

CURRICULUM VITAE**Zoltan A. Kemeny, PhD**

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**Education:**

PhD	Structural Engineering Budapest University of Technology and Economics (BME), Hungary	(2/99-2/01)
MSc Arch.	Architect and Architectural Engineering Budapest University of Technology and Economics (BME), Hungary	(9/68-8/74)
BSc	Architectural Engineering University of Debrecen, Faculty of Engineering (PME), Hungary	(9/64-8/68)

Academic Experience:

1/72-12/81	Associate Professor of Structural Engineering at the Budapest University of Technology and Economics (BME), Hungary Researcher at the Scientific Laboratory of the Hungarian Academy of Sciences (MTA)
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Professional Experience:

5/04-Present	2019 LLC, Consulting Engineering , Tempe, AZ President, Owner, Founder Structural Dynamics Consulting Engineering Company
	<ul style="list-style-type: none"> • _____ • <u>Patenting</u>: • Patenting c/o 2014 LLC of Arizona • Licensed new patents to former sub-sub-licensee c/o 2014 LLC • Contracted Arizona Technology Enterprises (AZTE) at ASU for a two year IP promotion of a diesel engine IP • Patented online business method for Intellectual Property (IP) to Digital Currency (DC) or DC Option Certificates Exchange, as an international intangibles bartering system, convertible to national currencies • _____

- Grant Writing as [Certified Grant Writer](#):
- Grant and Business or Research Proposal writing c/o 2017 LLC for product development and business financing in the field of structural dynamics, seismic isolation, electronics instrumentation, weaponry stabilization, security vehicles and medical electronics
- Wrote grant proposals for the US ARMY Research Development and Engineering Command ([RDECOM](#)) Tank Automotive Research Development and Engineering Center ([TARDEC](#)) for Shock Test Evaluation Machine (STEM) testing and evaluation program for Defense Advanced Research Projects Agency ([DARPA](#)) Funded prototype testing armored airless tire wheels with built-in shock absorber in the Ground Vehicle Tire Laboratory (GVTL)
- Prepared recommendation to the California Air Research Board ([CARB](#)) on related future regulations
- Wrote grant proposals for the Arizona Commercial Authority ([ACA](#)) for implementation for police, border patrol and military vehicle applications
- Applied for grants or presented current projects at [TIE](#) (Indian Engineering Association) once or twice a year and helped with their projects
- Wrote proposals for diesel engine R&D funding c/o [Onward Technologies](#) Limited of Chicago, IL for Tata Motors of India and the Indian Automotive Association
- Wrote proposals for R&D funding to [Bridgestone](#) of Japan for joint development of security Japanese wheels
- Wrote proposals for [Toyota](#) Motor Company of Japan for R&D funding of engine emission reduction by internal gas recycling
- Wrote proposals and evaluations for [WaveTech Engines](#) of Tempe, AZ c/o
- [University of California-Davis](#), Institute of Transportation Studies for R&D funding of new engine crank mechanism
- Wrote [SBR](#) Proposal for the [DOD](#), titled “Small Arms Gun Barrel Stabilization Using High Energy Density Rugged and Low Creep Actuators”
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- Consulting:
- Consulting in the field of structural dynamics c/o 2019 LLC
- Consulted for [CBH](#) Consulting Engineers of Arizona for 12 years on structural dynamics of cement silos, centrifuges, water treatment facilities, copper smelter towers and other industrial facilities in Arizona
- Consulted for [Harley Davidson](#) for gas cycle analysis in GT-Power
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- Research and Development (R&D):
- Research and Development of new technologies, including diesel engine and vehicle wheel improvements
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- Prototyping and Manufacturing:
- Prototyping c/o 2017 LLC of Arizona for [Smooth Operator Wheelchairs](#)

- Had contract-manufactured products in Shanghai, China c/o 2017 LLC and supplied it to licensee in Tokyo, Japan for two years for jumpstart assistance
- Invented, patented, prototyped and tested diesel engine modification to save over 12% fuel and reduce NOx emission by 98%
- Designed new camshafts for major US forgers and grinders
- Invented, patented, prototyped and tested vehicle wheels with built-in shock absorbers for airless tires and security wheels
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- Financing and Investing:
- Financing and Investing c/o 2015 LLC of Delaware
- _____
- Business Management, Marketing and Contract Negotiations:
- Business Management c/o [Immune Sentry Ltd](#) of Nevada for [ImmunOnOne](#)
- Assisted Japanese licensee in product marketing and contract negotiations including Toyota, Honda, Morgan Stanley, Nippon Telephone and Telegraph and other high power IT businesses to add seismic safety to their data centers
- Held training courses for 500 Japanese isolator installers and marketers
- Negotiated license deals in Germany with carmakers Volkswagen and Audi
- Promoted new diesel technology in Japan and India c/o 2014 LLC
- Assisting US trucking fleet management with consultation, design and testing, including Wal-Mart and UPS
- Negotiating licenses with major US armored vehicle manufacturers, military contractors and mining companies, including Arizona companies such as ArmorWorks of Chandler and Freeport Mc-MoRan Copper & Gold of Phoenix
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- Services:
- Provided on-site vibration measurement and control services to Arizona Wastewater Management Facilities and consulted in vibration isolator selection
- Directed seismic isolator shake table testing in Taiwan and Japan for licensee
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- 9/11-Present **Danaus LLC**, Automotive Engineering, Tempe, AZ
 VP, Co-Owner, Partner, Co-Founder
 Innovative Engine and Wheel Systems Co
- Patenting and developing modified diesel engines for fuel savings
 - Patenting and developing wheels with built-in shock absorbers
 - Patenting and developing drag racer torque limiter wheels c/o [Qatar-Sys Co](#) for Al-Anabi Royal Racing Team of Qatar
- 2/04-4/94 **True Gravity Enterprises Co.**, Phoenix, AZ
 VP, Chief Engineer, Co-Owner, Co-Founder
- Invented and licensed patents for seismic, blast, vibration and micro-vibration isolation and damping products in the field of construction, industry and commerce

- Directed and managed R&D for isolation and damping products for buildings, bridges, data centers, semiconductor facilities and tools, microscopy and audio equipment
- Provided project management for and carried out vibration recording, analysis and consulting services
- Experienced with LabVIEW data acquisition and measurement system control and simulation, solid modeling and finite element methods analysis using MathCad, VisSim, SolidWorks and Cosmos with GeoStar including static and dynamic, modal, linear and nonlinear stress, fatigue, stability, dynamic motion, heat transfer and frequency analysis of solid and composite parts, structures and assemblies
- Developed and supervised production and testing of quantum electronic control systems for airborne large scale steady platforms for gravimetry, reconnaissance and targeting instruments and for vibration level meter and data recording instruments for the machine industry and semiconductor facility maintenance
- Developed and installed vibration isolation platforms for semiconductor tools for Motorola in Chandler and ST Microelectronics in Phoenix, AZ
- Provided on-site vibration measurement services to Arizona and California semiconductor clean rooms tools
- Negotiated my patents licensing in behalf of sub-licensee WorkSafe technologies
- Designed, directed, coordinated and supervised seismic shake table isolator testing in behalf of licensee in University laboratories in Vancouver and Toronto in Canada and in Caltech in California and MCEER in Buffalo, NY in close cooperation with university professors, students and lab technicians
- Presented and discussed related test reports at US, international and world conferences in Mexico, Canada and Japan
- Provided onsite assistance in major Japanese cities on licensed product introduction, domestication and promotion in behalf of Japanese sub-sub-licensee for 8 years
- Designed isolator installation equipment for WST of California and BSI of Japan, which became standard at Boeing, Cisco, Starbucks and several other data centers in Japan, including CTC, Nikkon-Sekkei, Itochu, TCI, Toyota and Honda

12/92-4/94 **City of Phoenix**, Phoenix, AZ
Plan Review Engineer

- Checked plans for adequacy for construction and issued building permits
- Contributed to the ASCE Standard on Seismic Evaluation of Buildings

2/87-12/92 **Lorant Group**, Phoenix, AZ
Associate Engineer, Partner

- Invented and licensed patents for seismic isolation and damping systems for buildings and bridges
- Directed prototyping and testing farmed out and evaluated results
- Prepared and presented proposals and popularized in local TV broadcasts including Cannel 3, 5 and 12 as well as in California

12/92—2/84 **Consulting Engineering**, Phoenix, AZ
Design Engineer

- Designed and provided engineering calculations for structures including low and high rise buildings, freeways, retaining structures, highway and railroad bridges and towers at various engineering firms in Phoenix, AZ including
- Tippetts-Abbett-McCarthy-Stratton (TAMS) Consultants, Inc. of New York, NY

- ADOT (designed 6 miles of the Loop-101 freeway in Tempe, AZ)
- Stanley Structures of Canada c/o Stanley Structures (Ariz) Inc.
- Benson and Gerdin of Phoenix, AZ
- Johannesen and Girand of Phoenix, AZ

1/84-1/82

Hormidrillo, SA, Cambrils, Spain

Co-Founder, Engineer-Partner

- Invented and licensed patents for construction systems for housings and supervised construction of apartments in Spanish language
- Developed post-tensioned structural system for housing






Patents:

US, PCT, WTO and Foreign National Technology Patents

All licensed and maintained.

Several of these patented and licensed in abroad, including Japan, Singapore, Australia, New Zealand, Korea, China, Taiwan and Hungary.

Issued Patents**Foreign**

1	8,156,696	 Seismically stable flooring
2	8,104,236	 Isolation platform
3	8,015,760	 Seismic isolation access floor assembly
4	7,784,225	 Isolation platform
5	TW200815650	隔震地板 (Seismically Stable Flooring)
6	7,290,375	 Seismic isolation access floor assembly
7	6,520,283	 Mechanical signal filter
8	6,517,060	 Micro vibration isolation device
9	6,515,346	 Microbar and method of its making
10	6,364,077	 Conservative broadband passive mass damper

- 11 [6,035,981](#) [T Conservative broadband passive mass damper](#)
- 12 [5,950,376](#) [T Fireproofing](#)
- 13 [5,797,228](#) [T Seismic isolation bearing](#)
- 14 [5,718,095](#) [T Method and device for attenuating vibration](#)
- 15 [5,682,712](#) [T Steel-rubber seismic isolation bearing](#)
- 16 [5,599,106](#) [T Ball-in-cone seismic isolation bearing](#)
- 17 [5,560,162](#) [T Seismic brake](#)
- 18 [5,490,356](#) [T Seismic isolation bearing](#)
- 19 [5,242,147](#) [T Machine base isolator](#)
- 20 [5,215,382](#) [T Isolation bearing for structures with transverse anchor rods](#)
- 21 [5,054,251](#) [T Structural shock isolation system](#)
- 22 [4,727,695](#) [T Building structure shock isolation system](#)
- 23 [WO2008002558](#) [Seismically Stable Flooring](#)
- 24 [KR20070015494](#) [Dynamic Kinematic Mount](#)
- 25 [HK1086051](#) [隔離平台 Isolation Platform](#)
- 26 [WO2006088502](#) [Seismic Isolation Access Floor Assembly](#)
- 27 [CN1703561](#) [隔離平台 Dynamic kinematic mount](#)
- 28 [WO2005107528](#) [Dynamic Kinematic Mount](#)
- 29 [TW200536082](#) [動力動態托架 Dynamic Kinematic Mount](#)
- 30 [NZ20040544446](#) [Dynamic Kinematic Mount](#)
- 31 [AU20040319282](#) [Dynamic Kinematic Mount](#)
- 32 [MYPI20050907](#) [Dynamic Kinematic Mount](#)
- 33 [MY143072A](#) [Dynamic Kinematic Mount](#)

- 34 [JP2007534910T](#) [Dynamic Kinematic Mount](#)
- 35 [JP20070510706T](#) [Dynamic Kinematic Mount](#)
- 36 [JP20070510706](#) [Dynamic Kinematic Mount](#)
- 37 [6,515,346](#) [Microbar and method of its making](#)
- 38 [AU2003238241](#) [Adjustable support member for manufacturing tool and other equipment](#)
- 39 [WO2004007871](#) [ISOLATION PLATFORM](#)
- 40 [US8342752](#) [Isolation bearing restraint devices](#)
- 41 [8,413,948](#) [Dynamic kinematic mount](#)

Pending Published

- 1 [20130037002](#) [In-cylinder emission cleaning by cams with auxiliary-lobes](#)
- 2 [20120266558](#) [Seismically Stable Flooring](#)
- 3 [20120222369](#) [Isolation Platform](#)
- 4 [20120023916](#) [Diesel CGR process and structure](#)
- 5 [20110024600](#) [Isolation platform](#)
- 6 [20100229806](#) [INTERNAL COMBUSTION ENGINES WITH SURCHARGING AND SUPRAIGNITION SYSTEMS](#)
- 7 [20090145398](#) [INTERNAL COMBUSTION ENGINES WITH SURCHARGING AND SUPRAIGNITION SYSTEMS](#)
- 8 [20070261323](#) [Seismically stable flooring](#)
- 9 [20070220815](#) [SEISMIC ISOLATION ACCESS FLOOR ASSEMBLY](#)
- 10 [JP2010007859](#) [Isolation Platform](#)
- 11 [20060260221](#) [Isolation platform](#)

- 12 [20060191213](#) [Seismic isolation access floor assembly](#)
- 13 [20060054767](#) [Dynamic kinematic mount](#)
- 14 [HK1111320](#) [動態運動式制具 \(Dynamic Kinematic Mount\)](#)
- 15 [20030230700](#) [Adjustable support member for manufacturing tool and other equipment](#)
- 16 [20020170793](#) [Nonlinear mass damper with active centerband control](#)
- 17 [20020064972](#) [Mechanical signal filter](#)

Pending Non-Published Patents

These are identified by last three patent number digits, without hyperlinks.

All listed patents were filed before the America Invent Act (AIA) ruling of 3/15/2013.

Several of these are in the confidential stage of licensing or licensed already.

Several are continuation-in-part (CIP) patents and some are cross-referenced.

1. '705 Certificate Bartering Method (Business Class)
2. '278 Adaptor-Shweel
3. '499 Exert-Shweel
4. '423 Force-Shweel
5. '115 Power-Shweel
6. '045 Auto-Shweel
7. '392 Shweel
8. '933 In-Cylinder emission cleaning by cams with auxiliary-lobes
9. '969 Controlled gas cycle improvement for engines
10. '865 Gas cycle improvement for engines
11. '858 CGR chamber and process
12. '976 Diesel CGR process and structure
13. '346 Diesel CGR valve
14. '169 Diesel CGR valve
15. '704 Diesel combustion gas recycling
16. '929 Prime Ignition Engine
17. '078 Vending machine for visitors and passenger bags
18. '172 Vending machine for visitors and passenger bags
19. '559 Dehydration buster
20. '939 Controlled Gas Cycle Improvement for Internal Combustion Engines
21. '535 Compression-Expansion venting for engines
22. '318 Compression-Expansion venting for engines
23. '803 Compression-Expansion venting for internal combustion engines

24. '671 Diesel blow-down harvester
25. '998 Crankless reciprocating ICE
26. '635 Power cam engine
27. '895 Internal Combustion engines with Surcharging and Supraignition Systems
28. '493 Seismic mount
29. '585 Modified 4stroke engine
30. '498 Dynamic kinematic mount
31. '838 Seismic Isolation Access floor
32. '818 Modified four-stroke engine
33. '547 PNEUBRID [Pneumatic Hybrid Vehicle]
34. '774 Compressed-exhaust-gas pneumatic hybrid powertrain
35. '862 In-situ oil extraction from rock
36. '506 Oil extraction method
37. '737 Method of oil extraction from oil shale deposit using nuclear waste as heat source
38. '498 Threshold control method
39. '859 Universal solar tracker
40. '269 Over-tilting solar panels and concentrators for dusting-off
41. '458 Air-to-fuel production method
42. '643 Vibration isolation bearing
43. '331 Braided bead isolation-damper
44. '499 Braided bead isolation-damper
45. '208 Post Tensioned Block Construction System
46. '548 Immune sentry device
47. '511 Immune system conditioner
48. '190 PERSONAL DEVICE FOR THERAPY
49. '276 Device for therapy
50. '277 Immune system conditioner
51. '084 Terrorist hardening and seismic protection means for petroleum and chemical storage tanks
52. '715 Blast and seismic protection for oil and other liquid storage tanks and similar structures
53. '882 Sticktion Strut
54. '413 Tsunami-Seismic Isolation System
55. '975 Overpass and pipeline bearing resisting terrorist attacks
56. '412 Automatic seismic latch for cabinet door and such
57. '997 Billiard Devils
58. '545 Still Controller
59. '071 Threshold Controller
60. 207 Threshold Control Method
61. '653 Seismically Isolated Raised Access Floor System
62. '198 Seismic floor isolation system
63. '773 Ball-in-Groove Seismic Isolation Bearing
64. '488 Qadcos (Quantum Dynamic Control System)
65. '361 Inclinoaccelerometer

66. '396 Rubber-Pendulum Seismic Isolation Bearing
 67. '518 Suspension Bicycle Seat
 68. '639 Still Viewer
 69. '520 Certificate Bartering Method
 70. '149 Pneumatic Autonomous Prefabricated Waste Water Treatment Plant, Module and Process
 71. '141 Fruits and Vegetable Cleaner and Sanitizer Appliance and Method of Cleaning and Sanitizing Thereof
 72. '808 Blast Hardened Containerized Security Data Shelter, Isolated to Resists Bullets, Earthquakes, Tsunamis, Tornados and Fire
 73. '964 Vehicles on Shweel
 74. '856 Aqualgaeponics
 75. '546 Stealth Battlefield Fuel Transporter
 76. '200 Internally Grooved, Ribbed or Walled Tennis Ball
 77. '866 Online Reward Base Evaluation Method for Synchronized Courses in Real Time
 78. '849 Method for Advertising
 79. '813 Certificate Bartering Method
 80. '171 Business Method for Trading Intangibles
-

Publications:

Foreign Language Periodicals (Hungarian language publications omitted)

1. Z. Kemeny, "Оценка международных кодов положения о кручения железобетонных конструкций" (*Evaluation of International Codes Provisions on Torsion of Reinforced Concrete Structures*), Periodica Polytechnica, [Civil Engineering](#), 2/1974
2. Z. Kemeny, "Bloques de la estructura de concreto postensado modular para vivienda" (*Post-Tensioned Modular Concrete Structure Blocks for Housing*), Oficina Española de Patentes y Marcas ([SPTO](#)), 4/1983

English Language Online

1. Z. Kemeny, "Principles of Business Deal Making Dynamics: A Subjective Theory of Judgment in Business Deeds", Deed Dynamics Theory, [Dorhrman-Conjecture](#), 2013
2. Z. Kemeny, "Worldwide Study on the Economic impact (EEL) of the WaveTech® New Technology", [WaveTech Engines](#), 11/2012
3. Z. Kemeny, "The physics of Shweel Rolling", [Theory](#), 9/2012
4. Z. Kemeny, "Shweel Rolling resistance", [White Paper](#), 8/2012
5. Z. Kemeny, "Engine Power Boost to Fuel Savings Conversion Law", [CPC](#), 4/2012
6. Z. Kemeny, "In-Cylinder DeNOx by Auxiliary Valve Openings", [White Paper](#), 9/2011
7. Z. Kemeny, "Explaining the Blow-Down Harvesting", [White Paper](#), 8/2011
8. Z. Kemeny, "Diesel Surcharging: Business Initiative", [White Paper](#), 5/2010

9. Z. Kemeny, "Principles of Market Dynamics: A Subjective Theory of Value", [Market Dynamics](#), for [University of Debrecen](#), Hungary, per request of [Central European University](#), Hungary, 2012-1999
10. Z. Kemeny, "WorldTrade Center: World Trade Memorial", [Proposal](#), 11/2001

Published Papers (Incomplete by omitting conference proceedings and book or code chapters.)

1. Z. Kemeny, "ISO-Base™: Seismic Isolation Platform", [Technical Documentation](#), WorkSafe Technologies, 11/2033
2. Z. Kemeny, "ISO-Base™: Seismic Isolation Platform", [JQA Test Report](#), Japanese Quality Assurance, 11/2002
3. Amick, H., A. Bayat and Z. Kemeny, "Seismic Isolation of Semiconductor Production Facilities," Proc. Seminar on Seismic Design, Retrofit, and Performance of Non-Structural Components, [Seminar ATC 29-1](#), Applied Technology Council, pp. 297-312, (January, 1998)
4. Kemeny, Z. A., and Szidarovszky, F., "Seismic Isolation Bearings with Nonlinear Gravity Restoring", [Repot No. MCEER VF01127](#), Multidisciplinary Center for Earthquake Engineering Research, University at Buffalo, State University of New York, Buffalo, NY., 1995

Memberships and Committees:

1. [American Institute of Architects](#)
2. [Structural Engineering Association of Arizona](#)
3. [Arizona Technology Council](#)
4. [International Code Council](#) (International Building Code, Seismic Design, Seismic Isolation, Code Committee, 1997-2012)
5. [Applied Technology Council](#) (ATC-156 Committee)
6. [International Code Committee Evaluation Service](#) (Seismic Testing, Non-Structural Components, 2004-2013)
7. [International Accreditation Service](#)
8. [TiE Arizona](#) (The Indus Entrepreneur- Global Engineering Organization)
9. [CEOSPACE](#) (World CEO Networking Organization)

Awards:

- Distinguished Guest Speaker Appreciation Award by the Society of Iranian Engineers & Architects, 11/03/1995
- Distinguished Speaker Award as Certified Bridge Inspector by the US DOT FHA at the New Mexico State University, 10/10-12/84
- Distinguished Speaker Award by the American Institute of Architects, 03/20/8

- Distinguished Speaker Award by the SEAoA Forum Technical Seminar on “Planning and Procedures for Post-Disaster structural Evaluations”, 4/29/04
- Distinguished Speaker Award by the SEAoA Seminar on “Passive Energy Dissipation Systems for New and Existing Buildings”, 7/19/96

Security Clearances:

- DOD Defense Logistics Agency, Trading Partner Identification Number (TPIN) # 95122384
- Department of the Army, United States Army research Laboratory, Army Research Office-Washington, SBR A032-0144, DUNS 133510797, CAGE 3GNU9, NAICS 332995, SIC 6794
- State of Arizona, Department of Public Safety, CWP # 9869184

Personal:

- Like family, travel, reading, history, economics, mathematics, philosophy, arts, writing, music and tennis. EU/HU Army Ret. Col. Knighted in Munich, GE 08/22/1992. Citizen of USA & EU.