



INSTITUTE
FOR HUMAN OPTIMIZATION
PRECISION MEDICINE RESEARCH GROUP

EMPOWERED WELLNESS

YOUR PERSONAL GUIDE TO OPTIMUM HEALTH, WELLNESS, AND LONGEVITY

Anil Bajnath, MD, MBA, MifHI,; Jason Chen, DO | Business Playbook | 4/16/2019

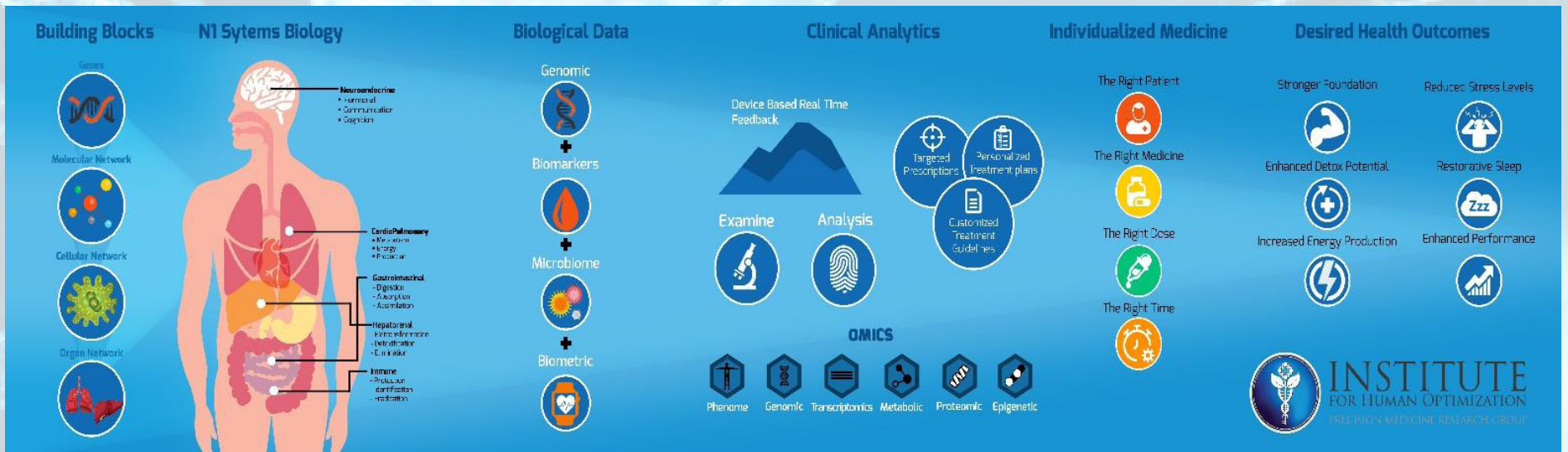
Empowered:

Embracing transformation with personalized wellness and precision analytics bridging the gap between your mind, body, and spirit
“...The terrain is everything” -Louis Pasteurach and every individual including you possesses his or her own unique network of biological systems which has been genetically inherited, environmentally programmed, and influenced by life experiences. This is why we will often make reference to the terrain or milieu of your body which represents the inner environment of your body. From the perspective of natural medicine, your terrain is made up of three components: your genetic predisposition (i.e. your genes and your DNA), your personal history (i.e. diet and life events including relationships, relocation, job, stress), and medical interventions (i.e. vaccinations, antibiotics, and other ongoing drug treatment. In turn, your unique terrain or inner environment is governed by fundamental homeostatic control systems that regulate this delicate balance. Homeostasis is a property of cells, tissues, and organisms that allows the maintenance and regulation of the stability and constancy needed to function properly. At the core of your inner environment is pH balance. When your body’s terrain becomes too acidic it can create an environment for pathogens to flourish and grow, and for toxins to accumulate.

The Institute for Human Optimization (IfHO) – is a physician-founded and led multidisciplinary collaborative committed to the principles and practice of truly patient-centered medicine. We are part of a global movement that is changing the medicine we do and the way we do medicine. Using the latest advances in science and technology, we will empower you to live a more proactive, empowered, and healthy life thereby minimizing your need for traditional reactive medical services. At IfHO, we will work with you to explore every facet of your health from your unique genetic blueprint to your individual genes’ biochemical expression. IfHO in collaboration with The Precision Medicine Research Group is poised to achieve research breakthroughs in all aspects of your personalized precision preventative medicine.

With our capacity to explore several facets of wellness, our virtual platform comprehensive, physician-driven interdisciplinary supervised comprehensive multi-faceted health optimization program that harnesses which utilizes the latest bioinformatic technologies including, longitudinal biometric data tracking, advanced DNA analysis, microbiome and biomarker analysis to help formulate personalized therapeutic protocols with customized meal plans, and nutritional protocols that are supported by functional medicine health coaching to achieve quick, safe, effective, and sustainable weight loss and body composition improvement. At IfHO, we integrate the latest breakthroughs in medical research and bioinformatics leveraging traditional, evidence-based medicine with the the power of

functional, integrative, genomic, and precision medicine to empower you to optimum health. Whether you are healthy, battling various diseases, or at risk for developing disease at IfHO, we are dedicated to achieving lifelong advances in all aspects of your preventative care and improving your quality of life. We have brought the best genetic testing, targeted therapies, and biomarkers under one roof at IfHO where you will have access to the best and latest innovations in medical technology, testing, treatment. Our platform will empower you to make the long term behavioral changes you need to optimize your healthwhile dramatically reducing your health risks to achieve breakthroughs in optimized individual wellness. IfHO is a multidisciplinary organization .



Inspired by Systems Biology

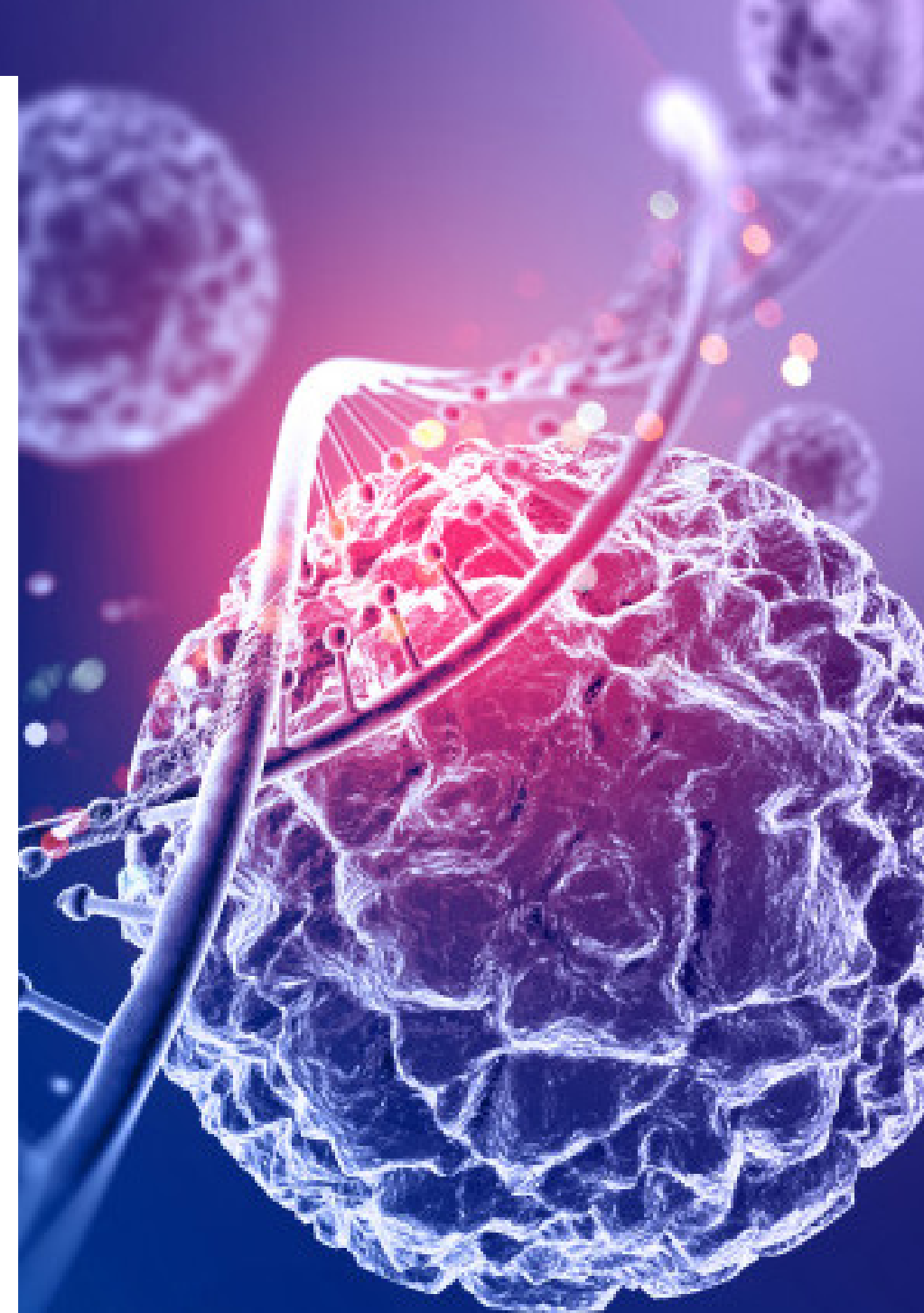
At the Institute for Human Optimization we understand that treating patients as a whole person is of much more of complexity than the sum of their individual parts. Utilizing an Integrated Systems Biology approach coupled with Precision Analytical Diagnostic Tools we are able to deliver highly individualized medicine to enhance Longevity and Vitality.

Synthesizing information using genomic testing, microbiome analysis, functional biomarker assessment, and real-time device driven biometric monitoring we are all to Explore your biochemical individuality to gain a better appreciation for oneself.

The Institute for Human Optimization uses systems biology and our Philosophy of Domains to identify variation in molecular networks that influence health and wellness. Our Approach is grounded in The Institutes for Human Optimizations expertise individualized medicine and core belief in the importance of bio-psycho-socio-environmental connections.

Systems Biology: holistic approach to deciphering the complexity of biological systems that starts from the understanding that the networks that form the whole of living organisms are more than the sum of their parts. It is collaborative, integrating many scientific disciplines – biology, computer science, engineering, bioinformatics, physics and others – to predict how these systems change over time and under varying conditions, and to develop solutions to the world's most pressing health and environmental issues.

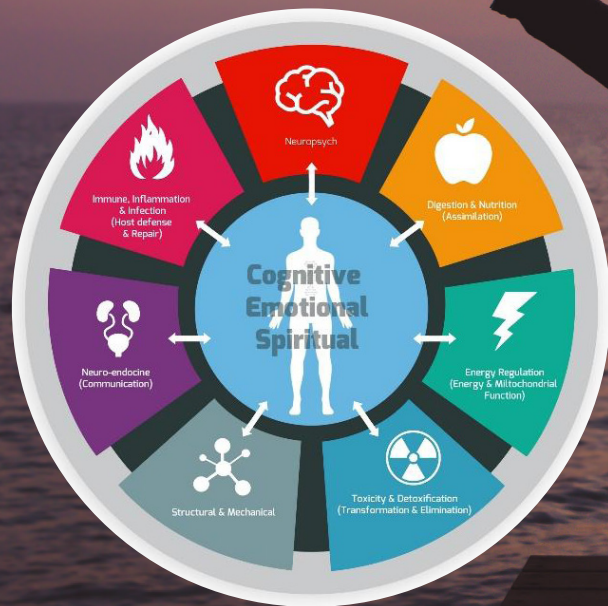
Individualized Medicine: A form of medicine that uses information about a person's genes, proteins, and environment to prevent, diagnose, and treat disease.



Philosophy of Domains

The Institute for Human Optimization identifies unique genetic variations, microbial diversity, biomarkers and biometric monitoring across six functional domains which influence interconnected molecular pathways critical to overall health and six functional domains wellness. This systems approach avoids the shortcomings of reductionist thinking made by conventional medicine, allowing us to craft unique wellness plans for every patient.

Central Activation

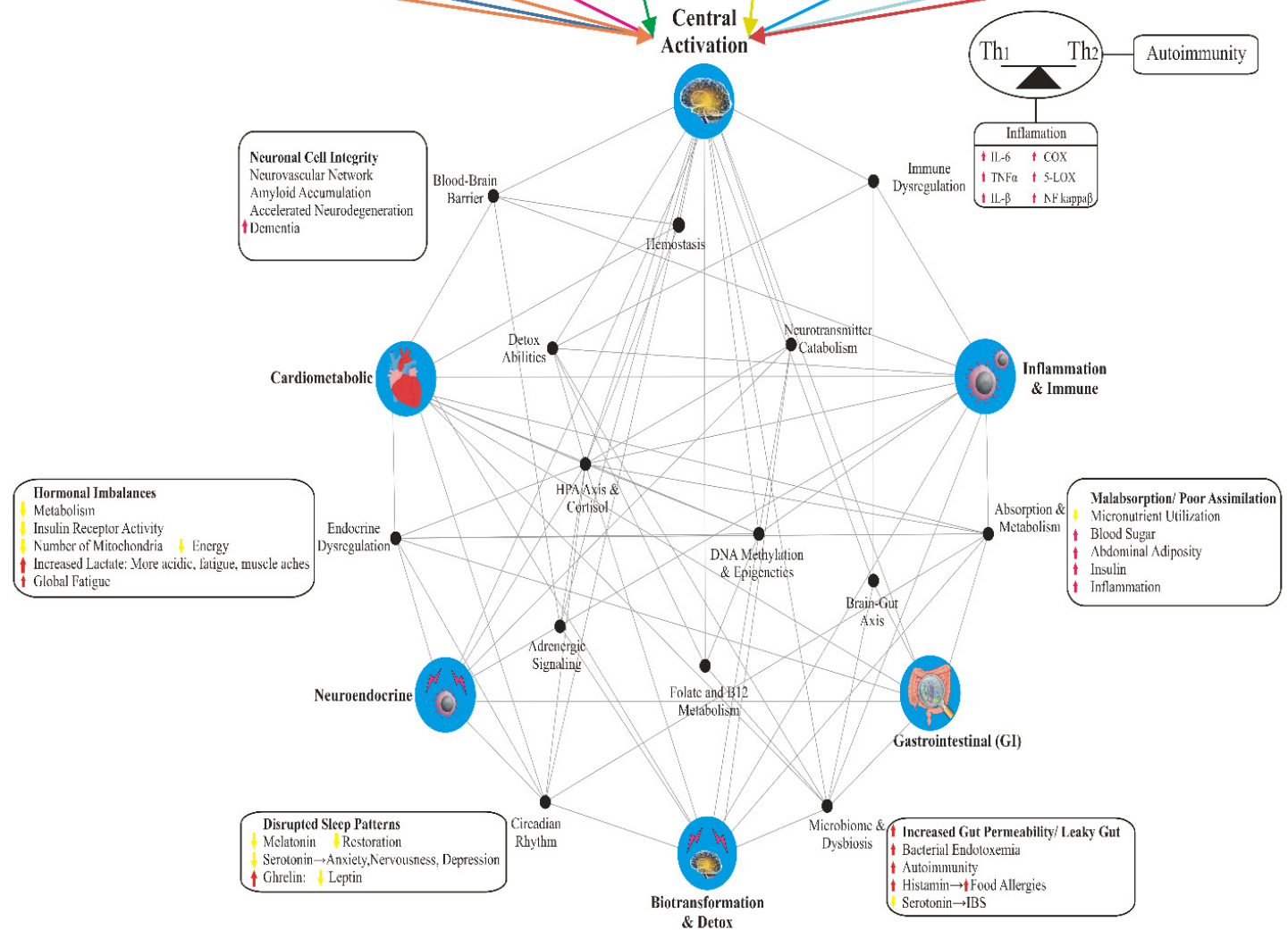


Thinking in Systems

The Institute for Human Optimization harnesses progressive thinking about the connections between, genes, microbiome, molecular pathways and physiology. The six domains anchor complex biological system that influences overall health.

Several major molecular pathways regulate biological responses affect one or more of the six domains. The Institute for Human Optimization systems approach identifies genetic variation in key genes that influence these pathways to reveal different aspects of patient's overall health profile and inform clinical decisions.

GENOMICS	BIOMARKER	MICROBIOME	Nutrition	DRUGS	EXERCISE	ENVIRONMENTAL EXPOSURE	STRESS	DISEASE
MTHFR APO E4 Vitamin D CYP450	Antibodies Homocysteine Telomeres 8OHdG	Proteobacteria Bacteroidetes Verrucomicrobia Firmicutes	Proteins Fats Carbohydrates Food Allergies	Over the Counter Prescription Drug Induced Nutrient Depletion	Type Frequency Intensity Duration	Pesticides herbicides Chemicals Heavy Metals	Pollens Mold Plastics	Psychogenic Stress Physical Stress Stress Reduction
								Past/Present Conditions Active Disease Syndromes



Constitutional Composition

Understanding the effects of genomic variability across the systems biology network helps evaluate individual risk for health and wellness issues, and lets you be proactive about disease management and prevention.

The Institute for Human Optimization is at the forefront of aggregating information in emerging fields of precision personalized preventative medicine. Our clinical scientists explore individual composition to better assess the main drivers of your current health expression. We utilize a scientific approach to the patient and assesses aspects of genomics, microbiome, nutrition, lifestyle, sleep, and stress management to provide the most comprehensive data-driven wellness program to optimize life

ILLUMINATING A NETWORK

The Institutes for Human Optimization systems approach to health and wellness can be understood through the DNA methylation and Epigenetics network found within the domain system.

Understanding the effects of individual variability in this network and others can give you a richer understanding of your unique health profiles

Epigenetics Reconsidered

The metabolic interface between folate and vitamin B12 is the conversion of homocysteine to methionine, an important intermediary in DNA methylation, Methionine is further converted into S-adenosyl-methionine (SAME), an essential mediator of epigenetic regulation and monoamine metabolism.

So What?

Several genes analyzed by the Institute for Human Optimization has been shown to impact these pathways variability in these genes can result in dysregulation in critical processes, leading to physical or neurological disturbances.

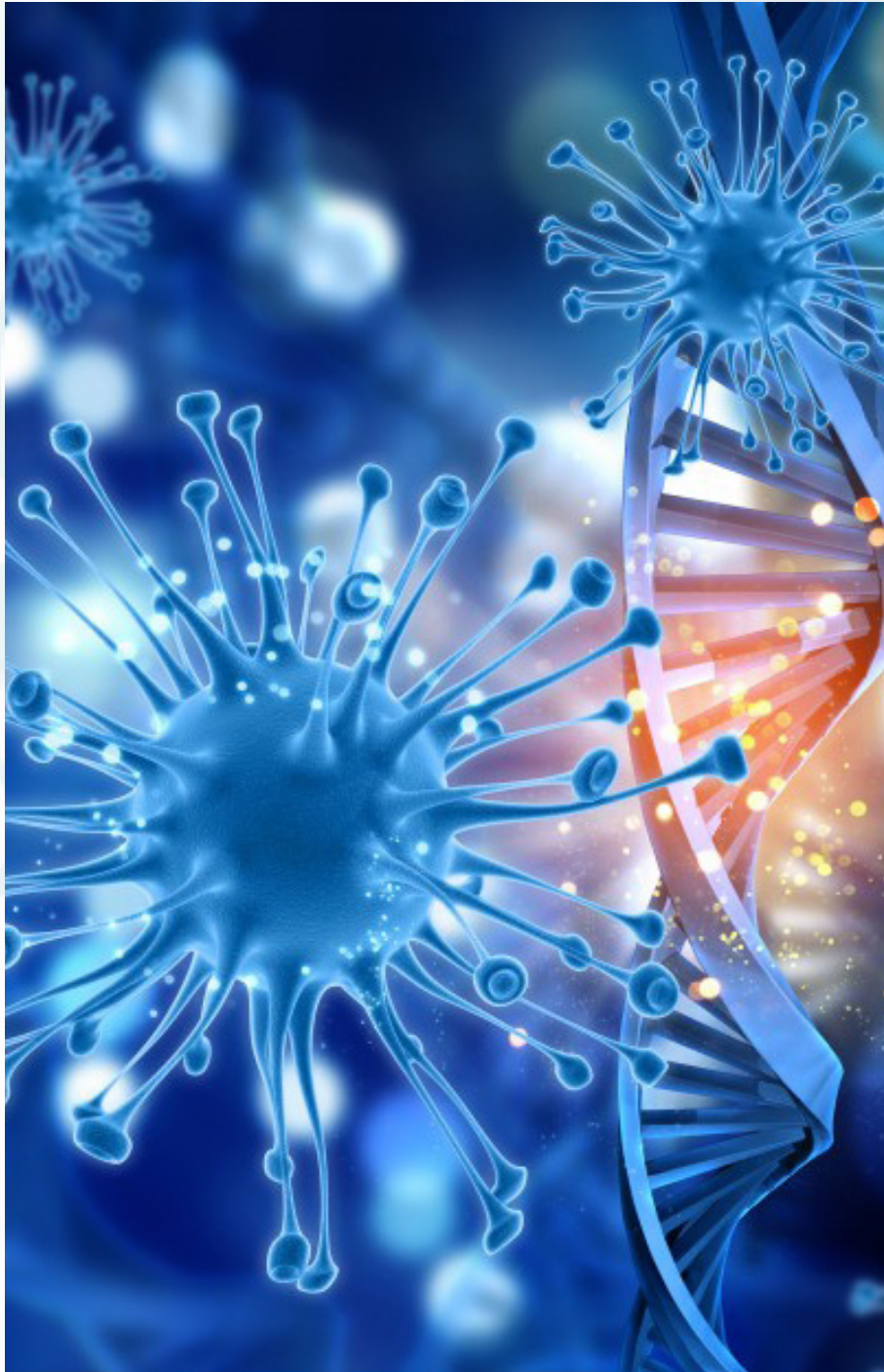
EMPOWERED WELLNESS

FINDING CONNECTIONS

The Institute for Human Optimization tests genetics, microbiome and biomarkers across six domains. Nearly every item plays a role across multiple domains, constituting a comprehensive, personalized profile designed to inform clinical decision making.

We explore the relations between the domains and the profiles tested by the Institute for Human Optimization below, and refer to the table that follows to learn about their significance.





OUR HUMAN OPTIMIZATION APPROACH

Illuminating the Network - Omics in Medicine -

“Omics” refers to the comprehensive study of human biology including “genomics” (the study of genes), “metabolomics” (the study of metabolism), “phenomics” (the study of physical traits) and “exposomics” (the study of environmental inputs).

The incorporation of “-omics” into medicine has created a network of knowledge illuminating our comprehension of molecular patterns of disease processes. The Institute for Human Optimization is using this information to personalize medicine that is tailored to individual factors to optimize your health.

The Promise of Precision Medicine



Historical Precedent

“ For more than two millennia, medicine has maintained its aspiration of being personalized. In ancient times, Hippocrates combined an assessment of the four humors—blood, phlegm, yellow bile and black bile – to determine the best course of treatment for each patient. Today, the sequences of the four chemical building blocks that comprise DNA, coupled with telltale proteins in the blood, enable more accurate medical predictions. ”

– The Personalized Medicine Report 2017
Opportunity, Challenges, and the Future

The Institute for Human Optimization provides the most comprehensive Scientifically Data Driven Personalized Wellness. No matter where you're at in life, it's never too late to reset your baseline levels of health to improve vitality.

These factors are different for every individual and will change expression over a lifespan. This is also true for a individual's experience with disease and how they respond to treatment options or other medical interventions. Precision medicine intends to make medical treatment as individual as the biology of one's disease expression.

At the IFHO, we employ scientific methods to carefully analyze and research an individual's unique molecular blueprint with the intent of making unprecedented advances in all facets of preventative care and to mitigate disease potential, while improving overall quality of life.

We not only utilize conventional medical standards of care set forth by governing bodies, but additionally, enhance these standards by incorporating advanced health analysis and targeted medical interventions to render the most efficacious preventative care.

Our multimodal medical approach uses advanced methodologies to assess molecular markers and behavioral patterns which reflect dynamic key physiological interrelationships that mediate health and disease expression.

Determinants of Health Expression

GENOMICS	BIOMARKER	MICROBIOME	Nutrition	DRUGS	EXERCISE	ENVIRONMENTAL EXPOSURE		STRESS	DISEASE
MTHFR APOE4 Vitamin D CYP450	Antibodies Homocysteine Telomeres 8OHdG	Proteobacteria Bacteroidetes Verrucomicrobia Firmicutes	Proteins Fats Carbohydrates Food Allergies	Over the Counter Prescription Drug Induced Nutrient Depletion	Type Frequency Intensity Duration	Pesticides herbicides Chemicals Heavy Metals	Pollens Mold Plastics	Psychogenic Stress Physical Stress Stress Reduction	Past/Present Conditions Active Disease Syndromes

Our scientific based organization features personnel with the wealth of experience in integrative, allopathic and medical research which help formulate the latest bioinformatics technologies into a single model, analyzing every individual's genetic, lifestyle and behavioral interactions to prevent severe and long-term diseases.

We can help you to see what your health may look like in the future, and avert it in time if it's not going to be healthy. Kindly visit us today for functional precision medicine.

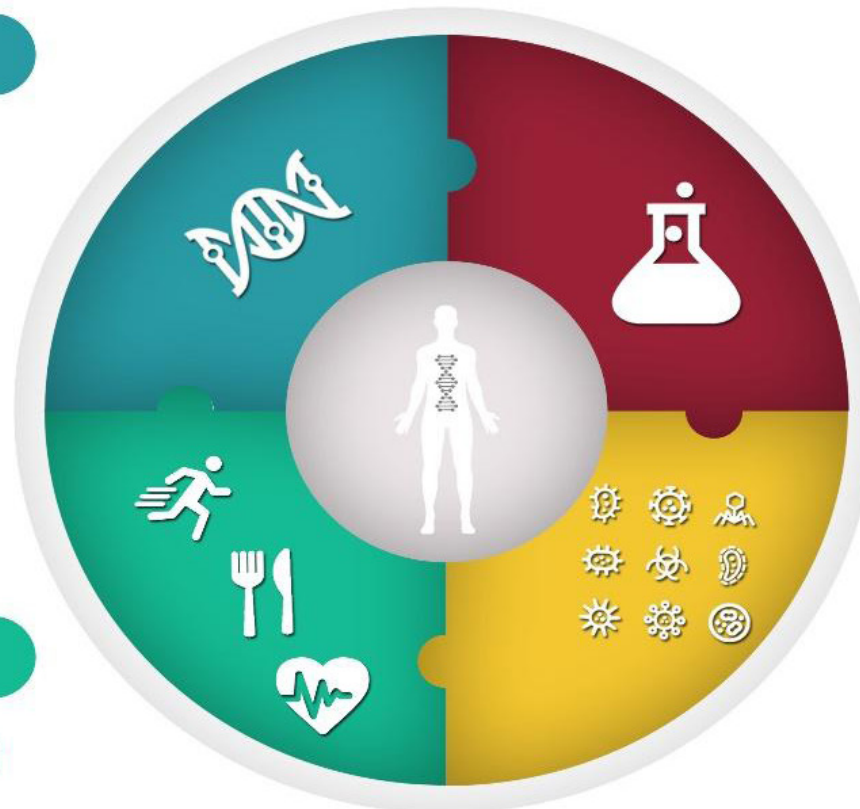
GENOMICS

SNP (Single nucleotide polymorphism)

- Pharmacogenomics
- Nutrigenomics
- Microbial Genetics

BIOMETRICS

lifestyle monitoring and self tracking



BIOMARKERS

Detailed lab tests
(blood, urine, saliva)
Clinical chemistry
Metabolites
Proteins

MICROBIOME

Gut Microbiome
Oral Microbiome