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Current Academic Position

2014 to present **Postdoctoral Associate**, *Biorobotics laboratory EPFL*, Lausanne-Switzerland.
Research: Bio-informed design and control of robust amphibious salamander robots.
Supervisor: **Prof. Auke J. Ijspeert**.
Topics: Robot enabled paleobiology • Study of salamander neuro-musculoskeletal system using robots • Dynamical animal/robot scaling • Robust robot design and field validation • Locomotion controllers for unstructured (multi domain) terrains • Bio-informed compliant salamander foot design • Design and experimentation with compliant snake robots.
Member of NCCR - Robotics, Search and Rescue Scenario, EPFL-Switzerland.
Research: Multi-modal Locomotion Robots for Search and Rescue Missions.

Previous Academic Position

2013-2014 **Postdoctoral Researcher**, *E. Piaggio Research Center, Università di Pisa*, Pisa-Italy.
Research: Study and analysis of Multi-Articulated Robots with Variable Stiffness actuators.
Supervisor: **Prof. Antonio Bicchi**.
Topics: Variable stiffness actuator modeling and control • Hardware design and fabrication.
Side-project: System integration. Pilot interface in humanoid robotic platform (DARPA Robotics Challenge).

Education

2009-2013 **Ph.D. Engineering (Robotics)**, *Pontificia Universidad Javeriana*, Bogotá-Colombia, *Magna Cum Laude With Honors in Engineering*. GPA: (4.97/5.00).
Dissertation: A Parameterized Space Based Model for Modular Snake Robots Locomotion.
Advisors: Prof. Raja Chatila (ISIR-UPMC Sorbone, Paris 6), Dr. C. Parra (P.U.J. - Colombia).
Committee: **Profs. Raja Chatila, Mark Yim, Fumitoshi Matsuno**.
Topics: Locomotion modeling and control of Snake Robots. Open source robot design.

2004-2005 **M.Sc. Mechanical Engineering**, *Universidad de los Andes*, Bogotá - Colombia, *Degree with honors in Mechanical Engineering*. Rank: 2/12, GPA: (4.44/5.00).
Thesis: Fundamentals of dragonfly flight based hovering machines.
Advisor: Prof. Jaime Lobo-Guerrero (Emeritus).
Topics: Aerodynamics, fluid mechanics, mechanism design, rigid body dynamics.

1997-2003 **B.Sc. Electronics Engineering**, *Pontificia Universidad Javeriana*, Bogotá-Colombia, *Degree with Honors in Electronics Engineering*. Rank: 1/43, GPA: (4.05/5.00).
Graduation Project: Roll control of a dragonfly robot.
Advisor: Prof. Karim Hay (Emeritus).
Topics: Robotics, motion control, embedded control, analog/digital electronic design.

Experience

Professional Experience

- 2011 to present **CEO/CTO/Founder**, *KM-RoBoTa s.a.s*, Bogotá-Colombia, (km-robota.com).
KM-RoBoTa is an R&D company, focused in the design and fabrication of Bio-informed Rescue Robot Systems, particularly Modular Snake Robot Platforms.
- I also serve as **Principal Investigator** in research projects carried out by KM-RoBoTa.
- Development of snake robot platforms: Design and development of the open snake robot platforms Lola-OP™ and Kulebra-OP™. On-board embedded controllers. On-board power.
 - Modular Snake Robots locomotion: Bio-inspired multi-locomotion strategies. Floating frame of reference representation. Static ground contact locomotion model. Pose stability.
 - System integration: Implementation of a Modular Snake Robot architecture. Development of a Modular Snake Robot Simulation software. Teleoperation interfaces and controllers.

Other Research Experience

- 2012 **Visiting Scholar**, *ISIR (Institut de Systèmes Intelligents et de Robotique), Université Pierre et Marie Curie*, Paris - France, (www.isir.upmc.fr).
- Snake Robots locomotion: Locomotion mode transitions. Motion performance metrics.

Teaching Experience

- 2016-present **Instructor of edX-MOOC**, EPFLx, Lausanne-Switzerland.
Course: A Resilient Future: Science and Technology for Disaster Risk Reduction
- 2015-present **Graudate Course Lecturer**, STI, EPFL, Lausanne-Switzerland.
- Graduate Course Ph.D. level: Topics in Autonomous Robotics: Snake Robots chapter.
 - Graduate Course M.Sc. level (Micro-Engineering): Mobile Robots: Sensors.
- 2014-present **Mentoring/Supervisor**, Biorobotics Laboratory EPFL, Lausanne-Switzerland.
- Four Ph.D. students mentoring • Nine M.Sc. thesis/project supervisor • Seven Research Internship Program at EPFL students supervisor (MIT, Stanford, Gatech and NanyangTU).
- 2004-2011 **Part Time Lecturer**, *Electronics Engineering Program*, Department of Electronics Engineering, Pontificia Universidad Javeriana, Bogotá-Colombia.
- Graduate Course: Robot design (kinematics and dynamics) • Undergraduate Courses: Non-linear electronics, Analog electronics design (practical), Design fundamentals (practical), Analog electronics theory, Dynamical systems, Basic circuit theory, Introduction to engineering.
- 2007 **Summer Course Lecturer**, *Electronics Engineering Program*, Department of Electrical and Electronics Engineering, Universidad de los Andes, Bogotá-Colombia.
B.Sc. Courses: Basic Electronics.
- 2005 **Summer Course Lecturer**, *Mechatronic Engineering Program*, Department of Mechatronics, Universidad Militar Nueva Granada, Bogotá-Colombia.
B.Sc. Courses: Control, Dynamic systems, Robotics.
- 1999-2003 **Teaching Assistant**, *Department of Physics (1999-2001), Department of Electronics Engineering (2002-2003)*, Pontificia Universidad Javeriana, Bogotá D.C. - Colombia.

Awards and Honors

- 2016 **Best Robot Design Award**, ASME, August 2016.
Soft Snake Robot at ASME Student Mechanism and Robot Design Competition, 40th ASME Mechanisms & Robotics Conference. Advised students: Aditya Kapoor and Jeremy Koh.
- 2015 **(SSRR-2015) Best Robot Demo Award**, IEEE-RAS, October 2015.
Robot Lola-OP™ in International Symposium on Safety, Security, and Rescue Robotics 2015.
- 2014 **SNSF NCCR-Robotics Postdoctoral Fellowship**, *Swiss National Science Foundation, National Centre of Competence in Research, EPFL Switzerland.*
- 2013 **IROS-2013 Time Capsule Item Award**, IEEE-RAS/RSJ, November 2013.
Lola-OP™ selected as representative item of the robotic state of the art for 25 years storage.
- 2012 **ICRA-2012 Paper Travel Award**, IEEE-RAS, May 2012, St. Paul, Minnesota, US.
- 2009 **Colciencias “Francisco José de Caldas” Doctoral Scholarship**, *The Administrative Department of Science, Technology and Innovation (Colciencias), Colombia.*
- 2004 **Gabriel Maldonado Award & Best Graduation Project**, *Pontificia Universidad Javeriana, Department of Electronics Engineering, Asociación Ingenieros Javerianos.*
- 2002 **Schlumberger Undergraduate Scholarship**, *Schlumberger.*

Service

- 2017 **Reviewer**, for AAAS's **Science** magazine (editor Marc Lavine).
- 2016 **Conference Program Chair**, IEEE International Symposium on Safety, Security, and Rescue Robotics, (SSRR-2016) October 2016, EPFL Lausanne - Switzerland.
- 2015 to present **ICRRR Member**, IEEE International Committee in Robotics for Disaster Risk Reduction.
- 2014 **ICRA-2014 Full-Day Workshop Organizer**, Full-day tutorial on Low-cost, Fast-development Modular Snake Robot Open Platforms, IEEE International Conference on Robotics and Automation (ICRA), 2014, May 2014.
- 2012 to present **Technical Session Chair**, IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS) • International Symposium on Safety, Security, and Rescue Robotics (SSRR) • IEEE International Conference on CYBER Technology in Automation, Control, and Intelligent Systems (IEEE-CYBER) • IEEE/SICE International Symposium on System Integration (SII).
- 2006 to present **Technical Reviewer**, Int. Journal of Robotics Research IJRR • IEEE Transactions on Robotics • IEEE Transactions on Control Systems Technology • ASME Journal of Mechanisms and Robotics • Advanced Robotics • IEEE Int. Conf. on Robotics and Automation (ICRA) • IEEE/RSJ Int. Conf. on Intelligent Robots and Systems (IROS) (as **Associate Editor**).

Languages

English	Proficient	
Spanish	Native	
Italian	Intermediate	<i>Informal training in Italian. Speaking and reading knowledge</i>
French	Basic	<i>Informal training in French. Reading knowledge</i>

References

Prof. Auke Jan Ijspeert, (*Email: auke.ijspeert@epfl.ch, Phone: +41-21-693-26-58*), Director, Biorobotics Lab., École Polytechnique Fédérale de Lausanne, Switzerland. Prof. Ijspeert is supervisor of my **current postdoctoral research**.

Prof. John A. Nyakatura, (*Email: john.nyakatura@hu-berlin.de, Phone: +49 30-2093-6726*), Professor of morphology (Zoology), Institute of Biology Humboldt Universität zu Berlin, Germany.

Prof. Nyakatura collaborates in my scientific activities related to **paleobiology**.

Prof. Antonio Bicchi, (*Email: antonio.bicchi@unipi.it, Phone: +39-050-221-7060*), Professor at E. Piaggio Research Center, Università di Pisa, Pisa, Italy.

Prof. Bicchi was supervisor of my **postdoctoral research** (2013-2014).

Prof. Kristin Pettersen, (*Email: kristin.y.pettersen@itk.ntnu.no, Phone: +47-7359-4346*), Dept. of Engineering, Cybernetics. Centre for autonomous marine operations and systems, Norwegian University of Science and Technology, Trondheim, Norway.

Prof. Pettersen collaborates in my scientific activities related to **snake robotics**.

Prof. Robin Murphy, (*Email: murphy@cse.tamu.edu, Phone: +1-979-845-8737*), Director of Center for Robot-Assisted Search and Rescue (CRASAR), Department of Computer Science and Engineering, Texas A&M University, USA.

Prof. Murphy collaborates in my activities related to **disaster response robotics**.

Prof. Raja Chatila, (*Email: chatila@isir.upmc.fr, Phone: +33-144-272-876*), Directeur de Recherche CNRS, Directeur ISIR - Institut des Systèmes Intelligents et de Robotique, Université Pierre et Marie Curie, Paris, France.

Prof. Chatila was **co-advisor of my Ph.D. thesis**.

Prof. Mark Yim, (*Email: yim@grasp.upenn.edu, Phone: +1-215-898-5269*), Director of ModLab, professor at GRASP Lab, Mechanical Engineering and Applied Mechanics, University of Pennsylvania, Philadelphia, USA.

Prof. Yim was member of my **doctoral committee**.

Prof. Fumitoshi Matsuno, (*Email: matsuno@me.kyoto-u.ac.jp, Phone: +81-075-383-3593*), Director, Mechatronics Laboratory, Graduate School of Engineering, Kyoto University, Kyoto, Japan.

Prof. Matsuno was member of my **doctoral committee**.

Prof. Dario Floreano, (*Email: dario.floreano@epfl.ch, Phone: +41-21-69-35230*), Director, Laboratory of Intelligent Systems, Director NCCR-Robotics, École Polytechnique Fédérale de Lausanne, Switzerland.

Prof. Floreano is supervisor of my **NCCR-Robotics** activities at EPFL.

Publications

For citations and indexes please visit my Google Scholar Profile.

Under Revision / In Preparation

- [1] J. Nyakatura, **K. Melo**, T. Horvat, J. Hutchinson, M. Fischer, and A. J. Ijspeert, "Reverse Engineering of an Early Tetrapod Fossil: Reconstructing Locomotor Characteristics," 2018, manuscript in preparation to be submitted to *Nature*.
 - Contributions: As leader of the robotics team, I co-designed the most important tool used to systematically investigate the questions proposed in this research - a robotic reconstruction of an extinct animal, along with the metrics used in the experiments analysing its possible locomotion traits. Additionally, I designed the web based interactive-database where the results will be freely accessible by the general public. Finally, I am also writing the manuscript along with the first author JN (for which I also prepared all the figures).
- [2] R. Thandiackal*, **K. Melo***, J. Herault, T. Kano, F. Boyer, A. Ishiguro, and A. J. Ijspeert, "Local Pressure Sensation Leads to Emergence of Self-organized Swimming," 2018, manuscript in preparation to be submitted to *Nature*.
 - Contributions: As co-first-author, I designed the most important tool used to systematically investigate the questions proposed in this research - a first of its kind lamprey-like robot with pressure sensing as local sensory feedback. Additionally, I guided the conceptualization of the novel control algorithm, designed the experiments and carried them out. I am presently leading the writing of the manuscript.
- [3] A. Kapoor, J. Koh, and **K. Melo**, "Robust Locomotion with Articulated Soft Robots," 2018, manuscript in preparation to be submitted to *Science Robotics*.
 - Contributions: As Principal Investigator, I proposed the original idea and guided the robot design and controllers development that enabled untethered locomotion with articulated soft robots that is far more sophisticated and useful than any prior soft robot. This led to the creation of a complete framework for the development and analysis of controllers for any kind of soft robot. I am presently writing the manuscript along with first author AK.
- [4] **K. Melo**, T. Horvat, and A. Ijspeert, "Field Experiences with Sprawling-Posture-Animal-like Robots. K-Rock in Ugandan Natural Crocodile Environments," 2018, manuscript in preparation to be submitted to *Journal of Field Robotics*.

Journal Articles

- [1] T. Horvat, **K. Melo**, and A. J. Ijspeert, "Spine controller for a sprawling posture robot," *IEEE Robotics and Automation Letters*, vol. 2, no. 2, pp. 1195–1202, April 2017.
- [2] K. Karakasiliotis, R. Thandiackal, **Melo, K.**, T. Horvat, N. K. Mahabadi, S. Tsitkov, J. M. Cabellguen, and A. J. Ijspeert, "From cineradiography to biorobots: an approach for designing robots to emulate and study animal locomotion," *Journal of The Royal Society Interface*, vol. 13, no. 119, 2016, **Journal cover**.
- [3] B. Bayat, J. Bermejo-Alonso, J. Carbonera, T. Facchinetti, S. Fiorini, P. Goncalves, V. A. Jorge, M. Habib, A. Khamis, **K. Melo**, B. Nguyen, J. I. Olszewska, L. Paull, E. Prestes, V. Ragavan, S. Saedi, R. Sanz, M. Seto, B. Spencer, A. Vosughi, and H. Li, "Requirements for building an ontology for autonomous robots," *Industrial Robot: An International Journal*, vol. 43, no. 5, pp. 469–480, 2016, all authors contribute equally.

Peer Reviewed Conference Articles

- [1] T. Horvat, **K. Melo**, and A. J. Ijspeert, "Model predictive control based framework for com control of a quadruped robot," in *Intelligent Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on*, Sept 2017.
- [2] M. Parsapour, **K. Melo**, T. Horvat, and A. J. Ijspeert, "Challenges in visual and inertial information gathering for a sprawling posture robot," in *Intelligent Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on*, Sept 2017.
- [3] R. Vasconcelos, S. Hauser, F. Dzeladini, M. Mutlu, T. Horvat, **K. Melo**, P. Oliveira, and A. J. Ijspeert, "Active stabilization of a stiff quadruped robot using local feedback," in *Intelligent Robots and Systems (IROS), 2017 IEEE/RSJ International Conference on*, Sept 2017.
- [4] D. Roa and **K. Melo**, "Mechanical stability margin for scouting poses in modular snake robots," in *2016 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*, Oct 2016, pp. 182–188.
- [5] M. Vespignani, **K. Melo**, M. Mutlu, and A. J. Ijspeert, "Compliant snake robot locomotion on horizontal pipes," in *2015 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*, Oct 2015, pp. 1–8.
- [6] M. Mutlu, **K. Melo**, M. Vespignani, A. Bernardino, and A. J. Ijspeert, "Where to place cameras on a snake robot: Focus on camera trajectory and motion blur," in *2015 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR)*, Oct 2015, pp. 1–8.
- [7] **K. Melo**, "Modular snake robot velocity for side-winding gaits," in *2015 IEEE International Conference on Robotics and Automation (ICRA)*, May 2015, pp. 3716–3722.
- [8] M. Vespignani, **K. Melo**, S. Bonardi, and A. J. Ijspeert, "Role of compliance on the locomotion of a reconfigurable modular snake robot," in *Intelligent Robots and Systems (IROS), 2015 IEEE/RSJ International Conference on*, Sept 2015, pp. 2238–2245.
- [9] T. Horvat, K. Karakasiliotis, **K. Melo**, L. Fleury, R. Thandiackal, and A. J. Ijspeert, "Inverse kinematics and reflex based controller for body-limb coordination of a salamander-like robot walking on uneven terrain," in *Intelligent Robots and Systems (IROS), 2015 IEEE/RSJ International Conference on*, Sept 2015, pp. 195–201.
- [10] **K. Melo** and L. Paez, "Experimental determination of control parameter intervals for repeatable gaits in modular snake robots," in *2014 IEEE International Symposium on Safety, Security, and Rescue Robotics (2014)*, Oct 2014, pp. 1–7.
- [11] A. Trujillo, J. Igua, and **K. Melo**, "Passive brachiation. Towards motion in trees with robotic snakes," in *Safety, Security, and Rescue Robotics (SSRR), 2014 IEEE International Symposium on*, Oct 2014, pp. 1–2.
- [12] **K. Melo**, J. Monsalve, A. DiZeo, J. Leon, A. Trujillo, W. Perdomo, D. Roa, and L. Paez, "Integration Scheme for Modular Snake Robot Software Components," in *Modelling & Simulation for Autonomous Systems*, ser. Lecture Notes in Computer Science, J. Hodicky, Ed. Springer International Publishing Switzerland, May 2014, vol. 8906, pp. 184–191.
- [13] A. Settimi, C. Pavan, V. Varricchio, M. Ferrati, E. Mingo, A. Rocchi, **K. Melo**, N. G. Tsagarakis, and A. Bicchi, "A modular approach for remote operation of humanoid robots in search and rescue scenarios," in *Modelling & Simulation for Autonomous Systems*, ser. Lecture Notes in Computer Science, J. Hodicky, Ed. Springer International Publishing Switzerland, May 2014, vol. 8906, pp. 192–205.
- [14] L. Paez and **K. Melo**, "A Preliminary Review on Metrics for Modular Snake Robots Locomotion," in *CYBER Technology in Automation, Control, and Intelligent Systems (IEEE-CYBER 2014), 2014 IEEE International Conference on*, June 2014, pp. 539–545.

- [15] J. Monsalve, J. Leon, and **K. Melo**, "Modular snake robot oriented open simulation software," in *Cyber Technology in Automation, Control, and Intelligent Systems (CYBER)*, 2014 IEEE 4th Annual International Conference on, June 2014, pp. 546–550.
- [16] **K. Melo**, J. Leon, A. di Zeo, V. Rueda, D. Roa, M. Parraga, D. Gonzalez, and L. Paez, "The Modular Snake Robot Open Project: Turning animal functions into engineering tools," in *Safety, Security, and Rescue Robotics (SSRR)*, 2013 IEEE International Symposium on, Oct 2013, pp. 1–6.
- [17] L. Paez, M. Granados, and **K. Melo**, "Conceptual design of a modular snake origami robot," in *Safety, Security, and Rescue Robotics (SSRR)*, 2013 IEEE International Symposium on, Oct 2013, pp. 1–2.
- [18] **K. Melo**, D. Roa, V. Gudavarthi, Y. Bello, A. DiZeo, J. Leon, and L. Paez, "Modular Snake Robots. Research on Locomotion and Low Cost Open Hard-Software Platforms, Development and Integration," in *Robotics for Risky Environments - Extreme Robotics, Proceedings of the 7th International Workshop IARP-RISE-ER2013*, E. Yurevich and I. Baudoin, Eds. Central Research Institute of Robotics and Technical Cybernetics, 2013, vol. 69, pp. 391–397.
- [19] J. Leon, L. Paez, and **K. Melo**, "Modular Snake ROS," in *ROS Developer Conference (ROSCON2013)*, 2013, pp. 1–23. [Online]. Available: <http://roscon.ros.org/2013/wp-content/uploads/2013/06/MSROSCON2013.pdf>
- [20] **K. Melo**, J. Leon, J. Monsalve, V. Fernandez, and D. Gonzalez, "Simulation and control integrated framework for modular snake robots locomotion research," in *System Integration (SII)*, 2012 IEEE/SICE International Symposium on, 2012, pp. 523–528.
- [21] **K. Melo**, M. Hernandez, and D. Gonzalez, "Parameterized Space Conditions for the Definition of Locomotion Modes in Modular Snake Robots," in *Robotics and Biomimetics (ROBIO)*, 2012 IEEE International Conference on, 2012, pp. 2032–2038.
- [22] **K. Melo** and L. Paez, "Modular snake robot gaits on horizontal pipes," in *Intelligent Robots and Systems (IROS)*, 2012 IEEE/RSJ International Conference on, Oct 2012, pp. 3099–3104.
- [23] **K. Melo**, L. Paez, and C. Parra, "Indoor and outdoor parametrized gait execution with modular snake robots," in *Robotics and Automation (ICRA)*, 2012 IEEE International Conference on, May 2012, pp. 3525–3526.
- [24] **K. Melo**, L. Paez, A. Polo, and C. Parra, "Gait Programming and Data Acquisition User Interfaces, for Modular Snake Robots," in *Informatics in Control, Automation and Robotics*, ser. Lecture Notes in Electrical Engineering, D. Yang, Ed. Springer Berlin Heidelberg, 2012, vol. 133, pp. 113–117.
- [25] **K. Melo**, L. Paez, M. Hernandez, A. Velasco, F. Calderon, and C. Parra, "Preliminary studies on modular snake robots applied on de-mining tasks," in *Robotics Symposium, 2011 IEEE IX Latin American and IEEE Colombian Conference on Automatic Control and Industry Applications (LARC)*, oct. 2011, pp. 1–6.
- [26] **K. Melo**, A. Velasco, and C. Parra, "Motion analysis of an ellipsoidal kinematic closed chain," in *Robotics Symposium, 2011 IEEE IX Latin American and IEEE Colombian Conference on Automatic Control and Industry Applications (LARC)*, oct. 2011, pp. 1–6.
- [27] L. Paez, **K. Melo**, and C. Parra, "Center of mass displacements using rolling gaits for modular robots on the outside of pipes," in *Robotics Symposium, 2011 IEEE IX Latin American and IEEE Colombian Conference on Automatic Control and Industry Applications (LARC)*, oct. 2011, pp. 1–6.
- [28] F. Bravo, D. Patino, **K. Melo**, and C. Parra, "Switching control and modeling of mobile robots formation," in *Robotics Symposium, 2011 IEEE IX Latin American and IEEE Colombian Conference on Automatic Control and Industry Applications (LARC)*, oct. 2011, pp. 1–6.

- [29] F. Cortes, D. Linares, D. Patino, and **K. Melo**, "A distributed model predictive control (D-MPC) for modular robots in chain configuration," in *Robotics Symposium, 2011 IEEE IX Latin American and IEEE Colombian Conference on Automatic Control and Industry Applications (LARC)*, 2011, pp. 1–6.
- [30] **K. Melo** and A. Velasco, "Motion analysis of a wheel-like articulated closed chain," in *ANDESCON, 2010 IEEE*, sept. 2010, pp. 1–6.

Workshop Contributions and Presentations

- [1] **K. Melo**, T. Horvat, and A. J. Ijspeert, "K-Rock, a Bio-robot Outside the Lab, Back In Nature," in *AMAM 8th International Symposium on Adaptive Motion of Animals and Machines*, June 2017, accepted.
- [2] S. Hauser, M. Mutlu, **K. Melo**, and A. J. Ijspeert, "Fast state-switching of a jamming-based foot," in *AMAM 8th International Symposium on Adaptive Motion of Animals and Machines*, June 2017, accepted.
- [3] **K. Melo**, "Correcting Orientation of Helices in the Space. The Case of Rolling Gaits with Modular Snake Robots," in *SWARM 2015, First International Symposium on Swarm Behavior and Bio-Inspired Robotics*, Oct 2015. [Online]. Available: <http://easychair.org/smart-program/SWARM2015/2015-10-29.html#talk:12472>
- [4] **K. Melo**, T. Horvat, R. Thandiackal, and A. Ijspeert, "Use of Tails in Amphibious Locomotion," in *Robotic Uses for Tails - Workshop in conjunction with 2015 Robotics Science and Systems*, 2015. [Online]. Available: <http://kodlab.seas.upenn.edu/uploads/TailsRSS2015/Melo-RSSTails2015.pdf>
- [5] T. Horvat, K. Karakasiliotis, **K. Melo**, R. Thandiackal, and A. J. Ijspeert, "Bio-Inspired Inverse Kinematics Based Locomotion Controller for a Salamander-Like Robot," in *AMAM 7th International Symposium on Adaptive Motion of Animals and Machines*, June 2015.
- [6] M. Vespignani, **K. Melo**, and A. J. Ijspeert, "Robot Demonstration: Snake robot locomotion with compliant elements," in *AMAM 7th International Symposium on Adaptive Motion of Animals and Machines*, June 2015.
- [7] R. Thandiackal, K. Karakasiliotis, **K. Melo**, T. Horvat, and A. J. Ijspeert, "A new Type of Salamander-like Robot to Study Various Aspects of Limb Coordination," in *AMAM 7th International Symposium on Adaptive Motion of Animals and Machines*, June 2015.
- [8] M. Vespignani, **K. Melo**, S. Bonardi, and A. Ijspeert, "Snake robot locomotion with compliant elements," in *Full-day Workshop Robot-Inspired Biology, IEEE International Conference on Robotics and Automation (ICRA), 2015*, may 2015.
- [9] **K. Melo**, M. Garabini, G. Grioli, M. G. Catalano, L. Malagia, and A. Bicchi, "Open Source VSA-CubeBots for Rapid Soft Robot Prototyping," in *Robot Makers - Workshop in conjunction with 2014 Robotics Science and Systems*, July 12, 2014, Berkeley, California, 2014, pp. 1–5. [Online]. Available: <http://www.centropiaggio.unipi.it/publications/open-source-vsa-cubebots-rapid-soft-robot-prototyping.html>
- [10] **K. Melo** and L. Paez, "ICRA 2014, Tutorial Organization Chairs," in *Full-day tutorial on Low-cost, Fast-development Modular Snake Robot Open Platforms, IEEE International Conference on Robotics and Automation (ICRA), 2014*, may 2014.