

**Djeffal Selman, Ph.D.** Visit my [Google Scholar page](#).

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Birth date : 26-10-1992, Ain Beida, Algeria.



## Employment History

- 2022 – until now    **Current position.** Full- time teacher at Mechanical Engineering Department, National school of polytechnic, Constantine, Algeria.
  
- 2022 – 2023    **Review experience.** Part I: Journal of Systems and Control Engineering, IEEE Transactions on Industrial Informatics.
  
- 2020 – until now    **Training courses for Phd Students.** Mechanical Engineering Department, Faculty of Sciences and Applied Sciences, University of Larbi Ben M'hidi Oum El Bouaghi, Algeria.

## Education

- 2017 – 2021    **Ph.D. Mechanical Construction, Larbi Ben M'hidi University**  
Thesis title: *Contribution to the kinematics and dynamics modeling of continuum bionic robots.*
  
- 2015 – 2017    **M.Sc. Applied mechanics, Larbi Ben M'hidi University**  
Thesis title: *Study of the Influence of geometric and mechanical parameters on the evolution of natural frequencies and critical speeds by the diagram of Campbell.*
  
- 2011 – 2015    **Bachelor degree. System Mechanics, Larbi Ben M'hidi University.**  
Thesis title: *The usage of Minitab software to perform regression analysis : Milling as a case study.*

## Research Publications

### Journal Articles

- 1 S. Djeffal and C. Mahfoudi, "Solving the non-linear equation of motion of a single section continuum robot using runge kutta method and matlab environment," *Journal of applied non-linear dynamics*, vol. 13, pp. 13–26, 2024.
- 2 S. Djeffal, M. R. Morakchi, A. Ghoul, and T. C. Kargin, "Ddpg-based reinforcement learning for controlling a spatial three-section continuum robot," *Franklin Open*, vol. 12, p. 100 077, 2024.
- 3 S. Djeffal and A. Ghoul, "Experimental and theoretical verification of tlbo and pso for solving the inverse kinematic model of continuum robots," *Journal of Engineering Research*, 2023.
- 4 S. Djeffal, A. Ghoul, M. R. Morakchi, C. Mahfoudi, and M. Belkedari, "Optimized computer torque control and dynamic model of a spatial single section continuum robot," *Results in Control and Optimization*, vol. 12, p. 100 264, 2023.
- 5 S. Djeffal and C. Mahfoudi, "Inverse kinematic model of multi-section continuum robots using particle swarm optimization and comparison to four meta-heuristic approaches," *Transactions of the society for modeling and simulation international: Simulation*, 2023.
- 6 C. Zakarya, A. Said, and D. Selman, "Enhanced stiffness analysis of a redundant co-axial spherical parallel manipulator using matrix structural analysis," *Iranian Journal of Science and Technology, Transactions of Mechanical Engineering.*, 2023.

- 7 A. Ghouli, K. Kara, S. Djeflal, M. Benrabah, and M. L. Hadjili, "Artificial neural network for solving the inverse kinematic model of a spatial and planar variable curvature continuum robot," *Archive of Mechanical Engineering*, vol. 69, 2022.
- 8 A. Merrad, A. Amouri, A. Cherfia, and S. Djeflal, "A reliable algorithm for obtaining all-inclusive inverse kinematics' solutions and redundancy resolution of continuum robots," *Arabian Journal for Science and Engineering*, pp. 1–16, 2022.
- 9 M. razi, G. Zine, D. Mohaed, and D. Selman, "A novel technique based on iot accelerometer for transmitting circular chart recorder to electrical data," *UPB Scientific Bulletin, Series D: Electrical Engineering*, vol. 83, pp. 28–42, 2022.
- 10 S. Djeflal, A. Amouri, and C. Mahfoudi, "Kinematics modeling and simulation analysis of variable curvature kinematics continuum robots," *UPB Scientific Bulletin, Series D: Mechanical Engineering*, vol. 83, pp. 28–42, 2021.

## Conference Proceedings

- 1 M. M. Razi, G. Zine, D. Mabrouk, and D. Selman, "Prototype of an affordable coninum robot-based iot acceleromter and its kinematic modeling," in *ICATEEE2022*, 2022, p. 6.
- 2 M. M. Razi, G. Zine, D. Mabrouk, and D. Selman, "The ideal capacitive accelerometer damping rate choice to minimize the measurement error," in *2022 2nd International Conference on Advanced Electrical Engineering (ICAEE)*, IEEE, 2022, pp. 1–5.
- 3 S. Djeflal, C. Mahfoudi, and A. Amouri, "A path optimization technique with obstacle avoidance for multi-section continuum robot using teaching learning based optimization," in *International Conference on Mechanical Sciences*, vol. 12, 2021, p. 13.
- 4 S. Djeflal, C. Mahfoudi, and A. Amouri, "Comparison of three meta-heuristic algorithms for solving inverse kinematics problems of variable curvature continuum robots," in *2021 European Conference on Mobile Robots (ECMR)*, IEEE, 2021, pp. 1–6.
- 5 A. Amouri, C. Mahfoudi, and S. Djeflal, "Kinematic and dynamic modeling and simulation analysis of a cable-driven continuum robot," in *Computational Methods and Experimental Testing In Mechanical Engineering: Selected Papers from the 6th Algerian Congress on Mechanics, CAM 2017, November 26-30, 2017, Constantine, Algeria*, Springer, 2019, pp. 27–37.
- 6 M. Slamani, S. Djeflal, and J.-F. Chatelain, "Experimental investigation of robotic machining errors of carbon fiber reinforced polymers," 2017.

## Skills

Languages	<ul style="list-style-type: none"> <li> <span style="color: red;">■</span> Strong reading, writing and speaking competencies for English, French, Arabic and beginner in German.         </li> </ul>
Coding	<ul style="list-style-type: none"> <li> <span style="color: red;">■</span> Matlab, Python, Robotics operating system (ROS), Raspberry pi, <math>\LaTeX</math>,         </li> </ul>
Misc.	<ul style="list-style-type: none"> <li> <span style="color: red;">■</span> Academic research, teaching, training, consultation, <math>\LaTeX</math> typesetting and publishing.         </li> </ul>

## Miscellaneous Experience

### Awards and Achievements

- 2016 ■ **Merit Award**, Ranking first in the faculty of Sciences and applied Sciences.
- 2021 ■ **Best Prize for Outstanding presentation in the 3th international conference of advances sciences and mechanics, Algeria**, Larbi Ben M'hidi Oum bouaghi University.

## Miscellaneous Experience (continued)

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### Certification

2015  **Certified Practioner.** Awarded by DAAD Academic German exchange.

### Interests

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Scientific research, Reading novels, Sport, Travel, Learning languages

### Academic references

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Pr. **Mahfoudi Chawki**. Email: mahfoudi.chawki@gmail.com and Dr. **Bendada Larbi**, Email: bendada<sub>l</sub>arbi@yahoo.fr