



## EUROPEAN CURRICULUM VITAE

### PERSONAL INFORMATION

<b>Name</b>	Capitanu Lucian
<b>Address</b>	5, Nedeleanu Ion, 051722, Bucuresti, Romania
<b>Telephone</b>	+40.21.4208329
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<b>Nationality</b>	Romanian
<b>Date of birth</b>	21 April 1947

### WORK EXPERIENCE

<b>Dates (from to)</b>	1971 – now
<b>Name and address of the company</b>	INSTITUTE OF SOLID MECHANICS of ROMANIAN ACADEMY
<b>Type and field of activity</b>	Constantin Mille 15, Bucharest, Romania . Scientific Research
<b>Principal subjects-occupational skills covered</b>	Tribology of classic materials, fatigue wear, lubrication, contact mechanics Tribology of plastics and composite materials Biotribology of Knee and Hip Endoprostheses
<b>Title of qualification awarded</b>	Senior Researcher Head of Tribology and Biotribology Department Scientific Manager of Institute of Solid Mechanics of Romanian Academy

### EDUCATION AND TRAINING

<b>Name and type of organization providing education and training</b>	National Comitee for Nuclear Energy - Central Institute of Physics
<b>Main subjects and professional skills related to the education awarded</b>	PhD studies related to friction and wear of thermoplastics reinforced with glass fibers
<b>Title and professional qualification obtained</b>	PhD in Friction and Wear

<b>Level in national classification ( if applicable)</b>	Level 3 national classification		
<b>Name and type of organization providing education and training</b>	Department of Applied Chemistry and Material Science, Faculty of Mechanical Engineering – Univeristy “Politehnica” of Bucharest		
<b>Main subjects and professional skills related to the education awarded</b>	Undergraduate fundamental courses; specialized courses on chemical engineering, chemical plant design, mechanical engineering		
<b>Title and professional qualification obtained</b>	BS in Mechanical Engineering		
<b>Level in national classification ( if applicable)</b>	Level 3 national classification		
<b>PERSONAL SKILLS AND EXPERTISE</b>			
<b>Doctorat coordinator : MECHANICAL ENGINEERING - TRIBOLOGY</b>			
<b>Mother tongue</b>	Romanian		
<b>Other languages</b>	English		
<b>Reading skills</b>	Excellent		
<b>Writing skills</b>	Excellent		
<b>Verbal skills</b>	Good		
<b>Social skills and competences</b>	<p>Teamwork – reflected by the large number of research grants that I had participated</p> <p>Level of interaction, in multicultural environments, in positions where communication is important and situations where teamwork is essential (ig. culture and sports), etc.</p> <p>Good communication – inherent to a career in research (participation to meetings, symposia, conferences etc.)</p> <p>During my visits to well known Universities and Research Facilities (Imperial College of Science, Technology &amp; Medicine from London, Technion (Haifa), Technical University Athens, Technical University Bordeaux, Uiniversity of Technology and Economics Budapest) I adapted very well to a multicultural environment</p>		
<b>Organisational skills and expertise</b>	<p>Leadership – I am head of the Tribology Department from 1985 and Scientific Coordination and management of Human Resources, projects and budgets; at work, in voluntary work (ig. culture and sports) and at home, etc.</p> <p>Manager of the Institute of Solid Mechanics of Romanian Academy from 2000. I have lead more than 15 research grants and more than 60 engineering projects</p>		

<b>Technical skills and expertise –</b>	Advanced knowledge in tribology of classic and composite materials, in biotribology of Knee and Hip Prostheses as proven by more than 400 papers and studies published in Romania and abroad.  I have good skills in design of test machines and facilities (a number of 2 national patents and 3 international patents)
<b>Artistic abilities</b> Music, writing, design, etc.	Design
<b>Other skills</b> and competences not mentioned above	
<b>Driving licence</b> and other authorizations	B Category (in national classification)
<b>ADDITIONAL INFORMATION</b>	<b>Member of European Society of Biomechanics</b> <b>Honorary Member of Romanian Association of Tribology</b> <b>Member of Balkan Tribology Association</b>
<b>ANNEXES</b>	Recent publications list  Recent research grants list

12 September 2016

Lucian Capitanu



## RECENT PUBLICATIONS LIST

1. L.Capitanu, A.Iarovici, V.Florescu, M.Baubec : Contact Mechanism Estimation of an Artificial Hip Joint Prostheses with Rolling Bodies, Proceedings of Mediterranean Trib 2002, Kayseri, Turkey, pp.273-281.
2. A.Iarovici, L.Capitanu, M.Baubec, J.Onisoru : Spherical Joint with Balls. Stresses and Displacements Analysis, Proceedings of ROTRIB – 2003, The Annals of University “ Dunarea de jos” of Galati, Fascicle VIII, Tribology, 2003, pp.351-336, ISSN1221-4590
3. L. Capitanu, A.Iarovici, J.Onisoru: Stress Analysis of Iliac Bone after Total Hip Arthroplasty, Politechnical Institute Iasi Bulletin, Tom L (LIV), Fasc.6B, 2004, pp. 25-30. ISSN 1011-2855
4. A.Iarovici, L. Capitanu, J.Onisoru: Finite Element Simulation of Press-fitting Fixation of Acetabular Component in Total Hip Arthroplasty, Politechnical Institute Iasi Bulletin, Tom L (LIV), Fasc.6B, 2004, pp. 199-205. ISSN 1011-2855
5. L. Capitanu, A.Iarovici, J.Onisoru : Comparative Wearing Coefficient – A Possible Way For Tribological Characterization Of Frictional Couples, Proceedings of SISOM-2004, Bucharest, 20-21 May, pp.222-229. ISBN (10) 973-27-1353
6. A.Iarovici, L. Capitanu, J.Onisoru : The Total Hip Arthroplasty Effects On The Mechanical Behaviour of The Femur, Proceedings of SISOM-2004, Bucharest, 20-21 May, pp.154-159. ISBN (10) 973-27-1353-4
7. L. Capitanu, J.Onisoru, A.Iarovici: The Wear Resistance of Steel in Linear Contact on Composite Materials, Proceedings of BULTRIB 2004, 28-29 Oct., Sofia, Bulgaria, pp.89-96, ISBN 954-9566-29-3
8. L. Capitanu, A.Iarovici, J.Onisoru : Short-term or Press-fitted Acetabular Cups, Proceedings of BIOMAN Plzen, Cehia, Nov. 2004, pag.205-215. ISBN 7043-315-9
9. L. Capitanu, J.Onisoru, A.Iarovici :Wear Resistance of Steel in Linear Contact on Composite Materials, Proceedings of Romanian Academy, Serie A, Numbers 1-2, Ian.-Aug.2004, pp.37-44. ISSN 1454-9069
10. L. Capitanu, A.Iarovici, J.Onisoru, F.Petrescu, T.Zlateanu : The Functional Analysis of the Thermal Regime regarding the Composite Plastic Material/Steel Couple, UTCB Scientific Bulletin, Bucharest, XLVII, 8/2004, pag.59-66. ISSN-1224-628-X
11. L. Capitanu, A. Iarovici, J. Onisoru: “Tribological behaviour of a total hip prosthesis during normal walking active cycle”, Proceedings of Balkantrib'05, Kragujevac (Serbia), 15-18 June, 2005, pp.317-323. ISBN 86-80581-78-X
12. L. Capitanu, J. Onisoru, A. Iarovici "Tribological aspects for injection processing of thermoplastic composite materials with glass fiber", Proceedings of Balkantrib'05, Kragujevac , Serbia, 15-18 June, 2005, pp.171-180. ISBN 86-80581-78-X
13. L. Capitanu, A. Iarovici, J. Onisoru, F. Petrescu, T. Zlateanu "The functional analysis of the thermal regime regarding the composite plastic material/steel couple", UTCM Scientific Bulletin, nr.1, 2005, tom XV, pp.171-179. ISSN-1224-628-X
14. L. Capitanu, L. Vladareanu, L.M. Velea "Inter-CPM a new real time control system of the mechanical centers and technological results", Proceedings of TMCR 2005, Chisinau, Moldova, pp. 52-56. ISBN 9975-9875-7-5

15. J. Onisoru, A. Iarovici, L. Capitanu, M. Popescu "The contact mechanism between the artificial femoral head and UHMWPE cup, in Total Hip Prostheses", Proceedings of SISOM 2005, Bucuresti 25-26 mai 2005, pp.27-34, ISBN (13) 978-973-27-1353-2
16. C. Tiganesteanu, L. Capitanu "A simple method for surface fatigue investigation of low and high alloyed steels – like steel for orthopaedical prosthesis – using a sliding diamond spherical diamond spherical segment", Proceedings of RADMI 2005, Vnjacka Banja (Serbia-Muntenegro), 04-05 Septembrie 2005, pp. 365-369. ISBN 953-9567-29-4
17. J. Onisoru, A. Iarovici, L. Capitanu, M. Popescu "FE Simulation of the proximal femur before and after Hip Arthroplasty", Proceedings of ICMEN 2005, Salonik, 5-7.10.2005, pp. 897-905. ISBN 960-243-615-8
18. L.Vladareanu, L. Capitanu, "New open-CNC and inter-CPM real Time Control Systems of the Mechanical Centers and the technological Results", Proceedings of ICMEN 2005, Salonik, 5-7 octombrie 2005, pp. 751-758. ISBN 960-243-615-8
19. L. Capitanu, J. Onisoru, A. Iarovici "Tribological aspects for injection processing of thermoplastic composite materials with glass fiber", Journal of the Balkan Tribological Association, Vol.11, No.4, pp.542-557 (2006); ISSN 1310-4772 ( ISI )
20. L. Capitanu, A. Iarovici, J. Onisoru "Tribological behaviour of a total hip prosthesis during normal walking active cycle", Journal of the Balkan Tribological Association, Vol.11, No.5, pp.361-374 (2006); ISSN 1310-4772 ( ISI )
21. J.Onisoru, L. Capitanu, A. Iarovici "Wear prediction of a tibial tray total knee prosthesis " National Conference on Applied Physics, Book of Abstracts, pp.36-37, University Foundation press "Dunarea de Jos" Galati, 2006; ISBN (10) 973-627-311-3
22. J. Onisoru, L. Capitanu, A. Iarovici "Failure of a tibial insert of a total knee prosthesis due to fatigue wear " Politechnical Institute Iasi Bulletin, 2006, tom LII (LVI), fascicula 6A, pp.333-340; ISSN 1011-2855
23. J. Onisoru, L. Capitanu, A. Iarovici "Experimental wear prediction of a tibial tray total knee prosthesis " Politechnical Institute Iasi Bulletin, 2006, tom LII (LVI), Fasc. 6A, pp.251-258; ISSN 1011-2855
24. J. Onisoru, A. Iarovici, L. Capitanu "Kinematics and contact in total knee prostheses during routine activities ", Proceedings of SISOM 2006, pp.142-150;
25. J. Onisoru, A. Iarovici, L. Capitanu, M.Popescu:" The effect of common activities on the osseointegration of the femoral stem ", Abstracts of 5-th World Congress of Biomechanics, Munchen, Journal of Biomechanics, Vol.39, Suppl.1, pp 125-126, 2006; ISSN 0021-9290, (39S1) S1-S684 (2006) ( ISI )
26. J. Onisoru, A. Iarovici, L. Capitanu, M.Popescu " A method for prediction the wear of the artificial joints ", Abstracts of 5-th World Congress of Biomechanics, Munchen, Journal of Biomechanics, Vol.39, Suppl.1, pp 141, 2006; ISSN 0021-9290, (39S1) S1-S684 (2006) ( ISI )
27. L.Capitanu, A.Iarovici, J.Onisoru "Contemporary trends in durability improvement of orthopaedic endoprostheses" in Advanced Engineering in Applied Mechanics, Ed.Academiei, Bucuresti, 2006, ISBN (13) 978-973-27-1370-9, pp. 199-228
28. L.Capitanu, A.Iarovici, J.Onisoru "Tribological Behaviour of a Total Hip Prostheses during Normal Walking Active Cycle", Journal of Balkan Tribological Association, Vol.12, Book 2 (2007) ( ISI )

29. J.Onisoru, A,Iarovici, L.Capitanu. M.Popescu “FE simulation of the proximal femur after hip artroplasty”, Journal of Balkan Tribological Association, Vol.12, Book 3 (2007) , pp.67-85 ( ISI )
30. L.Capitanu, L. Vladareanu, J.Onisoru “The knee prostheses simulator control “ Proceedings of 10-th Conference on Tribology , Serbiatrib 2007, Kragujevac, Serbia, pp.93-99, ISBN 978-86-8663-13-9
31. J. Onisoru, A. Iarovici, L.Capitanu, M. Popescu : “FE Simulation of the proximal femur before and after Hip Arthroplasty”, Journal of Balkan Tribological Association, Vol.12, Book 1, (2007) ( ISI )
32. J.Onisoru, A,Iarovici, L.Capitanu:”Finite Element Prediction of Femoral Stem Osseointegration “, Proceedings of SISOM 2007, Ed. Rom. Acad . Bucharest, pp.51-57, ISSN (10) 973-27-1353-4
33. L.Capitanu, A.Iarovici, J,Onisoru : Failure of a Total Knee Prostheses Tibial Tray due to the Fatigue Wear, The Annals of University “ Dunarea de jos” of Galati, Fascicle VIII, Tribology, 2006, (XII), pp.7 - 13, ISSN 1221-4590
34. J.Onisoru, L.Capitanu, A.Iarovici: “Prediction ofWear of Acetabulum Inserts due to multiple Human Routine Activities”, The Annals of University “ Dunarea de jos” of Galati, Fascicle VIII, Tribology, 2006, (XII), pp.28 – 33 , ISSN 1221-4590
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40. L. Capitanu, J.Onisoru, A.Iarovici: “ Dynamics of Hip Artificial Joints Wear “, The 10th International Conference on Tribology, ROTRIB 07,Bucharest, 9-10 Nov, 2007, Keynotes and Abstracts, RO-23, pp.8 , ISSN 1843-6501
41. L.Capitanu, L.Vladareanu, J.Onisoru, A.Iarovici: “Mathematical Model and Artificial Joint Wear Control”, “, The 10th International Conference on Tribology, ROTRIB 07, Bucharest, 9-10 Nov, 2007, Keynotes and Abstracts, RO-089, pp.6.2-7, ISSN 1843-6501
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43. L.Capitanu: ”Tribology of Composite Thermoplastics Materials”, BREN Publishing House, Bucharest, 2003, pp.1-181, ISBN 973 – 648 – 182 - 4

44. L.Capitanu: "The Orthopaedical Endoprotheses Durability", BREN Publishing House, Bucharest, 2004, pp.1-375, ISBN 973 – 648 – 349 - 5
45. M.Popescu, L.Capitanu : "Total Hip Protheses. Engineering and Orthopaedics", BREN Publishing House, Bucharest, 2006, pp.1-367, ISBN 973 – 648 – 549 - 8
46. L. Capitanu, A.Iarovici, J.Onisoru, C.Tiganesteanu, M.Dima: " Dynamics of Hip Artificial Joints Wear", J.of Balkan Tribological Association, Vol. 14, No.1, pp.76-86, (2008) , (ISI)
46. L. Capitanu, A.Iarovici, J.Onisoru, C.Tiganesteanu, M.Dima : "Mathematical Model and Artificial Joint Wear Control" , J.of Balkan Tribological Association, Vol. 14, No.1, pp.87-101, (2008) , ( ISI )
47. V. Mosnegutu, L.Capitanu, V.Chiroiu: "A 3D model for motion of knee joint during flexion and extension", Proceedings of SISOM 2008, pp. 49 – 54, Bucharest, Romania
48. I.Iliuc, L. Capitanu, M. Baubec, C.Tiganesteanu : " About some aspects of 3D models manufacturing of human bone structures ", Proceedings of SISOM 2008, pp. 132 – 137, Bucharest, Romania
49. V. Mosnegutu, M.Popescu, V.Chiroiu, L.Capitanu: " On the dynamical model of the human knee joint ", Proceedings of WSEAS – Mathematics and computers in biology and chemistry , 24 –26 June 2008, Bucharest, Romania, pp. 76-81, ( ISI )
50. V. Mosnegutu, V.Chiroiu, L.Capitanu, M.Popescu: „The influence of the geometry and the material properties on the behavior of the human knee”, WSEAS TRANSACTIONS on MATHEMATICS, Issue 6, Vol.7, June 2008, ISSN 1109-2769, pp.417-429
51. L.Capitanu, L.Vladareanu, A.Iarovici, J.Onisoru: " Complex procedure for evaluating the fatigue wear of tibial inserts for patients with abnormal walking " , Proceedings of WSEAS , 24–26 June 2008, Bucharest, Romania , pp. 223-228 , (ISI)
52. L. Capitanu, A.Iarovici, J.Onisoru, C.Tiganesteanu :“ Scratching mechanisms of hip artificial joints ”, Abstracts of BALKANTRIB 08, 12 – 14 June 2008, Sozopol, Bulgaria , Publisher Technical University Sofia, pp.189, ISBN 978-954-438-713-6
53. L. Vladareanu, L. Capitanu : " Tibial joint control of the walking robots", Proceedings of BALKANTRIB 08, 12 – 14 June 2008, Sozopol, Bulgaria, Publisher Technical University Sofia, pp.190, ISBN 978-954-438-713-6
54. V. Mosnegutu, V. Chiroiu, L. Capitanu. A. M. Mitu " An inverse problem on the human knee joint modeling " , ACME 08 – Iassy, Bul. Politechnical Institute of Iassy, Tom LIV (LVIII), Fasc. 1, pp. 317-322
55. L. Capitanu, A. Iarovici, J. Onisoru, I. Iliuc : " Solid 3D model realization of anatomical structures using tomography ( CT scan ) and magnetic rezonance imaging ( MRI scan ) data ", Proceedings of ICMEN 08, 1 – 3 october 2008, Salonic, Greece,
56. L. Vladareanu, L.Capitanu : " Real time control of the mechanical centers through the hibrid positions – force control and the technological results " , Proceedings of ICMEN 08, 1 – 3 october 2008, Salonic, Greece.
57. L.Badita, P. Beca, L.Capitanu: " Tribological characteristics improvemrnts of hip protheses using nanostructured coatings ", Proceedings of The COATINGS 08, 1 – 3 october 2008, Salonic, Greece
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### **LIST OF SOME RESEARCH GRANTS**

1. Tribology of monocrystalline diamonds, Romanian Academy Grant #5592/1997
2. Studies on tribological behaviour of unreinforced and glass fibers reinforced termoplastics, Romanian Academy Grant # 121/1998
3. Studies on tribological behaviour of biocompatible metals and plastics, Romanian Academy Grant # 117/1999
4. Constant level control by vibrations in toxic, explosive or radioactive environment, ORIZONT 2000 National Research program, Grant # 298/1999
5. Tribological behaviour of Hip Prostheses, ORIZONT 2000 National Research program, Grant # 559/1999
6. Tribological lubricants for enhancing the efficiency of metals cutting processes, ANSTI Grant # 5208/1999-2001
7. Experimental modeling of tribology of cutting processes, ANSTI Grant # 6025/2000
8. Studies on level measurement by piezoelectric effect of viscous dangerous fluids in vessels, MEC Grant # 6109/2000-2001



9. Studies on nose material behaviour in contact with cutting medium, INCDMF – CEFIN R/D Grant #8/2001

10. Research Network for tribology of hard and extra-hard materials, INCDMF \_ CEFIN R/D # 9/2001-2003

11. Studies on biotribology of artificial hip joints by non-conventional methodologies, NURC Grant # 33517/2002-2003

12. Comparative studies on biomechanics of Hip and Knee Endoprotheses, NURC Grant # 33344/2004-2006.

Lucian Căpitanu

A handwritten signature in black ink, appearing to be 'L. Căpitanu', written in a cursive style.