BIO-DATA

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1. Name : VINOD KUMAR KATIYAR

2. Father's Name : Shri S.C. Katiyar

3. Present Address : Professor
Deptt of Allied & Applied Science,
University of Patanjali, Haridwar, Uttarakhand, India
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4. Date of Birth : 25-12-1953

5. Marital Status : Married

6. Academic Qualifications :

Sl. No.	Exam Passed	Year	Division/ Position	Institution
1.	High	1967	I	U.P. Board, Allahabad
2.	Intermediate	1969	II	- do -
3.	B.Sc.	1971	II	Kanpur Univ., Kanpur
4.	M. Sc.	1974	I Div. & I Position	- do -
5.	Ph. D	1981		- do -

7. Title of Ph.D. Thesis : Analytical Studies of Transfer Processes in two Phase Flows

8. Research Experience

a) 40 years, papers published -181(Journals- 134, Conferences Proceedings-47)
b) Ph.D. Guided - 29 Awarded, 3 persuing
c) M. Sc., M. Phil, M.E Dissertation -
d) Projects Undertaken - As mentioned below:

(1) Analytical and mathematical models in cardiovascular dynamics (U.G.C.), 1986-88.
(2) Transport processes in biological systems-fabrication of model of stenosis (DRIL, University of Roorkee), 1989-93

(3) Mathematical-models in biological system (U.G.C.) 1993-94
(4) Mathematical - models in plant vegetative tissue (University of Nigeria.,Nigeria), 1994-95.
(5) Mathematical Modelling in Biological Systems (U.P.C.S.T. Lucknow), 1996-99.
(6) Mechanical Characterization of Red-blood cell Membrane (D. B.T., New Delhi), 1991-92.
(7) Carotid Artery Bifurcation (FH, Munich), 1996-97.
(8) Modelling in Biomechanics in Reference to Industrial Health Hazards (U.G.C.), 2003-04.
(9) Theory of Bifurcations & Branching in Biological System (DST-DAAD), 2001-03
(10) Effect of yoga on children through physiological, psychological, .emotional studies(2009-11)CCRYN, New Delhi

9. Teaching Experience/Post Held:

Sl.No.	Classes	Period	Institution/Post
1.	B.E.	4.4.75 - 2.2.79	H.B.T.I., Kanpur, JRF, UGC
2.	B.E.	3.2.79 - 3.10.81	University of Roorkee, Roorkee (S.R.F., P.D.F.)
3.	B.Com.	4.10.81 - 16.12.81	Lecturer, Govt. College, Gurgaon
4.	B.E.	17.12.81 - 4.2.94	IIT Roorkee, Roorkee
	M.E., M.Sc.	5.5.96 - onwards.	-do-
5.	B.Sc., M.Sc.	5.2.94 - 4.5.96	University of Nigeria, Nigeria

10. Specializations: Fluid Mechanics, M.H.D., Biofluidmechanics, Plasma Physics, Industrial Mathematics, Mathematical Modelling etc.

11. Awards/Foreign Visits/Any other.

1. Referee on Int. Jl. of Sciences and Engineering, Jl. of Natural and Physical Sciences and Canadian Journal of Physics.
2. Visited University of Hirosaki, Japan to deliver lecturers on Biomechanics in May 1984 and presented paper on Plasma Physics at Institute of Plasma Physics, Nagoya Univ., Nagoya.
3. Awarded National Associateship of Deptt. of Biotechnology, in 1988 and in 1990 and worked for six months (25.3.91-24.9.91) in IIT, Delhi on cell mechanics.
4. Organised a course on `Mathematical models in Biology and Medicine' (9.6.92-20.6.92), Continuing Education Deptt.,University of Roorkee,Roorkee.
5. Coordinated and presented course packages on `Biomathematical models for industrial systems and `Mathematical models for industrial systems'.
6. Awarded Visiting Fellowship of INSA, New Delhi.
7. Visited National University, Singapore to attend and presented paper in Conf. on Biomedical Engineering in 1992.
8. Awarded `Best paper award' in the National Conference on Biomechanics in 1992.
9. Visited Institute of Biotechnik, Munchen, Germany (21.6.95-20.9.95) under DAAD grant.
10. TWAS, Italy awarded South-South Fellowship to visit University of West Indies.
11. I.C.T.P., Italy approved visit under federation scheme of University of Nigeria for 37 days (14.10.95 - 20.11.95).
12. Member of Int. Society of Biorheology, Japan and National Society of Biomechanics, Indian Society of Theoretical and applied Mechanics and Nigerian Mathematical society.

13. Conducted Workshop on Mathematical and Physical Models in Biology and Medicine at National Mathematical Centre, Abuja, Nigeria from 22-27 April 1996.
14. Visited Technical University of Nova Scotia, Anode and Fachhoschule, Munchen & Frankfurt, Germany under Exchange Program of INSA, New Delhi and DFG (Germany), (2.5.97 - 10.6.97).
15. Awarded Distinguished Leadership Award of American Biographical Institute, Inc., U.S.A.
16. Educational T.V. film on "Introduction to Biomechanics" (Under Preparation).
17. Visited, Univ. of Alicante, Spain to attended Int. Conf. on Mathematical Modelling from June 25, 1998 to June 27, 1998.
18. Attended workshop on Industrial Mathematics at ICTP, ITALY from Sept. 27- Oct. 22, 1999.
19. U.G.C. New Delhi awarded "Research Award" to work in the field of Mathematical Modelling in Biological system for three years (1999-2002).
20. Visited Munich, Germany under INSA-DFG program in June-July, 2003 and in March 2004.
21. Joint Secretary in conference on Mathematics and its applications in Engineering and Industry (1997).
22. Secretary, International conference in Mathematical Modeling (2001).
23. Secretary, Faculty Forum, I.I.T. Roorkee (2003-04).
24. Organized Indo-German workshop on Mass Healthcare at New Delhi (2005).
25. Organized a workshop on clean technologies at New Delhi (May, 2006).
26. Organized a workshop on clean technologies at Munich, Germany (July 29 to Aug 04, 2006).
27. Participated in world congress of Biomechanics from 29 July to 4 August 2006, Organize Indo-German workshop.
28. Visited KTH Sweden, EU-ASIA Link Program on human response to noise and vibration.
29. Visited Nano 2006, Boston ,US , Paper presented,2006
30. 15th International Conference on Mechanics in Medicine and Biology held 6-8 Dec 2006 in Singapore.
31. NANOTECH 2008 from June 1-5, 2008 in Boston, USA.
32. Coordinator of NSS in IIT Rorkee from 2007-2010.
33. Involved in rural technical activities with Patanjali Yogpeeth Haridwar India,2009-2010.
34. Participated in PANIIT activities with PRATHMA (in rural transformation activiets).
35. Organized a workshop on "Nano Drug Delivery Systems (Industry – Academia Interaction)" at Centre of Excellence: Nanotechnology, IIT-Roorkee, on Jan. 10, 2015.
36. NANOTECH 2016 in Washington D.C. on May 22-25,2016.
37. 2nd COVT Summit of CVD East Study Group in Munich,Germany on Oct. 20-21,2016.

LIST OF RESEARCH PAPERS

In Journals:

1. P. N. Tandon, V.K. Katiyar and R. P. Vaid, Laminar filmwise condensation on a vertical surface with heat generation, Ind. J. of Tech. 16,1978,11.
2. P. N. Tandon and V. K. Katiyar, Momentum and mass transfer in a laminar boundary layer with tangentially moving interface, Ind. J. of Tech., 17, 1979, 377.
3. P. N. Tandon, V.K. Katiyar and U.C. Mohani, Simultaneous two phase flow of viscoelastic gas over a viscous liquid with flat interface, Acta Cinecia Indica, 3(1), 1977, 63.
4. P. N. Tandon and V. K. Katiyar, Mathematical model for a hydrodynamical problem in renal tubules, Acta Cinecia Indica, 2, 1979, 67.
5. P. N. Tandon, V. K. Katiyar and Kusum Agarwal, Time dependent flow of a fluid through a constricted tube, Med. and Life Sci. Engg., 2(3), 339, 1978.
6. K. M. Srivastava, V. K. Katiyar and Sudhanshu, Two fluid theory of the divertor scrape of layer with ion gyro viscosity, Proc. Ind. Nat. Sci. Acad., Vol. 48, 1982, 101-121 (Report).
7. K. M. Srivastava, V. K. Katiyar and Sudhanshu, Thermal convection instability in a two component fluid layer, Astrophy and space Sci., 85, 1982, 121-136.
8. V. K. Katiyar, K. M. Srivastava and Sudhanshu, Two fluid theory of the divertor scrape of layer within gyro viscosity, Jr. of Nuclear Materials, 128-129, 1984, 378-382.

9. K. M. Srivastava, V. K. Katiyar and Sudhanshu, Boundary Layer theory of scrape off layer, Jr. of Nuclear Materials, 145-146, 1986.
10. V. K. Katiyar, P. Goel and A. Sahai, Mathematical model and statistical analyses of flow behaviour of flow blood type suspension, Jr. of Natural and Physical Science 2, (1), 1990.
11. V. K. Katiyar, P. Goel and K. M. Srivastava, A convective stability of blood flow through a tube, Med. and Life Sci., Engg., 11, 1989, 5-13.
12. U. S. Rana, N. Kumar and V. K. Katiyar, Mathematical and statistical analysis of blood flow problem in artificial kidney, IE(I) Journal, 71, 1990, 1-4.
13. V. K. Katiyar and B. Mohanty, Transient heat transfer analysis for moving boundary transport problems in finite media, Int. Jr. Heat and Fluid Flows 10(1), 1989, 23-31.
14. P. N. Tandon, M. Kawahara, U. S. Rana and V. K. Katiyar, A Model for Blood Flow Through a Stenotic Tube, Int. J. Biomedical Computing, 32, 1993, 61-78.
15. V. K. Katiyar, GCE Mbah, Flow of blood through a constricted-capillary, Nig. Jr. of Medical Physics, Vol. 1(1), 1996.
16. V. K. Katiyar, GCE Mbah, Deformation of wall of an artery with stenosis due to pulsatile flow of blood, Nig. Jr. of Medical Physics, Vol. 1(1), 1996.
17. V. K. Katiyar, GCE Mbah, Pulsatile flow through an elastic tube with mild stenosis, Jr. of Vocational & Educational Studies, Vol. (1), 1, 1996.
18. V. K. Katiyar, Ajeet Singh and H. G. Sharma, A bi-viscosity model of convective stability for blood flow between parallel planes, Jr. of Natural and Physical Science, Vol. 11 (1997) 55-64.
19. V. K. Katiyar and Jai Pal, Pulsatile flow of blood in an elastic tube with wall Deformation, Accepted for publication in International Journal of Applied Sciences and Computations, 2000.
20. Jaipal, Bikas Mohanty and V. K. Katiyar, A mathematical model for chlorine concentartion decay in drinking water network, Accepted for publication in International Journal of Applied Sciences and Computations, 2002.
21. V. K. Katiyar and K. S. Basavarajappa, Blood flow in the cardiovascular system in the presence of magnetic field, Accepted for publication in International Journal of Applied Sciences and Computations, 2002.
22. V. K. Katiyar and K. S. Basavarajappa, Noise effect on cardiovascular system, Accepted for publication in International Journal of Applied Sciences and Computations, 2002.
23. V. K. Katiyar and Nilam, Investigations of blood flow disturbances in the presence of arterial constriction with a reference to microcytic anemia, Accepted for publication in International Journal of Applied Sciences and Computations, 2002.
24. V. K. Katiyar and K. S. Basavarajappa, Study of diabetes mellitus under palatable composition on quantitative diet, Accepted for publication in Australian physical and Engineering Sciences in Medicine, 2002.
25. Tanuja Srivastava, Kaushal K. Srivastava and V. K. Katiyar, A mathematical economics model for schooling of children: An empirical analysis, International Journal of Applied Sciences and Computations, Vol. 9 (1), 2002.
26. V. K. Katiyar and K. S. Basavarajappa, Study of flow characteristics and viscoelastic parameters of tumor cells in cancer growth, International Journal of Applied Sciences and Computations, 9(3) 2002, 160-170.
27. V. K. Katiyar, K. S. Basavarajappa and Nilam, Analysis of Traffic noise parameters in relation with physiological effects, Journal of Natural and Physical Sciences 16, 2002.
28. V. K. Katiyar and Nilam, Regulation of blood glucose level in diabetes mellitus using palatable diet composition, Australasian Physical & Engineering Sciences in Medicine, 26 (3) 2003.
29. R. S. Nirjar, S. S. Jain, M. Parida, V. K. Katiyar, Devender Singh and Namita Mittal, A study of transport related noise pollution in Delhi, Journal of The Institution of Engineers, India, 84, 2003.
30. V. K. Katiyar, Viscous fluid flow through a constricted tube wall, Accepted for publication in Indian Institute of Chemical Engineers, 2002.
31. V. K. Verma, M. P. Singh and V. K. Katiyar, Analytical study of blood flow through an artery with mild stenosis, Acta Ciencia Indica, vol. XXX M, 2 (281), 2004.
32. Somna Mishra, V. Arora and V. K. Katiyar, A model of β-cell mass, insulin, glucose, receptor and somatostatin dynamics, J Natural & Physical Sciences, vol. 19(1), 2005, 99-109.
33. A. K. Gupta and V. K. Katiyar, Analysis of shock wave and traffic jams, Journal of Physics A: Mathematical and General, (38) 19, 2005.

34. A. K. Gupta and V. K. Katiyar, A new anisotropic continuum model for traffic flow, Physica A: Statistical Mechanics and its Applications, (368), 2006, 551-559.
35. A. K. Gupta and V. K. Katiyar, Phase transition of traffic states with on-ramp, Physica A: Statistical Mechanics and its Applications, vol 371, issue 2, pp 674-682, 2006.
36. V. K. Katiyar, V. K. Verma and M. P. Singh, Analytical study of Herschel-Bulkley model of blood flow through stenosed arteries, J. Mathematics and system sciences, Vol 2, No. 1, pp 45-52, 2006.
37. A. K. Gupta and V. K. Katiyar, A New Multi-class Continuum Model for Traffic Flow, Transportmetrica, vol 3, issue 1, pp 73-85, 2006.
38. G. Varshney and V. K. Katiyar, Mathematical modeling of blood flow in an arterial bypass anastomosis, *Abstract in:* Journal of Biomechanics 2006; Vol. 39 Suppl. 1, page S405.
39. S. Kumar and V.K. Katiyar, Numerical simulation of thawing process of biological tissues as porous media during cryosurgery, *Abstract in:* Journal of Biomechanics 2006; Vol. 39 Suppl. 1, page S384.
40. R. Agarwal, V.K. Katiyar and P. Pradhan, Pulsatile flow in carotid artery bifurcation, *Abstract in:* Journal of Biomechanics 2006; Vol. 39 Suppl. 1, page S321.
41. V.K. Katiyar, K.S. Basavarajappa, N. Rathi, G. Manjunath, K.S. Onkarappa, G.N. Krishnamurthy, C. Karibasappa and T.K. Krishna Kumar, Assessment of bio-heat distribution in the spherical tissue layers - a mathematical model to quantify the necrotic core temperature of the tumor using Series solution technique, *Abstract in:* Journal of Biomechanics 2006; Vol. 39 Suppl. 1, page S607.
42. V.K. Katiyar, K.S. Basavarajappa, N. Rathi, G. Manjunath, K.S. Onkarappa, G.N. Krishnamurthy and C. Karibasappa, Study of diabetes mellitus under the administration of quantitative diet using joslin's principle for various body frames - a mathematical model, *Abstract in:* Journal of Biomechanics 2006; Vol. 39 Suppl. 1, page S616.
43. Somna Mishra, V. Arora and V. K. Katiyar, Mathematical modeling of chemotherapy strategies in vascular tumor growth using nanoparticles, Applied Mathematics and Computation, Volume 189, Issue 2, Pages 1246-1254 **,** 2006.
44. V. K. Verma, V. K. Katiyar and M. P. Singh, Effect of multiple stenosis on blood flow through a tube, accepted for publication in Journal of Natural and physical sciences, 2007
45. Gaurav Varshney and V. K. Katiyar, Computational Study of Steady Blood Flow Simulation in a Complete Coronary Artery Bypass Anastomosis Model, Canadian Journal of pure and applied Sciences, Vol-1(1) (2007) pp 103-109.
46. Priya Pathak and V.K.katiyar, Multi-Functional Nanoparticles and their Role in cancer Drug Delivery – A Review, Journal of nanotechnology Online, Vol-3(May), 1-17, 2007.
47. Priya Pathak, V.K.katiyar and Shibashish Giri, Cancer Research - Nanoparticles, Nanobiosensors and Their Use in Cancer Research**,** Journal of nanotechnology Online, Vol-3 (September) 1-14,2007
48. S. Kumar and V. K. Katiyar, Numerical Study On Phase Change Heat Transfer During Combined Hyperthermia And Cryosurgical Treatment Of Lung Cancer**,** Int. J. of Appl. Math and Mech. **3**(3):1-17, 2007.
49. Ruchi Agarwal , VK Katiyar, Prabhakar Pradhan and D Liepsch, Finite Element Simulation Of Cardiac Output And Pressure Waveform in Carotid Artery, Canadian Journal of pure and applied Sciences, Vol-2(1) (2008) pp 197-203.
50. G. Varshney, V. K. Katiyar and S. Kumar, Mathematical Modeling and Numerical Simulation of Drug Release in Arterial Stent, International Journal of Applied Mathematics and Mechanics, 4(1): 91-102, 2008.
51. V. K. Verma, M. P. Singh and V. K. Katiyar, Mathematical Modeling of Blood flow through Stenosed Tube, Journal of Mechanics in Medicine and Biology, Vol. 8, No. 1 (2008) 27–32.
52. Somna Mishra and V. K. Katiyar, Spatio-Temporal tumor Model for Analysis and Mechanism of Action of Intracellular Drug Accumulation, Journal of Biosciences, 33 (3), 381-389, 2008.
53. Somna Mishra and V. K. Katiyar, Mathematical Model of Effect of Magnetic Nano Drug Delivery on Blood flow by External Magnetic Field, accepted for publication in Journal of Biosciences, 2008.
54. Ruchi Agarwal, V. K. Katiyar and Prabhakar Pradhan, A mathematical modeling of pulsatile flow in carotid artery bifurcation, accepted for publication in International Journal of Engineering Sciences, 2008

55. A.D. Patel, I.A. Salehbhai, S.K. Meher, A.K. Shukla, M.N. Mehta and V.K. Katiyar, Mathematical Modeling of Flow in Narrowing Systems, Indian Journal of Biomechanics, Special Issue NCBM-pp 5-7, 2009.
56. Rohit Agarwal, V.K. Katiyar and Peeyush Tewari, Use of Nano Filters for the Control of Emission of NOx and Carbon Particles from Chimneys of Industries, accepted for publication in International Journal of Theoretically and Applied Multiscale Mechanics 2009.
57. Anju Saini, V.K. Katiyar and Pratibha, Mathematical Modeling of Inert Gas Transport to Tissue and Blood Back to the Lungs, Published in GAMS-2009.
58. Anju Saini, V.K. Katiyar and Pratibha, Mathematical Modeling of Lung Mechanics-A Review. Indian Journal of Biomechanics, Special Issue NCBM-pp 13-16, 2009.
59. V.K.Katiyar, K.S. Basavarajappa, G. Manjunatha, K.S. Onkarappa and S.S. Naik, Mathematical Modeling on Diabeties Mellitus under the Administration of Quantitative Diet using Joslin's Principle for various Body Frames, Indian Journal of Biomechanics, Special Issue NCBM-pp 41-45, 2009.
60. V.K.Katiyar, K.S. Basavarajappa, G. Manjunatha, K.S. Onkarappa and S.S. Naik, Mathematical Model to Study the Bio-Heat Distribution in Reference to Spherical Tumour to Quantify the Necrotic Core Temperature, Indian Journal of Biomechanics, Special Issue NCBM-pp 46-50, 2009.
61. Devdatta, V.K. Katiyar and Pratibha, Mathematical Modeling of Respiratory System: A Review, Indian Journal of Biomechanics, Special Issue NCBM-pp 56-60, 2009.
62. Gaurav Varshney and V.K. Katiyar, Analysis of Flow Fields in Stenosed Artery with Complete Bypass Graft using Numerical Method, Indian Journal of Biomechanics, Special Issue NCBM-pp 65-69, 2009.
63. Kamini Rawat, V.K. Katiyar and Pratibha, Mathematical Modeling Environmental Noise Impact, Indian Journal of Biomechanics, Special Issue NCBM-pp 75-81, 2009.
64. Rohit Agarwal, V.K. Katiyar and Manish Sachan, Effects of Industrial Pollution on Nano Biosystems and its Remedies, Indian Journal of Biomechanics, Special Issue NCBM-pp 109-112, 2009.
65. Rashid Ali, Raminder Kaur, V.K. Katiyar and M.P. Singh, Mathematical Modeling of Blood Flow through Vertebral Artery with Stenoses, Indian Journal of Biomechanics, Special Issue NCBM-pp 151-158, 2009.
66. Neeti Bhargava, V.K. Katiyar, M.L. Sharma and P. Pradhan, Earthquake Prediction through Animal Behavior: A Review, published in Indian Journal of Biomechanics, Special Issue NCBM-pp 159-165, 2009.
67. Ruchi Singhal and V.K. Katiyar, Mathematical Models of Cheyne Stokes Breathing in Understanding Cardiovascular and Respiratory Disorders, Indian Journal of Biomechanics, Special Issue NCBM-pp 170-174, 2009.
68. Sarita, V.K. Katiyar and P. Pradhan, Analytical Study of Heart Rate Breathing by Using Convolution Integral, Indian Journal of Biomechanics, Special Issue NCBM-pp 196-200, 2009.
69. P.R. Sharma, Sazid Ali and V.K. Katiyar, Numerical Study of Heat Propagation in Living Tissue Subjected to Instantaneous Heating, Indian Journal of Biomechanics, Special Issue NCBM-pp 205-209, 2009.
70. Sushil Kumar, Sazid Ali and V.K. Katiyar, A Parametric Study on Phase Change Heat Transfer Process during Cryosurgery of Lung Tumor, Indian Journal of Biomechanics, Special Issue NCBM-pp 210-213, 2009.
71. Shashi, Kusum Deep, V.K. Katiyar and C.K. Katiyar, A State of Art Review on Application of Nature Inspired Optimization Algorithms in Protein Ligand Docking, Indian Journal of Biomechanics, Special Issue NCBM-pp 219-223, 2009.
72. K. Rawat, V.K. Katiyar and Pratibha, Modeling of Single Lane Traffic Flow Using Cellular Automata, **6** (5): 46-57, 2010.
73. Shashi, Kusum Deep and V.K. Katiyar, Minimising Lennard-Jones Potential Using Genetic Algorithm, Published in AMS Journal of Mathematics and Mathematical Biosciences 2008.
74. Sarita, P.Pradhan and V.K.Katiyar, Analytical Study of Human Respiratory System, Published in International Journal of Applied Mathematics and Mechanism (IJAMM), 2009.
75. P.R. Sharma, S. Ali and V.K. Katiyar, Transient Heat Transfer Analysis on Skin Surface and Inside Biological Tissue, Published in IJAMM 2009.
76. Vipin Kumar Verma and V.K. Katiyar and M. P. Singh, Flow Behavior of a non-Newtonian fluid in Peristaltic Motion, Published in BAMS 2010.
77. P.R. Sharma, S. Ali and V.K. Katiyar, Heat Transfer in Living Tissue with Sinusoidal Heating on the Skin, Published in Advances in Applied Mathematical Biosciences (AAMB) 2010.

78. R. Agarwal, V.K. Katiyar and P. Tewari, Use of Nanofilters for the Control of Polution from the Industrial Chimneys, abstract published in Nanotech 2009.
79. Gaurav Varshney, V. K. katiyar and Sushil Kumar, Mathematical Modeling and Numerical Simulation of Drug Release in Stented Artery, International Journal of Applied Mathematics and Mechanics, 4 (1) : 91-102, 2008.
80. Gaurav Varshney and V. K. katiyar, Analysis of flow fields in stenosed artery with complete bypass graft using numerical method, Accepted for publication in Indian Journal of Biomechanics, 2009.
81. Gaurav Varshney, V. K. katiyar and Sushil Kumar, Numerical Modeling of Pulsatile Flow of Blood through a Stenosed Tapered Artery under Periodic Body Acceleration, Accepted for publication in Journal of Mechanics in Medicine and Biology (JMMB), 2009.
82. R. Agarwal, V. K. Katiyar and P. Pradhan, Effects of Heat Conduction and Countercurrent Heat Exchange in Selective Brain Cooling in Humans, Published in International Journal of Applied Mathematics and Mechanics, Vol. 5, Issue 1, pp. 60-67, 2009.
83. R. Agarwal, V. K. Katiyar, P. Pradhan, Mathematical Model and Numerical Simulation of the Drug Eluting Stents in the Carotid Artery, Published in Canadian Journal of Pure and Applied Sciences, Vol. 3, Issue 1, pp. 725-730, 2009.
84. Ruchi Singhal, V. K. Katiyar, Mathematical models of Cheyne-Stokes breathing in understanding cardiovascular and respiratory disorders, Published in Indian Journal of Biomechanics: Special Issue (NCBM 7-8 March 2009), pp. 170-174, 2009.
85. Ruchi Singhal, V. K. Katiyar, Numerical Analysis of Coupled Blood-Wall Arterial LDL Transport in Carotid Artery, Published in International Journal of Applied Mathematics and Mechanics 2010.
86. Sarita, V.K.Katiyar, P.Pradhan, The Mathematical Modeling of Pranic body", Journal of Yoga, summer 2008, Vol 7, Number 8.
87. Sarita, V.K.Katiyar, P.Pradhan, The Transport of Oxygen during Pranayama in the Respiratory tree by the alveolar amplitude response technique using the Numerical method. International Transactions in Applied Sciences (ITAS) (ISSN 0974-7273). V1 N3 Issue, 2009.
88. V.K.Verma, V.K.Katiyar and M.P.Singh "Study of Periodic Breathing and Human Respiratory system" International Journal of Medicine and Medical Sciences, Vol. 1 (8), pp. 330-333, 2009. (Academic Journal)
89. V.K.Verma, V.K.Katiyar and M.P.Singh, "Analytical study of blood flow through and Artery with Mild stenosis", Acta Cinecia Indica, Vol. XXXM, No.2, pp. 28, 2004.
90. V.K.Verma, V.K.Katiyar and M.P.Singh, "Flow Behaviour of a non-Newtonian fluid in Peristaltic Motion" Accepted for publication in June 2010 issue Bulletin of Allahabad Mathematical Society (BAMS).
91. Gaurav Varshney, V.K.Katiyar, Sushil Kumar, "Effect of magnetic field on the blood flow in artery having multiple stenosis: a numerical study" International journal of engg., science and techonology, Vol. 2, No. 2, pp 67-82, 2010.
92. Gaurav Varshney, V.K.Katiyar, Sushil Kumar, " Numerical modeling of pulsatile flow of blood through a stenosed tapered artery under periodic body acceleration" Journal of Mechanics , Medicine and Biology, vol. 10 No. 2, pp1-20, 2010.
93. Sushil Kumar, V.K.Katiyar, Gaurav Varshney, "Mathematical Modeling of Pulsatile Blood Flow and Heat Transfer Characteristics in Stenosed Artery", Inter. Jour. of Fluid Mech. Res. Vol. 37, No. 4, pp 305-324, 2010.
94. Sushil Kumar, V.K.Katiyar, Gaurav Varshney, "Mathematical modeling of freezing and thawing process in tissues: a porous media approach", International Journal of Applied Mechanics, 2010. Vol. 2, No. 3, pp 617-633.
95. P.R.Sharma,Sazid Ali, V.K.Katiyar, Transient heat transfer analysis on skin surface and inside biological tissue. International Journal of Applied Mathematics and Mechanics, Vol. 5, 2009, pp. 36-47.
96. P.R.Sharma,Sazid Ali, V.K.Katiyar, Heat transfer in living tissue with sinusoidal heating on the skin. Accepted for publication in Advances in Applied Mathematical Biosciences, 2009.
97. P.R.Sharma, Sazid Ali, V.K.Katiyar, Numerical study of heat transfer in living tissue subjected to instantaneous heating. Indian Journal of Biomechanics, Indian Society of Biomechanics, Special Issue (NCBM 7-8 March, 2009), pp. 205-209.

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99. P.R.Sharma, Sazid Ali, V.K.Katiyar, Mathematical modeling of temperature distribution on skin surface and inside biological tissue with different heating. Published in Proceedings of International Conference on Biomedical Engineering-2008 (IFMBE Proceedings), Vol. 23, 2009, pp. 1957-1961.
100. P.R.Sharma, Sazid Ali, V.K.Katiyar, Numerical study of temperature and thermal dose response of tumor tissue during hyperthermia treatment. Published in Proceedings of 25th Southern Biomedical Engineering Conference-2009 (IFMBE Proceeding), Vol. 24, 2009, pp. 377-378.
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P.G. Thesis/Dissertation guided

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2. Numerical inversion of Laplace transform in the flow behaviour of blood type suspension, (1986).
3. Flow of blood through axisymmetric constricted tube, (1988).
4. Mathematical and statistical analyses of mass transfer in artificial kidney, (1988).
5. Mathematical models in Pharmacokinetics, (1989).
6. Mathematical models in Genetics, (1990).
7. Two layered flow through arterial stenosis, (1992).
8. Mathematical model of vertebral artery, (1993).
9. Mathematical models of flow through fine capillaries, (1992).
10. Pulsatile flow through constricted arterial vessel, (1993).
11. Mathematical models for flow in constricted tube (1995).
12. Mathematical models in Bioeconomics, (1995).
13. Mathematical models in Epidemics, (1995).
14. Mathematical modelling of Population Dynamics, (1997) (projects).
15. Mathematical modelling in Epidemics, (1997) (project).
16. Unsteady flow of blood like fluid through an elastic tube (1998).
17. Traffic Noise Prediction for rural highway (2000), (M. E. Dissertation).
18. Hemodynamic Study of communicating Arteries (2000).
19. A study on kinematics of traffic noise (2001), (M.E. Dissertation)
20. Mathematical models of mechanical damage in fruits and vegetables (2001).
21. Mathematical modelling in pharamacokinetics (2001).
22. Mathematical models of traffic flow (2001).
23. Basic concepts in biofluid dynamics (2001).
24. Study on earthquake modelling (2001).
25. Modelling of interrupted traffic flow noise (2002) (M. E. Dissertation).
26. Earthquake prediction (2002).
27. Peristaltic and pulsatile flow (2002).
28. Solidification and casting of metals (2002).
29. Noise pollution (2002).
30. Mathematical analysis of solidification processing (2003).
31. Experimental and analytical observations of pressure drop in Newtonian fluid flow (2003).
32. Drag reduction in pipeline flows (2003).
33. Mathematical modeling of severe acute respiratory syndrome (2003).
34. Traffic noise and its control (2003).
35. Mathematical modeling in Cryosurgery (2003).
36. Mathematical modeling of SARS (2003).
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38. Experimental and analytical study of drag reduction in constricted glass tube (2004).
39. Mathematical modeling of drug kinetics (2004).
40. Analytical and experimental study of blood flow model (2005).
41. Automation of health care statistics system for management information systems organization (MISO-HCSS) (MCA Dissertation, 2005).
42. SAP implementation (MCA Dissertation, 2005).
43. Simulation of DVB-H stream generator and parser (MCA Dissertation, 2005).
44. Solidification of finite slab (2005).
45. Analytical study of blood flow in the vertebral artery (1992).
46. Mathematical & Statistical analysis of flow of suspended particle in stenosed artery (1988).
47. Noise Pollution & its control (1998).
48. Modeling of interrupted traffic flow noise (2002).
49. Modeling of a clean hostel room (2009).
50. Design of a nanofiltr in controlling air pollution in industrial chimneys (2009).
51. Numerical Simulation of traffic flow models (2005).
52. Darcy's law & its applications & oil well testing (2001).
53. Community noise effects and control (2003).
54. Designing of eating system and mental casting Process (2004).
55. A survey of Mathematical models in Economics (1995).
56. Drug reduction in pipeline network of petroleum Industry (2001).
57. Nanofilteration technique & its applications in Industry (2010).
58. Development of user authentication using aes and providing resolution independency in epos system (2010)
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Ph.D. Thesis Guided:

1. Study of Flow Problems in Biofluid Dynamics (Pragati Goel) 1990.
2. Same Flow and Heat Transfer Problems in Newtonian and Non-Newtonian Fluids (Ajeet Singh) 1991.
3. Mathematical and Numerical Modelling of Flow Problems in Biological Systems (Jodha Singh) 1994.
4. Mathematical Modeling of Biological Systems (G. C. E. Mbah)) 1997.
5. Mathematical Modelling for some Flow Problems in Biological and Industrial systems (Jai Pal) 1998.
6. Analytical Solutions of Some Problems in Biomechanics (K. S. Basavarajappa) 2002.
7. Mathematical modeling of some problems in Biological system (Nilam) 2003.
8. Mathematical modeling of traffic flow and noise emission (Arvind Kumar Gupta) 2006.

9. Mathematical Models in Pharmacokinetics (Somna Mishra) 2006.
10. Mathematical modeling of solidification process (Sushil Kumar) 2007.
11. Mathematical Models of Flow problems in Biological Systems (Vipin Kumar Verma) 2007.
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14. Mathematical Modeling of thermal Problems in biological systems (Shazid Ali) 2010.
15. Mathematical Modeling and Scientific Validation of Pranayama (Sarita) 2011.
16. Numerical Simulation of Traffic Flow problems, Submitted (Kamini Rawat) 2011
17. New Real Coded Genetic Algorithm and their application to Bio related problems, (Shashi) 2011.
18. Modeling in corporate yoga. (Rudra Bhandari, 2012).
19. Mathematical modeling of lung mechanics. (Anju, 2013).
20. Analysis of mechanical behavior of red blood cell membrane in pathological conditions. (Demeke, Fisseha 2013).
21. Traffic noise modeling using artificial neural network. (Kranti, 2013).
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29. Modeling of lung diseases (Ajay Kumar) Pursuing.
30. Modeling in Respiratory Mechanics (C.Endaew) Pursuing.
31. Traffic Flow modeling in free way Corridor (Rahul Shukla) Pursuing.

Brief Biography

Dr. V. K. Katiyar is a Professor of Mathematics in IIT Roorkee. He is also faculty in Nanotechnology and transportation system. He is having UG, PG and Ph. D. from Kanpur University. His field of specialization is Mathematical Modeling, Biomechanics, Yoga, Spirituality and Rural Technology. Dr. Katiyar was associated with social services as a coordinator of NSS in IIT Roorkee and having national and international projects in rural transformation, coordinated in PAN IIT as rural transformation group. He is associated with Prathma, EKAL group for rural transformation through Social, Economic and Education modes of system. Dr. Katiyar is having national and international projects in health care managements system for society.