

INFORMAZIONI PERSONALI

Oboe Roberto

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Sesso Maschile | Nazionalità Italiana

POSIZIONE RICOPERTA

Professore associato Confermato di automatica (SSD Ing-Inf/04) presso il Dipartimento di Tecnica e Gestione dei Sistemi Industriali – Università di Padova

ESPERIENZA PROFESSIONALE

Nov. 1991 – Feb. 1993 - Tecnico a contratto presso il Dipartimento di Elettronica e Informatica dell'Università di Padova.

Mar. 1993 – Ott. 2003 – Ricercatore del Raggruppamento Ing-Inf 04 (Automatica), presso il Dipartimento di Ingegneria dell'Informazione dell'Università degli Studi di Padova

Nov. 2003 - Gennaio 2005 - Ricercatore del Raggruppamento Ing-Inf 04 (Automatica), presso il Dipartimento di Ingegneria Meccanica e Strutturale - Università di Trento

Gennaio 2005 - Febbraio 2008 - Professore Associato non confermato presso il Dipartimento di Ingegneria Meccanica e Strutturale - Università di Trento

ISTRUZIONE E FORMAZIONE

Laurea in Ingegneria Elettronica, presso l'Università degli Studi di Padova, con il punteggio di 110/110 con lode, il 22 febbraio 1988, discutendo la tesi: "Local Area Network in ambito Computer Integrated Manufacturing: progetto di un analizzatore di rete", relatore il Prof. Giuseppe Buja.

"Visiting researcher" presso il Department of Electrical Engineering dell'Università di Keio - Yokohama – Giappone nel periodo aprile-ottobre 1990.

Ha conseguito il titolo di Dottore di Ricerca, il 28 luglio 1992, discutendo la tesi: "Algoritmi digitali per il controllo di giunti robotici" (corso di Dottorato di Ricerca in Ingegneria Informatica ed Elettronica Industriali, attivato presso l'Università di Padova, tutore il Prof. Dorianò Ciscato, coordinatore il Prof. Francesco Bombi).

COMPETENZE PERSONALI

Lingua madre italiano

Altre lingue

	COMPRESIONE		PARLATO		PRODUZIONE SCRITTA
	Ascolto	Lettura	Interazione	Produzione orale	
inglese	C1	C1	C1	C1	C1

Competenze comunicative

Competenze organizzative e gestionali

Organizzatore e general Chair di conferenze per l'IEEE: AMC 2008, ICM 2013, ETFA 2018, WFCS 2018

Competenze professionali

Competenze informatiche

Office, Latex, Matlab, C programming, Assembly programming

ULTERIORI INFORMAZIONI

Riconoscimenti e premi

- Borsa di studio bandita dal CNR per ricerche nel campo delle discipline afferenti al comitato nazionale per le scienze di Ingegneria ed Architettura. Spesa presso il Jet Propulsion Laboratory di Padasena, dal gennaio al luglio 1997, per lo svolgimento di ricerche nel campo della telerobotica e dell'integrazione di Internet all'interno di sistemi di controllo.
- Borsa di studio bandita dal CNR per la mobilità internazionale dei ricercatori, fruita presso il Center for Magnetic Recording Research (CMRR) della University of California – San Diego dal luglio al settembre 2000. Svolte ricerche nell'ambito del servocontrollo della posizione delle testine degli Hard Disk Drive (HDD) ed in particolare nell'ambito della affidabilità, dei sistemi a doppio stadio di attuazione e della soppressione del rumore acustico.
- Borsa di viaggio per docenti nell'ambito del Faculty Exchange Program tra Università di Padova e la University of California. Il periodo di visita (luglio-agosto 2002) è stato speso presso il Computer Mechanics Laboratory del Professor Masayoshi Tomizuka
- Primo premio assoluto StartCup (Business Plan Competition) dell'Università di Padova, per il progetto di un sistema per tele-ecografie.

Appartenenza a gruppi/associazioni

- IEEE - Industrial Electronics Society
Senior AdCom Member
Chair of the Technical Committee sul Motion Control
Membro del Technical Committee sul Network Based Control
Vicepresidente per Planning and development (2014-2017)
Vicepresidente per le Technical Activities (2018-oggi)
IEEE Senior Member

Progetti

Ha partecipato al "Progetto Finalizzato Robotica" nell'Unita' Operativa diretta dal Prof.Doriano Ciscato, nel sottoprogetto "Sensori e Attuatori", obiettivo "Controllo degli Azionamenti".

Ha partecipato al progetto MURST 40% "Ingegneria del Controllo"

Ha partecipato ai progetti di ricerca Ex-MURST 60% "Elettronica Industriale" e al PRIN MIUR "Metodi

e strumenti innovativi per la progettazione di sistemi meccatronici" (anni 2001-2003).

Partecipa al progetti di ricerca Ex-MURST 60% " Modellistica, stima e controllo (anni 2008-2009).

E' coordinatore dell'Unità operativa di Padova nel progetto PRIN 2007 "Modellistica e caratterizzazione sperimentale di sensori e matrici tattili a piezopolimeri.

E stato coordinatore dell'Unità operativa di Trento nel progetto ex. Art 56 del Ministero della Salute "Valutazione e trattamento dei deficit motori all'arto superiore post ictus mediante interfaccia robotica"

E' stato referente italiano nel progetto Bilaterale col Giappone del Ministero degli Affari Esteri "Development of a joint telerobotics platform for remote haptic interaction"

Principal Investigator del Progetto "Planar haptic device and virtual reality tools for hand and finger rehabilitation" - Project Code:RF-2010-2303748 - Ministero della Salute

Collaborazione con Keio University, Yokohama National University and Mie University (Giappone) nelle aree della Telerobotica e T Motion Control

Collaborazione con STMicroelectronics nell'area del controllo dei MEMS

Collaborazione con industrie nell'area delle sospensioni attive per veicoli

Progetti di ricerca nelle aree della Robotica Riabilitativa, Telerobotica e Motion Control

Attività di ricerca in collaborazione con industrie

Realizzazione di sistemi di servoposizionamento per testine di Hard Disk Drives ad alte prestazioni con capacità di autotaratura – Conner Peripheral Europe di Pont Saint Martin (AO)

Realizzazione di sistemi basati su Digital Signal Processor per il controllo digitale della corrente in sistemi per esperimenti di fisica delle alte energie – OCEM di S.Giorgio di Piano (BO)

Realizzazione di uno stimatore basato su reti neurali per il calcolo della forza di laminazione in un laminatoio a caldo – Alumix di Fusina (VE)

Realizzazione di un servoposizionatore autotuning per controllo assi – QEM di Montebello Vicentino (VI)

Realizzazione di un collimatore programmabile per radioterapia conformazionale -Ospedale Civile di Vicenza

Realizzazione di un sistema innovativo di controllo per gruppo di continuità – SICON di Villaverla (VI)

Studio di un sistema di automazione per l'asciugatura delle pelli in conceria – FBP Automazioni di Montorso (VI)

Realizzazione di un inclinometro craniale – AIKEM di Vicenza

Realizzazione di un sistema di puntamento ottico per disabili e di prototipi di sistemi aptici per la riabilitazione della mano – Khymeia di Padova

Realizzazione di sistemi di servoposizionamento a singolo e doppio attuatore per le testine di Hard Disk ad altissime prestazioni, con attuatori secondari piezoelettrici e MEMS. Realizzazione di sistemi per la soppressione degli effetti delle vibrazioni negli Hard Disk. Realizzazione di un simulatore di un Hard Disk Drive. Studio di tecniche di pilotaggio in tensione per motori Voice Coil Motor in Hard Disk Drive. Studio di tecniche di controllo multi-rate – STMicroelectronics di Agrate (MI)

Modellizzazione, identificazione e controllo di dispositivi MEMS, in collaborazione con STMicroelectronics e IRTS-ITC (ora FBK-IRST)

Studio di sospensioni semi-attive per veicoli off-highway – DANA ITALIA

Studio di sensori MEMS inerziali e audio – STMicroelectronics

Studio di sistemi di controllo per riscaldatori elettrici – Zoppas SPA

Studio di sistemi di generazione di traiettoria per macchine taglio Laser – Salvagnini

Studio di attuatori con fili a memoria di forma – STMicroelectronics

Studio di sistemi di riconoscimento difetti in prodotti plastici – Ramponi spa

Pubblicazioni

[1] Nagai, Sakahisa, Oboe, Roberto, Shimono, Tomoyuki, Kawamura, Atsuo (2019). Fast Force Control without Force Sensor Using Combination of aKF and RFOB for In-circuit Test with Probing

System. IEEJ JOURNAL OF INDUSTRY APPLICATIONS, vol. 8, p. 152-159, ISSN: 2187-1094, doi: 10.1541/ieejia.8.152

- [2] A. Monetti, L. Centofante, A. Andrighetto, S. Corradetti, F. D'Agostini, G. Lilli, M. Lollo, M. Manzolaro, M. Rossignoli, D. Scarpa, M. Ballan, M. Miglioranza, D. Conventi, F. Pasquato, A. Vescovo, D. Giora, G. Prete, L. Biasetto, G. Meneghetti, R. Oboe, P. Nicolosi, P. Colombo, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, A. Zenoni, M. Ferrari, A. Donzella, M. Tosato, M. Caeran, M. Verona (2019). Test on the triplet prototype for the 1+ beam line of the SPES project. LNL- ANNUAL REPORT, p. 21-22, ISSN: 1828-8561
- [3] L. Centofante, A. Monetti, A. Andrighetto, S. Corradetti, F. D'Agostini, G. Lilli, M. Lollo, M. Manzolaro, M. Rossignoli, D. Scarpa, M. Ballan, D. Conventi, F. Pasquato, A. Vescovo, D. Giora, G. Prete, L. Biasetto, G. Meneghetti, R. Oboe, P. Nicolosi, P. Colombo, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, A. Zenoni, M. Ferrari, A. Donzella, M. Tosato, M. Caeran, M. Verona (2019). High temperature compression tests on graphite POCO EDM-3, used in devices for SPES project. LNL- ANNUAL REPORT, p. 11-12, ISSN: 1828-8561
- [4] Sariyildiz, Emre, Oboe, Roberto, Ohnishi, Kouhei (2019). Disturbance Observer-based Robust Control and Its Applications: 35th Anniversary Overview. IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, p. 1, ISSN: 0278-0046, doi: 10.1109/TIE.2019.2903752 -Impact Factor 7.05
- [5] Andrea Bisoffi, MARCAZZAN, ALBERTO, Roberto Oboe (2019). Reset solutions for performance limitations induced by Coulomb friction in a motion control system with a disturbance observer. In: Proceedings AIM 2019. Hong Kong
- [6] Marco Cavazza, Roberto Oboe, Tomoyuki Shimono (2019). Motion Copying Systems: Adaptation to Environment using Dynamic Movement Primitives. In: IECON 2019 Conference Proceedings.
- [7] Naoya Tojo, Tetsuya Tashiro, Minoru Yokoyama, Tomoyuki Shimono, Roberto Oboe, Takahiro Mizoguchi, Kouhei Ohnishi (2019). Communication Delay Compensation for Precise Force Matching in Teleoperation. In: INDIN 2019 Conference Proceedings.
- [8] Jasinski, Marek, Ruminski, Jacek, Sharma, Tushar, Leitao, Paulo, Oboe, Roberto, Han, Qing-Long, Korondi, Peter (2018). Projects and Papers Internationally Honored [Students and Young Professionals News]. IEEE INDUSTRIAL ELECTRONICS MAGAZINE, vol. 12, p. 42-45, ISSN: 1932-4529, doi: 10.1109/MIE.2018.2874390 -Impact Factor 10.429
- [9] Nozaki, Takahiro, Shimizu, Shuhei, Murakami, Toshiyuki, Oboe, Roberto (2018). Impedance Field Expression of Bilateral Control for Reducing Data Traffic in Haptic Transmission. IEEE TRANSACTIONS ON INDUSTRIAL ELECTRONICS, p. 1, ISSN: 0278-0046, doi: 10.1109/TIE.2018.2833026 -Impact Factor 7.05
- [10] M. Ballan, A. Andrighetto, F. Borgna, S. Corradetti, E. Vettorato, M. Manzolaro, A. Monetti, D. Scarpa, M. Rossignoli, F. D'Agostini, D. Turcato, M. Lollo, D. Conventi, F. Pasquato, G. Prete, L. Biasetto, R. Oboe, P. Nicolosi, G. Meneghetti, P. Colombo, N. Realdon, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, M. Ferrari and A. Zenoni (2018). Ongoing Developments for the ISOLPHARM Project: new ISOL Target Concepts. LNL- ANNUAL REPORT, ISSN: 1828-8561
- [11] F. Borgna, M. Ballan, A. Andrighetto, S. Corradetti, C. Favaretto, E. Vettorato, M. Manzolaro, A. Monetti, D. Scarpa, M. Rossignoli, F. D'Agostini, D. Turcato, M. Lollo, D. Conventi, F. Pasquato, G. Prete, L. Biasetto, R. Oboe, P. Nicolosi, G. Meneghetti, P. Colombo, N. Realdon, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, M. Ferrari and A. Zenoni (2018). Production of Carrier Free Copper Nuclides with the ISOL Method for Nuclear Medicine. LNL- ANNUAL REPORT, ISSN: 1828-8561
- [12] Phuong, Thao Tran, Ohishi, Kiyoshi, Mitsantisuk, Chawatit, Yokokura, Yuki, Ohnishi, Kouhei, Oboe, Roberto, Sabanovic, Asif (2018). Disturbance Observer and Kalman Filter Based Motion Control Realization. IEEJ JOURNAL OF INDUSTRY APPLICATIONS, vol. 7, p. 1-14, ISSN: 2187-1094, doi: 10.1541/ieejia.7.1
- [13] ZOPPAS FEDERICO, BERIOLI MAURO, OBOE ROBERTO , PETERLE MICHELE, Magnone Paolo (2018). HEATING AND CAPACITIVE SENSING DEVICE FOR THE STEERING WHEEL OF A VEHICLE. WO2018203299 (A1), I R C A S P A IND RESISTENZE CORAZZATE E AFFINI
- [14] Yokoyama, Minoru, Shimono, Tomoyuki, Oboe, Roberto (2018). Robustness analysis of two-mass system control using acceleration-aided Kalman filter. In: Proceedings: IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society. p. 4600-4605, Institute of Electrical and Electronics Engineers Inc., ISBN: 9781509066841, Omni Shoreham Hotel, usa, 2018, doi:

10.1109/IECON.2018.8591114

- [15] Okano, Toshiaki, Oboe, Roberto, Ohnishi, Kouhei, Murakami, Toshiyuki (2018). Comparative study of soft motion for motion copying system with environmental variations. In: IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM. vol. 2018-, p. 646-651, Institute of Electrical and Electronics Engineers Inc., ISBN: 9781538618547, nzl, 2018, doi: 10.1109/AIM.2018.8452267
- [16] Nicola, Fiorato, Fujimoto, Yasutaka, Oboe, Roberto (2018). A LSTM Neural Network applied to Mobile Robots Path Planning. In: Proceedings - IEEE 16th International Conference on Industrial Informatics, INDIN 2018. p. 349-354, Institute of Electrical and Electronics Engineers Inc., ISBN: 9781538648292, Faculty of Engineering of the University of Porto, prt, 2018, doi: 10.1109/INDIN.2018.8472028
- [17] Oboe, Roberto (2018). How disturbance observer changed my life. In: Proceedings - 2018 IEEE 15th International Workshop on Advanced Motion Control, AMC 2018. p. 13-20, Institute of Electrical and Electronics Engineers Inc., ISBN: 9781538619469, Shibaura Institute of Technology (SIT), Toyosu Campus, jpn, 2018, doi: 10.1109/AMC.2019.8371055
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- [22] S. Nagai, R. Oboe, T. Shimono, and A. Kawamura, "Force sensorless fast force control for probing systems using aakf," in Proceedings of SAMCON 2017, 2017.
- [23] M. Ballan, A. Andrighetto, F. Borgna, S. Corradetti, E. Vettorato, M. Manzolaro, A. Monetti, D. Scarpa, M. Rossignoli, F. D'Agostini, M. Lollo, D. Conventi, F. Pasquato, G. Prete, L. Biasetto, R. Oboe, P. Nicolosi, G. Meneghetti, P. Colombo, N. Realdon, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, M. Ferrari, and A. Zenon, "The isolpharm project: Isol technique for radiopharmaceuticals development," LNL- ANNUAL REPORT, 2017.
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- [29] F. Oscari, R. Oboe, O. A. D. Albasini, S. Masiero, and G. Rosati, "Design and construction of a bilateral haptic system for the remote assessment of the stiffness and range of motion of the hand," SENSORS, 2016.
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"Design and testing of the spes target – ion source temperature monitoring system," LNL- ANNUAL REPORT, 2016.

[31] T. Scaletta, S. Komada, and R. Oboe, "Development of a human assistive robot for hip joint during sit-to-stand using non-linear springs," *IEEJ JOURNAL OF INDUSTRY APPLICATIONS*, vol. 3, pp. 261–266, 2016.

[32] T. Nozaki, T. Murakami, T. Shimono, K. Ohnishi, and R. Oboe, "Development of meal assistance device for patients with spinal cord injury," in *Proceedings AMC 2016*, pp. 388–393, 2016.

[33] K. Watanabe, K. Ito, M. Iwasaki, R. Antonello, and R. Oboe, "Estimation of load-side position of two mass resonant systems using mems accelerometers," in *Proceedings AMC 2016*, pp. 233–238, 2016.

[34] D. S. L. Sottili¹², E. Mariotti, P. Nicolosi, A. Tomaselli, A. Monetti, A. Andrighetto, S. Corradetti, F. Borgna, M. Manzolaro, M. Lollo, M. Rossignoli, R. Silingardi, A. Mozzi, E. Boratto, M. Ballan, G. Vivian, N. Sattin, L. Martin, D. Conventi, G. Prete, L. Biasetto, R. Oboe, G. Meneghetti, P. Colombo, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, M. Ferrari, and A. Zenoni, "First measurements of laser photoionization on sn atoms in a time of flight mass spectrometer at spes laser laboratory," LNL- ANNUAL REPORT, 2016.

[35] D. S. L. Sottili¹², E. Mariotti, P. Nicolosi, A. Tomaselli, A. Monetti, A. Andrighetto, S. Corradetti, F. Borgna, M. Manzolaro, M. Lollo, M. Rossignoli, R. Silingardi, A. Mozzi, E. Boratto, M. Ballan, G. Vivian, N. Sattin, L. Martin, D. Conventi, G. Prete, L. Biasetto, R. Oboe, G. Meneghetti, P. Colombo, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, M. Ferrari, and A. Zenoni, "High-temperature cleaning of tubular ovens for the mass-marker technique," LNL- ANNUAL REPORT, 2016.

[36] R. Oboe and D. Pilastro, "Performance improvement of haptic device in bilateral control using aakf and rfob," in *IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society*, pp. 6421–6428, IEEE, 2016.

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[38] M. Manzolaro, A. Monetti, A. Andrighetto, S. Corradetti, F. Borgna, N. Realdon, D. Scarpa, M. Lollo, F. Pasquato, M. Rossignoli, R. Silingardi, A. Mozzi, E. Boratto, M. Ballan, G. Vivian, N. Sattin, L. Martin, D. Conventi, G. Prete, L. Biasetto, R. Oboe, P. Nicolosi, G. Meneghetti, P. Colombo, A. Tomaselli, M. Guerzoni, R. Michinelli, A. Margotti, I. Cristofolini, E. Mariotti, M. Ferrari, and A. Zenoni, "The spes target and ion source unit," LNL- ANNUAL REPORT, 2016.

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