

# LIN TONG

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PhD Candidate in Biomedical Engineering  
Florida International University  
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## Research Interests

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Biomedical sensor development for point of care application  
Magnetic particle property and application

## Research Positions

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● <b>Research Assistant</b> Florida International University	Soft lithography; Nanoparticle; Matlab data processing; Microfabrication; Paper fluidic system	<b>2018 ~ present</b>
● <b>Lab Lecturer</b> California State U. Los Angeles	Bio-sensor introduction; LabVIEW and circuit design course	<b>2016 ~ 2017</b>
● <b>Engineer Contingent in R&amp;D</b> Medtronic Northridge, CA	Glucose sensor algorithm development and improvement; Animal and client data analysis.	<b>2015 ~ 2016</b>
● <b>Research Assistant</b> California State U. Los Angeles	Animal robotic assistant treadmill training study; Animal external electrode stimulation therapy for spinal cord injury; Matlab GUI development and data analysis.	<b>2013 ~ 2015</b>
● <b>Research Assistant</b> Nanjing U. of Posts and Telecom.	Traffic statistical system based on video image processing	<b>2010 ~ 2011</b>

## Education

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**Master of Science**, Biomedical Engineering field (under E.E.), California State University, Los Angeles, 2015  
Thesis Title: *The musculoskeletal component of a neuromuscular system model to study the influence of neuromuscular electrical stimulation therapy on locomotion.*  
Mentor: Dr. Deborah S. Won

**Bachelor of Engineering**, Radio and Television Engineering, Nanjing University of Posts and Telecom., 2010  
Thesis Title: *People counting system based on video image processing.*  
Mentor: Dr. Xiaofei Li

## Awards

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PATHS-UP ERC Student Seed Fund Award

Apr. 2019

## Technical Skills

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| ● MATLAB           | ● C++                  | ● Arduino             |
| ● SOLIDWORKS       | ● LabVIEW              | ● PDMS fluidic system |
| ● Soft Lithography | ● Layout Editor        | ● MEMS                |
| ● Nanoparticle     | ● Paper fluidic system | ● Office software     |

## Publications

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5. Lin Tong, Joshua D. Hutcheson (2021) A surface-based calibration approach to enable dynamic and accurate quantification of colorimetric assay systems. *Anal. Methods*. 13:4290–4297. [DOI: 10.1039/D1AY01130H](https://doi.org/10.1039/D1AY01130H)
4. Ouyang, Mengxing, Dandan Tu, Lin Tong, Mehenur Sarwar, Arvind Bhimaraj, Chenzhong Li, Gerard L. Coté, and Dino Di Carlo (2020). A review of biosensor technologies for blood biomarkers toward monitoring cardiovascular diseases at the point of care. *Biosensors and Bioelectronics*, 745, 112621. [DOI: 10.1016/j.bios.2020.112621](https://doi.org/10.1016/j.bios.2020.112621)
3. Chen, Zheyuan, Ting-yen Chi, Onder Dincel, Lin Tong, and Jun Kameoka (2020). A Low-cost and Enzyme-free Glucose Paper Sensor. 2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC), 4097–4100. [DOI: 10.1109/EMBC44109.2020.9176597](https://doi.org/10.1109/EMBC44109.2020.9176597)
2. Maedeh Mozneb, Lin Tong, Elisa Bravo, Victoria Ferrando, and Chen-Zhong Li (2019). Whole cell analysis ranging from intercellular assay to organ on a chip. *TrAC Trends in Analytical Chemistry*, 117, 157–165. [DOI: 10.1016/j.trac.2019.05.021](https://doi.org/10.1016/j.trac.2019.05.021)
1. Hinahon, Erika, Christina Estrada, Lin Tong, Deborah S. Won, and Ray D. de Leon (2017). Robot-Applied Resistance Augments the Effects of Body Weight-Supported Treadmill Training on Stepping and Synaptic Plasticity in a Rodent Model of Spinal Cord Injury. *Neurorehabilitation and Neural Repair*, 31(8), 746–757. [DOI: 10.1177/1545968317721016](https://doi.org/10.1177/1545968317721016)

## Patents

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2. Lin Tong, Xiaofei Li, Ze Lin and Yacheng Zhu, China Patent, CN201708826U, entitled “Multichannel intelligent processing system based on internet of things”.
1. Yacheng Zhu, Xiaofei Li and Lin Tong, China Patent, CN201639720U, entitled “Multi-channel intelligent video perception front-end system based on Internet of things”.

## Conference Presentations

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\* indicates presenter

6. Lin Tong\* and Joshua Hutcheson, “Immuno-fluidic platform for multi-biomarker detection to identify coronary artery disease and heart failure” Video Presentation, PATHS-UP NSF site visit, Mar 10, 2022.
5. Lin Tong\* and Joshua Hutcheson, “A surface-based calibration approach to enable dynamic and accurate quantification of colorimetric assay systems” Poster Presentation, The International Society for Applied Cardiovascular Biology 2021, Atlanta, Georgia, Sep 17-19, 2021
4. Lin Tong\* and Joshua Hutcheson, “Magnetic particle enzyme integrated fluidic sensing platform for cardiac biomarkers detection” e-Poster Video Presentation, PATHS-UP NSF site visit, Mar 4, 2021
3. Lin Tong\* and Chenzhong Li, “Nanozyme Integrated Immunological Microfluidic Platform for Cardiac Biomarker Detection”, Poster Presentation, NanoFlorida 2019 International Conference, Tampa, Florida, Nov 16-17, 2019
2. Lin Tong, Ismael Perez\*, Nastassja Carusetta, Jaya Nataraj, Guilia Daneshgaran, and Deborah S. Won, “Data-Driven Musculoskeletal Hindlimb Model Providing Peripheral Feedback to CPG Network”, Poster Presentation, Biomedical Engineering Society, 2015 Annual Meeting, Tampa, Florida, Oct 7-10, 2015
1. Lin Tong\*, Ismael Perez, Guilia Daneshgaran, Nastassja Carusetta, Jaya Nataraj, and Deborah S. Won, “A Computational Model of Locomotion Integrating the Central Pattern Generator, MusculoSkeletal System, and External Sensory Input to Study the Mechanism of a Neuromuscular Electrical Stimulation Therapy”,

Poster Presentation, 7th International IEEE EMBS Conference on Neural Engineering, Montpellier, France, April 22-24, 2015

## Outreach and Social Activity

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<i>Customer Discovery Project (Student Leader)</i>	PATHS-UP ERC	<i>Jan. 2021 ~ Apr. 2021</i>
<i>IEEE NTC Miami chapter member</i>	Florida International University	<i>Aug. 2020 ~ Dec. 2021</i>
<i>Lab Exchange Experience</i>	Texas A&M University	<i>Feb. 2020 ~ Mar. 2020</i>
<i>Engineering Expo 2020</i>	Florida International University	<i>Feb. 21, 2020</i>
<i>IEEE EPS FIU chapter member</i>	Florida International University	<i>Aug. 2019 ~ Jul. 2020</i>
<i>SLC Vice president of Innovation Ecosystem</i>	PATHS-UP ERC	<i>Oct. 2018 ~ Sep. 2019</i>
<i>IEEE EMBS FIU chapter member</i>	Florida International University	<i>Aug. 2018 ~ Jul. 2019</i>
<i>Disaster Volunteer</i>	Florida International University	<i>Aug. 2018 ~ Mar. 2020</i>
• <i>Dorian hurricane relief operations</i>	Fuchs Pavilion at Tamiami park	<i>Sep. 7, 2019</i>
• <i>Emergency and evacuation assistance program volunteer</i>	Miami-Dade County Emergency Operations Center	<i>Mar. 16, 2019</i>

## Mentor Experience

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Fernando Melara Barahona, Undergraduate, Biomedical Engineering, FIU, 2022 ~ TBD  
Lianet Rodriguez, PATHS-UP Summer Research Experience for Teacher (RET), FIU, 2022  
Kaitlin Cunningham, PATHS-UP Summer Research Experience for Teacher (RET), FIU, 2021  
Beatriz Zuloaga, Undergraduate, Biomedical Engineering, FIU, 2021 ~ 2022  
Andres Francisco, PATHS-UP Summer Research Experience for Undergraduate (REU), FIU, 2019  
Jaquan Starling, PATHS-UP Summer Research Experience for Undergraduate (REU), FIU, 2019  
Jamie Sanders, PATHS-UP Summer Research Experience for Teacher (RET), FIU, 2019  
Victoria Ferrando, Undergraduate, Biomedical Engineering, FIU, 2018 ~ 2019