

INFORMAȚII PERSONALE



Csaba Antonya

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LOCUL DE MUNCA POZIȚIA
IOSUD UTBV

Universitatea Transilvania din Brașov
Conducător de doctorat - Domeniul Inginerie Mecanică
Anul obținerii dreptului de conducere doctorat: 2008

DOMENII DE COMPETENȚĂ
PROFESIONALĂ / ARII DE
INTERES ÎN CERCETARE

Simulări 1D și 3D
Dinamica sistemelor mecanice, sisteme multicorp
Simulări și realitate virtuală
Vehicule autonome

EXPERIENȚA PROFESIONALĂ

2007 - ...

Profesor la Facultatea de Inginerie Mecanică, Universitatea Transilvania din Brașov

Universitatea Transilvania din Brașov
29 Eroilor, 500036 Brașov (România)
www.unitbv.ro

Activități didactice în domeniul Mecanisme, Vehicule autonome, Simularea și dinamica sistemelor mecanice.

Activități de cercetare în domeniul sistemelor mecanice, realitate virtuală, instrumente haptice, interfețe om-calculator.

Tipul sau sectorul de activitate Educație și cercetare

2004 – 2007

Conferențiar la Facultatea de Design de Produc și Robotocă, Universitatea Transilvania din Brașov

Universitatea Transilvania din Brașov
29 Eroilor, 500036 Brașov (România)

Activități didactice în domeniul Mecanisme, Robotocă, Realitate Virtuală (Simulare, vizualizare, prototipare virtuală).

Activități de cercetare în domeniul sistemelor mecanice, robotocă, realitate virtuală, instrumente haptice, interfețe om-calculator

Tipul sau sectorul de activitate Educație și cercetare

1996 – 2004

Asistent / Șef lucrări la Facultatea de Design de Produc și Robotocă, Universitatea Transilvania din Brașov

Universitatea Transilvania din Brașov

1995 – 1996

Inginer cercetare - dezvoltare

Tractor Proiect S.A., Brașov

2009 – 2013

Inginer cercetare - dezvoltare

Computer Sharing București, București
10731 Calea Grivitei nr. 6, sector 1, Bucuresti

www.csb.ro

Activități de cercetare în proiectul ARTreat: FP7-224297

2017 – ...

Inginer cercetare

Siemens Industry Software România, Brașov

Nine, Bulevardul Gării 13A, Brașov 500227

plm.automation.siemens.com; antonya.csaba@siemens.com

Activități de cercetare, consultanță

2007 – ...

Conducător de doctorat, domeniul inginerie mecanică

Universitatea Transilvania din Brașov

4 doctori confirmați

Tipul sau sectorul de activitate Cercetare și dezvoltare

EDUCAȚIE ȘI FORMARE

1996–2002

Doctorat

Universitatea Transilvania din Brașov

Domeniul: Inginerie mecanică.

Titlul tezei de doctorat: Transmisibilitatea dinamică a mecanismelor de ghidare ale roților autoturismelor.

1990–1995

Inginer

Universitatea Transilvania din Brașov

Facultatea de Inginerie Mecanică, Specializarea: Autovehicule rutiere

1995–1996

Master / Studii aprofundate

Universitatea Transilvania din Brașov

Specializarea: Sisteme mecanice de transmitere a puterii

COMPETENȚE PERSONALE

Limba(i) maternă(e)

maghiară

Limbile străine

	ÎNȚELEGERE		VORBIRE		SCRIERE
	Ascultare	Citire	Participare la conversație	Discurs oral	
română	C2	C2	C2	C2	C2
engleză	C1	C1	C1	C1	C1
franceză	B1	B2	B1	B1	A2

Niveluri: A1 și A2: Utilizator elementar - B1 și B2: Utilizator independent - C1 și C2: Utilizator experimentat
Cadrul european comun de referință pentru limbi străine

Competențele digitale

Matlab / Simulink, MSC Adams, Catia, AutoCAD, MS Office, Solidworks, Simcenter AMESim, Simcenter 3D Motion, Python

Alte competențe

Specializări:

Oct.-Nov. 1998, University of Gent, Belgia

Dec. 1999, Hochschule Bremen, Germanai

Februarie și decembrie. 2000 training ADAMS (Mechanical Dynamics Inc., Praga) și FlexTest (MTS System, Berlin).
Mai – Iunie 2001, Technical University of Budapest, Ungaria,
Mai 2002, University of Metz, Franța,
Mai – Iulie 2004, Delft University of Technology, Olanda
Oct – Dec. 2005, Universidad La Coruna, Spania
Ian 2013, SZTAKI, Institute for Computer Science and Control, Budapesta, Ungaria
Sept-Oct. 2016, Jožef Stefan Institute, Ljubljana, Slovenia

INFORMAȚII SUPLIMENTARE

Activitatea științifică (întreaga carieră)

Cărți publicate: 3

Lucrări publicate în reviste, conferințe și congrese naționale și internaționale: peste 120

Contracte de cercetare naționale și internaționale: peste 20

Coordonator proiecte de cercetare: 3

Referent de lucrări științifice în multe reviste, conferințe naționale și internaționale

Membru în comisile științifice ale conferințelor internaționale (VIRMAN'08, EngOpt2012, InECCE 2011, ICCA 2019)

Prezentare tutorial industrial la TMCE 2008, Izmir

Participări la activități didactice în universități străine: 2002 Universitatea din Metz, Franța, 2009 Scuola Superiore Sant'Anna, Pisa, Italia.

Proiecte relevante

Proiecte de cercetare internaționale

A Configurable Virtual Reality System for Multi-Purpose Industrial Manufacturing Applications, Project IRMA, FP5: IRMA - NAS GRD3-2001-61804, Febr. 2002 – Febr. 2004, Poziția: Director tehnic
Advanced Computer Aided Design of Ecological Products Technologies Integrating Green Energy Sources, Project ADEPT, GMA1-2002-72098, Nov. 2002 – Nov. 2005, Poziția : Membru
Network of Excellence on Virtual Reality and Virtual Environments Applications for Future Workspaces, Network of excellence INTUITION, IST 507248-2/2004, Sept. 2004 – Sept. 2008, Position: Member

Virtual Reality in Product Design and Robotics - Project VEGA, WP 6, Project nr. 16565, May 2005 – May 2008, Poziția : Membru în comitetul de management

ARTreat: Multi-level patient-specific artery and atherogenesis model for outcome prediction, decision support treatment, and virtual hand-on training, FP7-224297 – Large-scale Integrating Project(IP), sep. 2009 – aug. 2013, director tehnic - partener.

Proiecte naționale

Real time simulation of multibody systems with rigid and flexible elements, 2007, CNCSIS A, Code 937, May 2007 – Nov. 2008, Poziția: Director

Virtual reality interface for linkage simulation using multibody theory - Project type AT, Code CNCSIS 170, January 2004 – Nov. 2005, Poziția: Director

INCOGNITO: Cognitive interaction of human - virtual environment for engineering applications, CNCSIS Exploratory research projects IDEI, nr. 608, 2008-2011, Poziția: Director

IREAL - Haptic interface for virtual prototyping in immersive environment CNCSIS Exploratory research projects IDEI 132/2007, 2007-2010, Poziția: Membru

Publicații relevante

1. **Antonya, Cs.**, Talabă, D., Dynamic simulation of civil engineering structures in virtual reality environment, Multi-body Dynamics: Monitoring and Simulation Techniques III, Ed. Professional Engineering Publishing Ltd., pag. 137-145, 2004, ISBN 1-86058-463-2.

2. **Antonya, Cs.**, Talabă, D., Design evaluation of multibody systems in virtual environment, Advanced Summer Institute on product engineering, Ed. Universitatii Transilvania, pag. 217-222, Brasov, 2004.

3. **Antonya, Cs.**, Virtual reality interface for simulation and visual evaluation of mechanisms, IX. International Conference on Theory of Machines and Mechanisms, pag 227-232, Liberec, Republica Cehă, 2004. ISBN 80-7083-847-7.

4. **Antonya, Cs.**, Talabă, D., Design evaluation of multibody systems in virtual environment, in Product engineering, eco-design technologies and green energies, Editura Springer, 2004, pag 311-320, ISBN 1-4020-2932-2
5. **Antonya, Cs.**, Butnaru, T., Talabă, D., Design and development of a wired haptic system for the interaction with virtual mechanical systems, Euromech Colloquium 476, Ferrol, Spania, 61-62, 2006.
6. **Antonya, Cs.**, Talabă, D., Design Evaluation and Modification in a Virtual Environment, Proceedings of the „1st International Virtual Manufacturing Workshop” (VirMan'06) Part of the IEEE Virtual Reality Conference 2006, Virginia, USA, pag. 18-26,
7. Talabă, D., **Antonya, Cs.**, Dynamics of articulated mechanical systems for simulation in virtual environments, Proceedings of TMCE 2006 (Tools and Methods of Competitive Engineering), Apr. 18-22, 2006, Ed. I. Horvath., J. Duhovnik, Vol. I, pag. 57-68, 2006. ISBN 961-6436-04-4
8. **Antonya, Cs.**, Simulation of mechanisms with virtual reality devices, A XIV-a Conferință Internațională de Inginerie Mecanică OGÉT 2006, Tg-Mures 27-30 apr. 2006, pag. 34-37, ISBN (10) 973-7840-10-0
9. **Antonya, Cs.**, Haptic feedback in mechanisms simulation, EGVE'06 12th Eurographics Symposium on Virtual Environments, 8th - 10th May 2006, Lisbon, Portugal (presentation at Invited Session by the Eg Consortium INTUITION)
10. **Antonya, Cs.**, Butnaru, T., Talaba, D., Haptic interaction with virtual mechanical systems, 12th IFToMM World Congress, Besançon (France), June 18-21, 2007
11. Rusak, Z., **Antonya, Cs.**, van der Vegte, W.; Horvath, I., Varga, E., A new approach to interactive grasping simulation of product concepts in a virtual reality environment, Proceedings of the ASME International Design Engineering Technical Conferences and Computers And Information in Engineering Conference, Pages: 213-221, Volume 2: 27th Computers and Information in Engineering Conference, Parts A and B ISBN: 0-7918-4803-5, doi:10.1115/DETC2007-35227
12. Rusák, Z., **Antonya, Cs.**, van der Vegte, W., Horvath, I., A study of real time simulation of grasping in user-product interaction, International Conference on Engineering Design, ICED'07, 28 - 31 August 2007, Paris, France. ISBN 1-904670-01-6 (book of abstracts), ISBN 1-904670-02-4 (Proceedings CD), J.-C. Bocquet (ed.) 2007
13. **Antonya, Cs., Butnaru, T.**, Talaba D., Manipulation of Mechanisms in Virtual Environment, Product Engineering, Tools and Methods Based on Virtual Reality, Talaba, D., Amditis, A. (Eds.), 2008, Ed. Springer, ISBN: 978-1-4020-8199-6, pag. 461-472
14. **Antonya, Cs.**, Talabă, D. Design Evaluation and Modification in a Virtual Environment. Journal of Virtual Reality, vol. 11, nr. 4, October, 2007, pag. 275-285, Springer London, ISSN 13594338 (Print) 14349957 (Online), DOI 10.1007/s1005500700746
15. **Antonya, Cs.**, Rusak, Z., Pozna, C., Simulation of product's grasping, EngOpt 2008 - International Conference on Engineering Optimization, Rio de Janeiro, Brazilia, 01 - 05 Iunie 2008, ISBN 978-85-7650-152-7, (Herskovits, J.; Canelas, A.; Cortes, H.; Aroztegui, M. eds.), Published by E-papers Servicos Editoriais Ltda
16. Butnaru, T., **Antonya, Cs.**, Talaba D., A wired haptic system for multimodal VR interaction, Product Engineering, Tools and Methods Based on Virtual Reality, Talaba, D., Amditis, A. (Eds.), 2008, Ed. Springer, ISBN: 978-1-4020-8199-6, pag. 243-258
17. Erdelyi, H., **Antonya, Cs.**, Talaba, D., Haptic feedback generation for a car direction indicator switch, Product Engineering, Tools and Methods Based on Virtual Reality, Talaba, D., Amditis, A. (Eds.), 2008, Ed. Springer, ISBN: 978-1-4020-8199-6 pag. 259-274
18. Rusak, Z., **Antonya, Cs.**, van der Vegte W., Horváth, I., Implementing real time grasping simulation based on anthropometric data, Product Engineering, Tools and Methods Based on Virtual Reality, Talaba, D., Amditis, A. (Eds.), 2008, Ed. Springer, ISBN: 978-1-4020-8199-6, pag. 523-540
19. **Antonya, Cs.**, Grasping Simulation of Virtual Products Bulletin of the Transilvania University of Braşov, Vol. 15 (50), pag. 589-594, Series A, Special issue ISSN 1223-9631 Proceedings of the International Conference ROBOTICS '08 November 13-14, Braşov, Romania, Volume 2, Transilvania University Press, 2008
20. **Antonya, Cs.**, Rusak, Z., Hand-product interaction for shape evaluation, AfriCOMP 2009, 1st African Conference on Computational Mechanics – An International Conference, Sun City, South Africa 7-11.01.2009, Ed. Malan, A.G., Nithiarasu, P, Oxtoby, O., Pag. 66, 2009.
21. **Antonya, Cs.**, Barbuceanu, F., Rusák, Z., Talaba, D., Butnariu, S., Erdélyi, H.: Obstacle avoidance in simulated environment using eye tracking technologies, Proceedings of the ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering

Conference, IDETC/CIE 2009, August 30-September 2, 2009, San Diego, California, USA, DETC2009-87149, pag 1-10, ISBN 978-0-7918-3856-3

22. Rusák, Z., **Antonya, Cs.**, Horvath, I., Talaba, D.: Comparing kinematic and dynamic hand models for interactive grasping simulation, Proceedings of the ASME 2009 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, IDETC/CIE 2009, August 30-September 2, 2009, San Diego, California, USA, DETC2009-86520, pag. 1-9, ISBN 978-0-7918-3856-3

25. **Antonya Cs.**, Carabulea L., Pauna C.: Predictive Actuation of a Driving Simulator. In: Burnete N., Varga B. (eds) Proceedings of the 4th International Congress of Automotive and Transport Engineering (AMMA 2018). Proceedings in Automotive Engineering. Springer, Cham, pp 128-135,

24. Rusák, Z., **Antonya, Cs.**, Horvath, I., Talaba, D.: The role of visual feedback in interactive grasping simulation, International Conference On Engineering Design, ICED'09, 24 - 27 august 2009, Stanford University, Stanford, CA, USA, ISBN 978-1-904670-16-2,

25. Rusak, Z., **Antonya Cs.**, Horvath, I., A new principle for controlling contact forces in interactive grasping simulation, In. Tools and Methods of Competitive Engineering, vol I, Proceeding of the 8th International Symposium Tools and Methods of Competitive Engineering TMCE 2010, Ancona Italy apr. 12-16, 2010, pag. 541-550 (Horvath, I, Mandorli, F., Rusak, Z. eds) ISBN 978-90-5155-060-3, Delft University of Tehnology

26. Bărbuceanu, F. G., **Antonya, Cs.**, Duguleana, M., Rusák, Z.: Attentive User Interface for Interaction within Virtual Reality Environments Based on Gaze Analysis, Human-Computer Interaction. Interaction Techniques and Environments, Springer Lecture Notes in Computer Science, 2011, Volume 6762/2011, 204-213, DOI: 10.1007/978-3-642-21605-3_23 (J.A. Jacko (Ed.): Human-Computer Interaction, Part II, HCII 2011, LNCS 6762, pp. 204–213, 2011), ISSN 0302-9743, ISBN 978-3-642-21604-6

27. **Antonya, Cs.**, Bărbuceanu, F. G., Rusák, Z.: Path generation in virtual reality environment based on gaze analysis, IEEE Catalog number: CFP11AFR-CDR, ISBN: 978-1-61284-991-1, ISSN 2153-0025, pag 1-4, IEEE Africon, 2011 - Livingstone, Zambia, DOI: 10.1109/AFRCOON.2011.6072169

28. Rusák, Z., **Antonya, Cs.**, Horváth, I., Methodology for Controlling Contact Forces in Interactive Grasping Simulation, IJVR - International Journal of Virtual Reality Volume 10, Number 2 June 2011, pp.1-pp.10, IPI Press, ISSN 1081-1451.

29. **Antonya, Cs.**, Rusák, Z., Force feedback generation for string based haptic systems, Proceedings of 2011 World Congress on Engineering and Technology (CET2011), Oct. 28 - Nov. 2, 2011, Shanghai, pag 960-964, vol 6. part. 3, IEEE Catalog Number CFP 1148N-CDR, ISBN 978-1-61234-363-6, Print Version IEEE Catalog Number: CFP 1148N -PRT, ISBN: 978-1-61284-362-9.

30. **Antonya, Cs.**: INCOGNITO: Cognitive interaction between human and virtual environment for engineering applications, (2011) 2nd International Conference on Cognitive Infocommunications, CogInfoCom 2011; Budapest; 7 - 9 July 2011; Code 86513, ISBN: 978-145771806-9, art. no. 5999488

31. Talaba, D., **Antonya, Cs.**, Stavar, A., Georgescu, V.C., Virtual reality in product design and robotics, (2011) 2nd International Conference on Cognitive Infocommunications, CogInfoCom 2011; Budapest; 7 - 9 July 2011; Code 86513, ISBN: 978-145771806-9, art. no. 5999473

32. Toma, M.I., Gîrbacea, F., **Antonya, Cs.**: A comparative evaluation of human interaction for design and assembly of 3D CAD models in desktop and immersive environments, International Journal on Interactive Design and Manufacturing, Volume 6, Issue 3, pp 179-193, DOI: 10.1007/s12008-012-0144-1, 2012

33. **Antonya, Cs.**, Accuracy of Gaze Point Estimation in Immersive 3D Interaction Interface Based on Eye Tracking, IEEE 12th International Conference on Control, Automation, Robotics & Vision, Guangzhou, China, 5-7th December 2012 (ICARCV 2012), pag. 1125-1129, ISBN 978-1-4673-1872-3, 2012, DOI: 10.1109/ICARCV.2012.6485315

34. Talaba, D., **Antonya, Cs.**, Virtual prototyping of mechanical systems with tool mediated haptic feedback, Engineering with Computers, 30(4), pag. 569-582. DOI: 10.1007/s00366-012-0301-y, ISSN 0177-0667, 2014.

35. **Antonya, Cs.**, Force Feedback in String based Haptic Systems, Procedia Computer Science, Volume 25, 2013, Pages 90-97, ISSN 1877-0509, DOI: 10.1016/j.procs.2013.11.011.

36. **Antonya, Cs.**, Hybrid dynamic model for haptic systems with planar mechanisms, 6th IEEE Conference on Robotics, Automation and Mechatronics (RAM) Manila, Philippines, 2013, pag. 174 - 178, DOI: 10.1109/RAM.2013.6758579, ISSN: 2158-2181, ISBN: 978-1-4799-1198-1.

37. **Antonya, Cs.**, Butnariu, S., Pozna, C., Parameter computation of the hand model in virtual grasping, CogInfoCom 2014, 5th IEEE International Conference on Cognitive Infocommunications,

November 5-7, 2014, Vietri sul Mare, Italy, pag. 173-177, ISBN 978-1-4799-7280-7, DOI: 10.1109/CogInfoCom.2014.7020440.

38. Butnariu, S., **Antonya, Cs.**: Correction method for spine flexion tracking with markers. 4th International Workshop on Medical and Service Robot, MESROB 2015, July 8-10, 2015, Nantes, France. New Trends in Medical and Service Robots (pp. 265-275). Springer International Publishing. DOI: 10.1007/978-3-319-30674-2_20, ISBN 978-3-319-30673-5

39. Boboc, R.G., Dumitru, A.I., **Antonya, Cs.**: Point-and-Command Paradigm for Interaction with Assistive Robots, International Journal of Advanced Robotic Systems, 2015, 12:75, pp. 1-13, ISSN 1729-8806, DOI: 10.5772/60582 (IF 0.526).

40. **Antonya, Cs.**, Butnariu, S., Beles, H.: Parameter Estimation from Motion Tracking Data, Springer, 2015 Digital Human Modeling. Applications in Health, Safety, Ergonomics and Risk Management: Ergonomics and Health, Springer Lecture Notes in Computer Science Volume 9185, 2015, pp. 113-121, DOI: 10.1007/978-3-319-21070-4_12, ISBN 978-3-319-21069-8.

41. **Antonya, Cs.**, Butnariu, S., Beles, H.: Geometric Identification of a Four-Bar Linkage from Noisy Tracking Data, Proceeding of The 14th IFToMM World Congress, Taipei, Taiwan, October 25-30, 2015, DOI Number: 10.6567/IFToMM.14TH.WC.OS2.012, ISBN 978-986-04-6098-8

42. Pozna, C., **Antonya, Cs.**: Issues about autonomous cars, 2016 IEEE 11th International Symposium on Applied Computational Intelligence and Informatics (SACI), pag.13-18. ISBN: 978-1-5090-2380-6 DOI: 10.1109/SACI.2016.7507360.

43. **Antonya, Cs.**, Butnariu, S., Gams, M.: Haptic Interface Design for Experiencing Ancient Works. Proceedings of the 19th International Multiconference INFORMATION SOCIETY – IS 2016 Volume F, pag. 16-19. 2016

44. **Antonya, Cs.**, Butnariu, S., Pozna, C.: Real-time representation of the human spine with absolute orientation sensors, The 14th International Conference on Control, Automation, Robotics and Vision, ICARCV 2016, November 13 –15, 2016, Phuket, Thailand, ISBN: 978-1-5090-3549-6, DOI: 10.1109/ICARCV.2016.7838745.

45. Tavčar, A., **Antonya, Cs.**, Butila, E. V.: Recommender System for Virtual Assistant Supported Museum Tours. Informatica, 40(3), pag. 279-284, 2016. ISSN 0350-5596

46. Tolea, B., Radu, A.I., Beles, H., **Antonya, Cs.**: Influence of the geometric parameters of the vehicle frontal profile on the pedestrian's head accelerations in case of accidents, International Journal of Automotive Technology, Vol.19, No.1, February, 2018, pp. 85–98 pISSN 1229–9138, DOI 10.1007/s12239–018–0009–0

47. **Antonya, Cs.**: Path Planning in Urban Area Using Local Features of the Road System, 2nd International Conference on Computational Modeling, Simulation and Applied Mathematics (CMSAM 2017), pp. 556-560, 2017, DEStech Transactions on Computer Science and Engineering. ISBN: 978-1-60595-499-8, ISSN: 2475-8841 DOI: 10.12783/dtscse/cmsam2017/16433.

48. **Antonya, Cs.**: Capturing Revolute Motion and Revolute Joint Parameters with Optical Tracking. In IOP Conference Series: Materials Science and Engineering (Vol. 281, No. 1, p. 012064). IOP Publishing, 2017. DOI:10.1088/1757-899X/281/1/012064, ISSN: 1757-8981

49. **Antonya Cs.**, Butnariu S., Pozna C. (2019) Haptic Device with Decoupled Motion for Rehabilitation and Training of the Upper Limb. In: Abraham A., Gandhi N., Pant M. (eds) Innovations in Bio-Inspired Computing and Applications. IBICA 2018. Advances in Intelligent Systems and Computing, vol 939. Springer, Cham, pp 413-422, DOI: 10.1007/978-3-030-16681-6_41, Print ISBN978-3-030-16680-9, Online ISBN978-3-030-16681-6

50. Butnariu S., **Antonya Cs.**, Ursu P. (2019) Medical Recovery System Based on Inertial Sensors. In: Abraham A., Gandhi N., Pant M. (eds) Innovations in Bio-Inspired Computing and Applications. IBICA 2018. Advances in Intelligent Systems and Computing, vol 939. Springer, Cham, pp 395-405, pp 395-405, DOI: 10.1007/978-3-030-16681-6_39, Print ISBN978-3-030-16680-9, Online ISBN978-3-030-16681-6

51. Irimia C., **Antonya Cs.**, Grovu M., Husar C. (2019) Dynamic Analysis of the Stewart Platform for the Motion System of a Driving Simulator. In: Uhl T. (eds) Advances in Mechanism and Machine Science. IFToMM WC 2019. Mechanisms and Machine Science, vol 73. Springer, Cham, pp 3079-3086, ISBN 978-3-030-20130-2, DOI: 10.1007/978-3-030-20131-9_303