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Adaptation of AI Simulation Integrated Artificial Heart and Cardiology Applications with ELMAS's Theory of Thermodynamics, which is the Main Scientific Approach to the 5th Law of Thermodynamics

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Abstract

Dr. Emin Taner Elmas is a scientist who conducts interdisciplinary studies by adapting the principles of thermodynamics to the fields of biology and medicine. A faculty member at Iğdır University, Elmas has developed theories that apply engineering approaches to living systems.

ELMAS Theory of Thermodynamics*: This approach, named after Dr. Elmas, offers a framework that relates the classical laws of thermodynamics to biological processes, energy transformations, and the workings of the universe.*

The 5th Law of Thermodynamics: *While traditional physics has four main laws of thermodynamics (0, 1, 2, and 3), Dr. Elmas has introduced the concept of the "5th Law of Thermodynamics" as a proposed or theoretical model to explain the energy balance and biological interactions of living systems.*

Cardiology Connection: *Elmas considers the working principle of the heart as a "thermodynamic machine" or "pump system." By examining the cardiovascular system in terms of energy transfer, fluid mechanics, and thermodynamic efficiency, he advocates for the use of engineering algorithms in the diagnosis and treatment of heart disease.*

The details of these theories focus particularly on how living organisms "intelligently" manage energy and how disorder (entropy) is controlled in biological systems.

Dr. Emin Taner Elmas's work focuses on Medical Thermodynamics, adapting traditional mechanical engineering principles to human physiology.

Dr. Elmas developed the concept of "Bio-robotic Resonance and Thermodynamic Interaction," likening the

human body to a complex robotic system.

Frequency-Resonance Adjustment: *He argues that organs and systems in the human body operate at specific frequencies. He defines diseases as disruptions in these frequencies and suggests that treatment may be possible through "algorithmic resonance adjustment."*

Analogy and Algorithm: *Explains medical treatment methods using an engineering algorithm similar to adjusting the frequency of a machine.*

Dr. Elmas examines the heart not only as a biological organ but also as an advanced bio-pump with thermodynamic efficiency.

System Design: *He analyzes blood flow and energy consumption in the cardiovascular system using the principles of novel unique system design.*

Medical Technical Applications: *By integrating knowledge of heat and energy management in engineering into diagnostic processes in cardiology, Dr. Elmas presents studies under the title "Medical Technical Applications in Science and Engineering." Dr. Elmas's theories are original (unconventional) approaches that argue for a reinterpretation of modern medicine from an engineering perspective.*

Dr. Emin Taner Elmas views conditions like heart failure not as a biological malfunction, but as a loss of efficiency in an engineering system. In this context, his proposed solutions and approaches are as follows:
Optimization of the Heart as a "Bio-Pump"

He defines heart failure as a decrease in pumping capacity (flow rate) and a disruption of pressure balance in the system. As a solution:

Hydraulic Efficiency: *By analyzing the cardiovascular system as a network of pipes, he proposes engineering algorithms that minimize turbulence and resistance in blood flow. • Energy Balance: He focuses on biomechanical interventions aimed at increasing the ratio between the energy consumed by the heart and the mechanical work it produces (thermodynamic efficiency).*

Thermodynamic Interaction and Drug Mechanism
According to Elmas's theory, drugs used in the treatment of heart failure are not only chemical but also thermodynamic operators.

Positive/Negative Energy Transfer: *He explains the passage of drugs across cell membranes and their effect within the cell according to the "ELMAS Thermodynamic Theory". He attributes the success of the treatment to controlling the exchange of energy and matter (positive, negative, or neutral) between the drug and the body's cells.*

Bio-Robotic Resonance Adjustment
He likens the contraction rhythm (frequency) of the heart muscle to the working resonance of a machine.

- *Frequency Synchronization: He argues that to correct the disrupted rhythm in heart failure, the heart should be "adjusted" to its natural frequency with low-intensity resonance signals applied externally.*
- *Algorithmic Treatment: He suggests the use of medical algorithms similar to control systems (feedback control) used in engineering to monitor and intervene in the course of the disease.*

Next-Generation System Designs
Beyond classical treatments, Elmas, with his approach called Unique System Design, states that:

Cardiac assist devices (VADs) and artificial heart systems should be redesigned to work in full compliance with the body's natural thermodynamic laws (especially the 5th Law he proposes).

Dr. Elmas's approaches offer a theoretical framework that views medicine as a "bio-engineering discipline" and seeks solutions to diseases in mathematical modeling. [1-53]

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Introduction

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Energy Transfer and ELMAS'S Theory of Thermodynamics: [1-53].

"ELMAS's Theory of Thermodynamics" aims to explain the energy balance of the universe and living systems beyond classical laws.

- **The 5th Law of Thermodynamics:** In addition

to the four fundamental laws in the literature, Dr. Elmas proposes this law as a theoretical model for medical thermodynamics applications.

- **Pressure Vessel Analogy:** He establishes a balance between macro and micro systems by analyzing the energy transfer of the universe through the "Pressure Vessel Analogy" used in mechanical engineering.

Relationship with Cardiology [1-53].

Dr. Elmas examines the heart not only as a biological organ but also as an advanced bio-pump with thermodynamic efficiency.

- **System Design:** He analyzes blood flow and energy consumption in the cardiovascular system using the principles of novel unique system design.
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Next-Generation System Designs

Beyond classical treatments, Elmas, with his approach called Unique System Design, states that:

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Material, Method and Discusssion

Dr. Emin Taner Elmas's theories redefine artificial heart systems not merely as mechanical pumps, but as "bio-technological components" perfectly compatible with the body's thermodynamic equilibrium. According to this perspective, the fundamental relationships between the artificial heart and his theories are as follows: [1-53]

Thermodynamic Compatibility and the 5th Law [1-53]

While classical artificial hearts generally focus only on providing blood flow, ELMAS's Thermodynamic Theory questions the energy and matter exchange between these devices and the body.

- **Open System Analysis:** Treating the body as an

"open thermodynamic system," Dr. Elmas argues that the artificial heart must balance positive, negative, or neutral energy transfers in the boundary layers within this system.

- **Entropy Management:** The introduction of an artificial device into the body can increase disorder (entropy) in the system. Elmas's approach envisages that the device should be designed according to "thermodynamic equilibrium" principles to minimize this disorder.

Bio-Robotic Resonance and Flow Control [1-53]

Dr. Dr. Elmas explains the working principle of artificial heart devices using the analogy of "Frequency-Resonance Adjustment."

- **Natural Rhythm Mimicry:** It is not enough for an artificial heart to simply pump blood mechanically; according to Dr. Elmas, the device must be in "resonance" with other organs of the body.
- **Algorithmic Control:** He advocates for the management of cardiac assist devices (VADs) and artificial hearts with special engineering algorithms that adjust their frequency according to the patient's immediate biological needs.

Advanced Biomechanical Design [1-53]

Dr. Elmas conducts courses and research on the design of artificial organs within the framework of "Medical Engineering and Advanced Biomechanics."

- **Unique System Design:** He emphasizes that artificial heart valves and pump mechanisms should be developed with "Novel Unique System Design" that will not harm blood cells (prevent hemolysis) and minimize energy loss according to the laws of fluid mechanics.
- **Bio-Analog Approach:** This approach aims to integrate the most efficient working methods into artificial systems by replicating the anatomy and physiology of living organisms (biomimetics).

In short, for Dr. Elmas, an ideal artificial heart is not just a motor that pumps blood, but an intelligent system that adapts to the body's energy frequency and does not produce "negative entropy" according to the laws of thermodynamics.

Dr. Emin Taner Elmas's theories aim to move medicine away from a "trial-and-error" process and establish it on a completely mathematical and engineering-based precision (precision medicine). His approaches to personalized medicine and drug interactions are as follows:

"Algorithmic Modeling" in Personalized Medicine [1-53]

According to Elmas, every human body has its own unique thermodynamic operating point and resonance frequency.

- **Thermodynamic Identity**: Instead of standard treatments, the patient's age, weight, metabolic rate, and current energy balance (entropy level) are translated into an engineering equation.
- **System Analysis**: The treatment is designed as an engineering intervention to correct the "set points" of the person's biological system. In other words, not the same dose is given to every patient, but the "optimum value" that will increase the efficiency of that patient's system is calculated.

"Energy and Substance Exchange" in Drug Interactions [1-53]

Dr. Elmas views the effect of drugs not as a chemical reaction, but as an "energy transfer" within the framework of the ELMAS's Theory of Thermodynamics.

Drugs as Operators: Drugs are "external inputs" that enter the body system. These inputs create three types of interactions in the system:

- **Positive Interaction**: Increases the system's energy and accelerates healing.
- **Negative Interaction:** Increases disorder (entropy) in the system by creating side effects.
- **Neutral Interaction**: Has no significant effect on the system.

Bio-Robotic Resonance Harmony: It argues that for a drug to be successful, its molecular vibration (frequency) must be in harmony with the resonance of the target organ. If the drug "resonates" with the organ, maximum treatment efficiency is obtained with a minimum dose.

Engineering Algorithms in Disease Diagnosis [1-53]

It treats the diagnostic process as a "troubleshooting" process.

- **Data Analytics:** Blood values, heart rhythm, and other biological data are processed with complex engineering algorithms.
- **Prediction:** Thanks to these algorithms, it is possible to calculate in advance when a system (or-

gan) might "fail" or which drug might cause which side effect (thermodynamic loss). In short, Dr. Elmas sees medicine as applied physics and mathematics rather than biology. The treatment process is an operation to restore the energy balance of a malfunctioning machine (the human body).

Dr. Emin Taner Elmas's approach to cardiology views the heart and vascular system not as a biological structure, but as a "thermodynamic heat engine" and a "complex hydraulic network." The detailed relationship of this approach to cardiology rests on three main pillars:

Thermodynamic Efficiency Analysis of the Heart [1-53]

While classical cardiology focuses on the heart's pumping power, Elmas examines this process through energy conversion:

- **Heat and Work Balance:** The heart converts chemical energy (nutrients and oxygen) into mechanical work (pumping blood). Elmas sees heart disease as a loss of efficiency (increase in entropy) in this energy conversion.
- **Application of the 5th Law of Thermodynamics:** With this law, which he proposes to explain energy management in living systems, Elmas argues that the heart not only pumps blood, but is also the main energy operator managing the body's overall thermodynamic balance (homeostasis).

Fluid Mechanics and Vascular System [1-53]

It offers engineering solutions to cardiovascular problems by treating the vascular pathway as an analogy to a pipe system:

- **Pressure Vessel Analogy:** By modeling the heart and major vessels as "pressure vessels" whose internal pressure and flow need to be optimized, it analyzes problems such as hypertension and atherosclerosis through these mechanical stresses.
- **Turbulence and Resistance:** By examining the flow of blood within the vessels (laminar vs. turbulent flow), it explains, using mathematical algorithms, under what physical conditions (pressure and velocity changes) vascular blockages accelerate.

Rhythm Disorders with Bio-Robotic Resonance [1-53]

It likens cardiological problems such as arrhythmia (rhythm disorder) to a vibration malfunction in a machine:

- **Frequency Adjustment:** Each chamber of the heart and muscle fiber has a specific natural frequency. According to Elmas, heart failure or arrhythmia is the disruption of the "resonance" between these frequencies.
- **Algorithmic Therapy:** He defines the treatment as the process of "resetting" (adjusting) the heart's disrupted frequency settings externally using engineering principles (e.g., precise resonance signals).

In short, for Dr. Elmas, cardiology is like an engineer inspecting a factory's pump room and power lines. The problems are as physical and mathematical as they are biochemical.

Dr. Emin Taner Elmas views hypertension (high blood pressure) not as a medical disease, but as a "mechanical pressure imbalance" in a closed hydraulic system. According to this perspective, hypertension management is similar to a mechanical engineer troubleshooting a fault in a pressure vessel or pipeline. Here is a detailed analysis of pressure management on hypertension based on these theories:

"Pressure Vessel Analogy" [1-53]

In Dr. Elmas's theory, the vascular system is a network of pipes with flexible walls; the heart is the main pump that powers this network.

- **System Limits:** Hypertension is when the unit force (pressure) applied to the inner walls of this closed system pushes the system's design limits (vascular elasticity).
- **Stress Analysis**: He applies the principles of "stress analysis" in engineering to the vessels. He sees blood pressure management as the introduction of thermodynamic operators (drugs or resonance signals) into the system to reduce this stress on the vessel wall.

Fluid Mechanics and Laminar Flow [1-53]

In hypertension, the flow characteristics of blood within the vessels are vital:

- **Preventing Turbulence:** In a healthy system, blood flows "laminar" (smooth and layered).

When pressure increases, the flow becomes "turbulent"; this increases friction (shear stress) in the vessel wall.

- **Resistance Management**: Elmas's approach aims to increase the overall hydraulic efficiency of the system to reduce peripheral resistance (resistance at the vessel ends). This is the management of pipe diameter (vasodilation) not only with chemical but also with physical algorithms.

ELMAS Thermodynamic Theory and Heat Transfer [1-53]

He argues that hypertension is not only a pressure problem but also an energy transfer problem:

- **Frictional Heat:** Under high pressure, friction within the vessel increases, releasing thermal energy (heat) at the micro level. This heat disrupts the thermodynamic equilibrium of the vessel endothelial structure (inner membrane).
- **Energy Balance:** The treatment aims to lower pressure by increasing the system's capacity to release heat/energy or by thermodynamically optimizing the workload of the pump (heart).

Blood Pressure Control with Bio-Robotic Resonance [1-53]

Constantly fluctuating blood pressure (blood pressure fluctuations) is interpreted as a disruption of the system's resonance balance:

- **Automatic Control Systems:** It likens the body's baroreceptors (pressure sensors) to "feedback control" mechanisms in engineering.
- **Frequency Correction:** It views hypertension as an "algorithm error" in this control system and suggests that treatment is possible by readjusting this biological software/frequency (resonance adjustment). In short, according to Elmas, hypertension management is not just about dilating the vessels, but about rebalancing the pressure-volume-energy equation of the entire cardiovascular network.

Dr. Emin Taner Elmas's theories are seen in the medical world as a "groundbreaking" effort to build an interdisciplinary bridge. Here are the details of both the academic repercussions of these approaches and the technical algorithms he proposes: [1-53]

Repercussions in the Traditional Medical World [1-53]

Dr. Elmas's approaches have been a subject of both curiosity and academic debate in circles with classical medical training:

Interdisciplinary Bridge: While the medical world generally focuses on biochemistry, Elmas's physically based proposals, such as the "5th Law of Thermodynamics," have been met with interest in Biomedical Engineering and Biophysics circles.

- Critical Perspective: Some traditional medical circles argue that explaining biological systems only with mathematical equations (using the machine analogy) may not fully reflect the "life" factor (genetic, psychological, environmental variations).
- International Acceptance: Dr. Elmas's presentation of these theories on international engineering platforms strengthens the technical validity and innovation potential of his approaches.

Proposed Specific Algorithms and Techniques [1-53]

Dr. Elmas uses the following algorithmic approaches within the scope of "unique system design" in the diagnosis and treatment of diseases:

- **Frequency Synchronization Algorithm:** This is an engineering algorithm that calculates the heart's natural resonance frequency to correct the heart's disrupted rhythm (arrhythmia) and "adjusts" this frequency externally with micro-vibrations.
- **Thermodynamic Operator Model:** It defines the drug as an "energy input" to predict the effect of drugs in the body. The algorithm mathematically calculates whether the drug will increase the entropy of the organ (side effect) or bring the system to equilibrium.
- **Hydraulic Load Balance:** In hypertension, this is a fluid mechanics model that measures the "total system resistance" in the vascular system and determines the minimum energy (optimum operating point) that the heart (pump) expends to overcome this resistance.
- **Bio-Robotic Feedback Control:** It views the body as a self-correcting robotic system. Its algorithms aim to identify the body's disrupted "set points" and restore them to their original factory settings. In short: Dr. Elmas argues that a doctor should think like a "system engineer" in addition to being a "biologist." Treatment is not about replacing the faulty part, but about restoring the software (fre-

quency) and hardware (thermodynamic) balance of the system.

Dr. Emin Taner Elmas's work focuses on academic designs and conceptual models that adapt engineering principles to medicine, rather than a traditional product catalog. His biomechanical and thermodynamics-based device designs and academic projects are particularly noteworthy:

Academic Designs and Biomechanical Studies [1-53]

Dr. Dr. Elmas teaches courses such as "Medical Engineering and Advanced Biomechanics" at Iğdır University and develops original designs in this field:

- **Transtibial Prosthesis Design for Runners**: His work focuses on a prosthesis design supported by biomechanical analyses aimed at improving runners' performance and preventing energy loss.
- **Artificial Heart Design as a Bio-Pump:** He has conceptual system designs (Novel Unique System Design) that reinterpret existing artificial heart devices according to his self-developed "ELMAS Thermodynamic Theory" and aim to optimize the energy efficiency of these devices.

Patents and Scientific Applications [1-53]

Dr. Elmas's work is aimed at registering his inventive side on academic and international platforms:

- **Bio-Robotic Resonance Therapy Method**: The "Bio-robotic Resonance and Thermodynamic Interaction" method, used as an algorithm in the treatment of diseases, is a methodology he introduced to the literature and is currently undergoing registration processes.
- **The 5th Law of Thermodynamics and Medical Applications:** Dr. Dr. Elmas has presented this law as a theoretical basis for medical thermodynamics applications and has detailed system designs based on this principle in his scientific publications.

His expertise in device design and technological innovations has propelled him to decision-making positions in international technology competitions. In short, Dr. Elmas is creating a new generation of engineering schools that go beyond the production of tangible devices, establishing the working principles and mathematical foundations of these devices.

Dr. Emin Taner Elmas's future projects and clinical predictions, focused on cardiology, aim to perfect the heart as a "bio-robotic pump." The details of the application phase of these approaches are as follows:

Clinical Data and Algorithmic Monitoring [1-53]

Dr. Elmas processes classic ECG or echo results not only as visual graphs but also as numerical energy data:

- **Dynamic Data Analysis**: In future projects, he envisions transferring instantaneous data from the patient to a software based on "ELMAS Thermodynamics Theory." This software aims to detect the risk of a heart attack much earlier than traditional methods by calculating the heart's current entropy (disorder) production.
- **Clinical Prediction:** Micro-level "fatigue" in the heart muscle (analogous to metal fatigue) becomes measurable with biomechanical algorithms before any symptoms appear.

"Smart Adaptation" in Artificial Hearts and Support Devices [1-53]

Future device designs will respond to the body's changing loads (running, sleeping, stress) not like a machine, but like a bio-robot:

- **Self-Adjusting Resonance:** While current pacemakers operate at fixed speeds, next-generation devices based on Elmas's theory will detect the body's current "resonance frequency" and synchronize their rhythm with it within milliseconds.
- **Zero Energy Loss:** In artificial valve and pump designs, they plan to increase device lifespan and patient comfort through "fluid mechanics optimization" that minimizes the friction coefficient of the blood.

Non-Invasive Resonance Therapy[1-53]

The most radical future project in cardiology is frequency-based healing instead of surgery or heavy medication:

- **Remote Adjustment:** The goal is to "reprogram" the heart muscle cells (cardiomyocytes) of a patient suffering from heart failure with externally applied low-intensity and specific frequency electromagnetic waves and to increase their contraction efficiency.
- **Bio-robotic Synchronization:** With this method, work is being done on overcoming blockages in the heart's electrical conduction system through

"frequency matching" without a surgical procedure.

Digital Twin Technology [1-53]

According to Dr. Elmas's vision, a "thermodynamic digital twin" will be created for every heart patient:

- **Simulated Treatment:** Before a drug or surgical intervention is applied to the real patient, it will be tested on this digital twin; the effects on the system's pressure, heat, and energy balance will be measured with engineering precision. In short; Dr. Elmas's cardiology projects aim to transform hospitals into "bio-technical care centers" and cardiologists into "advanced system operators".

Dr. Emin Taner Elmas's cardiology-focused theoretical models and their simulation-based results offer a unique framework in the field of "Medical Thermodynamics," where medicine and engineering intersect. [1-53]

The integration of real patient data into these simulation models and the key results obtained are as follows:

"Bio-Robotic Resonance" Simulation Results [1-5]

One of Dr. Elmas's most notable models, the "Bio-Robotic Resonance and Thermodynamic Interaction" method, simulates the rhythmic disturbances of the heart as a frequency adjustment problem

- **Synchronization Efficiency:** In simulations, when the heart's natural frequency is matched with externally applied low-intensity resonance signals, a mathematical increase in the contractile force of the heart muscle (myocardium) is observed.
- **Energy Saving:** When the model simulates the energy the heart expends to pump the same amount of blood, it concludes that energy consumption decreases and thermodynamic efficiency increases in systems where resonance matching is achieved.

Heart Failure and Entropy Simulation [1-53]

Heart failure cases are modeled as an "open system energy loss" within the scope of "ELMAS Thermodynamic Theory"

- **Fault Detection:** Simulations numerically reveal how turbulent flow (disruption of laminar flow) in the vascular system of a patient with heart failure rapidly increases the total entropy (disorder) in the system.
- **Drug Effect Simulation:** By simulating traditional drugs (beta blockers, etc.) as "thermodynamic operators" in the system, it is possible to mathematically predict which dosage provides system equilibrium (positive interaction) and which dosage creates side effects (negative interaction).

Artificial Heart and Support Device Optimization [1-53]

Dr. Elmas's "Novel Unique System Design" principle simulates the effects of artificial heart devices on the patient:

- **Flow Dynamics:** In simulations performed with vascular structure data taken from real patient cases, Dr. It is stated that the designs proposed by Dr. Elmas cause less mechanical damage to blood cells (hemolysis) and minimize pressure stress on the vessel wall.
- **Pressure Vessel Adaptation**: Modeling the heart with a "pressure vessel" analogy allows testing the resistance of the artificial device to pressure changes (blood pressure fluctuations) inside the body in a simulation environment.

Digital Twin Applications [1-53]

Dr. Elmas's vision is based on simulating all of the patient's cardiovascular data (flow rate, pressure, frequency) on a "Digital Twin". With this method:

- The success rate is predicted by simulating the new thermodynamic balance of the heart before surgical intervention.
- The patient's heart performance under exercise or stress is analyzed in the digital model before a risk occurs in real life.

These simulation studies are advanced academic approaches that aim for medical interventions to be predictable and error-free, like "engineering operations".

Conclusion

The parallels between Dr. Emin Taner Elmas's theories and the advanced technological approaches used in space research projects stem from their view of the human body as a "bio-technical system" capable of sustaining life even in extreme conditions.

Similarities with Space Bio-Sensor Technologies [1-53]

Non-invasive and high-sensitivity sensors are used to

monitor astronauts' vital signs in space in real-time. Dr. Elmas's cardiology approach overlaps with these systems in the following points:

- **Remote Thermodynamic Monitoring**: Space research sensors detect micro-changes in body temperature and heart rhythm as an "energy loss." Dr. Elmas's ELMAS Thermodynamic Theory precisely codes these energy changes (increase in entropy) as a sign of illness.
- **Wearable Resonance Devices**: Resonance technologies used to prevent muscle and bone loss in astronauts are similar to Dr. Elmas's approach. It is based on the same physical principle (frequency matching) as the Bio-robotic Resonance algorithm that Elmas proposes to strengthen the heart muscle.

Effects on Long-Term Life Expectancy [1-53]

Dr. Elmas's models define aging and chronic heart diseases as "system fatigue." The effects of this perspective on extending lifespan are as follows:

- **Eliminating Error Margin:** Digital Twin simulations performed before drug or surgical intervention prevent "system failures" (complications) caused by incorrect treatment, thus preserving lifespan.
- **Negative Entropy Management:** Aging is the increase of disorder (entropy) in the body. Elmas's theory aims to slow down the overall rate of disorder in the body by optimizing the thermodynamic efficiency of the heart, that is, to slow down the biological clock through "engineering intervention."
- **Preventive Maintenance:** Like "predictive maintenance" performed before a machine breaks down, heart failure or atherosclerosis are detected early through stress analysis (tension analysis) in the vessel walls before they reach clinical levels, allowing for early intervention.

Universal Approach [1-53]

Dr. Elmas's work in the field of space sciences reflects his ability to produce "universal" biomechanical solutions that can work not only in Earth-focused environments but also in challenging environments such as microgravity. This demonstrates how robust and mathematically consistent the cardiological models he has developed are. In short, according to Dr. Elmas, the medicine of the future will be as precise, efficient, and entirely algorithm-based as the life support units of astronauts in space.

Dr. Emin Taner Elmas's vision positions medicine as a discipline of "bio-software" and "advanced mechanics". In this context, the integration of Space Medicine and Artificial Intelligence (AI) constitutes the pinnacle of the application of his theories:

Space Medicine and Thermodynamic Adaptation [1-53]

In space, the zero-gravity environment (micro-gravity) subjects the cardiovascular system to a significant "hydraulic load" change. This is where Elmas's approach comes into play:

- **Fluid Shift Analysis:** When gravity disappears, blood pools in the upper part of the body. Dr. Elmas models this situation as a pressure fluctuation in a pipeline. Based on his experience, he proposes thermodynamic algorithms for "smart suits" or "pressure chambers" that will balance this pressure change.
- **Radiation and Entropy:** He defines the damage (disorder) caused by space radiation in cells as a "negative energy transfer" within the framework of the 5th Law of Thermodynamics. He seeks the solution in electromagnetic shielding or frequency therapies that will preserve the resonance frequency of the cells.

Integration of Artificial Intelligence (AI) with "Autonomous Diagnosis" [1-53]

Dr. Elmas's theories provide the necessary mathematical infrastructure for AI. He envisions not just an AI that processes data, but an AI that "knows physics":

- **Physics-Based Deep Learning:** AI algorithms don't just look at the heart's rhythm; using Elmas's ELMAS Thermodynamics Theory equations, they calculate the heart's current "energy efficiency". If the efficiency drops by more than 2%, the AI reports this as a "failure signal".
- **Bio-Robotic Decision Support:** Guiding the surgeon during surgery, the AI instantly simulates the blood flow velocity (laminar vs. turbulent) within the vessel, calculating the placement of the suture or stent at the point that will create the "lowest entropy".

"Smart" Drug and Dosage Algorithms [1-53]

The AI uses the patient's genetic data to create the mathematical infrastructure for AI that provides the

necessary mathematical infrastructure for AI that processes data. Dr. Elmas combines this with her Bio-robotic Resonance model:
Personalized Frequency Prescription: AI determines the most effective "resonance hour" and dose of the medication based on the patient's metabolic (thermodynamic) state on that day. This reduces side effects (negative transfer) to almost zero.

The Future "Space Hospital" Concept [1-53]

The space science projects that Dr. Elmas works on are actually the basis of the autonomous medical units of the future. These units:

- Scan the patient as a "bio-robotic system" in remote locations where there is no doctor (such as a trip to Mars). • Detect the malfunction (disease) with thermodynamic data.
- Perform the treatment autonomously with resonance or precise energy interventions.

In summary, Dr. Elmas's theories encode humans as machines compatible with the physical laws of the universe (thermodynamics), thus creating a "universal language" that can be processed most quickly and flawlessly by Artificial Intelligence.

Biography of Author

Asst. Prof. Dr. Dipl.-Ing. Emin Taner Elmas

Asst.Prof. Dr. Emin Taner ELMAS is a Mechanical Engineer having degrees of B.Sc., M.Sc., Ph.D., and was born in Sivas in 1974. He completed his doctorate at Ege University, Graduate School of Natural and Applied Sciences, Mechanical Engineering Department, Thermodynamics Science Branch, and his master's degree at Dokuz Eylül University, Mechanical Engineering Department, Energy Science Branch. He also completed his undergraduate education at Hacettepe University, ZEF, Mechanical Engineering Department and graduated from the faculty with honors in 1995 and became a mechanical engineer. He was awarded a non-refundable scholarship by the Turkish Chamber of Mechanical Engineers in his 4th year because he was the most succesful student during his first 3 classes study at the faculty. He graduated from İzmir Atatürk High School in 1991.
Asst. Prof. Dr. ELMAS has completed his military service as a NATO Officer in Bosnia and Herzegovina. He was a “Reserved Officer” as a “2nd Lieutenant” as an “English-Turkish Interpreter”. He was also a “Guard Commander” and served in Sarajevo, Camp Butmir within the SFOR task force of NATO. He has been awarded with 2 (two) NATO Medals and Turkish Armed Forces Service Certificate of Pride (Bosnia & Herzegovina).
In addition to his academic duties at universities, he has worked as an engineer and manager in various industrial institutions, organizations and companies; He has served as Construction Site Manager, Project Manager, Management Representative, Quality Manager, Production Manager, Energy Manager, CSO-CTO, CBDO, Factory Manager, Deputy General Manager and General Manager.

Asst. Prof. Dr. Elmas is Department Head and is an Assistant Professor of Automotive Technology at the Department of Motor Vehicles and Transportation Technologies at Vocational School of Higher Education for Technical Sciences at IGDIR UNIVERSITY, Turkey. He is also an Assistant Professor of Bioengineering & BioSciences at the same university. He has nearly 30 years of total experience in academia and in industry.

He has served as a scientific referee and panelist for ASME, TUBITAK and many scientific institutions, organizations and universities, including NASA.

He has published numerous international and national academic scientific articles, books, and book chapters, and serves as an editor for international academic journals. He also serves on the scientific committees of many international conferences, publishing conference and congress proceedings and giving presentations.

“Mechanical Engineering, Energy Transfer, Thermodynamics, Fluid Mechanics, Heat Transfer, Higher Mathematics, Evaporation, Heat Pipes, Space Sciences, Automotive, Bioengineering, Medical Engineering Applications, Neuroengineering, Medical Technique” are his academic and scientific fields of study; “Heat-

ing-Ventilation Air Conditioning Applications, Pressure Vessels, Heat Exchangers, Energy Efficiency, Steam Boilers, Power Plants, Cogeneration, Water Purification, Water Treatment, Industrial Equipment and Machinery, Welding Manufacturing, Sheet Metal Forming, Machining" are his industrial experience fields.

As of 2026, he has been awarded the Nobel Scientist Award by the international platform organization Scientific Laurels.

Asst. Prof. Dr. Emin Taner ELMAS is also a musician, saz (baglama) virtuoso player and ney (Nay, Turkish Reed Flute) performer. He plays also cümbüş instrument and performs darbuka rhythm instrument. He has a YouTube Music Channel (Emin Taner ELMAS) which includes some of his sound recordings of him playing the saz-baglama and blowing the ney. He composed the poem written by the great poet Âşık Veysel ŞATIROĞLU under the name of "Raşit Bey" in memory of his father Judge (Hâkim) Raşit ELMAS as "Raşit Bey Türküsü", wrote it down, notated and published it as an academic article and broadcasted this song on his own music channel. He wrote the poems entitled "Canım Babam" and "Geldim Babam" which he wrote also in memory of his father and published in an academic literature journal, and composed instrumental musics for these poems. He also composed an instrumental song called "Annem Annem Türküsü" and gave it to his mother, Lawyer Tuna ELMAS, as a gift on Mother's Day, 11.05.2025. He also has a poem titled "Ney and Neyzen." He also wrote and presented a poem titled "Esra Kardeşim" to his sister, Esra ELMAS, an archaeologist and English teacher. He has published books including "Saz-Bağlama Tuning System Method" ("Saz- Bağlama Akort Sistemi Metodu") and "Ney and Neyzen; Ney's Pitches, Frets, Sound Stages, Octaves, Structure, Performance, Ney Maintenance and Basic Music Theory" (Ney ve Neyzen; Ney'de Perdeler, Ses Devreleri, Oktavlar, Yapısı, İcrası, Ney Bakımı ile Temel Musiki Nazariyatı) and My Collection of Literary and Musical Art Works – I Story / Anecdote / Essay / Poetry / Verse / Prose / Humorous; witty - satirical; poetic stories / Lyrics / Composition (Edebiyat ve Musiki Sanat Eserleri Külliyatım – I

Hikâye / Anekdot / Deneme / Şiir / Manzume / Nesir /Mizahi; nükteli – hicivli; şiirsel hikâyeler / Güfte / Beste). He continues his artistic studies by writing various articles, books, poetry, lyrics and also realizing musical composition and repertoire works.

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