Shunsuke Kimura Ph.D. student 2016/8 ~ 2018/2
Erh, Mei hui MS student – 2011/09 – 2013/08
Yao, Yi-Jun MS student (co-advisor, Roch-Chui Yu) – 2011/09 – 2013/08
Lu, Sisi MS student (co-advisor, Tzu-Ming Pan) – 2012/02 – 2012/06
Yu, Ting-Chu MS student– 2012/09 – 2014/08
Chen, Chieh-Ting MS student– 2012/07– 2014/08
Pua, Xiao-Hui MS student– 2012/09– 2014/08
Lee, An MS student– 2012/07– 2014/08
Yang, Wen-Chun MS student– 2012/08 – 2014/08
Wu, Wei-Hao MS student– 2012/07– 2014/08
Chiou, Yu-tung MS student– 2013/08 – 2015/8
Chen, Huei-Yuan MS student – 2013/08 –2015/8
Huang, Yi-Tsun MS student – 2013/08 –2015/8
Huang, Tzu-Jung MS student – 2013/08 –2015/8
Chu, Chen-Yang MS student (co-advisor, Yi-Chen Lo) – 2013/08 –2015/8
Lee Ying-Xin MS student (co-advisor, Yi-Chen Lo) – 2013/08 –2015/8
Wu Ming-Chan MS student– 2013/05 –2015/8
Yang Jin-Tong MS student– 2013/08 –2015/8
Lee Hsin-Hua MS student– 2014/08 –2018/2
Wu Shu-Pei MS student– 2014/08 –2016/8
Tseng Tien-Ni MS student– 2014/08 – 2016/8
Lai Yen-Tso MS student– 2015/07 – 2017/8
Wen Hui-Chin MS student– 2015/07 – 2017/8
Lum Chi-Chin MS student 2015/07 –2017/8
Lin Yen-Yi MS student 2015/07 –2017/8
Sun, Li-Chin MS student 2015/9 ~ 2016/6
Lu, Jia-Hui MS student 2015/9 ~ 2016/6
Chen, Pin-Chieh MS student 2015/07 ~ 2017/8
Lai, Chia-Nuan MS student 2015/07 ~ 2017/8
Chang-Liao Wan-Ping MS student 2016/08 ~
Danley Medouze MS student 2016/08 ~ 2018/8
Huang Chung-Hao MS student 2016/8 ~ 2018/8
Chan Yu-Hin MS student 2016/8 ~ 2017/8
Liu, Yeh 2016/9 ~ 2017/1
Chou, Chih-Chan MS student 2017/2 ~
Lin, Tien-Han MS student 2017/8 ~
Kuo, Tai-Ching MS student 2017/8 ~
Chien, Tse-Yu MS student 2017/8 ~

Kwong, Ho-Ki MS student 2017/8 ~
Hsu, Yu-An MS student 2017/8 ~
Chen, Ziyu MS student 2017/8 ~ 2018/8
Chen, Shiyao MS student 2017/8 ~
Chou, Yu-Jou MS student 2017/8 ~
Lin, Wan-Ting MS student 2017/8 ~
Sun, Yi-Zhou MS student 2017/8 ~
Liu, Chi-Mei MS student 2018/8 ~
Chang, Di MS student 2018/8 ~
Hsu, Pei-Yun MS student 2018/8 ~
Huang, Shyh-Haur MS student 2018/8 ~
Lin, Ching-Hsiang MS student 2018/8 ~
Huang, Pei-Hsiu MS student 2018/8 ~
Lang, Si-Ting MS student 2018/8 ~
Chen, Pin-Cheng MS student 2018/8 ~
Wang, Tan-Ying MS student 2018/8 ~

Undergraduate Students Mentored

Yu, Ting-Chu – 2011/10 – 2012/08
Liu, Chia-Wei – 2012/08 – 2013/06
Lee, Po-Ting – 2012/10 – 2013/07
Tsai, Chi-Shan – 2012/03 – 2012/08
Chan, Yu Zen – 2012 summer
Tsai, Jia Rong – 2012 summer
Lu, Jun-Chao – 2013/01 – 2013/07 (U of Maryland)
Hung, Yu-Ting – 2012/12 – 2014/6
Wei, Don-Han – 2013/01 – 2013/12
Tseng, Yu-Wen – 2012 summer, 2013 summer
Yang, Hui-An – 2013 summer
Chen, Dai-Lin – 2013/07 ~ 2013/12
Lee, Meng-Hsiu–2014/09 ~ 2016/6
Wang, Chih-shin–2014/08 ~ 2016/6
Tsai, You-Shan–2014/09 ~ 2016/6
Chen, Chai-Yu– 2014/11 ~ 2015/6
Chang, Ching-Hsiang–2015/03 ~ 2015/9
Kuo, Yun–2015/03 ~ 2015/12
Huang, Yin-Hsuan–2015/03 ~
Lu, Mu-En–2015/03 ~ 2016/2
Wei, Bing-hung – 2015/8 ~ 2016/5 (化學系)
Huang, Li-Ting 2015/7 ~
Huang, Jing-Ya 2016/3 ~
Wong, Chun-Pei (黃淳珮) 2016/1 ~ 2016/5 (動科系)
Shen, Xin-Ru 2016/1, summer (金門大學食科系)
Chen, Yun-Fei 2016 summer (金門大學食科系)
Chu, Chen Yuan 2016 summer (金門大學食科系)

Lee, Po-Ting-2012/10-2013/06
Lai, Wei-hsin-2013/12 -2014/06
Caleb Kim-2014/07-2014/08
Phoebe Lam-2014/07-2014/08
Juliette Trinh 2016 summer (ENSAIA, France)
Zhang Ting-Yi 2016 summer (UIUC, USA)
Catherine Mackenzie Holland 2016 summer (Purdue U, USA)
Lin, Tien-Han (林典翰)
Chen, Chia-Han (陳佳翰)
Chen, Wei-Cheng 2017/9 ~
Chong, Celina 2018/2 ~
Chen, Chiao-en 2018/2 ~

Visiting Scholar

Iris Loira Calvar – 2012/07 – 2012/08
Shella P. Santoso 2017/05 ~ 2017/10
Shu-Mao Cui 2017/12 ~ 2018/06
Francisco Blanco Palle 2018/07~08

Grants Received

1. Faculty Star-up grant, National Taiwan University - \$ 30K (USD) 2011/09
2. Cheng, KC (100%) Bacterial cellulose production by using PCS bioreactor and its application as wound dressings. NSC Grant # 100-2313-B-002-057-MY2, \$1,830,000 (NTD) 2011/10 – 2013/8
3. NSC match-up grant, National Taiwan University - \$ 11K (USD) 2011/12
4. Bacterial cellulose production by using PCS bioreactor and its application as wound dressings (102R7764) -\$ 10K (USD). The Laurel researcher grant, NTU 2013/08~2013/12
5. Development of Antibacterial Films of Pullulan as Active Packaging for Taiwan Tilapia IQF Fillet (NSC 102-2221-E-002 -035 -MY2) (Ministry of Science and Technology) Principal Investigator -\$65K (USD) 2013/08~2015/7. NSC Grant (Taiwan)
6. Enhanced Bacterial Cellulose Production by Rotating PCS Bioreactor and Its Application as Wound Dressings (NSC 102-2628-B-002 -004 -MY3) (Ministry of Science and Technology) Principal Investigator -\$130K (USD) 2013/08~2016/07. NSC Grant (Taiwan)
7. 102 Training of food safety, communication and response (102B12113) Co-Principal Investigator -\$ 55K (USD) 2013/10~2013/12 (TFDA, Taiwan)
8. 104 Training of the investigation ability of foodborne outbreak. (MOHW104-FDA-F-113-000364). PI- \$ 30K (USD) 2015/1-12. (TFDA, Taiwan)
9. Enhanced *Ganoderma formosanum* exopolysaccharide production by PCS bioreactor and its application. (MOST 104-2221-E-002-125-MY3). PI - \$83K (USD). (MOST, Taiwan). (2015/8~2018/7)
10. Purification, identification and deposit of esterifying bacteria and actinobacteria. Co-PI - \$50K (USD). (Kimen Gov., Taiwan). (2015/11~2017/12)
11. Sugar hydrolysate for EtOH fermentation. PI - \$16K (USD). (ITRI, Taiwan).

- (2015/3~2015/11)
12. Evaluation for skin-whitening and antibacterial activity. PI - \$4K (USD). (ITRI, Taiwan). (2015/1~2015/6)
 13. Evaluation of extract of *Ganoderma formosanum* against prostate cancer cell line. Co-PI- \$ 30K (USD) 2016/1-12. (TFDA, Taiwan)
 14. Development of modified cellulose wound dressing. Co-PI. \$ 13K (USD). (2016/1~2016/12) (Taoyuan Hospital, Taiwan)
 15. The evaluation of PVA/dextran/chitosan hydrogel in wound dressing. Co-PI. \$ 13K (USD). (2016/1~2016/12) (Taoyuan Hospital, Taiwan)
 16. Development of low-salt miso with reduction of body fat accumulation activity. Co-PI. \$ 80K (USD). (2016/2~2016/12) (COA, Taiwan)
 17. Optimization of fermented black garlic milk with high GABA content. PI. \$ 14K (USD). (2016/3~2016/12) (AFA, Taiwan)
 18. Evaluation of the antioxidative activity for garlic sprout. PI. \$ 50K (USD). (2016/5~2017/4) (YonTo Biotechnol Ltd., Taiwan)
 19. Characterization, purification and identification of microorganism in fermented garlic solution. PI. \$7K (USD). (Chi Lai Biotech com.) (2016/2~2016/6)
 20. Development of non-alcohol beverage (I). PI - \$205K (USD). Cooperation research plan (YSQ Co., Singapore) (2015/8 ~ 2016/7)
 21. Development of non-alcohol beverage (II). PI - \$200K (USD). Cooperation research plan (YSQ Co., Singapore) (2016/8 ~ 2017/7)
 22. MMpH+ on cells for production of elastin, laminin and HA. -\$10K (USD). (ITRI, Taiwan). (2016/3~2016/11)
 23. Submerged fermentation with enhanced skin-whitening activity of *Ganoderma formosanum* mycelium using PCS biofilm reactor. (MOST 106-2628-E-002 -009 -MY3). PI - \$105K (USD). (MOST, Taiwan). (2017/8~2020/7)
 24. Development of low-salt miso with reduction of body fat accumulation activity II. Co-PI. \$ 80K (USD). (2017/2~2018/2) (COA, Taiwan)
 25. Development of low-salt miso with reduction of body fat accumulation activity III. Co-PI. \$ 80K (USD). (2017/2~2018/2) (COA, Taiwan)
 26. The role of microbiota in regulatory mechanisms of immunological diseases. (MOST 107-2321-B-002 -019 -). Co-PI - \$100K (USD). (MOST, Taiwan). (2018/1~2018/12)
 27. Solid-state fermentation of germinated *Chenopodium formosanum* with anti-senescence activity. (MOST 109-2628-E-002 -007 -MY3). PI - \$130K (USD). (MOST, Taiwan). (2020/8~2023/7)
 28. Evaluation for antibacterial- and wound healing activities of Asian sea bass. PI-15K (USD) Topco Scitific (2020/7~2020/12)

References

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