

افسانه مجری

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معرفی

استاد دانشگاه در حوزه مهندسی مکانیک و مهندسی پزشکی. شناخته شده در سطح بین‌المللی به دلیل تحقیقات نوآورانه در زمینه روش‌های نوین تشخیص زودهنگام سرطان بافت نرم و استراتژی‌های نوین درمان. مهارت در مطالعات تجربی، مدل‌سازی ریاضی، دینامیک سیالات محاسباتی (CFD)، و مدیریت پروژه.

سابقه کاری

- دانشیار مهندسی مکانیک، دانشگاه صنعتی خواجه نصیرالدین طوسی، تهران، ایران (از ۱۳۹۸ تا کنون)
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مشخصات حرفه‌ای

- Google Scholar Link: <https://scholar.google.com/citations?hl=en&user=xY9ncG0AAAAJ>
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تحصیلات

- دکتری (۲۰۱۱-۲۰۰۶)، مهندسی پزشکی-بیومکانیک، دانشگاه صنعتی امیرکبیر، تهران، ایران
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همکاری‌های بین‌المللی

- همکاری‌های بین‌المللی در پروژه‌های تحقیقاتی با:
 - دانشگاه TU Delft (هلند)، پروفسور کامل هومن (Prof. Kamel Hooman)،
 - دانشگاه کالیفرنیا (آمریکا)، پروفسور کامبیز وفایی (Prof. Kambiz Vafai)،
 - پلی‌تکنیک میلان (ایتالیا)، پروفسور پائولا ساکوماندی (Prof Paola Saccomandi)
 - و دانشگاه Otto von Guericke (آلمان)، پروفسور کلاوس-دیتر اوهل (Prof. Claus-Dieter Ohl)
- همکاری با ژورنال‌های معتبر بین‌المللی که برخی از آنها عبارتند از:

International Journal of Mechanical Sciences, International Journal of Heat and Mass Transfer, Physics of Fluids, Journal of Computer Methods and Programs in Biomedicine, Journal of the Mechanical Behavior of Biomedical Materials, Journal of Thermal Biology, Journal of Computers in Biology and Medicine, etc.

عضویت حرفه‌ای

- فرهنگستان علوم، گروه علوم مهندسی
- انجمن آموزش مهندسی ایران
- انجمن مهندسان مکانیک ایران
- استعدادهای درخشان: سمپاد

سوابق اجرایی

- معاون آموزش و تحصیلات تکمیلی دانشکده مهندسی مکانیک، دانشگاه صنعتی خواجه نصیرالدین طوسی (آبان ۱۴۰۴ تاکنون)
- مدیر امور شاخه‌های انجمن آموزش مهندسی ایران در دانشگاه‌ها (فروردین ۱۴۰۱ تا خرداد ۱۴۰۳)
- عضو کمیته ارتباطات و انتشارات انجمن آموزش مهندسی ایران (دی ۱۴۰۰ تا خرداد ۱۴۰۳)
- مدیر دفتر برنامه ریزی و توسعه آموزش دانشگاه صنعتی خواجه نصیرالدین طوسی (بهمن ۱۳۹۸ تا دی ۱۴۰۰)
- سرپرست تحصیلات تکمیلی دانشکده مهندسی مکانیک، دانشگاه صنعتی خواجه نصیرالدین طوسی (آذر ۱۳۹۶ تا اردیبهشت ۱۳۹۹)
- رئیس کتابخانه مرکزی و مرکز اسناد دانشگاه صنعتی خواجه نصیرالدین طوسی (بهمن ۱۳۹۳ تا خرداد ۱۳۹۵)
- سرپرست انتشارات دانشگاه صنعتی خواجه نصیرالدین طوسی (بهمن ۱۳۹۳ تا خرداد ۱۳۹۵)

افتخارات

- سرآمد آموزشی دانشگاه در سال ۱۴۰۲
- پایان نامه برتر مقطع کارشناسی ارشد در دانشگاه در سال ۱۴۰۳
- پایان نامه برتر کشوری در سال های ۱۳۹۸ و ۱۳۹۵
- برگزیده سیزدهمین جشنواره جوان خوارزمی، پژوهش های کاربردی

علاقه‌مندی‌های پژوهشی

- بیومکانیک بافت‌های نرم
- توسعه روش‌های نوآورانه برای تشخیص و درمان سرطان
- مکانیک سلولی
- آزمایش‌های تجربی (درون‌تنی/برون‌تنی/خارج از تنی)
- مدل‌سازی محاسباتی پیشرفته

حوزه‌های تخصصی

- بیومکانیک سرطان بافت‌های نرم
- شناسایی مدل‌های رفتاری بافت نرم
- آزمایش‌های برون‌تنی در مقیاس بافت و سلول
- تحلیل جریان سیال و انتقال حرارت در محیط‌های متخلخل
- درمان با استفاده از گرمادرمانی (هایپرترمی)
- اولتراسوند متمرکز (با شدت بالا): هیدرودینامیک، انتقال حرارت، دینامیک حباب
- ترموگرافی برای غربالگری سرطان

مقاله‌های ژورنال

No.	Article	Year	Q index
1	A genetically optimized physics-informed neural network for multiphysics modeling of magnetic hyperthermia in brain cancer B. Zeinali, A. Mojra , K. Vafai	2026	Q1

	<i>Computers in Biology and Medicine</i> 206, 111621		
2	Bio-inspired porous channels for thermal management of lithium-ion batteries: the PorousMorphoGrid approach G. Radman, A. Mojra , M. Soltani, M. Ziabasharhagh <i>Energy Conversion and Management</i> 120550	2026	Q1
3	Development of a Prediction Model for Hyperthermia-Enhanced Drug Delivery using Thermosensitive Nanoparticles FB Einolghasi, B. Zeinali, K. Vafai, A. Mojra <i>Journal of Thermal Biology</i> 104124	2025	Q1
4	Development of a dual-frequency sonophoresis for enhanced skin permeability and efficient drug delivery AJ. Alsaadi, F. Honarvar, M. Akrami, E. Naderian, A. Mojra <i>International Journal of Pharmaceutics</i> 125539	2025	Q1
5	Robust cavitation-based pumping into a capillary Z. Heidary, Y. Fan, A. Mojra , CD. Ohl <i>Physics of Fluids</i> 36 (12)	2024	Q1
6	Numerical analysis of ultrasound-mediated microbubble interactions in vascular systems: Effects on shear stress and vessel mechanics Z. Heidary, CD. Ohl, A. Mojra <i>Physics of Fluids</i> 36 (8)	2024	Q1
7	Analysis of HIFU thermal ablation for lung cancer incorporating local thermal non-equilibrium and non-Fourier transfer B. Zeinali, A. Mojra , K. Vafai <i>International Communications in Heat and Mass Transfer</i> 159, 108273	2024	Q1
8	A novel passive flow control technique using circular arcs coupled with downstream splitters F. Eydi, A. Mojra , K. Hooman <i>Ocean Engineering</i> 313, 119393	2024	Q1
9	Flow and noise control of a cylinder using grooves filled with porous material MA. Moradi, A. Mojra <i>Physics of Fluids</i> 36 (4)	2024	Q1
10	Free-surface flow past a circular cylinder at high Froude numbers MA. Moradi, A. Mojra <i>Ocean Engineering</i> 295, 116804	2024	Q1
11	A novel gas embolotherapy using microbubbles electrocoalescence for cancer treatment HA. Sormoli, A. Mojra , G. Heidarinejad <i>Computer Methods and Programs in Biomedicine</i> 244, 107953	2024	Q1
12	Investigating the effects of substrate stiffness on half-maximal inhibitory concentration of chemical anticancer drugs, cell viability and migration of cell lines SR. Ramezani, A. Mojra , M. Tafazoli-Shadpour <i>Cellular, Molecular and Biomedical Reports</i> , 141-147	2024	ISC
13	Microbubble-enhanced HIFU therapy for vascularized tumors using Levovist contrast agent HA. Sormoli, A. Mojra , G. Heidarinejad <i>International Journal of Mechanical Sciences</i> 257, 108569	2023	Q1
14	A numerical study on the benefits of passive-arc plates on drag and noise reductions of a cylinder in turbulent flow F. Eydi, A. Mojra <i>Physics of Fluids</i> 35 (8)	2023	Q1

15	Exploring the benefits of functionally graded carbon nanotubes (FG-CNTs) as a platform for targeted drug delivery systems Z. Heidary, SR. Ramezani, A. Mojra <i>Computer Methods and Programs in Biomedicine</i> 238, 107603	2023	Q1
16	Numerical Study of Microbubble Dynamics Subjected to Ultrasound and Its Effect on Thermal Ablation of Biological Tissue G. Heidarinejad, A. Mojra , H. Azizi Sormoli <i>Amirkabir Journal of Mechanical Engineering</i> 54 (11), 2561-2582	2023	ISC
17	Efficient drug delivery to hypoxic tumors using thermosensitive liposomes with encapsulated anti-cancer drug under high intensity pulsed ultrasound P. Namakshenas, A. Mojra <i>International Journal of Mechanical Sciences</i> , 107818	2023	Q1
18	Comparative analysis of the flow control over a circular cylinder with detached flexible and rigid splitter plates F. Eydi, A. Mojra , R. Abdi <i>Physics of Fluids</i> 34.11: 113604	2022	Q1
19	Numerical study of thermal effect on the stability of carbon nanotubes resting on a viscoelastic foundation subjected to magnetic field Z. Heidary, A. Mojra <i>International Journal of Structural Stability and Dynamics</i> 22 (02), 2250024	2022	Q1
20	Viscoelastic parameters of invasive breast cancer in correlation with porous structure and elemental analysis data A. Mojra , K. Hooman <i>Computer Methods and Programs in Biomedicine</i> 212, 106482	2021	Q1
21	A porous medium approach to thermal analysis of focused ultrasound for treatment of thyroid nodules A. Abdolhosseinzadeh, A. Mojra , K. Hooman <i>Applied Acoustics</i> 182, 108236	2021	Q1
22	Optimization of polyethylene glycol-based hydrogel rectal spacer for focal laser ablation of prostate peripheral zone tumor P. Namakshenas, A. Mojra <i>Physica Medica</i> 89, 104-113	2021	Q2
23	A nexus between active and passive control methods for reduction of aerodynamic noise of circular cylinder M. Souri, A. Mojra <i>International Journal of Mechanical Sciences</i> 200, 106446	2021	Q1
24	Numerical analysis of non-Fourier thermal response of lung tissue based on experimental data with application in laser therapy I. Eltejaei, M. Balavand, A. Mojra <i>Computer Methods and Programs in Biomedicine</i> 199, 105905	2021	Q1
25	Thermal-magneto-mechanical stability analysis of nanofluid conveying carbon nanotubes based on nonlocal couple stress theory SR. Ramezani, A. Mojra <i>Journal of Thermal Stresses</i> 44 (10), 1221-1243	2021	Q2
26	Microstructure-based non-Fourier heat transfer modeling of HIFU treatment for thyroid cancer P. Namakshenas, A. Mojra <i>Computer Methods and Programs in Biomedicine</i> 197, 105698	2020	Q1
27	Characterization of breast tissue permeability for detection of vascular breast tumors: An in vitro study	2020	Q1

	M. Ramazanilar, A. Mojra <i>Materials Science and Engineering: C</i> 107, 110222		
28	Stability analysis of conveying-nanofluid CNT under magnetic field based on nonlocal couple stress theory and fluid-structure interaction SR. Ramezani, A. Mojra <i>Mechanics Based Design of Structures and Machines</i> , 1-18	2020	Q2
29	Thyroid cancer estimation using infrared thermography data F. Bahramian, A. Mojra <i>Infrared Physics & Technology</i> 104, 103126	2020	Q2
30	Simultaneous localization of multiple tumors from thermogram of tissue phantom by using a novel optimization algorithm inspired by hunting dogs SMS. Lari, A. Mojra , M. Rokni <i>Computers in Biology and Medicine</i> 112, 103377	2019	Q2
31	A numerical study on thermal ablation of brain tumor with intraoperative focused ultrasound A. Abdolhosseinzadeh, A. Mojra , A. Ashrafizadeh <i>Journal of thermal biology</i> 83, 119-133	2019	Q1
32	Numerical study of non-Fourier thermal ablation of benign thyroid tumor by focused ultrasound (FU) P. Namakshenas, A. Mojra <i>Biocybernetics and Biomedical Engineering</i> 39 (3), 571-585	2019	Q2
33	Analysis of thyroid thermographic images for detection of thyroid tumor: An experimental-numerical study F. Bahramian, A. Mojra <i>International Journal for Numerical Methods in Biomedical Engineering</i> 35 (6), 3192	2019	Q2
34	A numerical-experimental study on thermal evaluation of orthodontic tooth movement during initial phase of treatment MF. Bonab, A. Mojra , M. Shirazi <i>Journal of thermal biology</i> 80, 45-55	2019	Q1
35	Assessing time-dependent response of intact and degenerated cervical intervertebral discs by employing a poroviscoelastic model based on experimental relaxation data M. Mosayebi, A. Mojra <i>Iranian Journal of Biomedical Engineering</i> 13 (1), 31-44	2019	-
36	Assessment of Infrared Thermography of Thyroid Gland for Development of a New Non-invasive Sleep Detection System F. Bahramian, A. Mojra <i>Journal of Sleep Sciences</i> 4 (1-2), 9-16	2019	-
37	Early relaxation time assessment for characterization of breast tissue and diagnosis of breast tumors M. Baghban, A. Mojra <i>Journal of the mechanical behavior of biomedical materials</i> 87, 325-335	2018	Q1
38	A novel approach for early evaluation of orthodontic process by a numerical thermomechanical analysis Z. Heidary, A. Mojra , M. Shirazi, M. Bazargan <i>International Journal for Numerical Methods in Biomedical Engineering</i> 34 (1), 2899	2018	Q2
39	A patient-specific three-dimensional hemodynamic model of the circle of Willis H. Rezaie, A. Ashrafizadeh, A. Mojra	2017	Q2

	<i>Cardiovascular engineering and technology</i> 8 (4), 495-504		
40	Quantitative diagnosis of breast tumors by characterization of viscoelastic behavior of healthy breast tissue N. Madani, A. Mojra <i>Journal of the mechanical behavior of biomedical materials</i> 68, 180-187	2017	Q1
41	Optimization of hyperelastic constitutive model coefficients for soft tissue by imperialistic competitive algorithm based on experimental data A. Amarloo, M. Keshavarz, A. Mojra <i>Amirkabir Journal of Mechanical Engineering</i> 49 (2), 269-278	2017	-
42	Parameter estimation of brain tumors using intraoperative thermal imaging based on artificial tactile sensing in conjunction with artificial neural network M. Sadeghi-Goughari, A. Mojra , S. Sadeghi <i>Journal of Physics D: Applied Physics</i> 49 (7), 075404	2016	Q1
43	Assessment of thermography technique for detection of thyroid gland: a numerical approach accompanied by an experimental study F. Bahramian, A. Mojra <i>Iranian Journal of Biomedical Engineering</i> 10 (3), 245-256	2016	-
44	Tumor Detection and Morphology Assessment in the Liver Tissue Using an Automatic Tactile Robot SMS. Lari, A. Mojra <i>International Journal of Robotics, Theory and Applications</i> 4 (4), 44-53	2016	-
45	Intraoperative thermal imaging of brain tumors using a haptic-thermal robot with application in minimally invasive neurosurgery M. Sadeghi-Goughari, A. Mojra <i>Applied Thermal Engineering</i> 91, 600-610	2015	Q1
46	Dynamic modeling of breast tissue with application of model reference adaptive system identification technique based on clinical robot-assisted palpation M. Keshavarz, A. Mojra <i>Journal of the mechanical behavior of biomedical materials</i> 51, 269-278	2015	Q1
47	Geometrical features assessment of liver's tumor with application of artificial neural network evolved by imperialist competitive algorithm M. Keshavarz, A. Mojra <i>International journal for numerical methods in biomedical engineering</i> 31 (5), 2704	2015	Q1
48	Finite element modeling of haptic thermography: a novel approach for brain tumor detection during minimally invasive neurosurgery M. Sadeghi-Goughari, A. Mojra <i>Journal of Thermal Biology</i> 53, 53-65	2015	Q2
49	Optimization of hyperelastic model parameters of soft tissue based on genetic algorithm utilizing experimental mechanical dataset AR. Esmaeili, M. Keshavarz, A. Mojra <i>Modares Mechanical Engineering</i> 15 (9), 134-140	2015	-
50	Artificial tactile sensing capability in tumor detection of the liver tissue utilizing in vitro experimental data and hyperelastic finite element modeling M Keshavarz, MR Farahnak, A Mojra <i>Modares Mechanical Engineering</i> 14 (15), 388-394	2014	-
51	A novel robotic tactile mass detector with application in clinical breast examination A. Mojra , S. Najarian, SM. Towliat Kashani, F. Panahi, MA. Tehrani <i>Minimally Invasive Therapy & Allied Technologies</i> 21 (3), 210-221	2012	Q2

52	A novel tactile-guided detection and three-dimensional localization of clinically significant breast masses A. Mojra , S. Najarian, SMT. Kashani, F. Panahi <i>Journal of medical engineering & technology</i> 36 (1), 8-16	2012	Q3
53	A novel haptic robotic viscogram for characterizing the viscoelastic behaviour of breast tissue in clinical examinations A. Mojra , S. Najarian, SM. Towliat Kashani, F. Panahi, M. Yaghmaei <i>International Journal of Medical Robotics and Computer Assisted Surgery</i> 7 (3), 282-292	2011	Q2
54	A medical tactile sensing instrument for detecting embedded objects, with specific application for breast examination SM. Hosseini, SMT. Kashani, S. Najarian, F. Panahi, SMM. Naeini, A. Mojra <i>The international journal of medical robotics and computer assisted surgery</i> 6 (1), 73-82	2010	Q2
55	Coupled fluid-wall modelling of steady flow in stenotic carotid arteries E. Yakhshi-Tafti, M. Tafazzoli-Shadpour, SH. Alavi, A. Mojra <i>Journal of Medical Engineering & Technology</i> 33 (7), 544-550	2009	Q3

منتخب مقاله‌های کنفرانس (ایندکس شده در IEEE)

No.	Article	Year
1	Carbon Nanotube Mediated Hyperthermia for Cancer Therapy B. Zeinali, A. Mojra 2025 32nd National and 10 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 703-709	2026
2	Investigation of Microbubble Motion in a Microvessel with Various Obstructions Filled with Viscous Fluid: A Finite Element Modeling Study M. Mirzaei, A. Mojra 2025 32nd National and 10 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 1-5	2026
3	Predictive Biomarkers SR. Ramezani, A. Mojra 2025 32nd National and 10 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 1236-1241	2026
4	Numerical Study on HIFU Therapy for Precision CAVM Treatment S. Pirhadi, A. Mojra 33rd Annual International Conference of the Iranian Society of Mechanical Engineers (ISME 2025)	2025
5	Molecular Dynamics Simulation of Induced Shear Stress on Cell Membrane SR. Ramezani, A. Mojra , M. Tafazoli-Shadpour 33rd Annual International Conference of the Iranian Society of Mechanical Engineers (ISME 2025)	2025
6	An active strategy for flow and noise control over a cylinder using suction jet pumps MH Chamanazad, A. Mojra 33rd Annual International Conference of the Iranian Society of Mechanical Engineers (ISME 2025)	2025
7	Fractional characterization of breast cancer cell lines based on cell culture experiments A. Monshizadeh, A. Mojra	2024

	The 31 st National and 9 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, Accepted and Presented	
8	Investigating the Migration of Cells with Different Degrees of Metastasis Before and After Treatment with Chemical Drugs Targeting Cytoskeleton Structure, Steroid and Androgen Receptor, SR. Ramezani, A. Mojra , M. Tafazoli-Shadpour The 31 st National and 9 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, Accepted and Presented	2024
9	Fabrication and experiment of hydrogel substrates with different mechanical properties to simulate body tissues and extracellular matrix SR. Ramezani, A. Mojra , M. Tafazoli-Shadpour The 31 st Annual International Conference of Iranian Society of Mechanical Engineers & 9 th Conference on Thermal Power Plants	2023
10	Improving heat transfer in the heat exchanger by installing fins and using phase change materials R. Dehghan Nayeri, A. Mojra 8 th Annual Clean Energy Conference (ACEC2023), ACEC2023-02080104	2023
11	Viscoelastic analysis of malignant breast tumors using fractional derivative model based on in vitro test data A. Monshizadeh, A. Mojra The 31 st Annual International Conference of Iranian Society of Mechanical Engineers & 9 th Conference on Thermal Power Plants	2023
12	Radiofrequency ablation of liver cancer using carbon nanotube and PID controller F. Bahramian, A. Mojra The 31 st Annual International Conference of Iranian Society of Mechanical Engineers & 9 th Conference on Thermal Power Plants (ISME), 1668521	2022
13	Numerical Analysis of Dual-Phase Lag Effects on Thermal Response During Focused Ultrasound B. Zeinali, A. Mojra 29 th National and 7 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 58-62	2022
14	A numerical approach to non-Fourier heat transfer in liver tumor during laser irradiation M. Balavand, I. Eltejaei, A. Mojra 26 th National and 4 th International Iranian conference on Biomedical Engineering (ICBME), IEEE, 49-54	2019
15	Numerical modeling of hyperfoam behavior of periodontal ligament in mechanical loading M. Rahimi, A. Mojra 26 th National and 4 th International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 82-87	2019
16	A Numerical Study on Fluid Flow inside the Knee Joint through a Porous Media Approach S. Sohangir, A. Mojra 25 th National and 3 rd International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 1-5	2018
17	Numerical Simulation of Transducer-Tipped Ultrasound Catheter for Necrosis of Blood Clot through Coronary Artery NK. Molaei, A. Mojra 25 th National and 3 rd International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 1-5	2018
18	Thermal imaging of the human neck for thyroid gland detection based on CT scan images	2017

	F. Bahramian, A. Mojra 24 th National and 2 nd International Iranian Conference on Biomedical engineering (ICBME), IEEE, 1-6	
19	A numerical evaluation of HIFU in the cavitation formation in cancerous liver tissue A. Abdolhosseinzadeh, A. Mojra 24 th National and 2 nd International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 330-333	2017
20	An in Vivo Study on Evaluation of Early Relaxation Time in Breast Tissue M. Baghban, A. Mojra 24 th National and 2 nd International Iranian Conference on Biomedical Engineering (ICBME), IEEE, 1-5	2017
21	Boundary estimation of soft tissue tumor by using feed forward neural network with application of artificial tactile sensing-Boundary estimation of soft tissue tumor M. Keshavarz, S. Mehrdad, A. Mojra 22 nd Iranian Conference on Biomedical Engineering (ICBME), 380-384	2015
22	Development of a tactile robot for tumor detection and localization in biological liver tissue M. Farahnak, M. Keshavarz, A. Mojra , SH. Sadati Second RSI/ISM International Conference on Robotics and Mechatronics (ICRoM), IEEE, 203-208	2014
23	Hyperelastic Modeling of a Soft Tissue with an Embedded Tumor and Recognizing Stiffness Ratio of Tumor for Surgical Applications M. Keshavarz, M. Farahnak, A. Mojra Proceedings of the International Conference on Mechanical Engineering-ISME, 369-372	2014
24	Artificial tactile sensing capability analysis in abnormal mass detection with application in clinical breast examination A. Mojra , S. Najarian, SM. Hosseini, SMT. Kashani, F. Panahi The World Congress on Engineering, 2663-2666	2011
25	Abnormal mass detection in a real breast model: a computational tactile sensing approach A. Mojra , S. Najarian, SM. Hosseini, SM. Kashani, F. Panahi World Congress on Medical Physics and Biomedical Engineering, September 7-12, 2009, Munich, Germany	2009
26	Computational Analysis of Asymmetric Arterial Stenosis with Applications of Fluid-Solid Interaction A. Mojra , M. Tafazzoli-Shadpour, EY. Tafti 3rd Kuala Lumpur International Conference on Biomedical Engineering 2006, Springer, Berlin, Heidelberg, 567-571	2007

سایر مقالات کنفرانس

27. Boujari, A., **Mojra, A.**, A comparative study of periodontal ligament as poroelastic and hyper-viscoelastic models using three-dimensional finite element analysis, (2019) The 27th Annual International Conference on Mechanical Engineering, 7th Conference on Thermal Power Plants, ISME2019, ISME2019-1203
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