

Győr, 9026
Egyetem tér 1.
Hungary
+36 30/277-4030
toth-nagy.csaba@gal.sze.hu

Csaba Tóth-Nagy Ph.D.



EDUCATION

West Virginia University, Morgantown, WV

Doctor of Philosophy in Mechanical Engineering

2004

Dissertation: “*Linear engine development for series hybrid vehicles*”

West Virginia University, Morgantown, WV

Master of Sciences in Mechanical Engineering

2000

Thesis: “*Investigation and simulation of the planetary combination hybrid electric vehicle*”

Technical University of Budapest, Budapest, Hungary

Graduate school in Integrated Engineering

1998

Nottingham Trent University, Nottingham, UK

Bachelor of Sciences in Integrated Engineering

1996

Thesis: “*Selective compliance assembly robotic arm design*”

Technical College of Kecskemet, Kecskemet, Hungary

Bachelor of Sciences in Industrial Engineering

1993

RESEAERCH EXPERIENCE

Széchenyi István University, Hungary, Győr, Hungary

Audi Hungaria Faculty of Automotive Engineering

Department of Propulsion Technology

2008-present

Department of Automotive and Railway Engineering,

2006-2007

Associate professor

Coordinated the grant application, simulation, development, prototype design, construction, and testing process of a homogeneously charged compression ignition engine realized through variable compression ratio. Has 5 patent applications pending. He is a registered legal expert in the Hungarian jurisdictional system in the field of internal combustion engines.

College of Kecskemét, Kecskemét, Hungary

2005- 2006

School of Engineering,

Department of Automation and Applied Informatics,

Assistant professor

Mechatronics, Image recognition in industrial applications.

West Virginia University, Morgantown, WV

2004-2005

Assistant professor

Conducted intellectual property enhancement on a NOx trap using Transmural Catalysis.

	Deputy faculty advisor of Challenge X competition.	
West Virginia University, Morgantown, WV		2000-2004
<i>Graduate research assistant</i>		
Performed research on hybrid electric vehicle control, artificial neural network based emission simulation, on road vehicle testing, journey parameter prediction, prototype linear engine simulation, development, testing, and optimization, engine testing and characterizing, heavy-duty vehicle chassis dynamometer testing, development of SAE standard J2711, driving cycle development for heavy-duty vehicle chassis dynamometer testing, journey parameter prediction with artificial intelligence.		
West Virginia University, Morgantown, WV		1999-2000
<i>Graduate Chief of FutureTruck Team</i>		
Development of hybrid electric vehicles and hybrid vehicle control strategies. Planetary power split hybrid vehicle simulation and control strategy development.		
TEACHING EXPERIENCE		
Széchenyi István University, Hungary, Győr, Hungary		
School of Engineering,		
Department of Propulsion Technology		2008-present
Department of Automotive and Railway Engineering,		2006-2007
<i>Associate professor</i>		
<i>Developed course material, home works, and tests. Gave lectures and seminars, home works and tests and exams. Graded students: Internal combustion engines, Alternative vehicles. Measurement of Internal Combustion Engines, Project management, Internal Combustion Engine Control, Hybrid Electric Vehicles</i>		
<i>In a team, developed training programs in the Automotive Engineering field, both BSc and MSc.</i>		
College of Kecskemét, Kecskemét, Hungary		2005- 2006
School of Engineering,		
Department of Automation and Applied Informatics,		
<i>Assistant professor</i>		
<i>Hydraulic control in the industry.</i> Developed course material. Home works and assignments were both calculus based as well as computer simulation based. Gave lectures, seminars, and graded students at the end of semester.		
<i>Pneumatic control in the industry.</i> Developed course material. Home works and assignments were both calculus based as well as computer simulation based. Gave lectures, seminars, and graded students at the end of semester.		
West Virginia University, Morgantown, WV		2004-2005
<i>Assistant professor</i>		
<i>Faculty co-advisor of the Challenge X student competition team:</i>		

Co-advised about 20 students converting a 2005 Chevrolet Equinox into a hybrid electric vehicle. Developed course material in hybrid electric vehicle design. Developed lectures and tests in the fields of teamwork, leadership, engines, power electronics, hybrid vehicle control strategies, and report writing. Graded students.

Automatic control: Developed course material. Home works and assignments were both calculus based as well as computer simulation based. Gave lectures, seminars, and graded students at the end of semester.

Statics: Developed course material, home works, and tests. Gave lectures and seminars, home works and tests. Graded students.

Mechanics of materials: Developed course material, home works, and tests. Gave lectures and seminars, home works and tests. Graded students.

West Virginia University, Morgantown, WV 2003-2004

Graduate teaching assistant

Internal combustion engines: Gave lectures, graded home works and tests.

Mobile power plants: Gave lectures, graded home works and tests.

Technical College of Kecskemet, Kecskemet, Hungary 1992-1993

Undergraduate teaching assistant

Machine Design and Manufacturing: Taught operation of milling machines and lathe machines, welding, material testing methods, and CNC programming.

HONORS He was awarded the “Inventor nivou” prize in 2011 at Szechenyi Istvan University.

ACTIVITIES Serves on the faulty board,
Heads of the vehicle engineering BSc program at SZE,
Serves as the secretary of the Internal Combustion Engine subcommittee of the Hungarian Academy of Science,
Member of Society of Automotive Engineering
Forensic expert of the Hungarian Ministry of Justice

LANGUAGES Hungarian (native), English (advanced/second native), German (intermediate), French (basic).

INTERESTS Faith, leadership development, horses, writing, investing

- PUBLICATIONS**
- Tóth-Nagy, C.; “*Application of Linear Engines in Series Hybrid Vehicles*”, Ph.D. Dissertation at West Virginia University, 2004
- Tóth-Nagy, C.; “*Investigation and Simulation of the Planetary Combination Hybrid Electric Vehicle*”, Masters Thesis at West Virginia University, 2000
- Conley, J.; Taylor, S.; Atkinson, C.; Tóth-Nagy, C.; Smith, J.; Waters, R.; and Clay, B.; “*Development of a Fourth Generation Hybrid Electric Vehicle at West Virginia University*”, SAE 2001-01-0682, 2001
- Conley, J.; Jarrett, R.; Nennelli, A.; Tóth-Nagy, C.; Clark, N.; “*Emissions Modeling of Heavy-Duty Conventional and Hybrid Electric Vehicles*”, SAE 2001-01-3675, 2001
- Conley, J.; Jarrett, R.; Nennelli, A.; Tóth-Nagy, C.; and ClarkK, N.; “*Heavy Duty Diesel Engine Emissions Modeling for Vehicle Simulation Software Using Artificial Neural Networks*”, SAE Fall Fuels & Lubricants Meeting, San Antonio, TX, 2001
- Fig, D.; Buffamonte, T.; May, B.; Lynch-Warntz, K.; Conley, J.; Taylor, S.; Tóth-Nagy, C.; and Clark, N.; “*Further Development of a Fourth Generation Hybrid Electric Vehicle at West Virginia University*”, Design Paper for SAE Special Publication SP-1701, FutureTruck 2001, 2002
- Tóth-Nagy, C.; “*Emission Modeling with Artificial Neural Network*”, Proceedings of the Joint ADVISOR/PSAT Vehicle Systems Modeling User Conference, Southfield, Michigan, August 28-29, 2001
- Clark, N.; Tóth-Nagy, C.; Balon, T., Callaghan, L. and Bass, E.; “*Standardizing the Characterization of Emissions and Fuel Economy for Heavy Hybrid Vehicles*”, 12th Coordinating Research Council On-Road Emissions Conference, San Diego, Ca., April 2002
- Tóth-Nagy, C.; Shoukri, E.; Turak, E.; Clark, N.; Dawson, J.; Muhammad, H.; Wang, G.; and Famouri, P.; “*The first cycles of operation of the diesel linear engine/alternator at WVU*”, IGERT conference, University of California Davis, June 26-27 2003
- Tóth-Nagy, C.; Jarrett, R.; Thompson, G.; and Clark N.; “*On the Road Exhaust Emissions Predictions for a Class 8 Tractor using an Artificial Neural Network*”, IGERT conference, University of California Davis, June 26-27 2003
- Tóth-Nagy, C.; Clark, N.; “The linear engine in 2004”, Society of Automotive Engineers scientific paper, SAE 2005-01-2140, 2005
- Tóth-Nagy, C.; Jarrett, R.; Conley, J.; and Clark N.; “*Further Validation of Artificial Neural Network Based Emissions Simulation Models for Conventional and Hybrid Electric Vehicles*”, Journal of the Air and Waste Management Association for publication, AW-04-00211, 2006
- Tóth-Nagy, C.; „*Application of Artificial Intelligence in Engine Optimization*”, MicroCAD conference, Miskolc, 2006
- Tóth-Nagy, C.; „*Belsőégésű motor szimulációja és vizsgálata*”, GAMF Közleményei, Kecskemét, 2006

Tóth-Nagy, C.; „*Járműazonosítók hamisításának gyakorlati módszerei*”, 1. Nemzetközi Gépjármű Nyilvántartási és Eredetiségvizsgálati Konferencia Kiadvány, Siófok, 2007

Tóth-Nagy, C.; „*Practical methods of forging vehicle identifiers*”, 1. Nemzetközi Gépjármű Nyilvántartási és Eredetiségvizsgálati Konferencia Kiadvány, Siófok, 2007

Tóth-Nagy, C.; „*Konstruktion und Fertigung eines Kompressionszündungsmotors mit homogener Ladung*”, Tech4Auto konferencia, Győr, 2008

Tóth-Nagy, C.; „*Változtatható kompresszió viszonyú jármű motor konstrukció fejlesztése és megvalósítása*”, A jövő járműve folyóirat, 2008/3-4, p. 24-27, 2008

Pántye, B.; Tóth-Nagy, C.; „*Simulation study of a variable stroke engine*”, EMT Műszaki Szemle, 2008 Különszám - XVI. OGÉT 2008, ISSN 1454-0746, p. 310-314, 2008

Lőrincz, I.; Nagy, V.; Szénássy, I.; Tóth-Nagy, C.; Varga, Z.; „*Electric vehicle design & construction – Application of solar cells*”, 4th International conference on interdisciplinarity in education, may 21-22. 2009, Vilnius, Lithuania, 2009

Dreyer, M.; Tóth-Nagy, C.; “*Educational and research partnership between Audi Hungaria Motor Ltd. and Széchenyi István University*”, Proceedings of the Global Colloquium on Engineering Education, 2009

László, G.; Dreyer, M.; Tóth-Nagy, C.; “*Szeleben szelep elrendezés*”, EMT Műszaki Szemle, 2009 Különszám - XVII. OGÉT 2009, p. 229-233.

Tóth-Nagy, C.; “*Stirling motor számítógépes szimulációja*”, EMT Műszaki Szemle, 2010 Különszám - XVIII. OGÉT 2010

Tóth-Nagy, C.; Gál, P.; “*Módszerek a dugattyú és a hengerfal közötti súrlódás meghatározására*”, Proceedings of the 19th International Conference on Mechanical Engineering - XIX. OGÉT, pp 376-379, 2011

Rajmon, N.; Krajcsovics, Á.; Nagy, L.; Maraczi, G.; Abuzant, G.; Tóth-Nagy, C.; “*A HHCI motoron végzett első kísérletek a Széchenyi István Egyetemen*”, Proceedings of the 19th International Conference on Mechanical Engineering - XIX. OGÉT, pp 319-322, 2011

Krajesovics, Á.; Nagy, L.; Tóth-Nagy, C.; “*Vízbontás hatásfokának növelésilehetőségei*”, Proceedings of the 19th International Conference on Mechanical Engineering - XIX. OGÉT, pp 228-231, 2011

Tóth-Nagy, C.; Famouri, P.; and Clark, N.; “*Compression ignition linear engine design variable effects*”, ASME 2011 Internal Combustion Engine Division, Morgantown, WV, Paper #: ICEF2011-60157, 2011

Paulovics, L.; Zöldy, M.; Holló, A.; Dryer, M.; Tóth-Nagy, C.; “*Tüzelőanyagok lerakódásképző hatásának mikroszkópos vizsgálata belsőégésű motorok befecskendező elemein*”, Proceedings of the 20th International Conference on Mechanical Engineering - XX. OGÉT, pp 351-354, 2012

Tóth-Nagy, C.; Paulovics, L.; “*Magyarul! Ha lehet... Optimálunk vagy optimalizálunk?*”, Proceedings of the 20th International Conference on Mechanical Engineering - XX. OGÉT, pp 478, 2012

Rajmon, N; Krajcsovics, Á; Nagy, L; Maraczi, G; Tóth-Nagy, C.; "HCCI motor szabályozó programjának fejlesztése a Széchenyi István Egyetemen", Proceedings of the 20th International Conference on Mechanical Engineering - XX. OGÉT, pp 382-385, 2012

Rajmon, N; Krajcsovics, Á; Nagy, L; Maraczi, G; Tóth-Nagy, C.; "HCCI motor működésének vizsgálata a Széchenyi István Egyetemen", Proceedings of the 20th International Conference on Mechanical Engineering - XX. OGÉT, pp 386-389, 2012

Rajmon, N; Nagy, L; Maraczi, G; Tóth-Nagy, C.; "HCCI égéslefolysa vizsgálata a Széchenyi István Egyetemen", Proceedings of the 21th International Conference on Mechanical Engineering - XXI. OGÉT, pp 297-301, 2013

Berencsik, S; Tóth-Nagy, C.; "Belsőégésű motor indítás előtti csapágykenésének vizsgálata a Széchenyi István Egyetemen", Proceedings of the 21th International Conference on Mechanical Engineering - XXI. OGÉT, pp 56-60, 2013

Tóth-Nagy, C.; Demmelbauer-Ebner, W.; Schintzel, K.; „Cooperation between AUDI Hungaria Motor Ltd. and Széchenyi István University „The path is the goal“ - Ghandi – „University Industry Interaction Conference, Amsterdam, NL; 2013

Berencsik, S; Tóth-Nagy, C.; "Belsőégésű motor súrlódásmérő próbápad beüzemelése és a próbápadon végzett első mérések eredményei a Széchenyi István Egyetemen", Proceedings of the 22th International Conference on Mechanical Engineering - XXII. OGÉT, pp 36-39, 2014

Nagy, Á.; Berencsik, S; Tóth-Nagy, C.; "Kopásból eredő online láncnyúlás mérési módszer kidolgozása belsőégésű motoron", Proceedings of the 23th International Conference on Mechanical Engineering - XXIII. OGÉT, pp 241-245, 2015

Tóth-Nagy, C.; Torbágyi, T; Schintzel, K.; "Belsőégésű motorok hulladékenergia-felhasználása kombinált turbófeltöltő-villamosgép egység segítségével hibrid járművekben", Proceedings of the 24th International Conference on Mechanical Engineering - XXIV. OGÉT, pp 451-454, 2016

Szabó, Á. I.; Schintzel, K.; Dudás, A.; Tóth-Nagy, C.; "Grafénnel adalékolt motorolaj tribológiai tulajdonságainak vizsgálata", Proceedings of the 24th International Conference on Mechanical Engineering - XXIV. OGÉT, pp 386-389, 2016

Szabó, Á. I.; Tóth-Nagy, C.; "Nanoméretű C60 fullerénnel adalékolt motorolaj súrlódáscsökkentő hatásának kísérleti vizsgálata csap-tárcsás és oszcilláló tribométeren", Proceedings of the 26th International Conference on Mechanical Engineering - XXVI. OGÉT, pp 442-445, 2018

Buruzs Adrienn, Tóth-Nagy Csaba; „Tapasztalatok és tervez a projekt alapú oktatásban a Széchenyi István Egyetem Járműmérnöki Képzésében”, Hazai és külföldi modellek a projektoktatásban : Nemzetközi Tudományos Konferencia tanulmánykötete, Budapest, Magyarország : Óbudai Egyetem Rejtő Sándor Könnyűipari és Környezetmérnöki Kar, pp. 21-28., 8 p. 2018

Pesthy, M.; Tóth-Nagy, C.; "Módszerfejlesztés - villanymotorok csapágyainak állapotfelmérése rezgésanalízis és gyorsított öregedés módszerével", Proceedings

of the 26th International Conference on Mechanical Engineering - XXVI. OGÉT,
pp 340-343, 2018