Curriculum Vitae
Structural Dynamics Mechanical Engineer

20-03-2017

Name:	Fotios
Surname:	Dr. GEORGIADIS (or Dr. GEORGIADES)
Address :	9 Clarendon Gardens, LN1 3RQ, Lincoln, UK
Tel:	+44-1522-530390 (UK)
E-mail personal:	fgeorg@yahoo.com
Nationality:	Greek
Military service:	27/3/1995-27/3/1996 Hellenic Army, Engineering Unit
Web page:	http://staff.lincoln.ac.uk/fgeorgiadis
ORCID:	orcid.org/0000-0002-2784-6976

VISION

To develop 'autonomous' fully structured world recognised research team in Vibration and Control of Structures, with undergraduate, postgraduate students and higher level of researchers using funding from industry and other bodies e.g. EU-Horizon 2020, Swiss National Science Foundation, State Secreteriat for Education and Research etc.

SUBJECT SPECIALISM

Modelling, examining linear and nonlinear vibrations and control of structures

It is included elastic continua, isotropic and composite structures (including active elements) considering gyroscopic effects, and also the discrete nonsmooth systems with dry friction and/or impact. I am examining their dynamics numerically and also analytically using linear and nonlinear normal modes theory. Also I am working in control of structures with structural modifications like linear and nonlinear attachments for vibration mitigation or using active elements.

RESEARCH TOPICS

- Analytical modelling and model update in structural dynamics (discrete-continua)
- Dynamic analysis of rotating structures
- Dynamic analysis of non-smooth mechanical systems
- Shock isolation of elastic structures
- Vibration mitigation of mechanical structures-Energy Harvesting

EDUCATION

- **PostGraduate Course in Education (PGCE),**

  September 2013-November 2015

  University of Lincoln, EDEU UNIT

  In Module 4 research project, I worked in 'Towards Industry Engaged Graduates' and it was based on my practice, whereas I linked my projects with industrial demands.

  Supervisor: Mrs. A. Morris

- **Ph.D. 'Nonlinear Localization and Targeted Energy Transfers in Vibrating Systems with Smooth and Non-Smooth Stiffness Nonlinearities'**

  April 2002-October 2006 (Graduation on April 2008)

  National Technical University of Athens (Greece), Faculty of Applied Mathematics and Physics, Division of Mechanics,

  Targeted Energy Transfers is the phenomenon for vibration mitigation that occurs in structures with nonlinear attachments (Nonlinear Energy Sinks-NES) whereas after the excitation of the main structure most of the vibrating energy is transferred and dissipated to the attachment. Moreover, I used advanced techniques for signal analysis such as wavelet transform, empirical mode decomposition method with Hilbert transform to study synchronization between the attachment and the elastic continua.

  Supervisor: Prof. A.F. Vakakis

- **M.Sc. 'Structural Integrity'**

  October 1998-September 1999

  University of Sheffield (UK), Department Mechanical Engineering

  Master Thesis: "Application of Ioannides-Harris Model in Gears"

  Supervisor: Dr. A. Kapoor

- **B.Sc. in Mechanical Engineering**

  March 1992-June 1998

  Technological Educational Institute of Piraeus (Greece), Faculty of Technological Applications, Department Mechanical Engineering

  Energy Direction

  Projects: 'Fractal and applications in Mechanical Engineering', May 1995

  Supervisor: Prof. J. Kaldelis

  Final year thesis: 'Fractals and Multifractals in relation to non-linear dynamical systems with applications in thermodynamics and information theory', June 1998

  Supervisor: Prof. J. Kazantzakis

WORK EXPERIENCE

- **May 2013-**

  University of Lincoln (UK), School of Engineering

Senior Lecturer in Mechanical Engineering

Probation period: 1 year (finished June 2014)

Duties: Teaching, Research, Administration.

Teaching

-Leader in Solid body Modules (2014) for the development of the Mechanical Engineering teaching curriculum.

-Module leader in all modules relative to vibrations and finite elements.

-Lecturer courses for 2nd and 4th year students.

-Supervision of Final year, MSc, and MEng Group projects.

-Co-supervision of a PhD student.

Research

-Active in several research areas in modelling and examining linear and nonlinear dynamics of elastic continua.

-Investigator and supervisor of researchers working for 'High Speed Coupling' project funded by Siemens.

-Submission of research proposals for funding; CIG-2013 (FP7-£84.3k) and ERC-Starting Grant (Horizon 2020-€1.4M).

-Developed collaborations with industry such as Bentley, FORD, PCA.

-Member of Research Committee of Engineering School. Responsible for the research outputs towards REF.

-Support of other academics in research and writing up of research proposals (Dr. R. Margetts, internal collaborator in ERC-Starting Grant).

Administration

Participation in meetings and boards (Research Committee, School, College).

Salary: £42955 (annual gross)

- **November 2010- October 2012**

Lublin University of Technology (Poland), Faculty of Mechanical Engineering, Department of Applied Mechanics, Centre of Excellence Modern Composites Applied in Aerospace and Surface Transport (CEMCAST)

Assist. Professor-Research Fellow (Marie Curie as More Experienced Researcher)

Project CEMCAST, FP7 - REGPPOT - 2009 – 1, No. 245479

http://cemcast.pollub.pl/index/strona/id/5

I was recruited to provide expertise for building a Centre of Excellence in Lublin University of Technology. Main responsibilities were: creation of research plan; research; co-supervision of 1st level academic staff of the Department of Applied Mechanics (Dr. J. Latalski and Dr. K. Kecik); write monthly progress reports; participation in workshops involving also the International Advisory Board of the project; dissemination of the research in international conferences and journals.

The project was "Nonlinear dynamic and control of flexible structures with active elements". The research was in Linear and Nonlinear Dynamics and control of mechanical structures made of light weight composite materials (also with embedded active elements - PZTs), which can be used in practical mechanical applications and aerospace industry e.g. helicopters or airplanes. I worked also in modelling and examining dynamics of L-Shaped beam structures.

Advisor: Prof. J. Warminski, Head of Applied Mechanics Dept., Faculty of Mech. Eng.

Duration of Contract: 2 years tenured track contract (probation period 6 months)

Project partners of Mech. Eng. Dept.:

-University of Glasgow and Sheffield (at that period, UK) with Prof. M. Cartmell
-University of Aberdeen (UK) with Prof. M. Wiercigroch
-University of Roma "La Sapienza" (Italy) with Prof. G. Rega
-Polytechnic University Marche (Italy) with Prof. S. Lenci
-University of Porto (Portugal) with Prof. P. Ribeiro

Personal research collaborations with project partners:

-Prof. G.Rega, in determination of NNMs of cables.

-Prof. M. P. Cartmell, in Linear and Nonlinear Modal Analysis of L-Shape beam structures.

- **February 2009-November 2009**

Eötvös Loránd Geophysical Institute (Budapest-Hungary),
Marie Curie Fellow as More Experienced Researcher
Project ASAP, MTKD-CT-2006-042537

The project was 'Advanced Seismic Acquisition and Processing' (ASAP) under Transfer of Knowledge (TOK) within the 6th Framework Program. The project ASAP was proposed by a consortium between Eötvös Loránd Geophysical Institute with industrial partners the Schlumberger Cambridge Research and the WesternGeco.

My responsibilities were: the creation of research plan within the project goals; research; monthly reports, regular presentations of the research progress within the group; participation in workshops; dissemination of the research progress in international conferences and journals. The research was about the development of an advance model of earth as continuum and then using the associated transfer function it was performed system identification of earth properties using vibrator measurements.

Advisors: Dr. P. Scholtz, Dr. Zs. Nyari

Duration of Contract: 10 months tenured track contract (probation period 3 months) due to end of project.

- **December 2006-November 2008**

University of Liege (Belgium), Aerospace and Mechanical Engineering Dept., Structural Dynamics Research Group, Space Structures and Systems Lab.
Post-Doctoral researcher
Project : 'Friction Based Smart Mistuning of Bladed Disk Assemblies'

Main responsibilities were: reports and regular presentations of the research progress within the group; dissemination of the research in international conferences and journals; visit Prof. M. Ruzzene research group in GaTech (USA).

I worked in the development of models (discrete-elastic continua with gyroscopic effects and geometric nonlinearities) and also in nonlinear modal analysis of some lumped mass models of bladed disk assemblies with flexure nonlinear blades (geometric nonlinearities) and studied localization phenomena. The project was in collaboration with Georgia Technology Institute Atlanta (USA).

Advisors: Prof. G. Kerschen, Prof. J.C. Golinval at University of Liege and Prof. M. Ruzzene at Georgia Technology Institute.

2 September 2007-29 November 2007: Research in Georgia Technology Institute Atlanta, USA with Prof. M. Ruzzene working on waves in nonlinear structures.

- **June 2003- October 2006**

Technipetrol Hellas S.A., (Athens-Greece, Technip-Rome branch)
Piping engineer

I worked, mainly in the company offices (Athens) doing piping design, apart of the following periods: October 2003-February 2004, working in Corinth as Field piping engineer for basic design MOH Corinth refineries; February 2005-July 2005, working in Corinth as a field piping engineer for engineering during construction in MOH Corinth refineries; June 2006-October 2006, working in Rome-Italy for piping design for Canada projects in Headquarters of Technip.

- **September 2001- May 2003**

ENOIA S.A., (Athens-Greece)
Technologist Engineer

I worked as AutoPlant design piping engineer for customization of AutoPlant (material specification for AutoPlant, Autoisogen customization) and I provided support and troubleshooting during the projects. Also, I worked with a team to establish methodology for higher productivity in piping studies of pipelines.

- **October 1999-April 2001**

University of Cambridge (UK), Division C
Research Assistant
Project : 'Surface finish of cold rolled stainless steel'

Sponsored by, Avesta Sheffield, Avesta Sheffield Foundation, and Corus. My speciality was in Zygo interferometer and analysis of surface measurements.

- **November 1996 - September 1998**

Ilias Veneris, Architectural Office (Athens-Greece)
AutoCAD Designer-Administrator in Computer Systems

Design, Technical Support of Computer Systems, Network Administrator.

- **April 1996 - October 1996**

Olympic Airways S.A. (Athens- Greece)
Internship

Technical Support, Improvement of Computer Systems in Cargo Sales and Service Department.

REFEREED JOURNAL PUBLICATIONS

1. **Georgiades, F.**, 2017, Nonlinear Equations of Motion of L-Shaped Beam Structures, European Journal of Mechanics / A Solids, (in press) doi: 10.1016/j.euromechsol.2017.03.007.

2. **Georgiades, F.**, Latalski, J., Warminski, J., 2014, Equations of Motion of Rotating Composite Blades with non-constant rotating speed, Meccanica, doi: 10.1007/s11012-014-9926-9.

3. **Georgiades, F.**, Warminski, J., Cartmell, P., M., 2013, Linear Modal Analysis of L-Shaped beam Structures, Mechanical Systems and Signal Processing, 32 (2), pp.312-332, doi:10.1016/j.ymssp.2012.12.006

4. **Georgiades, F.**, Warminski, J., Cartmell, P., M., 2013, Towards Linear Modal Analysis for an L-Shaped Beam: Equations of Motion, Mechanics Research Communications, 47, pp 50-60, doi: 10.1016/j.mechrescom.2012.11.005.

5. **Georgiades, F.**, Warminski, J., 2011, Excitation of a Localized Nonlinear Normal Mode of a Bladed Disk Assembly Lump Mass Nonlinear Model, Transactions of the Institute of Aviation (Warsaw-Poland)- ISSN 0509-6669, **218**, pp. 28-35. www.ilot.edu.pl/PIL/PIL_218.pdf

6. Latalski, J., **Georgiades, F.**, Warminski, J., 2011, Mode Shape Variation of a Composite Beam with Piezoelectric Patches, Transactions of the Institute of Aviation (Warsaw-Poland)- ISSN 0509-6669, **218**, pp. 36-43. www.ilot.edu.pl/PIL/PIL_218.pdf

7. **Georgiades, F.**, Vakakis, A.F., 2009, Passive Targeted Energy Transfers and Strong Modal Interactions in the Dynamics of a Thin Plate with Strongly Nonlinear End Attachments, Int. Journal of Solids and Structures **46**, (11-12): pp 2330-2353.

8. **Georgiades, F.**, Peeters, M., Kerschen, G., Golinval, J.-C., Ruzzene, M., 2009, Modal Analysis of a Nonlinear Periodic Structure with Cyclic Symmetry, AIAA **47**, 4, pp.1014-1025. doi: 10.2514/1.40461.

9. Karayiannis, Y., Vakakis, A.F., **Georgiades, F.**, 2008, Vibro-Impact Attachments as Shock Absorbers, *Proc. IMechE, Part C: J. Mechanical Engineering Science*, **222**(C10), 1899-1908.

10. Panagopoulos, P., **Georgiades, F.**, Tsakirtzis, S., Vakakis, A.F., Bergman, L.A., 2007, Multi-scaled Analysis of the Damped Dynamics of an Elastic Continuum with an Essentially Nonlinear End Attachment, Int. Journal of Solids and Structures **44**, (18-19): pp 6256-6278.

11. **Georgiades, F.**, Vakakis, A.F., Kerschen, G., 2007, Broadband Passive Targeted Energy Pumping From a Linear Dispersive Rod to a Lightweight Essentially Nonlinear End Attachment, Int. Journal of Nonlinear Mechanics, **42**, Issue 5, pp 773-788.

12. **Georgiades, F.**, Vakakis, A.F., 2007, Dynamics of a Linear Beam with an Attached Local Nonlinear Energy Sink, Communications in Nonlinear Science and Numerical Simulation, **12**, Issue 5, pp 643-651.

13. **Georgiadis, F.**, Vakakis, A.F., McFarland, M., Bergman, L.A., 2005, Shock Isolation through Passive Energy Pumping Caused by Non-smooth Nonlinearities, International Journal of Bifurcation and Chaos, **15**, No. 6 pp.1989-2001.

14. Sutcliffe, M.P.F., **Georgiades, F.**, 2002, Characterisation of pit geometry in cold-rolled stainless steel strip, Wear, **253**, no. 9, pp. 963-974(12).

REFEREED CONFERENCE PUBLICATIONS

15. **Georgiades, F.**, 2016, Nonlinear Dynamics of a Spinning Shaft with Non-Constant Rotating Speed, 5th International Conference in Nonlinear Dynamics in Kharkov (Ukraine), article available online: http://nd.khpi.edu.ua/NDKhPI2016/schedConf/presentations .

16. **Georgiades, F.**, 2015, Towards the Determination of a Nonlinear Campbell Diagram of a Spinning Shaft with Non Constant Rotating Speed, Euromech 573, Lyon (France) 25-27 August 2015, article available online: http://573.euromech.org/speakers/ .

17. Kirk, A., **Georgiades, F.**, Bingham, C., 2015, Towards Determination of Critical Speeds of Shafts with Eccentric Sleeves: Equations of Motion, Paolo Penacci, Proceedings of the 9th IFToMM International Conference on Rotor Dynamics, Springer.

18. **Georgiades, F.**, Theodossiades, S., Margetts, R., Bingham, C., 2014, Modelling spin-up and accelerating pitch angle in a wind turbine model with elastic blades, EWEA 2014, abstract no. 171.

19. **Georgiades, F.**, Warminski, J., Cartmell, M.P., 2012, Linear Modal Analysis of L-Shaped Beam Structures-Parametric Studies, M.P., IOP Journal of Physics: Conference Series, **382**, doi:10.1088/1742-6596/382/1/012006, http://iopscience.iop.org/1742-6596/382/1.

20. Latalski, J., **Georgiades, F.**, Warminski, J., 2012, Rational Placement of a Macro Fibre Composite Actuator in Composite Rotating Beams , IOP Journal of Physics: Conference Series, **382**, doi:10.1088/1742-6596/382/1/012021, http://iopscience.iop.org/1742-6596/382/1.

21. **Georgiades, F.**, Warminski, J., Cartmell, M.P. , 2010, Nonlinear Modal Analysis of an L-Shaped Beam Structure, NNM2012 1-5 July Haifa (Israel).

22. **Georgiades, F.**, Scholtz, P., 2010, Sensitivity of Experimental Dynamic Stiffness of the Vibrator-Earth System, Near Surface 2010 EAGE, Zurich, Technical Publication P51.

23. Peeters, M., **Georgiades, F.**, Viguie, R., Kerschen, G., Golinval, J.-C., 2008, Development of Numerical Algorithms for Practical Computation of Nonlinear Normal Modes, ISMA2008, Biennial ISMA Conference on Noise and Vibration Engineering in Leuven Belgium, Technical Publication, ISMA2008-0083.

24. **Georgiades, F.**, Peeters, M., Kerschen, G., Golinval, J.-C., Ruzzene, M., 2008, Nonlinear Modal Analysis and Energy Localization in a Bladed Disk Assembly, ASME TurboExpo 2008, Estrel Berlin Hotel & Convention Centre, Berlin Germany, Technical Publication, GT2008-51388.

25. **Georgiades, F.**, Peeters, M., Kerschen, G., Golinval, J.-C., Ruzzene, M., 2007, Localization of Energy in a Perfectly Symmetric Bladed Disk Assembly Due to Nonlinearities, ASME Washington State Convention and Trade Centre Seattle Washington State, Seattle 2007 Int. Mechanical Engineering Congress and Exposition, Technical Publication, IMECE2007-41649.

26. **Georgiades, F.**, Vakakis , A.F., 2007, Passive Targeted Energy Transfers and Strong Modal Interactions in the Dynamics of a Thin Plate with Strongly Nonlinear End Attachments, ASME LAS VEGAS 2007 Int. Design Engineering Technical Conferences, Technical Publication, DETC2007-34174.

27. **Georgiades, F.**, Tsakirtzis, S., Panagopoulos, P., Vakakis, A.F., Bergman, L.A., Kerschen, G., 2007, Identification of Nonlinear Modal Interactions Between Elastic Continua and Essentially Nonlinear Boundary Attachments Using Wavelet and Hilbert-Huang Transforms, Computational Methods in Structural Dynamics and Earthquake Engineering. Rethymno Crete, Technical Publication, COMPDYN 2007.

28. **Georgiadis, F.**, Vakakis, A.F., McFarland, D.M., Bergman, L.A., 2003, Shock isolation through passive energy pumping in a system with piecewise linear stiffness's, ASME CHICAGO 2003 Int. Design Engineering Technical Conferences, Technical Publication, DETC2003-62723.

JOURNAL ARTICLES UNDER REVIEW OR PREPARATION (ROP)

ROP-1. **Georgiades, F.**, Nonlinear Dynamics of a Spinning Shaft with Non-Constant Rotating Speed, after invitation for the Special Issue Multiscale Mechanics and Physiscs:new approaches and phenomena, Nonlinear Dynamics (under review).

ROP-2. **Georgiades, F.**, Equations of Motion of Rotating Composite Blades with non-constant rotating speed and active elements, under preparation (based on CEMCAST report).

ROP-3. **Georgiades, F.**, Theodossiades, S., Modelling spin-up and accelerating pitch angle in a wind turbine model with elastic blades, under preparation full journal article based on [18] whereas it was included only the final equations of motion.

OTHER CONFERENCE PUBLICATIONS

29. August 29-31, 2012

MPSVA 2012 Glasgow (UK), CEMCAST POSTER SESSION

'Modelling and dynamics of composite rotating beams with active elements,' Latalski, J., **Georgiades, F.**, Warminski, J.

30. August 30, 2011

2nd Polish Congress of Mechanics Poznan

'Dynamic Analysis of a Rotating Composite Beam with an Embedded Active Element,' Latalski, J., **Georgiades, F.**, Warminski, J.

31. June 17, 2011

VII KRAJOWE FORUM WIROPLATOWE 2011 (8th National Helicopter Forum), Instytut Lotnictwa (Aviation Institute), Warsaw, Poland

'Excitation of a Localized Nonlinear Normal Mode of a Bladed Disk Assembly Lump Mass Nonlinear Model,' **Georgiades, F.**, Warminski, J.

32. June 17, 2011

VII KRAJOWE FORUM WIROPLATOWE 2011 (8th National Helicopter Forum), Instytut Lotnictwa (Aviation Institute), Warsaw, Poland

'Mode Shape Variation of a Composite Beam with Piezoelectric Patches,' Latalski J., **Georgiades, F.**, Warminski, J.

33. June 19-23, 2006

2nd International Conference on Nonlinear Normal Modes and Localization in Vibrating Systems, Samos, Greece.

Poster: 'Passive Broadband Energy Transfer from Elastic Continua to Nonlinear Energy Sinks,' **Georgiades, F.**, Vakakis, A.F.

34. July 18-30, 2005

18th Summer School/ 13th PanHellenic Conference of Nonlinear Science and Complexity, University of Thessaly-Volos, Greece.

Technical Publication, 'Broadband Passive Targeted Energy Pumping From a Linear Dispersive Rod to a Lightweight Essentially Nonlinear End Attachment,' **Georgiades, F.**, Vakakis, A.F., Kerschen, G.

35. July 22-August 2, 1996

9th Summer School / 4th Panhellenic Conference of Complexity and Chaotic Dynamics of Non-Linear Dynamical Systems, University of Patras.

Presentation: 'Two Basic Theorems for the Orbits of a Map Used in the Σ.Δ. Modulator,' Bakopoulos, J., Konstadoudis, V., **Georgiades, F.**

36. July 25-August 5, 1994

7th Summer School / 2nd Panhellenic Conference of Non-Linear Dynamical Systems and Chaotic Dynamics, University of Xanthi

Presentation: 'Evaluating the Fractal Dimension of Surfaces in Materials,' **Georgiades, F.**

TEACHING EXPERIENCE

- ### LECTURING

2016- ,Further Mathematics for Engineers, School of Engineering, Lincoln University-UK

It is a 2nd year module in Mechanical Engineering, and I am serving as lecturer.

2014, Leader of Solid Body Modules, School of Engineering, Lincoln University-UK

I served as **Leader of Solid Body Modules** to supervise and work for the development of the teaching curriculum of the associated modules for the new teaching curriculum of Mechanical Engineering. I worked also in the development of the teaching curriculum of the following modules: **Statics and Mechanics** (1st year), **Computer programming with Matlab** (1st year), **Statics and Mechanics** 2 (2nd year), **Dynamics and Vibrations** (2nd year), **Finite Element Analysis** (3rd year), **Advanced Finite Element Analysis** (postgraduate), **Vibration and Acoustic Analysis of Systems** (postgraduate).

2014- ,Vibration and Acoustic Analysis of Mechanical Systems, School of Engineering, Lincoln University-UK

It is a 4th year module in Mechanical Engineering, and I am serving as module leader and lecturer, with responsibility to update the teaching curriculum. The first year I delivered only vibrations part and the second year the full module.

2013- ,Dynamics 2, School of Engineering, Lincoln University-UK

It is a 2nd year module in Mechanical Engineering, and I am serving as module leader and lecturer, with responsibility to update the teaching curriculum.

2014-15, Advanced Finite Element Analysis, School of Engineering, Lincoln University-UK

It was 4th year module in Mechanical Engineering, and I served as module leader and lecturer.

2013-14, Static and Mechanics 2, School of Engineering, Lincoln University-UK

It was a 2nd year module in Mechanical Engineering, and I served as a lecturer.

2013-14, Vibration of Supports and Powertrains, School of Engineering, Lincoln University-UK

I worked in the development of the teaching curriculum, and also as lecturer in an one full day course for **Vibration of Supports and Powertrains** as part of the module **Balance of Plants** for the M.Sc. in Mechanical Engineering.

2000-01, Demonstration of Zygo Interferometer Lab, Division C, University of Cambridge (UK)

Laboratory **Demonstration of Zygo Interferometer** for 3-D surface measurements in Final year students.

• POSTGRADUATE SUPERVISION EXPERIENCE

2015-16, MEng Group Project, School of Engineering, Lincoln University-UK

Based on FORD Dunton Research Centre (Mr. M. O'Mahony, Mr. J. Voveris) request, I served as supervisor of the project, '**Clutch pedal actuation load reduction device-Optimisation, Sensitivity Analysis, Manufacturing process**.'

2014-15, MEng Group Project, School of Engineering, Lincoln University-UK

Based on FORD Dunton Research Centre (Mr. M.O'Mahony, Mr.J.Voveris) request, I served as supervisor of the project, '**The Evaluation, Comparison and Design of Clutch Pedal Actuation Load Reduction Devices for Automotive Application**.'

2013-14, MSc Project, School of Engineering, Lincoln University-UK

I served, as 2nd supervisor for a project related to a request by FORD Dunton Research Centre (Mr. M.O'Mahony, Mr.J.Voveris) about **Hydraulic-Mechanical Modelling of Clutch**.

• UNDERGRADUATE SUPERVISION EXPERIENCE

2015-16, Supervision of four final year theses, School of Engineering, Lincoln University-UK

Entitled: Modelling and Parametric Study of Thermal Contact Stresses in Blade Roots Using ANSYS; Parametric Study of Aerodynamics Coefficients due to Magnus Force in Rotating Cylinders; Modelling and Development of Campbell Diagram of Composite Spinning Shafts Using ANSYS; Modelling and Development of Campbell Diagram of Composite Rotating Blades Using ANSYS.

2014-15, Supervision of two final year theses, School of Engineering, Lincoln University-UK

One thesis was in contact stresses in blade roots related to PCA Ltd. (Mr. C. Robinson, Mr. Ian Woods) request and the second thesis was about determination of clutch energies related to FORD Dunton Research Centre (Mr. M.O'Mahony, Mr. J. Voveris) request.

2013-14, Supervision of three final year theses, School of Engineering, Lincoln University-UK

All, these theses were related in shock spectra of beams.

2004-05, Co-supervision of final year thesis, National Technical Univ. of Athens-Greece

I served as assistant of Prof. A.F. Vakakis for Y. Karayiannis thesis, entitled 'Vibro-Impact Attachments as Shock Absorbers,' for National Technical University of Athens Dept. of Mechanical Engineering. This work has been done article in a journal.

- **EXTENDED STUDENT'S SUPPORT - VIDEOS AVALIABLE IN YOUTUBE**

Video: Introduction in Nonlinear Normal Modes by Dr. F. Georgiades,
https://youtu.be/_i_Gg1f_3BA

It is an introduction in Nonlinear Normal Modes which is current trend in research as methods in studying nonlinear mechanical systems. It is a complementary material for the final lecture that I am giving at the end of vibrations course to my 2nd year students, in order to broaden the student's horizons and have a first touch in research of nonlinear vibrations.

GRANTS

In my current occupation it is the first time that I had the opportunity to apply for research funding and I applied for two Grants. I spent most of my time, to support existing research Grant funded by Siemens with potential to expand the research funding.

- I am still serving (since Sept. 2013 when the Head of the Engineering School left from University of Lincoln) as Investigator and co-supervisor of PhD thesis of Mr. A. Kirk, for High Speed Coupling Project which is funded by Siemens with £287.5k.

Unsuccessful applications

- Application for CIG 2013 DYROCOBE, Dynamics of Rotating Composite Beams with Non-Ideal Excitation. (Proposal available upon request)

  Collaborator: Prof. J. Warminski, Proposed duration: 2 years, Budget: £84.3k, Evaluation: 69% (threshold: 70%, evaluation available upon request)

- Application for ERC-STARTING GRANT 2015 POWERVIB, Powertrain Torsional Vibrational Absorber. (Proposal available upon request)

  Collaborators: Prof. S. Lenci (University of Marche Italy), Dr. Y. Karayannis (Bentley Motors), Dr. R. Margetts (Lecturer in University of Lincoln), Proposed duration: 5 years, Budget: €1.4M, Evaluation: 69%-100% (evaluation of 5 reviewers for the PI was between very good and excellent, and also in the review it was suggested to submit it as industrial project, evaluation is available upon request).

AWARDS, NOMINATIONS, FELLOWSHIPS

- **November 2015, FELLOW HEA**

Fellow of The Higher Education Academy (UK) with recognition reference PR096361.

- **February 2011-2014, MEMBER OF COMMITTEE**

  Nominated as a member of Committee of Nonlinear Sciences in Polish Academy of Science.

- **November 2010-October 2012, MARIE CURIE FELLOW**

  Marie Curie Fellow as More Experienced Researcher, CEMCAST, FP7-REGPPOT-2009-1, No. 245479.

- **February 2009-November 2009, MARIE CURIE FELLOW**

  Marie Curie Fellow as More Experienced Researcher, ASAP, FP6-TOK, MTKD-CT-2006-042537.

- **March 2000, AWARD**

  'Scientific Instruments Makers Scholarship,' of the Worshipful Company (London).
  www.eng.cam.ac.uk/DesignOffice/prizes/prizeday/PrizeDay00/Pd2000.html

MEMBERSHIP IN ASSOCIATIONS

- **2009- , MCFA**

  Member of Marie Curie Fellows Association with id 54961

- **2012- , EUROMECH**

  Member of Euromech with id EM 120465

SERVICES AS EDITOR, CHAIRMAN AND REFEREE

- **Member of the Editorial Board in the International Journal**
  - Journal of Vibration Testing and System Dynamics (JVTSD), L&H SCIENTIFIC PUBLISHING, https://lhscientificpublishing.com/Journals/JVTSD-EditorialBoard.aspx

- **Service as chairman, in Conferences-Workshops**
  - Theoretical Problems in Nonlinear Dynamics, Section 3, in 5th International Conference in Nonlinear Dynamics 2016, 27-30 September Kharkov Ukraine (ND-KhPI2016). http://web.kpi.kharkov.ua/nd-khpi/program/
  - Energy Harvesting Session for Modern Practice in Stress and Vibration Analysis 2012 conference, 29-31 August Glasgow. http://mpsva2012.iopconfs.org/84450.
  - Session 4 for workshop 'Nonlinear Dynamic Phenomena in Mechanical, Aerospace, and Civil Engineering', within CEMCAST project, 22-23 October 2012 Lublin University of Technology.

- **Service as referee, in Journals**

  Communication in Nonlinear Science and Numerical Simulations (Elsevier); **European Journal of Mechanics-A/Solids** (Elsevier); **IMechE, Part C: Journal of Mechanical Engineering Science**; **Journal of Applied Mechanics** (ASME); **Journal for Differential Equa-**

tions and Dynamical Systems (Springer); **Journal of Mechanical Engineering Sciences** (SAGE); **Journal of Nonlinear Dynamics** (Springer); **Journal of Nonlinear Mechanics** (Elsevier); **Journal of Nonlinear Science** (Springer); **Journal of Shock and Vibration** (IOS PRESS); **Journal of Sound and Vibration** (Elsevier); **Journal of Theoretical and Applied Mechanics**; **Journal of Vibration and Control** (SAGE); **Meccanica** (Springer); **Mechanics Research Communications** (Elsevier); **Mechanism and Machine Theory** (Elsevier).

- ### Service as referee, in Conferences

  DETC2007, IMECE2007.

- ### Service as referee, in Funding Proposals

  2013, Evaluation of a funding proposal in Aristeia program from the Greek Government.

INVITED SEMINARS

- ### 23-09-2013, UNIVERSITY OF LOUGHBOROUGH (UK)

  Wolfson School of Mechanical and Manufacturing Engineering, Loughborough, UK
  'L-shaped Beam Structures: Modelling and Dynamic Analysis', Georgiades, F., Warminski, J., Cartmell, M.P.

- ### 16-01-2009, ELGI (HUNGARY)

  Eötvös Loránd Geophysical Institute, Budapest, Hungary.
  'Examination of Targeted Energy Transfers from Linear Dispersive Rod to Nonlinear End Attachments – Method,' Georgiades, F., Vakakis, A.F.

- ### 16-01-2009, ELGI (HUNGARY)

  Eötvös Loránd Geophysical Institute, Budapest, Hungary.
  'Analysis of the Dynamics of Linear Dispersive Rod with Nonlinear End Attachment,', Georgiades, F., Vakakis, A.F.

- ### 18-11-2008, UNIVERSITY OF SUSSEX (UK)

  School of Science and Technology, Brighton UK.
  'Modal Analysis of Nonlinear Vibrating Structures-Application to Bladed Disk Assemblies,' Georgiades, F., Kerschen, G.

- ### 02-09-2008, GOODYEAR S.A. (LUXEMBOURG)

  GOODYEAR Colmar-Berg Research Centre, Luxembourg.
  'Nonlinear Localization and Targeted Energy Transfers in Vibrating Systems with Smooth and Non-Smooth Stiffness Nonlinearities,' Georgiades, F., Vakakis, A.F.

- ### 07-08-2008, UNIVERSITY OF NOTTINGHAM (UK)

  School of Mechanical, Materials and Manufacturing Engineering, University of Nottingham, UK.
  'Modal Analysis of Nonlinear Vibrating Structures-Application to Bladed Disk Assemblies,' Georgiades, F., Kerschen, G.

- **24-04-2008, UNIVERSITY OF LIEGE (UK)**

  Aerospace and Mechanical Engineering Department, University of Liege, Belgium.
  'Modal Analysis of Nonlinear Vibrating Structures-Application to Bladed Disk Assemblies,' Georgiades, F., Kerschen, G.

- **20-10-2006, UNIVERSITY OF LIEGE (UK)**

  Aerospace and Mechanical Engineering Department, University of Liege, Belgium.
  'Nonlinear Localization and Targeted Energy Transfers in Vibrating Systems with Smooth and Non-Smooth Stiffness Nonlinearities,' Georgiades, F., Vakakis, A.F.

PARTICIPATION IN WORKSHOPS

- **22, 23-10-2012, CEMCAST**

  Lublin University of Technology, Civil Engineering Department, Lublin, Poland, Workshop: 'Nonlinear Dynamic Phenomena in Mechanical, Aerospace, and Civil Engineering,' organised by CEMCAST-FP7 245479, including presentations from external scientists.
  'Equations of Motion of Rotating Thin-walled Composite Blades with Non-constant Rotation Speed,' Georgiades, F., Warminski, J.

- **06-02-2012, CEMCAST-IABM**

  Lublin University of Technology, Civil Engineering Department, Lublin, Poland, Workshop: 'Research Achievements and Planned Investigations within CEMCAST-FP7 245479', International Advisory Board Meeting (IABM).
  'Nonlinear Normal Modes-Dynamics of Composite Cantilever Beams-Helicopter Bladed Disk Assemblies with Active Elements and Auto parametric Vibrations of L-shape Structures,' Georgiades, F., Warminski, J.

- **08-11-2011, CEMCAST-IABM**

  Lublin University of Technology, Civil Engineering Department, Lublin, Poland, Workshop: 'Research Achievements and Planned Investigations within CEMCAST-FP7 245479', International Advisory Board Meeting.
  'Nonlinear Normal Modes-Dynamics of Composite Cantilever Beams-Helicopter Bladed Disk Assemblies with Active Elements and Auto parametric Vibrations of L-shape Structures,' Georgiades, F., Warminski, J.

- **02-08-2011, CEMCAST-IABM**

  Lublin University of Technology, Civil Engineering Department, Lublin, Poland, Workshop: 'Research Achievements and Planned Investigations within CEMCAST-FP7 245479', International Advisory Board Meeting.
  'Nonlinear Normal Modes-Dynamics of Composite Cantilever Beams-Helicopter Bladed Disk Assemblies with Active Elements and Auto parametric Vibrations of L-shape Structures,' Georgiades, F., Warminski, J.

- **08-02-2011, CEMCAST-IABM**

Lublin University of Technology, Civil Engineering Department, Lublin, Poland, Workshop: 'Research Achievements and Planned Investigations within CEMCAST-FP7 245479', International Advisory Board Meeting.
'Dynamics of Composite Cantilever Beams with Active Elements and Auto parametric Vibrations of L-Shape Structures,'Georgiades, F., Warminski, J.

- **17-11-2009, ASAP-FINAL**

Eötvös Loránd Geophysical Institute, Workshop 'Research Achievements within ASAP Project' contract no. MTKD-CT-2006-042537.
'Determination of Near Surface Soil Properties Using Mechanical Impedance,' Georgiades, F., Scholtz,P.

SCIENTIFIC COLLABORATIONS

- **EXISTING**

Prof. Alexander F. Vakakis, (PhD advisor)

University of Illinois at Urbana Champaign (USA), Mechanical Science and Engineering Dept.

Projects of common interest: Nonsmooth system identification, NNMs of structures, Vibration mitigation with nonlinear attachments (Targeted Energy Transfers). Prof. Vakakis's state of the art laboratory (http://lndvl.mechse.illinois.edu) is available for us.

Prof. Jerzy Warminski, (advisor in CEMCAST project)

Lublin University of Technology (Poland), Faculty of Mechanical Engineering, Head of Applied Mechanics Dept.

Projects of common interest: Modelling and dynamics (linear and nonlinear) of rotating composite blades with active elements, NNMs of structures, passive nonlinear control of structures. Prof. Warminski's laboratory is available for us.

Prof. Matthew P. Cartmell, (International Advisory Board and collaborator in CEMCAST project)

University of Strathclyde (UK), Mechanical and Aerospace Engineering

Collaboration in L-shaped beam projects.

Prof. Stefano Lenci, (International Advisory Board in CEMCAST project)

University of Marche (Italy), Civil Engineering and Architecture Department

Collaboration for POWERVIB ERC-STARTING GRANT application.

Prof. Stefanos Theodossiades,

Loughborough University (UK), Wolfson School of Mechanical and Manufacturing Engineering

Collaboration for participation in EWEA 2014 conference in Barcelona.

Dr. Ioannis Karagiannis, (I co-supervised his Diploma Thesis with Prof. A.F.Vakakis)

BENTLEY MOTORS LIMITED (UK), Technical Manager – Design Analysis, Whole Vehicle Physics, Powertrain and Chassis Engineering

Collaboration for POWERVIB ERC-STARTING GRANT application.

- **POTENTIAL SCIENTIFIC COLLABORATIONS**

- Prof. L. Bergman - University of Illinois at Urbana Champaign, USA,
- Prof. E. Cracium - Ovidius University of Constanta, Romania,
- Prof. V. Eremeyev - Otto von Guericke University, Germany,
- Prof. O. Gendelman - Technion Israel Institute of Technology, Israel,
- Prof. J.-C. Golinval - University of Liege, Belgium,
- Prof. K. Hedrih - SANU Mathematical Institute, Serbian Academy of Sciences, Serbia,
- Prof. G. Kardomateas - Georgia Technology Institute, USA,
- Prof. G. Kerschen - University of Liege, Belgium,
- Prof. L. Kurpa - Kharkov Polytechnic Institute, Ukraine,
- Prof. R. Leine - University of Stuttgart, Germany,
- Prof. L. Manevitch - N.N. Semenov Institute of Chemical Physics, Russian Academy of Sciences, Russia
- Prof. E. Manoach - Bulgarian Academy of Sciences, Bulgaria,
- Prof. M. McFarland - University of Illinois at Urbana Champaign, USA,
- Prof. Y. Mikhlin - Kharkov Polytechnic Institute, Ukraine,
- Prof. F. Pellicano - University of Modena, Italy,
- Prof. G. Rega - La Sapienza Rome, Italy,
- Prof. P. Ribeiro - University of Porto, Portugal,
- Prof. A. Stefanski - University of Lodz, Poland.

ORGANISING CONFERENCES

Administrative support to Prof. A.F. Vakakis, in organising the *2nd International Conference on Nonlinear Normal Modes and Localization in Vibrating Systems*, 2006, Samos, Greece.

FOLLOWED ADVANCED COURSES AND SUMMER SCHOOLS

- **March 17-21, 2008**

University of Liege, Liege-Belgium, 'Wave Propagation in Periodic Structures,' by Prof. M. Ruzzene GATECH-Atlanta USA.

- **July 14-25, 1997**

10th Summer School / 5th Panhellenic Conference of Complexity and Chaotic Dynamics of Nonlinear Dynamical Systems, University of Thessaloniki (Greece).

- **July 19-30, 1993**

6th Summer School / 1st Panhellenic Conference of Nonlinear Dynamical Systems and Chaotic Dynamics, University of Patras (Greece).

- **July 1-14, 1992**

5th Summer School of Nonlinear Dynamical Systems, University of Crete (Greece).

LANGUAGES

Fluent: English, Greek (mother language)
Elementary: French, Italian, Polish

REFEREES

1. Prof. Alex Vakakis

Grayce Wicall Gauthier Professor

Department of Mechanical Science and Engineering

Affiliate Professor, Department of Aerospace Engineering

University of Illinois at Urbana - Champaign

3003 Mechanical Engineering Laboratory

1206 W. Green Str., Urbana, IL 61801,

USA

Tel: +1-217-333-3048

E-mail: avakakis@illinois.edu

Relationship: PhD advisor

2. Prof. Jerzy Warminski

Head of the Department of Applied Mechanics,

Faculty of Mechanical Engineering,

Lublin University of Technology,

Nadbystrzycka 36

20-618 Lublin

POLAND,

Tel: +48-81-53 84 197-8

E-mail: j.warminski@pollub.pl

Relationship: Marie Curie Fellow advisor in CEMCAST project

3. Prof. Stefano Lenci

Full Professor in Structural Engineering

Civil Engineering and Architecture Department

University of Marche (Università Politecnica delle Marche)

Via Brecce Bianche – 60131 Ancona – Italy

ITALY,

Tel: +39-071-2204552

E-mail: s.lenci@univpm.it

Relationship: International Advisory Board in CEMCAST project, and collaborator.

4. Prof. Yuri V. Mikhlin

Full Professor

Applied Mathematics Department

National Technical University of Kharkov (National Technical University "KhPI")

21 Frunze st., Kharkiv, 61002

Ukraine,

E-mail: muv@kpi.kharkov.ua

Relationship: From conference participations.

5. Prof. Matthew P. Cartmell

Editor in chief of Journal of Sound and Vibration (Elsevier)

Full Professor, Chair of Nonlinear Dynamics

Mechanical and Aerospace Engineering

University of Strathclyde

James Weir Building

16 Richmond Street, Glasgow G1 1XQ. Scotland

UK,

Tel: +44 (0)141 548 3753

E-mail: matthew.cartmell@strath.ac.uk

Relationship: International Advisory Board in CEMCAST project, and collaborator.