# Curriculum Vitae

**Contact Information**

* Name：Zhao-Chi Chen (George)
* Born in 1987, Taiwan.
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**Research Interests**

* Laser ablation manufacturing technology, 3D printing and bionic structure tissue engineering, CAE/FEM analysis, Microfluidic biochip system, On-chip sensing device.

**Education**

* Ph.D.：Department of Mechatronic Engineering, National Taiwan Normal University, 2014/09~2018/06.

**Honors**

* 2021 3rd FEMTO-ST/ CBME International Symposium, Biomedical Engineering Contributions to Precision Health and Patients Care, Invited Speaker.
* 2019 Postdoctoral Researcher Academic Research Award of the Ministry of Science and Technology
* 36th National Conference on Mechanical Engineering of CSME (CSME 2019) session chair.
* 1st Asia-Pacific Thermofluid Science & Engineering Conference (APTSE 2019) Student Poster Award-Honorable Mention.
* 2019 The Phi Tau Phi Scholastic Honor Society of the Republic of China.
* 2019 Member of Society of Theoretical and Applied Mechanics of the Republic of China (STAM).
* 2016 Technology Research Scholarship, CTCI Foundation, Taiwan.
* 2013 Member of Taiwan Laser Application Development Association (TLADA).
* 2009 Industrial Development Bureau Scholarship, Ministry of Economic Affairs, Taiwan.

**Professional Experience**

* 2020/12~present：Postdoctoral Research Fellow, Department of Mechatronic Engineering, National Taiwan Normal University.
* 2020/09~2021/02：Industry Expert (Teacher), Department of Mechanical Engineering, National Taipei University of Technology.
* 2020/09~2020/11：Postdoctoral Research Fellow, Department of Electrical Engineering, National Taiwan University of Science and Technology.
* 2020/02~2020/07：Adjunct assistant professor, Department of Marine Engineering, Taipei University of Marine technology.
* 2019/09~2020/01：Adjunct Lecturer, Department of Marine Engineering, Taipei University of Marine technology.
* 2018/09~2020/08：Postdoctoral Research Fellow, Department of Mechatronic Engineering, National Taiwan Normal University.
* 2011/10~2014/08：R&D Alternative Military Service (Laser engineer), R&D / CNC Turret Punch Press, Tailift Group Co.

**Extracurricular Training**

* Finite Element Analysis (FEA) simulation course, PITOTECH CO., LTD. Taiwan, 2018.
* Taguchi Quality Engineering Technical Learning Course, China Productivity Center, Taiwan, 2012.
* CO2 Laser Cutting Application Course, Taiwan Laser Application Development Association, Taiwan, 2012.

**Courses and Certificates**

**Courses:**

* Thin-film sensor technology.
* Integrated microfluidic system design.
* Laser engineering applications.
* Biomedical chip technology.
* Material mechanics, Thermodynamics, Heat transfer, Statics, Fluid mechanics, Mechanical manufacturing, Calculus, physics, Basic electricity, Computer aided design/Computer aided manufacturing (CAD/CAM).

**Certificates:**

* Fitter class C certified

**Publications**

**Journals:**

[1] Zhao-Chi Chen, Tien-Li Chang, Dar-Sun Liou, Jing-Yuan Fan, Chien-Ping Wang, Fabrication of a bio-inspired hydrophobic thin film by glutaraldehyde crosslinking electrospun composite self-cleaning nanofibers, *Materials Letters*, 298 (2021) 129975. **(SCI) IF=3.204**

[2] **Zhao-Chi Chen**, Tien-Li Chang, Chia-Hua Chen, Dar-Sun Liou, Tong-Yao Han, Qi-Xuan Wu, Flexible NO gas sensor fabricated using graphene/silver nanoparticles stacked electrode structures, *Materials Letters*, 295 (2021) 129826. **(SCI) IF=3.204**

[3] **Zhao-Chi Chen**, Tien-Li Chang a, Kai-Wen Su, Hsin-Sheng Lee, Jung-Chang Wang, Application of self-heating graphene reinforced polyvinyl alcohol nanowires to high-sensitivity humidity detection, *Sensors and Actuators: B. Chemical*, 327 (2021) 128934. **(SCI) IF=7.1 (Ranking < 5%)**

[4] **Zhao-Chi Chen**, Tien-Li Chang, Cheng-Che Liu, Wen-Tse Hsiao, Chih-Heng Huang, Picosecond laser surface modification of aluminum oxide with fish-scale structures for cell culture, *Ceramics International*, 46 (2020) 17651-17658. **(SCI) IF=3.83 (Ranking < 5%)**

[5] **Zhao-Chi Chen**, Tien-Li Chang, Ching-Hao Li, Kai-Wen Su, Cheng-Che Liu, Thermally stable and uniform DNA amplification with picosecond laser ablated graphene rapid thermal cycling device, *Biosensors and Bioelectronics*, 146 (2019) 111581. **(SCI) IF=10.257** **(Ranking < 5%)**

[6] **Zhao-Chi Chen**, Shih-Feng Tseng, Tien-Li Chang, Wen-Tse Hsiao, Yung-Sheng Lin, Ultrafast laser structuring of graphene-based multi-zone heaters for the detection of antioxidant capacity, *The International* *Journal of Advanced Manufacturing Technology*, 103 (2019) 3115-3124. **(SCI) IF=2.496**

[7] **Zhao-Chi Chen**, Tien-Li Chang, Tung-Cheng Pan, Don-yau Chiang, Shih-Feng Tseng, A facile approach to fabrication and characterization of conductive conjugated polyvinyl alcohol/graphene composite nanofibers, *Materials Letters* 233 (2018) 130-133. **(SCI) IF=3.019**

[8] Tien-Li Chang, **Zhao-Chi Chen**, Shih-Feng Tseng, Laser micromachining of screen-printed graphene for forming electrode structures, *Applied Surface Science* 374 (2016) 305-311. **(SCI)** **IF=3.387 (Ranking 1/19, < 6%)**

[9] Tien-Li Chang, **Zhao-Chi Chen**, Wen-Yi Chen, Hsieh-Cheng Han, Shih-Feng Tseng, Patterning of multilayer graphene on glass substrate by using ultraviolet picosecond laser pulses, *Microelectronic* *Engineering* 158 (2016) 1 -5. **(SCI) IF=1.806**

[10] Tien-Li Chang, **Zhao-Chi Chen**, Ya-Wei Lee, Yan-Hom Li, Chien-Ping Wang, Ultrafast laser ablation of soda-lime glass for fabricating microfluidic pillar array channels, *Microelectronic Engineering* 158 (2016) 95-101. **(SCI) IF=1.806**

[11] Tien-Li Chang, **Zhao-Chi Chen**, Surface patterning of multilayer graphene by ultraviolet laser irradiation in biomolecule sensing devices, *Applied Surface Science* 359 (2015) 543-549. **(SCI) IF=3.15 (Ranking** **1/18, < 6%)**

[12] Tien-Li Chang, **Zhao-Chi Chen**, Yeeu-Chang Lee, Micro/nano structures induced by femtosecond laser to enhance light extraction of GaN based LEDs, *Optics Express* 20 14 (2012) 15997-16002. **(SCI)** **IF=3.546**

**Conferences:**

[1] **Yu-Cheng Kuo,** Chun-Ju Wu, Zhao-Chi Chen and Chung-Hsien Kuo, Low Cost Mobile Robot Autonomous Navigation System with Utilizing RGB-D Camera and IMU/ Encoder Odometry. 2nd Artificial Intelligence, Robotics and Control (AIRC 2020), Cairo, Egypt (2020, Dec).

[2] **Zhao-Chi Chen**, Tien-Li Chang, Pin-Chun Lin, Jing-Yi Yang, Investigation of laser-ablated flexible graphene film forming temperature sensors. 45st International Micro- and Nano Engineering Conference (MNE2019), Rhodes, Greece (2019, Sep).

[3] **Zhao-Chi Chen**, Tien-Li Chang, Graphene oxide-assisted preparation of polyvinyl alcohol (PVA) hybrid nanofiber by electrospinning for biomedical application. 29th International Microprocesses and Nanotechnology Conference (MNC 2016), Kyoto, Japan, 10P-7-37 (2016, Nov).

[4] Cheng-Ying Chou, Mao-Hung Cheng, Kai-Rong Gan, **Zhao-Chi Chen**, Tien-Li Chang, Shih-Feng Tseng, Picosecond laser ablation of graphene PEDOT:PSS for the flexible electronics. 42st International Micro- and Nano Engineering Conference (MNE2016), Vienna, Austria (2016, Sep).

[5] Kai-Rong Gan, Cheng-Ying Chou, Tien-Li Chang, **Zhao-Chi Chen**, Ya-Wei Lee, Chien-Ping Wang, Multilayer graphene structures for a gas sensor module with wireless circuits by picosecond laser irradiation. 42st International Micro- and NanoEngineering Conference (MNE2016), Vienna, Austria (2016, Sep).

[6] Shin-Yen Chou, Chi-Huang Huang, Tien-Li Chang, **Zhao-Chi Chen**, Ching-Hao Li, Investigation on picosecond laser-ablated microfluidic micro pillar arrays with electrospun nanofibers for trapping structures. 42st International Micro- and NanoEngineering Conference (MNE2016), Vienna, Austria (2016, Sep).

[7] Tien-Li Chang, Huang-Chi Huang, Wen-Yi Chen, Ya-Wei Lee, **Zhao-Chi** **Chen**, Chien-Ping Wang, Thermal dynamics identification of graphene based heater by UV laser pulses. 42st International Micro- and Nano Engineering Conference (MNE2016), Vienna, Austria (2016, Sep).

[8] **Zhao-Chi Chen**, Huang-Chi Huang, Shin-Yen Chou, Tien-Li Chang, Hsieh-Cheng Han, Fabrication of functionalized polyvinyl alcohol/graphene hybrid nanofibers by electrospinning for biomedical application. 42st International Micro- and NanoEngineering Conference (MNE2016), Vienna, Austria (2016, Sep).

[9] Tien-Li Chang, Huang-Chi Huang, **Zhao-Chi Chen**, Wun-Yi Chen, Study on an integrated real-time sensor in droplet-based microfluidics. 17th International Conference on Microfluidics and Nanofluidics (ICMN 2015), Prague, Czech Republic, 24793 (2015, July).

[10] Chieh-Fu Chang, Tien-Li Chang, Chi-Huang Huang, **Zhao-Chi Chen**, Wen-Yi Chen, Formation of crosslinked PVA nanowires on multilayer graphene based device for glucose detection. 41st International Micro- and NanoEngineering Conference (MNE2015), Hague, Netherlands (2015, Sep).

[11] Wen-Yi Chen, **Zhao-Chi Chen**, Tien-Li Chang, Chieh-Fu Chang, Ya-Wei Lee, Shih-Feng Tseng, Direct patterning of multilayer graphene by ultrafast laser irradiation. 41st International Micro- and Nano- Engineering Conference (MNE2015), Hague, Netherlands (2015, Sep).

[12] Ya-Wei Lee, Tien-Li Chang, Wun-Yi Chen, **Zhao-Chi Chen**, Jung-Chang Wang, Continuous tracing of emulsion formation in a microfluidic T-junction. 41st International Micro- and Nano- Engineering Conference (MNE2015), Hague, Netherlands (2015, Sep).

[13] **Zhao-Chi Chen**, Tien-Li Chang, Wen-Yi Chen, Shih-Feng Tseng, Chieh-Fu Chang, Chi-Huang Huang, Study on Micromachining of Ga-Doped ZnO Thin Films with Picosecond Laser Pulses. 41st International Micro- and NanoEngineering Conference (MNE2015), Hague, The Netherlands (2015, Sep).

[14] Cheng-Ying Chou, Chi-Huang Huang, **Zhao-Chi Chen**, Chieh-Fu Chang, Wen-Yi Chen, Shih-Feng Tseng, Tien-Li Chang, Controlled Fabrication of Conductive Polymer Nanowires with Electrode Process for Biomolecular Detection. Proceedings of the 32nd CSME National Conference on Mechanical Engineering, Kaohsiung, Taiwan, 2217 (2015, Dec).

[15] Yu-Chen Pan, Chi-Huang Huang, Wen-Yi Chen, Wei-Lin Lai, **Zhao-Chi** **Chen**, Hsieh-Cheng Han, Shih-Feng Tseng, Tien-Li Chang, 2015, Direct Fabrication of Microfluidic Channel Devices Using Three-Axis Computer Aided Machines. The 13th International Conference on Automation Technology (Automation 2015), Taipei, Taiwan, E-009 (2015, Nov).

[16] **Zhao-Chi Chen**, Liang-Ju Pan, Applications of Optical Path Length Compensation Technology for High Power CO2 Laser Cutting Process. 16th International Conference on Advances in Material & Processing Technologies (AMPT Conference 2013) (2013, Sep).

[17] **Zhao-Chi Chen**, Tien-Li Chang, Yeeu-Chang Lee, Ming-Jie Yang, Study of Periodic Nanostructures Fabricated by Femtosecond Laser to Enhance Extraction-Light Efficiency on Light Emitted Diodes. Conference on Precision Machinery and Manufacturing Technology (PMMT 2011) (2011, May).

[18] Jen-Wei Cheng, Tien-Li Chang, Yeeu-Chang Lee, Yung-Hsin Kuo, Ting-Kai Tsai, **Zhao-Chi Chen**, Study on Femtosecond Laser Process for Transparent Thin-film Material. 14th Nano and Microsystem Technique Conference (NMTC Conference 2010) (2010, Dec).

[19] Sih-Kai Wang, Tien-Li Chang, Yeeu-Chang Lee, Yung-Hsin Kuo, Ting-Kai Tsai, **Zhao-Chi Chen**, Study of Micro/Nano Structures Fabricated by Femtosecond Laser for Transparent Thin-film on Light Emitted Diodes. 14th Nano and Microsystem Technique Conference (NMTC Conference 2010) (2010, Dec).

**Book Chapter:**

[1] **陳肇祈**、張天立, 以超快雷射直寫製作薄膜電極元件於微型加熱器應用，光電季刊 (2018)。

[2] **陳肇祈**，光路補償技術對於CO2雷射加工之應用，臺灣雷射，第七期 (2012)。