

Dr.-Ing. Bernhard Budaker

Fraunhofer IPA
Department Biomechatronic Systems
Deputy Head of Department
Group Manager Motion Control Systems

Nobelstr.12, 70569 Stuttgart, Germany

Email: Bernhard.Budaker@ipa.fraunhofer.de
Web: www.ipa.fraunhofer.de
Phone: +49 711 970 3653

Born on September 24, 1979 in Schwäbisch Gmünd (Germany)



Scientific Career

- Since 2014 Deputy Head of Department, Biomechatronic Systems
- 2008 - 2014 Group Manager, Motion Control Systems at Fraunhofer IPA, Stuttgart, Germany
- 2012 PhD in mechanical engineering, University Stuttgart, Germany
- 2008 - 2012 PhD student in the field of electromechanical drive systems and its application in prosthetics, University Stuttgart, Germany
- 2006 - 2008 Research Scientist at the Institute for Semiconductor Technology, Stuttgart, Germany
- 2000 - 2006 Study of Electrical Engineering at University Stuttgart, Germany

Scholarships, Awards and Faculty Functions

- Since 2012 Spokesman for the Fraunhofer System Research "Electro mobility", FSEM II
- 2013 Committee Member of the AOPA World Congress (American Orthotic and Prosthetic Association)

Ten most important publications

* Publications jointly together with UoA-researchers involved within this IRTG

§ Publications jointly together with USTUTT-researchers involved within this IRTG

A) Published in publication outlets with scientific quality assurance and book publications:

1. Budaker, B.; Schneider, U.: PBK – Powered Bionic Knee System. Proceedings of the 41th International Symposium on Robotics ISR/Robotik 2014, p.623-628, 2014.
2. § Budaker, B.; Verl, A.: Design, Development and Realization of an active driven knee-prosthesis with bevel helical gearbox. Advanced Materials Research, 907, p. 225-239, 2014.

B) Other publications

3. Budaker, B., Ebrahimi, A.: Electrical motors in wearable rehabilitation devices“, In: 3rd International Electric Drives Production Conference and Exhibition 2013, October 29-30, 2013, Nuremberg, Germany

4. Ebrahimi, A.; Fabian, M.; Budaker, B.: Entwurf von elektromechanischen Antrieben für den Einsatz in aktiv angetriebenen Prothesen und Orthesen. Orthopädie Technik, 2, p.1-4, 2014.
5. Ebrahimi, A.; Budaker, B.: Auslegung eines EC-Motors für aktiv angetriebene Knieprothesen. Orthopädie + Rehatechnik 2012, World Congress, Leipzig, 15.5.-18.5.2012.
6. § Budaker, B.; Kappes, P.; Parspour, N.; Schneider, U.: Model Based Design of Drive Systems for Active Driven Prostheses and Orthoses Systems. Technically Assisted Rehabilitation TAR 2011, 3rd European Conference, Berlin, March 17-18, 2011.

C) Patents

1. "Apparatus and method for taking measurements in hollow spaces" WO 2009/129793 A1, 29.10.2009
2. "Adaptives Steuerungs- und Regelungssystem für Prothesen mit willkürlicher Steuerung", DE 102009056466 A1, 30.11.2009
3. „Neue Technologie für einen Sensor der Venenverschlussplethysmographie“, 28.06.2010
4. „LinPro – Adpativer Prothesenfuß – vorausschauende Schrittanpassung an Untergrund und Kollisionsvermeidung“, EP 10730713.4 – 2310
5. „Aktive Knieprothese mit Kegelstirnradgetriebe“ DE 10 2011 116 751 A1, 24.10.2011
6. „Active knee prosthesis with Bevel Spur Gear Mechanism“, WO 2013/060 742 A1

Supervised graduate students since graduation year 2011

| No. | Last Name, First Name | Degree | Title of the dissertation | Duration of thesis |
|-----|-----------------------|--------|---------------------------|--------------------|
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Most important research grants since 2011

| No. | Research Project | Funding Period | Name(s) of the principal investigator(s) | Funding source and reference number |
|-----|--|----------------|--|-------------------------------------|
| 1 | Dipar - Diagnosing Parkinson's Disease by neuromuscular function evaluation. | 2010 - 2014 | Budaker, B. | FP 7 – SME – 2010-1, GA262291 |
| 2 | Aktives Antriebssystem für Prothesen und Orthesensysteme | 2010 - 2013 | Budaker, B. | BMW I, VP2099614HMO |
| 3 | Cornet Arthe | 2012 - 2015 | Budaker, B. | ERA-NET, Cornet |