

Curriculum Vita

Surname: Spentzas
Given Names: Konstantinos
Son of: Nicholas
Titles: Prof. at the NTUA - Dr. Sc. Tech. - Dipl. Mech. Eng.
Date of Birth: 24 May 1944 **Place of Birth:** Athens, Greece
Position: Director of Vehicles Laboratory of the National Technical University of Athens (NTUA)

Married On: 7 July 1983 **To:** Mina Goritsa **Divorced On:** 27 July 1985
Number of Children: 1 **Sons:** **Daughters:** Irene (Born on June 2, 1984)
Nationality: Hellenic

Education:

- 1) Certificate M.P.C. in Mathematics, Physics, Chemistry/ University of Paris (Paris/ France)/ 1963.
- 2) Diploma in Mechanical Engineering/ EPUL (University of Lausanne-Engineering School/ Lausanne/ Switzerland)/ 1968.
- 3) Doctor of Technical Sciences/ EPFL (Federal Technical University of Lausanne/ Lausanne/ Switzerland) 1972.
- 4) Certificate of Postgraduate Studies in Physical Metallurgy/ EPFL/ Lausanne/Switzerland/ 1972.

Career History:

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|-------------------------|--|----------------------|------------|
| 1) Assistant II | EPFL | Lausanne/Switzerland | 1970-71 |
| 2) Assistant I | EPFL | Lausanne/Switzerland | 1971-72 |
| 3) Professor | SYST (Group of Technical Schools of the Hellenic Army) | Athens/Greece | 1973-78 |
| 4) Professor | Higher School of Engineers | Athens/Greece | 1974-75 |
| 5) Engineer | Public Petroleum Corporation | Athens/Greece | 1976-77 |
| 6) Engineer | Bureau of Military Works of the Hellenic Army | Athens/Greece | 1977-78 |
| 7) Consulting Engineer | Independent | Athens/Greece | 1978-today |
| 8) Research Assistant | NTUA (National Technical University of Athens) | Athens/Greece | 1982 |
| 9) Lecturer | NTUA | Athens/Greece | 1982-88 |
| 10) Assistant Professor | NTUA | Athens/Greece | 1988-98 |
| 11) Prof. (Assoc.) | NTUA | Athens/Greece | 1998-03 |
| 12) Professor | NTUA | Athens/Greece | 2003-today |

Present Position(s):

- 1) Professor of Dynamics of Mechanical Structures & Construction of Vehicles at the National Technical University of Athens /Greece
- 2) Director of Vehicles Laboratory of the National Technical University of Athens /Greece

Organizational Membership:

- 1) Member of TEE (Hellenic Technical Chamber) 1972 - today
- 2) Vice-president of the Hellenic Institute for Electric Vehicles 1993 - today
- 3) President of the Leica Hellenic Club of Photography 1996 – today
- 4) Société Suisse des Ingénieurs et des Architectes 1970-2000
- 5) American Society for Testing & Materials 1970-1983
- 6) American Society for Heating Refrigeration & Air conditioning 1977-1993
- 7) Society of Automotive Engineers International 1990-1999
- 8) International Advisor, Society of Automotive Engineers International 1994-1999
- 9) New York Academy of Sciences 1994-1999
- 10) Chief Academician Secretary of the Euro-Mediterranean Academy of Arts & Sciences 2010-today

Honours/Awards/Prizes:

- 1) Patent by the Hellenic Patent Office for a vehicles suspension system.
- 2) International Patent (PCT) for gears and a differential (with Theodore and Vassilis Tsiriggakis)
- 3) Diploma of Honour of the Union of Hellenic Writers (1996)
- 4) Honorary Diploma by the Georgia Academy of Sciences (2008)

Publications:

10 books or lecture notes and around 120 scientific papers in International Journals or in the Proceedings of International Symposia (listed here-after).

Military Record

Lieutenant of the Hellenic Army Technical Corps (in duty from May 1973 to September 1975)

Leisure Interests:

Photography, sailing, scuba diving, horse riding

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PUBLICATIONS By
Prof. DrScTech. Konstantinos N. Spentzas
(Listed in the original language)

SCIENTIFIC BOOKS & LECTURE NOTES

- 1) C. N. Spentzas: Essai de trempabilité Jominy, EPFL, Lausanne **1970**.
- 2) C. N. Spentzas: Essais mécaniques des métaux, EPFL, Lausanne **1970**.
- 3) C. N. Spentzas: “Sur une méthode variationnelle de calcul des coques minces de révolution soumises à des efforts statiques de révolution” Athènes, **1976**.
- 4) Κανάραχος & Κ. Σπέντζας: Δυναμική των Μηχανολογικών Κατασκευών, Πλαίσιον, Αθήναι **1985**.
- 5) Κ. Ν. Σπέντζας: Εφαρμογές της Δυναμικής των Μηχανών, ΕΜΠ, Αθήναι **1992**.
- 6) Κ. Ν. Σπέντζας: Εισαγωγή στην κατασκευήν Οχημάτων, ΕΜΠ, Αθήναι **1992**.
- 7) Κ. Ν. Σπέντζας: Κατασκευή Οχημάτων, ΕΜΠ, Αθήναι **1994**.
- 8) Κ. Ν. Σπέντζας: Δυναμική Οχημάτων, ΕΜΠ, Αθήναι **1998**.
- 9) Κ. Ν. Σπέντζας: Δυναμική Οχημάτων, 2^α έκδοσις, ΕΜΠ, Αθήναι **2000**.
- 10) M. Demic & Κ. Ν. Σπέντζας: Θεωρία κινήσεως τροχοφόρων οχημάτων, Αθήναι **2004**.

PAPERS IN SCIENTIFIC JOURNALS

- 1) **C. N. Spentzas**: Détermination des caractéristiques optimales des assises non linéaires de machines en régime transitoire, *Ingénieurs et Architectes Suisses* (**1984**) No 2, 379-382.
- 2) A. Kanarachos & **C. N. Spentzas**: An artificial damping method for the determination of the steady state of harmonically excited non-linear systems, *J. of Sound and Vibration*, Vol. 120, Nr. 3, pp. 597-608, **1988**.
- 3) A. Kanarachos & **C. N. Spentzas**: Boundary layers in engineering problems, *Forschung im Ingenieurwesen*, Band. 53, Heft 6, 196-200, **1987**.
- 4) A. Kanarachos & **C. N. Spentzas**: Comparison of four finite element solutions of self-adjoint and non-self-adjoint problems governed by differential equations with predominant lower order derivatives, *Engineering Computations*, Vol. 5, Nr. 1 pp. 71-74, March **1988**.
- 5) A. Kanarachos, N. Koutsidis & **C. N. Spentzas**: Static analysis of thin-walled structures using polynomial and exact solutions: Application to thin-walled pipes, *Thin-Walled Structures*, Vol. 12, pp. 89-112, **1991**.
- 6) A. Kanarachos, N. Koutsidis & **C. N. Spentzas**: Dynamic analysis of thin-walled structures using polynomial and exact solutions: Application to thin-walled pipes, *Engineering Computations*, Vol. 7, Sept., pp. 196-209, **1990**.
- 7) A. Kanarachos & **C. N. Spentzas**: A Galerkin method for the steady state analysis of harmonically excited non-linear systems, *Mechanism & Machine Theory*, Vol. 27, No. 6, pp. 661-671, **1992**.
- 8) **K. N. Spentzas**: Towards an electric vehicle policy, *International J. of Vehicle Design*, Vol. 14, Nos. 2/3, pp. 118-123, **1993**.
- 9) **K. N. Spentzas**: Optimization of the ride characteristics of a vehicle by means of the Box’s method, *International J. of Vehicle Design*, Vol. 14, Nos. 5/6, pp. 539-551, **1993**.
- 10) **K. Ν. Σπέντζας**: “Ηλεκτροκίνητον Όχημα: Το μεταφορικών μέσον του 21ου αιώνας;” *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 2, σελ. 23-19, **1995**.
- 11) **K. Ν. Σπέντζας**: “Καθοριστικοί παράγοντες της σχεδιάσεως των ηλεκτροκινήτων οχημάτων: η κατανομή των βαρών και οι δυνάμεις αντιστάσεως κινήσεως”, *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 2, σελ. 102-107, **1995**.
- 12) Α. Κατσούδα, Χρ. Προβατίδης και **Κ. Ν. Σπέντζας**: “Συγκριτική αξιολόγησις των ελαφρών υλικών κατασκευής ηλεκτροκινήτων οχημάτων”, *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 2, σελ. 93-101, **1995**.
- 13) Ι. Τζουράλας και **Κ. Ν. Σπέντζας**: “Σχεδιάσις ηλεκτροκινήτου αυτοκινήτου με το Autocad 11”, *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 3, σελ. 7-16, **1995**.

- 14) N. Βατσάκης, Δ. Κουλοχέρης και **Κ. Ν. Σπέντζας**: “Υπολογισμός της δομής αμαξώματος ηλεκτροκινήτου οχήματος”, *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 2, σελ. 72-92, **1995**.
- 15) **Κ. Ν. Σπέντζας**, Δ. Κουλοχέρης, Στ. Βρέκος, Στ. Κουκουσίδης: “Μείωση της ρυπάνσεως της ατμόσφαιρας με αντικατάστασιν του στόλου θερμικών οχημάτων από ηλεκτροκίνητα”, *Τεχνικά Χρονικά ΤΕΕ*, Τεύχος 4, σελ. 122-126, **1995**.
- 16) Tatakis, A. Safakas, **C. N. Spentzas**, C & A. Korakas, A. Viaginis: Development of a high-performance electric vehicle, *International J. “Electromotion”*, Vol. 2, No. 2, pp. 98-102, **1995**.
- 17) **K. N. Spentzas** and A. Tsolakis: An innovative suspension system for ground vehicles, *Mobility and Vehicle Mechanics-The International Journal for Vehicle Mechanics, Engines and Transportation*, Paper No. UDK 629.113.012.8, Volume 24, No 2, pp. 15-26, Kragujevac, Yugoslavia, June **1998**.
- 18) **K. N. Spentzas** and I. Alkhazali: Kinematic analysis of four-wheel-steering vehicles, Yugoslav Society of Automotive Engineers, *Special Publication of the Yugoslav Society of Automotive Engineers JUMV-SP-9901*, pp. 1-4, **1999**.
- 19) M. Demić, J. Lukic and **K. Spentzas**: The application of methods for automatic determination of dynamic systems motion in order to determine motor vehicles performance, *Zastava Journal*, Vol. XIII, No. 34, December **1999**, pp. 23-27.
- 20) M. Demić, J. Lukic and **K. Spentzas**: Formalized modeling of vehicle handling, *Vojnotehnički Glasnik*, Vol. XLVIII, March-April **2000**.
- 21) **K. N. Spentzas**, A. Tsolakis and M. Demić: Further Development of an Innovative Passive Suspension System for Ground Vehicles, *Special Publication of the Yugoslav Society of Automotive Engineers JUMV-SP-0136*, pp. 145-150, **2001**.
- 22) M. Demic, J. Lukic and **C. Spentzas**: Formalized modeling of vehicle vibrations, *Journal MASINSTVO*, Vol 50, No 1, pp 8-14, **2000**.
- 23) **K. N. Spentzas**, I. Alkhazali and M. Demic: Kinematics of four-wheel-steering vehicles, *International Journal Forschung im Ingenieurwesen*, Band 66, Heft 5, May **2001**, pp. 211-216, Springer-Verlag.
- 24) **K. N. Spentzas**, I. Alkhazali and M. Demić: Dynamics of four-wheel-steering vehicles, *International Journal Forschung im Ingenieurwesen*, Band 66, Heft 6, Oktober **2001**, pp. 260-266, Springer-Verlag.
- 25) **K. N. Spentzas** and I. Alkhazali: Generalisation of the concept of electronic differential, *International Journal Forschung im Ingenieurwesen*, Band 66, Heft 6, Oktober **2001**, pp. 273-278, Springer-Verlag.
- 26) M. Demić, V. Toljski and **K. Spentzas**: A contribution to the investigation of the tire non-uniformity influence to vehicle steering system vibration, *Vojnotehnički Glasnik*, Vol. 49, issue 3, pp. 293-300, **2001**.
- 27) J. Lukic, M. Demić and **C. Spentzas**: Seated human body behaviour under random vibration, *Society of Automotive Engineers*, Paper No. 01ATT-4, **2001**.
- 28) J. Lukic, M. Demić and **C. Spentzas**: Seated human body behaviour under random vibration, *Scientific Bulletin University Din Pitesti Romania*, Vol. VIII, No. 12, pp. 59-64, **2002**.
- 29) **K. N. Spentzas** and S. A. Kanarachos: A neural network approach to the design of vehicle’s non-linear hybrid suspension system, *Proceedings of the Institution of Mechanical Engineers*, Part B, Journal of Engineering Manufacture, Paper No. SC0102, Vol. 216, pp. 833-838, **2002**.
- 30) **K. N. Spentzas** and S. A. Kanarachos: Design of a non-linear hybrid car suspension system using neural networks, *Journal of Mathematics and Computers in Simulation*, Elsevier Science Ltd, Vol. 60 No. 3-5, pp. 369-378, Oct **2002**, Article number MATCOM 2090.
- 31) **K. N. Spentzas** and S. A. Kanarachos: An incremental finite element analysis of mechanisms and robots, *International Journal Forschung im Ingenieurwesen*, Band 67, Heft 5, Dezember **2002**, pp. 209-219, Springer-Verlag.

- 32) **K. N. Spentzas** and M. Demić: Development perspectives of vehicle's automotive systems, *Mobility and Vehicle Mechanics-The International Journal of Vehicle Mechanics, Engines and Transportation systems*, Vol. 28, No. 1 & 2, pp. 123-127, March - June **2002**.
- 33) M. Demić, J. Lukic and **C. Spentzas**: A contribution to the formalized modeling of vehicle system dynamics, *Mobility and Vehicle Mechanics-The International Journal of Vehicle Mechanics, Engines and Transportation systems*, Vol. 28, No. 3 & 4, pp. 23-42, Sep. – Dec. **2002**.
- 34) N. Pantelelis, Th. Vrouvakis and **K. N. Spentzas**: Cure cycle design for composite materials using computer simulation and optimisation tools, *International Journal Forschung im Ingenieurwesen*, 67 (**2003**) 254-262, Springer-Verlag.
- 35) S. A. Kanarachos and **K. N. Spentzas**: Nonlinear vibration control of flexible-link robot arms based on a Taylor series expansion of the control law, *WSEAS Transactions on Circuits and Systems*, Vol. 2, Issue 2, pp. 368-373, April. **2003**.
- 36) S. A. Kanarachos and **K. N. Spentzas**: A method for the synthesis of nonlinear controllers using a Taylor series expansion of the control law, *WSEAS Transactions on Circuits and Systems*, Vol. 2, Issue 3, pp. 499-504, July **2003**.
- 37) S. A. Kanarachos and **K. N. Spentzas**: A new min-max Hamiltonian method for computing optimal obstacle avoidance trajectories of vehicles, *WSEAS Transactions on Circuits and Systems*, Vol. 2, Issue 3, pp. 511-516, July **2003**.
- 38) **K. N. Spentzas** and S. A. Kanarachos: Performance under road spectra excitation of a vehicle's non-linear hybrid suspension system designed by neural networks, *Mobility and Vehicle Mechanics-The International Journal for Vehicle Mechanics, Engines and Transportation*, Paper No. UDC 629.11.011; 531.392, Volume 29, No 2 & 3, pp. 11-25, June-September **2003**, Kragujevac, Yugoslavia.
- 39) **Konstantinos N. Spentzas** and Miroslav Demić: Four-wheel-steering vehicles, *Mobility and Vehicle Mechanics-The International Journal for Vehicle Mechanics, Engines and Transportation*, Vol. 30, No. 2 & 3, pp. 89-99, June-September **2004**.
- 40) S. Kanarachos, D. Koulocheris, **K. N. Spentzas**: Optimal open loop control of dynamic systems using a "min-max" Hamiltonian method, *International Journal Forschung im Ingenieurwesen*, Vol. 69 (**2004**), No. 1, pp. 1-10, Springer-Verlag.
- 41) **K. N. Spentzas** and G. Michael: A minimalist approach to the design of electric vehicles, *WSEAS / IASME Transactions*, Vol. 2, Issue 3, pp. 400-405, May **2005**.
- 42) D. V. Koulocheris, V. K. Dertimanis and **C. N. Spentzas**: Analysis and optimisation of a fixed-tank vehicle, *International Journal Forschung im Ingenieurwesen*, Vol. 70 (**2006**), No. 3, pp. 171-178, Springer Verlag.
- 43) C. Spentzas, G. Michael and M. Demić: A minimalist approach to the design of electric vehicles, *Mobility and Vehicle Mechanics-The International Journal for Vehicle Mechanics, Engines and Transportation*, Vol. 32, No. 3 & 4, pp. 30-36, September-December **2006**.
- 44) D. V. Koulocheris, V. K. Dertimanis and **C. N. Spentzas**: Parametric identification of vehicle's structural characteristics, *International Journal Forschung im Ingenieurwesen*, Vol. 72 (**2008**), pp. 39-51, Springer Verlag.
- 45) A. G. Mamalis, D. E. Manolakos, M. Ioannidis, K. N. Spentzas & S. Koutroubakis: Static axial collapse of foam-filled steel thin-walled rectangular tubes: experimental and numerical simulation, *International Journal of Crashworthiness*, vol. 13, No.2, pp. 117-126, April **2008**.
- 46) A. G. Mamalis, K. N. Spentzas, D. E. Manolakos, N. Pantelelis & M. Ioannidis: Structural and impact behaviour of an innovative low-cost sandwich panel, *International Journal of Crashworthiness*, vol. 13, No.3, pp. 231-236, June **2008**.
- 47) A. G. Mamalis, K. N. Spentzas, D. E. Manolakos, M. Ioannidis & D. P. Papapostolou: Experimental investigation of the collapse modes and the main crushing characteristics of composite sandwich panels subjected to flexural loading, *International Journal of Crashworthiness*, vol. 13, No.4, pp. 349-362, August **2008**.
- 48) A. G. Mamalis, K. N. Spentzas, N. Pantelelis, D. E. Manolakos & M. Ioannidis: A new hybrid concept of sandwich structures, *Composite Structures*, vol. 83, No.4, pp. 335-341, **2008**.

- 49) A. G. Mamalis, K. N. Spentzas, D. E. Manolakos, M. Ioannidis, S. Koutroubakis & P. K. Kostazos: The effect of the implementation of circular holes as crush initiators to the crushing characteristics of mild steel square tubes: experimental and numerical simulation, *International Journal of Crashworthiness*, vol. 14, No.5, pp. 489-501, October 2009.

PAPERS IN PROCEEDINGS OF CONGRESSES, CONFERENCES AND SYMPOSIA

- 1) P. Makris & C. N. Spentzas: On-line monitoring of fatigue cracks and detection of fatigue damage of structures at an early stage, *8 Internationale Tagung für Fördertechnik*, Tagungssektion III, pp. III/73-III/78, Dresden, Germany, 30 August-1 September 1988.
- 2) P. Makris & C. N. Spentzas: Remaining flexural strength of cracked axles, *Proceedings of the 3d National Congress on Mechanics*, Vol. 2, pp. 828-834, Athens, Greece, 25-27 June 1992.
- 3) **K. N. Σπέντζας**: Το πρόγραμμα STRIDE-ECVET: η συμβολή του Εργαστηρίου Οχημάτων του Ε.Μ.Π., *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 4) **K. N. Σπέντζας**: "Ηλεκτροκίνητον Όχημα: Το μεταφορικό μέσον του 21ου αιώνας;" *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 5) **K. N. Σπέντζας**: "Καθοριστικοί παράγοντες της σχεδίασεως των ηλεκτροκινήτων οχημάτων: η κατανομή των βαρών και οι δυνάμεις αντιστάσεως κινήσεως", *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 6) Α. Κατσούδα, Χρ. Προβατίδης και **K. N. Σπέντζας**: "Συγκριτική αξιολόγησις των ελαφρών υλικών κατασκευής ηλεκτροκινήτων οχημάτων", *Διημερίδα "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 7) Ι. Τζουράλας και **K. N. Σπέντζας**: "Σχεδίασις ηλεκτροκινήτου αυτοκινήτου με το Autocad 11", *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 8) Ν. Βατσάκης, Δ. Κουλοχέρης και **K. N. Σπέντζας**: "Υπολογισμός της δομής αμαξώματος ηλεκτροκινήτου οχήματος", *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 17-18 Ιουνίου 1993.
- 9) **K. N. Σπέντζας**, Δ. Κουλοχέρης, Στ. Βρέκος, Στ. Κουκουσίδης: "Μείωσις της ρυπάνσεως της ατμοσφαιράς με αντικατάστασιν του στόλου θερμικών οχημάτων από ηλεκτροκίνητα", *Πρακτικά Διημερίδας "Ηλεκτροκίνηση στα Μέσα Μεταφοράς-Ηλεκτρικό Όχημα"*, Τεχνικόν Επιμελητήριο της Ελλάδος, Αθήναι, 9 Νοεμβρίου 1993.
- 10) **C. N. Spentzas** & D. B. Koulocheris: Forecast model evaluating the reduction of atmospheric pollutants in the city of Athens upon substitution of thermal vehicles by electric vehicles, *Proceedings of the 4th International Conference on New Design Frontiers for More Efficient, Reliable and Ecological Vehicles*, Paper No 94A1084, Vol. 1, pp. 647-655, Florence Italy, 16-18 March 1994.
- 11) **C. N. Spentzas**, D. B. Koulocheris and J. Jouralas: A cost-conscious approach to the design of an electric vehicle, *Proceedings of the 12th International Electric Vehicle Symposium (EVS 12)*, Vol. 2, pp. 379-392, Anaheim-California, USA, 5-7 December 1994.
- 12) **C. N. Spentzas** and D. B. Koulocheris: "PEV", a software to estimate the power and torque requirements and evaluate the performance of electric vehicles, *Proceedings of the IEEE International Symposium on Industrial Electronics (ISIE '95)*, Paper No 95TH8081, Vol. 2, pp.553-557, Athens, Greece, 10-14 July 1995.
- 13) Tatakis, A. Safakas, **C. N. Spentzas**, C & A. Korakas, A. Viaginis: Development of a high-performance electric vehicle, *Proceedings of the 1st International Symposium on Advanced Electromechanical Motion Control Systems (ELECTROMOTION '95)*, Cluj-Napoca, Romania, pp. 9-14, 1995.
- 14) **C. N. Spentzas**: An energy-flow analysis approach to the design of vehicle suspension systems, *Proceedings of the 28th International Symposium on Automotive Technology and Automation, Vol. on Mechatronics-Efficient*

Computer Support for Engineering, Manufacturing, Testing & Reliability, Paper No. 95ME012, pp. 641-647, Stuttgart, Germany, 18-22 September 1995.

- 15) **C. N. Spentzas** and D. B. Koulocheris: OLAF, An optimized large band filter for vehicle passive suspensions, *Proceedings of AUTOTECH '95, Institution of Mechanical Engineers Paper No C498/25/023*, Birmingham, England, 7-9 November 1995.
- 16) **C. N. Spentzas** and M. J. A. Tupay: Development of Y-EV, an electric vehicle purposely designed for the city of Athens, *Proceedings of EVT '95*, Vol. 2, pp. 90-101, Paris, France, 13-15 November 1995.
- 17) **Constantin N. Spentzas** and Ibrahim Alkhazali: Contribution to the development of an electronic differential, *Proceedings of the 13th Electric Vehicle Symposium (EVS-13)*, Vol. 2, p. 518-524, Osaka, Japan, 13-16 October 1996.
- 18) **C. N. Spentzas**, E. Tatakis, A. Safakas and D. Tsanakas: Safety aspects of the design of an electric vehicle, *Proceedings of the 2nd International Symposium on Advanced Electromechanical Motion Systems (ELECTROMOTION '97)*, pp. 167-172, Cluj-Napoca, Romania, 1997.
- 19) **Constantin N. Spentzas**: An energy-balance approach to the design of an electric vehicle, *1st European Conference on Clean Cars (ECCC-1)*, NTUA Zografos Campus, Athens, Greece, 15-17 May 1997.
- 20) **C. N. Spentzas** and D. B. Koulocheris: An optimal passive suspension system for ground vehicles, *Proceedings of the 4th International Conference on Comfort in the Automotive Industry-Recent Developments and Achievements*, Paper Nr. 97A3047, pp. 383-393, Associazione Technica dell' Automobile & University of Bologna, Bologna, Italy, 6-7 October 1997.
- 21) **C. N. Spentzas** and A. Tsolakis: Modeling and optimization of an innovative suspension system that keeps the vehicle's sprung mass horizontal under all conditions of motion, *Proceedings of the 31st ISATA, Paper No. 98ME007, Volume on Automotive Mechatronics Design and Engineering*, pp. 349-353, Düsseldorf, Germany, 2-5 June 1998.
- 22) **C. N. Spentzas** and D. N. Lefantzis: EV-DaB, a database of electric, hybrid and fuel-cell vehicles, *Proceedings (on a CD) of the 15th International Electric Vehicle Symposium EVS-15*, Brussels, Belgium, 29 September – 3 October 1998.
- 23) **C. N. Spentzas** and A. Tsolakis: An innovative suspension system for ground vehicles, *Proceedings of the 10th International Scientific Symposium "Motor Vehicles and Engines"*, Paper No. YU-98003, pp. 9-13, Kragujevac, Yugoslavia, 5-7 October 1998, pp. 9-13.
- 24) **K. N. Spentzas** and I. Alkhazali: Kinematic analysis of four-wheel-steering vehicles, Yugoslav Society of Automotive Engineers, *Proceedings of the 17th International Symposium "Science and Motor Vehicles"*, Belgrade, Yugoslavia, 24-26 May 1999.
- 25) **K. N. Spentzas** and I. Alkhazali: Influence of the rate of change of the steering wheel angle on the dynamic behavior of four-wheel-steering vehicles, *Proceedings of the 32nd ISATA, Volume on Automotive Mechatronics Design and Engineering*, Paper No. 99ME038, pp. 271-278, Vienna, Austria, 14-18 June 1999.
- 26) S. Mavromatis, B. Psarianos and **K. N. Spentzas**: Influence of the vehicle acceleration on the road minimum horizontal curve radius, *Proceedings of the 32nd ISATA*, Paper No. 99SF024, Volume on Automotive Mechatronics Design and Engineering, pp. 93-101, Vienna, Austria, 14-18 June 1999.
- 27) **K. N. Spentzas** and I. Alkhazali: A generalized dynamic model of a four-wheel drive and four-wheel steering vehicle equipped with an electronic differential, *Proceedings of the 3rd International Symposium on Advanced Electromechanical Motion Systems ELECTROMOTION '99*, Paper No. I-05, Volume II, pp. 853-859, University of Patras, Patras, Greece, 8-9 July 1999.
- 28) Jovanka Lukic, **Konstantinos Spentzas** and Miroslav Demic: Determination of the dominant ride loading of passengers, *Proceedings of the 3rd International Symposium on Advanced Electromechanical Motion Systems ELECTROMOTION '99*, Paper No. LP03, (unregistered late paper), University of Patras, Patras, Greece, 8-9 July 1999.

- 29) **C. N. Spentzas** and M. Demic: The automobile in the dawn of the third millennium, *Proceedings of the 11th International Scientific Symposium "Motor Vehicles and Engines"*, Paper No. YU-00001, pp. 1-12, Kragujevac, Yugoslavia, 5-7 October **2000**.
- 30) M. Demic, J. Lukic and **C. Spentzas**: A contribution to the formalized vehicle dynamics modeling, *Proceedings of the 11th International Scientific Symposium "Motor Vehicles and Engines"*, Paper No. YU-00030, pp. 133-136, Kragujevac, Yugoslavia, 5-7 October **2000**.
- 31) **C. N. Spentzas**, A. Tsolakis and M. Demic: Further Development of an Innovative Passive Suspension System for Ground Vehicles, *Proceedings of the 18th International Symposium "Science and Motor Vehicles"*, Belgrade, Yugoslavia, 28-30 May **2001**.
- 32) **K. N. Spentzas** and S. A. Kanarachos: Design of a non-linear hybrid car suspension system using neural networks, *Proceedings of the European Workshop on Intelligent Forecasting, Diagnosis and Control IFDICON 2001*, Island of Santorini, Greece, 24-28 June **2001**, pp. 179-186.
- 33) S. A. Kanarachos and **K. N. Spentzas**: Finite element method versus Lagrange formulation – Application in mechanism/robot analysis, *Proceedings of the 5th Hellenic European Research on Computer Mathematics & its Applications (HERCMA 2001) Conference*, Athens, 20-22 September **2001**.
- 34) S. A. Kanarachos and **K. N. Spentzas**: Investigation of the performance of the incremental finite element method of analysis of 2d mechanisms with respect to the stiffness of their arms, *Proceedings of the 4th Congress on Computational Mechanics 4th GRACM 2002*, Patras, 27-29 June **2002**.
- 35) J. Lukic, M. Demić and **C. Spentzas**: Seated human body behavior under random vibration, Society of Automotive Engineers, *Proceedings of the International Conference on Body Engineering*, Paper No. 02IBECE-1, Paris, 8-12 July **2002**.
- 36) **Constantinos N. Spentzas** and Miroslav Demić, Development perspectives of vehicle's automotive systems, *Proceedings of the 12th International Scientific Symposium "Motor Vehicles and Engines"*, Invited Paper No. U4, Kragujevac, Yugoslavia, 7-9 October **2002**.
- 37) Miroslav Demić, **Constantinos Spentzas**, Djordje Diligenski: Some aspects of investigation of motor vehicles steering wheels shimmy, *Proceedings of the 12th International Scientific Symposium "Motor Vehicles and Engines"*, Paper No. YU-02022, Kragujevac, Yugoslavia, 7-9 October **2002**.
- 38) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: A new method for computing optimal obstacle avoidance manoeuvres of vehicles, *Proceedings of the XIX Science and Motor Vehicle 2003 International Symposium with Exhibition: Automotive Engineering Towards Intelligent Vehicle Systems*, Belgrade, 26-28 May **2003**.
- 39) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: A non-linear control for the yaw stabilisation of vehicles, *Proceedings of the XIX Science and Motor Vehicle 2003 International Symposium with Exhibition: Automotive Engineering Towards Intelligent Vehicle Systems*, Belgrade, 26-28 May **2003**.
- 40) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: A hybrid optimisation method using evolution strategy, quadratic prediction and line search algorithms, *Proceedings of EUROGEN 2003: Evolutionary Methods for Design, Optimisation and Control with Applications to Industrial and Societal Problems*, Barcelona, Spain, 15-17 September **2003**.
- 41) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: A method for the synthesis of non-linear controllers using a Taylor series expansion of the control law, *Proceedings of the 3rd WSEAS International Conference on Simulation, Modelling and Optimisation*, Rethymno, Crete Island, Greece, 13-15 Oct **2003**.
- 42) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: Analysis of flexible mechanisms using conventional FEM, *Proceedings of the 1st International Conference "From Scientific Computing to Computational Engineering (1st IC-SCCE)*, Athens, Greece, 8-10 September **2004**.
- 43) **Konstantinos N. Spentzas** and Miroslav Demić: Four-wheel-steering vehicles, *Proceedings of the 13th International Scientific Symposium "Motor Vehicles and Engines"*, Invited Paper, Kragujevac, Yugoslavia, 4-6 October **2004**.

- 44) Christopher Provatidis, Dimitrios Venetsanos, and **Konstantinos Spentzas**: Parametric investigation of car suspension design, *Proceedings of the 13th International Scientific Symposium “Motor Vehicles and Engines”*, Paper No. YU-04056, Kragujevac, Yugoslavia, 4-6 October **2004**.
- 45) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: A novel optimization algorithm for the estimation of ARMAX models, *Proceedings of the 7th Biennial ASME Engineering Systems Design And Analysis*, Manchester, United Kingdom, **2004**, paper no ESDA2004-58413.
- 46) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: Optimum positioning of tank mountings in a fixed tank vehicle, *Proceedings of the 7th Biennial ASME Engineering Systems Design And Analysis*, Manchester, United Kingdom, **2004**, paper no ESDA2004-58414.
- 47) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: Synthesis of non-linear dynamic systems using parameter optimisation methods – a case study, *Proceedings of the 6th WSEAS International Conference on Mathematical Methods and Computational Techniques*, Vouliagmeni, Athens, Greece, 29-31 Dec. **2004**.
- 48) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: Yaw stabilization of 2WS vehicles using a heuristic non-linear control law, *Proceedings of the 7th International Symposium on Advanced Vehicle Control AVEC 2004*, Han University, Arnhem, 23-27 August **2004**.
- 49) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: A predictive non-linear hybrid car suspension system, *Proceedings of the 7th International Symposium on Advanced Vehicle Control AVEC 2004*, Han University, Arnhem, 23-27 August **2004**.
- 50) Ν. Παντελέλης, Θ. Βρουβάκης και **Κ. Σπέντζας**: Ολοκληρωμένος σχεδιασμός ελαφρών μηχανολογικών κατασκευών από σύνθετα υλικά, Πρακτικά Α΄ Πανελληνίου Συνεδρίου Μηχανολόγων Μηχανικών, Ξενοδοχείο Λύδρα Μάρριος, Αθήνα, 28-30 Μαρτίου **2005**.
- 51) D. Koulocheris, V. Dertimanis and **C. Spentzas**, Vehicle System Identification Using MIMO-ARMAX Models, *10th EAEC European Automotive Congress*, Beograd, Serbia & Montenegro, 30 May to 1 June **2005**.
- 52) D. Koulocheris, V. Dertimanis and **C. Spentzas**, Design and optimization of a fixed tank vehicle, *Proceedings of 10th EAEC European Automotive Congress*, Beograd, Serbia & Montenegro, 30 May to 1 June **2005**.
- 53) N. Pantelelis, T. Vrouvakis and **K. N. Spentzas**: Design of a low-cost lightweight composite trailer, *Proceedings of 10th EAEC European Automotive Congress*, Beograd, Serbia & Montenegro, 30 May to 1 June **2005**.
- 54) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: Intelligent semi-active suspension control applied to a half-car model, *Proceedings of 10th EAEC European Automotive Congress*, Beograd, Serbia & Montenegro, 30 May to 1 June **2005**.
- 55) Stratis A. Kanarachos and **Konstantinos N. Spentzas**: Modelling of elastic vehicles using incremental FEM – a half-car model case, *Proceedings of 10th EAEC European Automotive Congress*, Beograd, Serbia & Montenegro, 30 May to 1 June **2005**.
- 56) **Κ. Σπέντζας**, Δ. Κουλοχέρης και Β. Ντερτιμάνης, Εφαρμογή του Κανονισμού Ε.Σ.Ε. 111 στο βέλτιστο σχεδιασμό βυτιοφόρου οχήματος μεταφοράς υγρών καυσίμων, 3^ο Πανελλήνιο Συνέδριο Οδικής Ασφάλειας, Πάτρα, **2005**.
- 57) D. Koulocheris, V. Dertimanis, **C. N. Spentzas**: Structural optimization of a fixed-tank vehicle using complex method, *Proceedings of the 5th GRACM International Congress on Computational Mechanics*, Limassol, 29 June – 1 July, **2005**.
- 58) V. K. Dertimanis, D. V. Koulocheris and **C. N. Spentzas**: Design of a hybrid algorithm for ARMA parameter estimation, *Proceedings of the 5th GRACM International Congress on Computational Mechanics*, Limassol, 29 June – 1 July, **2005**.
- 59) **K. N. Spentzas** and G. Michael: A minimalist approach to the design of electric vehicles, *Proceedings of the 2005 IASME / WSEAS International Conference on Energy, Environment, Ecosystems & Sustainable Development*, Vouliagmeni, Athens, Greece, July 12-14, **2005**.

- 60) V. K. Dertimanis, D. V. Koulocheris and **C. N. Spentzas**: Assessment of a robust algorithm for the detection and diagnosis of additive faults, *Proceedings of ESDA 2006, 8th Biennial ASME Conference on Engineering Systems Design and Analysis*, Torino, Italy July 4-7 **2006**.
- 61) N. Pantelelis, T. Vrouvakis and **K. Spentzas**: A new concept for low cost composite trailer, *Proceedings of ICCE-12*, Tenerife, Canary Islands, Spain, 1-6 August **2005**.
- 62) A. G. Mamalis, **K. N. Spentzas**, D. E. Manolakos, N. Pantelelis, and M. Ioannidis: Structural and Impact Behaviour of an Innovative Low Cost Sandwich Panel, *Proceedings of ICrash 2006*, Athens, Greece 4-7 July **2006**.
- 63) G. Mamalis, **K. N. Spentzas**, D. E. Manolakos, M. B. Ioannidis, D. P. Papapostolou: Experimental investigation of the collapse modes and the main crushing characteristics of composite sandwich panels subjected to flexural loading, *Proceedings of ICrash 2006*, Athens, Greece 4-7 July **2006**.
- 64) **C. Spentzas**, G. Michael and M. Demić: A minimalist approach to the design of electric vehicles, Invited paper in the *International Scientific Congress Motor Vehicles and Motors MVM 2006*, Kragujevac, Yugoslavia, 4-6 October **2006**.
- 65) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: On The Estimation of Vehicle's Dynamics From Vibration Response Data, *International Scientific Congress Motor Vehicles and Motors MVM 2006*, Kragujevac, Yugoslavia, 4-6 October **2006**.
- 66) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: Optimization of Fixed-Tank Vehicle's Dynamics, *International Scientific Congress Motor Vehicles and Motors MVM 2006*, Kragujevac, Yugoslavia, 4-6 October **2006**.
- 67) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: Estimation of vehicle's structural parameters from multichannel vibration measurements, *Proceedings of the 21st JUMV International Automotive Conference*, Belgrade **2007**, Paper No. NMV0748.
- 68) D. Koulocheris, V. Dertimanis and **C. N. Spentzas**: On the estimation of optimum structural parameters for a triaxial fixed-tank vehicle, *Proceedings of the 21st JUMV International Automotive Conference*, Belgrade **2007**, Paper No. NMV0749.
- 69) S. Mavromatis, S. Palaskas, B. Psarianos and **K. Spentzas**: ABS-braking distance simulation, a tool for determining critical road design parameters, *Proceedings of the AATT Conference*, Athens 28-30 May **2008**.
- 70) A. G. Mamalis, D. E. Manolakos, **K. N. Spentzas**, M. B. Ioannidis, S. Koutroubakis and P. K. Kostazos: The affect of the implementation of circular holes as crush initiators to the crushing characteristics of mild steel square tubes: experimental and numerical simulation, *Proceedings of ICrash 2008*, Kyoto, Japan 22-25 July **2008**.
- 71) A. G. Mamalis, K. N. Spentzas, N. Pantelelis: In-situ monitoring of control of the production of reactive thermoplastic composites, *Proceedings of EUROMAT 2009 Congress*, Glasgow 7-10 Sep **2009**.
- 72) **K. N. Spentzas**, G. Michael and D. S. Ioannou: A minimalist approach to the design of electric vehicles – what can vehicles be in the future, Accepted in the *International Advanced Mobility Forum*, taking place during Geneva International Motor Show, Geneva, 9-10 March **2010**.

REPORT IN PROCEEDINGS OF THE EUROPEAN PARLIAMENT COMMITTEE ON TRANSPORT AND TOURISM

- 1) C. N. Spentzas: Point of view, European Parliament Committee on Transport and Tourism, Hearing on Urban Electric Vehicles, 4th November **1992**.

ARTICLES IN ENCYCLOPEDIAS

- 1) K. N. Σπέντζας: Αυτοκίνητο, Λήμμα 59000 λέξεων περίπου, “Ελληνική Εκπαιδευτική Εγκυκλοπαίδεια”, τόμος 19 “Τεχνολογία”, Εκδοτική Αθηνών, **1994**.

ARTICLES, LECTURES AND INTERVIEWS IN NON-SCIENTIFIC JOURNALS

- 1) Κωνσταντίνος Ν. Σπέντζας: Κατασκευή Οχημάτων: Διδασκαλία και Έρευνα στο Ε.Μ.Π., *Περιοδικό 4 Τροχοί*, Τεύχος 237, Ιούνιος **1990**.
- 2) Κ. Ν. Σπέντζας: Ηλεκτροκίνητα Αυτοκίνητα, ΕΜΠ, *Περιοδικό Πυρφόρος*, Μάρτιος-Απρίλιος **1993**.
- 3) Κ. Ν. Σπέντζας: Το αυτοκίνητο στις αρχές του 21^{ου} αιώνα, *Ημερίδα Φοιτητών Σχολής Μηχανολόγων Μηχανικών ΕΜΠ*, Αθήνα, **1999**.
- 4) Κ. Ν. Σπέντζας: Το αυτοκίνητο στις αρχές του 21^{ου} αιώνα, *Ημερίδα Φοιτητών Σχολής Μηχανολόγων Μηχανικών ΕΜΠ*, Αθήνα, **2000**.
- 5) Κ. Ν. Σπέντζας: Κάποιοι επιμένουν μηχανικά... , Συνέντευξη στο *Περιοδικό Φωτογράφος*, Τεύχος 81, Ιαν.-Φεβ. **2000**.
- 6) Κ. Ν. Σπέντζας: Εστιάζοντας μέσα από τον φακό του Κ. Σπέντζα, Συνέντευξη στο *Περιοδικό Φωτογράφος*, Τεύχος 84, Μάιος **2000**.
- 7) Κ. Ν. Σπέντζας: Οδική Ασφάλεια, *Ημερίδα Φοιτητών Σχολής Μηχανολόγων Μηχανικών ΕΜΠ*, Αθήνα, 14 Δεκεμβρίου **2000**.
- 8) Κ. Ν. Σπέντζας: Τι είναι τα καθαρά αυτοκίνητα, *Ημερίδα Ελληνικού Ινστιτούτου Ηλεκτροκινήτων Οχημάτων (ΕΛΙΝΗΟ)*, Κοζάνη, 20 Σεπτεμβρίου **2003**.
- 9) Κ. Ν. Σπέντζας: Ασφαλής οδήγηση, *Ημερίδα Φοιτητών Σχολής Μηχανολόγων Μηχανικών ΕΜΠ*, Αθήνα, 28 Μαρτίου **2003**.
- 10) Κ. Ν. Σπέντζας: Θανάσιμα αμαρτήματα ελλήνων οδηγών οχημάτων, *Ημερίδα οδικής ασφάλειας ΙΟΔΑ (Ινστιτούτου Οδικής Ασφάλειας), Αμφιθέατρο Υπ. Μεταφορών & Επικοινωνιών*, Αθήνα, 8 Νοεμβρίου **2005**.
- 11) Κ. Ν. Σπέντζας: Θανάσιμα αμαρτήματα ελλήνων οδηγών οχημάτων, *Ημερίδα οδικής ασφάλειας*, 251 Γενικό Νοσοκομείο Αεροπορίας, Αθήνα, Ιούνιος **2007**.
- 12) Κ. Ν. Σπέντζας: Εξελίξεις στην ασφάλεια των αυτοκινήτων, *Ημερίδα Ελληνικής Αστυνομίας, Γενική Διεύθυνση Τροχαίας, Ξενοδοχείο Κάραβελ*, Αθήνα, 16 Οκτωβρίου **2008**.
- 13) Κ. Ν. Σπέντζας: Τεχνολογικές εξελίξεις στην ασφάλεια των αυτοκινήτων, *Ημερίδα Παρατηρητηρίου Οδικής Ασφάλειας του Τεχνικού Επιμελητηρίου Ελλάδος, Τρίπολη*, 22 Νοεμβρίου **2008**.
- 14) Κ. Ν. Σπέντζας: Ηλεκτροκίνητα οχήματα στην Ελλάδα – δυνατότητες και προοπτικές, *EnergyRes Forum*, Αθήνα, 20 Φεβρουαρίου **2009**.
- 15) Κ. Ν. Σπέντζας: Ηλεκτροκίνητα οχήματα στην Ελλάδα – δυνατότητες και προοπτικές, *Ημερίδα Πανεπιστημίου Θράκης & Ελληνικού Ινστιτούτου Ηλεκτροκινήτων Οχημάτων (ΕΛΙΝΗΟ)*, Αθήνα, 16 Μαΐου **2009**.