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Orthomolecular Medicine News Service, November 13, 2026

From Academic Resistance to University Recognition: A Historic Turning Point for Orthomolecular Medicine

ICOM–ATU 2026 in Algeria Opens a New Chapter in Scientific Dialogue, Academic Collaboration, and Medical Education

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A Historic Moment in Algeria

For more than half a century, orthomolecular medicine has challenged one of the deepest assumptions of modern healthcare: that treating disease must depend primarily on pharmaceutical interventions rather than harnessing the therapeutic potential of essential nutrients and the body's own biochemical systems.

The distinction between conventional nutrition and orthomolecular medicine is fundamental. While conventional nutritional practice has often emphasized preventing deficiencies and maintaining adequate nutrient intake, orthomolecular medicine goes further. It explores the therapeutic potential of vitamins, minerals, and other naturally occurring substances-sometimes at doses substantially exceeding ordinary nutritional requirements-to prevent, modify, or treat disease.

This approach carries profound medical, scientific, and economic implications.

Many essential nutrients are inexpensive, widely available, and difficult to protect through conventional pharmaceutical patents. When supported by clinical evidence, they may complement established treatments and, in selected circumstances, provide lower-cost therapeutic alternatives.

Yet modern drug development depends heavily on intellectual property, commercial investment, and the prospect of substantial financial returns. Inexpensive, nonpatentable therapies frequently lack comparable incentives to support the large clinical trials needed for widespread medical acceptance.

Orthomolecular medicine has faced decades of skepticism and controversy. Disagreements about evidence, clinical claims, and research methods have shaped its reception; commercial incentives may also affect which interventions receive sustained investigation.

The historical debate has also raised serious questions about research priorities, selective interpretation of evidence, and study designs that may disadvantage nutritional therapies through inappropriate dosing, administration routes, treatment duration, or patient selection.

A poorly matched study protocol can obscure a treatment's potential. Whether such shortcomings arise from scientific error, institutional bias, or deliberate manipulation must be determined through evidence rather than assumption.

This is far more than a question of scientific fairness. It is a matter of public health.

When promising, affordable nutritional therapies are prematurely dismissed or inadequately investigated, patients may lose opportunities to benefit from interventions that could ultimately prove effective. Healthcare costs may remain unnecessarily high, and potentially valuable approaches to disease prevention and treatment may remain unexplored.

These questions matter because research priorities can influence access to effective, affordable care.

Against this historical backdrop, what took place in Algeria in October 2026 was more than another international medical congress.

It was a potentially historic opening of academic doors that had too often remained closed.

The International Conference on Orthomolecular Medicine (ICOM-ATU 2026), held October 27-29, 2026, at Aïn Témouchent Belhadj Bouchaib University in Algeria, marked an important development in the relationship between orthomolecular medicine and academic institutions.

Jointly organized by the university and the International Society for Orthomolecular Medicine (ISOM), the congress brought together university leaders, international researchers, physicians, scientists, and educators to examine nutritional biochemistry, cellular metabolism, chronic disease, and emerging therapeutic approaches.

After decades of controversy, orthomolecular medicine was welcomed into a public university setting for international scientific exchange.

This milestone represents an encouraging new chapter-one of expanding academic engagement, international cooperation, and opportunities to investigate nutritional and metabolic approaches to human health.

By opening its doors to this scientific community, Aïn Témouchent Belhadj Bouchaib University has helped build a bridge between a pioneering medical movement and academic research.

The importance of that bridge may extend far beyond the three days of the congress.

From Linus Pauling to the University Campus

The modern orthomolecular movement is closely associated with Linus Pauling, one of the twentieth century's most influential scientists and the recipient of two unshared Nobel Prizes.

In 1968, Pauling introduced the concept of orthomolecular psychiatry in Science, proposing that mental function could be influenced by adjusting the concentrations of substances normally present in the human body. [1]

His pioneering ideas helped inspire wider scientific interest in vitamins, minerals, biochemical individuality, cellular metabolism, and the potential therapeutic uses of essential nutrients beyond the prevention of classical deficiency diseases.

Yet Pauling's advocacy of high-dose vitamin C, particularly in cancer treatment, became one of the most controversial chapters in the history of modern nutritional medicine.

Early clinical investigations by Ewan Cameron and Pauling reported encouraging findings in patients with advanced cancer. [2]

Subsequent randomized studies conducted at the Mayo Clinic failed to demonstrate comparable benefits. [3,4]

Those negative trials strongly influenced medical opinion and helped marginalize further investigation of vitamin C as a potential cancer therapy.

But an important difference between the treatment protocols received insufficient attention for many years.

The earlier clinical experience had included intravenous vitamin C, whereas the Mayo Clinic randomized trials evaluated oral vitamin C.

Later pharmacokinetic research established that intravenous administration can achieve plasma concentrations far higher than those obtainable through oral intake. [5]

This distinction is not a minor technical detail. It changes the biological exposure being investigated and provides a scientific rationale for studying intravenous vitamin C as a distinct intervention.

It does not, by itself, establish that intravenous vitamin C improves cancer outcomes. That question requires clinical investigation. But it demonstrates why dose, route, treatment duration, and patient

selection must be carefully matched to the therapeutic hypothesis under evaluation.

The historical lesson is profound: when a nutritional therapy is tested using a protocol that does not adequately reproduce the proposed intervention, a negative result may tell us more about the limitations of that study than the full therapeutic potential of the nutrient.

Such findings should inspire better research-not automatically close the door on further investigation.

Linus Pauling's legacy is one of extraordinary scientific courage, intellectual independence, and a willingness to challenge established thinking.

His pioneering vision opened a new frontier in exploring the biological and therapeutic potential of essential nutrients.

More than half a century later, his ideas continue to inspire researchers and clinicians worldwide.

True scientific progress often begins with the courage to question conventional wisdom-and the determination to investigate promising ideas despite resistance.

Why Has Academic Medicine Been Reluctant?

The historical relationship between orthomolecular and conventional academic medicine cannot be explained by a single factor.

Differences in medical philosophy, research methodology, economic incentives, and interpretations of scientific evidence have all contributed.

1. Different Approaches to Disease

Modern medicine has achieved remarkable advances in surgery, emergency care, infectious disease treatment, diagnostics, and pharmaceutical therapies.

Yet these achievements have also been accompanied by major challenges and unintended consequences.

The overuse and misuse of antibiotics have accelerated antimicrobial resistance, now recognized as a serious global public-health threat.

Antibiotic exposure can also disrupt the intestinal microbiome, sometimes causing substantial biological disturbances and complications such as Clostridioides difficile infection. Research continues

to investigate the wider consequences of microbiome disruption for metabolic, immune, and inflammatory health.

Meanwhile, the growing burden of chronic diseases-including obesity, type 2 diabetes, cardiovascular disease, and neurodegenerative disorders-illustrates the limitations of relying solely on interventions directed at isolated disease pathways.

Many chronic conditions involve interconnected metabolic, nutritional, inflammatory, environmental, endocrine, and lifestyle-related disturbances.

This is why a more comprehensive, preventive, and systems-oriented approach to medicine is urgently needed.

Orthomolecular medicine has long championed a fundamental yet powerful principle:

Optimizing the body's supply and balance of vitamins, minerals, and other essential nutrients is one of Nature's fundamental strategies not only for maintaining health, but also for defending against external threats, strengthening physiological resilience, and supporting the body's natural capacity to recover and repair.

These nutrients are far more than substances needed to prevent deficiencies.

They are indispensable to cellular energy production, immune defense, antioxidant protection, normal detoxification pathways, tissue maintenance, and countless biochemical processes essential to life.

By addressing nutritional imbalances and supporting the body's protective and restorative systems, orthomolecular medicine seeks to influence underlying biological disturbances contributing to disease.

Rather than simply fighting disease from the outside, orthomolecular medicine seeks to strengthen the body's ability to protect, defend, and heal itself from within.

This does not require rejecting the genuine achievements of conventional medicine.

The greatest opportunity lies in combining effective modern medical interventions with strategies that support the body's own biological defenses, resilience, and capacity for repair.

2. Scientific Evidence and the Importance of Appropriate Study Design

Orthomolecular medicine has traditionally emphasized biochemical mechanisms, clinical observations, physiological reasoning, and individual differences in nutritional requirements.

Conventional evidence-based medicine has increasingly emphasized randomized controlled trials, systematic reviews, and measurable clinical outcomes.

These approaches should reinforce rather than exclude one another.

Biochemical research helps explain how an intervention might work. Well-designed clinical investigations help determine whether those mechanisms produce meaningful benefits in patients.

An important concern arises when a treatment is evaluated using protocols that do not adequately reflect its proposed pharmacology or clinical application.

The vitamin C controversy illustrates the significance of administration route, achievable concentrations, and treatment design.

Scientific rigor requires not merely conducting randomized trials, but asking the right questions and testing the proposed intervention under appropriate conditions.

Negative findings deserve serious consideration. Equally, methodological limitations deserve serious examination.

Orthomolecular medicine should be evaluated through rigorous, fair, and scientifically appropriate research-not dismissed simply because its hypotheses challenge prevailing assumptions.

3. Research Funding and Commercial Incentives

The economic structure of medical research presents another important challenge.

Patent-protected pharmaceutical products may attract substantial private investment because successful development can generate commercial returns.

Many vitamins, minerals, and naturally occurring substances offer far more limited opportunities for market exclusivity.

Consequently, clinically important questions about inexpensive nutritional interventions may remain insufficiently investigated when adequate research funding is unavailable.

This imbalance has consequences for the kinds of treatments that receive sustained attention.

The potential value of a medical intervention should be determined by its ability to improve health-not by its ability to generate profits.

Universities, public research institutions, nonprofit organizations, and independent scientific networks have a particularly important role in examining interventions that may provide substantial public-health benefits despite limited commercial appeal.

4. From Minimum Nutritional Adequacy to Physiological Optimization

Perhaps the most fundamental philosophical distinction concerns the difference between preventing nutrient deficiencies and investigating optimal physiological function.

Nutritional reference values help define requirements for maintaining health across specified populations.

Orthomolecular medicine asks a broader question:

Is the amount of a nutrient sufficient to prevent an obvious deficiency necessarily the amount that best supports physiological function, resilience, and recovery under every condition?

Nutritional requirements and responses may vary with age, genetics, metabolic health, disease, inflammation, absorption, and other biological circumstances.

These differences warrant careful investigation, including situations in which therapeutic dosing may be appropriate.

At the same time, optimization should not be confused with indiscriminate dose escalation. The goal is to identify effective and safe doses for clearly defined physiological or clinical objectives.

The future of nutritional medicine should extend beyond the prevention of deficiency toward understanding how nutrient availability influences health across the lifespan and under conditions of illness.

Why the Algerian Congress Was Different

ICOM-ATU 2026 represented an important opportunity to bring these scientific questions into direct discussion with an academic institution.

The congress was organized through a partnership between Aïn Témouchent Belhadj Bouchaib University and the International Society for Orthomolecular Medicine.

Professor Abdelkader Ziadi, Rector of the university and Congress President, and Dr. Ilyes Baghli, President of ISOM, provided leadership for this collaboration.

Special recognition is also due to Dr. Meryem Abi-Ayad, chair of the organizing committee, and the university faculty, staff, and local organizing team whose work helped make the event possible.

The congress's official program featured an international scientific faculty representing Asia, Europe, Africa, and the Americas.

On-site scientific presenters included Dr. Ilyes Baghli (Algeria), Prof. Atsuo Yanagisawa (Japan), Prof. Patrick Holford (United Kingdom), Dr. Hiromichi Matsumura (Japan), Dr. Hiroki Morinaga (Japan), Dr. Roberto Ortiz González (Mexico), and Dr. Richard Z. Cheng (USA/China).

Online scientific presenters included Prof. Igor Bondarenko (Russia), Mr. Andrew Cuscianna (Canada), Dr. William B. Grant (USA), Dr. Efraín Olszewer (Brazil), Dr. Sabine Hazan (USA), and Prof. Jorge R. Miranda-Massari (Puerto Rico).

Together, these speakers represented a wide range of scientific and clinical interests, including micronutrient therapies, vitamin D, thiamine-dependent bioenergetics, magnesium, cellular metabolism, microbiome science, cardiovascular disease, neurodegeneration, cancer-related therapeutic approaches, and integrative medicine.

The author's presentation addressed atherosclerotic cardiovascular disease from an integrative orthomolecular and systems-medicine perspective.

The breadth of this program reflected the international reach of the orthomolecular movement and its increasing connections with metabolism, molecular biology, and chronic disease research.

But the congress's importance was not limited to the scientific content.

What made ICOM-ATU 2026 especially meaningful was the institutional partnership itself: an international orthomolecular medicine congress hosted within a public university.

It created opportunities for physicians and researchers from different scientific traditions to meet, exchange ideas, develop professional relationships, and explore future collaborations.

For a field long associated with controversy, this was a significant step toward more sustained academic engagement.

From Orthomolecular Medicine to Systems Medicine

The future of orthomolecular medicine may be closely connected to advances in systems biology, mitochondrial medicine, immunometabolism, precision nutrition, and chronic disease research.

Human health depends on the coordinated functioning of interconnected biological systems.

Insulin signaling, neuroendocrine regulation, oxidative and antioxidant processes, immune responses, mitochondrial energy production, and nutrient availability all contribute to physiological function.

Chronic disease often arises through interactions among several of these systems rather than through a single isolated abnormality.

This creates an opportunity for Integrative Orthomolecular Systems Medicine-a framework that brings nutritional biochemistry together with metabolic, functional, and systems-oriented medicine.

Such an approach can be organized around three questions:

First: What is driving the disease?

Identify potentially modifiable nutritional, metabolic, environmental, lifestyle, and physiological contributors.

Second: How do the biological disturbances interact?

Examine the relationships among metabolic dysregulation, inflammation, oxidative stress, endocrine function, mitochondrial biology, and other relevant pathways.

Third: How can we strengthen and restore physiological function?

Use scientifically supported interventions to improve metabolic health, nutrient status, resilience, functional recovery, and clinical outcomes.

The central objective is not simply to suppress an isolated disease marker.

It is to understand the patient as an interconnected biological system and support the restoration of health wherever clinically achievable.

These principles connect orthomolecular medicine with some of the most important developments in contemporary biomedical research.

The challenge ahead is to translate this systems-level understanding into reproducible evidence, practical clinical strategies, and measurable patient benefits.

Algeria's Contribution: A Bridge Between Scientific Communities

The location of ICOM-ATU 2026 is itself significant.

Scientific innovation should not be confined to a handful of historically dominant medical research centers.

Universities across Africa and other regions have important contributions to make in nutritional research, metabolic medicine, chronic disease prevention, and international scientific cooperation.

By hosting this congress, Aïn Témouchent Belhadj Bouchaib University demonstrated its commitment to scientific exchange and international engagement.

The university and ISOM created an opportunity for collaboration across geographic, cultural, and disciplinary boundaries.

For international faculty, the event offered a chance to engage with Algerian academics, researchers, healthcare professionals, and students.

For the university, it created opportunities to explore emerging questions in nutritional and biochemical medicine.

For orthomolecular medicine, it represented a meaningful institutional milestone.

The lasting importance of the Algerian congress may ultimately be measured not only by what was presented during its three days, but by the research, educational initiatives, and international relationships that emerge afterward.

A Participant's Perspective

Hiroki Morinaga, DDS, ABAAHP, FICD, of Morinaga Dental Clinic in Chiba, Japan, welcomed the congress's emphasis on cooperation between orthomolecular and conventional evidence-based medicine. In his reflections, biochemical understanding and clinical experience should work alongside rigorous scientific evaluation, including randomized controlled trials, in pursuit of better patient outcomes.

Morinaga also described conversations with university leaders and researchers that left him with the impression that the congress was a beginning rather than a one-time event. Beyond the lecture hall, encounters with Algeria's historical sites and commemorations deepened his appreciation of the country and its hosts. He expressed gratitude for their hospitality and hope for lasting scientific collaboration and friendship.

His lecture, "Oral Environment and Health: An Orthomolecular Medicine Perspective," explored connections among oral health, nutrition, and healthy ageing. He has authorized sharing a public edition of his presentation, abstract, professional profile, and personal reflections through the I-OM community, with attribution and preservation of their original meaning.

What Should Come Next?

The opportunity created by ICOM-ATU 2026 deserves to become the foundation for continued progress.

Several priorities stand out.

University-ISOM research partnerships. Develop collaborative investigations into micronutrient physiology, metabolic disorders, cellular bioenergetics, and selected therapeutic approaches.

Clinical research that fairly evaluates nutritional interventions. Design studies with appropriate patient selection, administration routes, doses, treatment duration, outcome measures, and safety assessment.

Expanded medical education. Strengthen education in nutritional biochemistry, metabolic health, micronutrient physiology, and the role of nutrition in prevention and clinical care.

International research cooperation. Connect scientific institutions and investigators across Africa, Europe, Asia, and the Americas to encourage transparent, independent, and reproducible research.

Continued university-based conferences. Build on the Algerian initiative through future academic meetings, joint educational programs, and opportunities for young scientists to participate in nutritional and metabolic research.

Randomized interventional clinical studies and experimental in vivo research are among the directions that could be explored. These remain opportunities for discussion and development, rather than announcements of funded studies or completed agreements.

These efforts can help transform scientific dialogue into sustained investigation.

The objective is not to replace one medical orthodoxy with another.

It is to create a broader, more effective, and more patient-centered medicine-one that welcomes scientific innovation, respects biological complexity, and evaluates promising therapeutic approaches on their merits.

Conclusion: From Resistance to Recognition

For more than half a century, orthomolecular medicine has carried a powerful message: that the vitamins, minerals, and essential substances supporting life may also hold important opportunities for preventing illness, strengthening resilience, and treating disease.

That message has inspired generations of physicians, scientists, and patients.

It has also encountered skepticism, controversy, and resistance.

The history of orthomolecular medicine reminds us that scientific progress is not always a smooth journey. New ideas may challenge established assumptions, institutional traditions, and economic incentives.

But scientific knowledge advances through the willingness to ask difficult questions, investigate neglected possibilities, and revise existing practices when better evidence becomes available.

ICOM-ATU 2026 represents an encouraging milestone in that journey.

A university in Algeria opened its doors to international orthomolecular medicine, bringing together scientific communities that have not always enjoyed close relationships.

The event created new opportunities for collaboration, education, research, and the advancement of nutritional and metabolic medicine.

Its deeper significance lies in the possibility of moving beyond longstanding divisions toward a shared purpose: improving human health.

The future of medicine should not be determined solely by whether a treatment is conventional or unconventional, natural or pharmaceutical, profitable or inexpensive. It should be determined by whether that treatment is safe, effective, scientifically sound, and genuinely beneficial to patients.

Linus Pauling helped pioneer a vision in which nutritional biochemistry could have a far greater role in medicine.

The Algerian congress offers an opportunity to carry that vision into a new era of academic collaboration and scientific investigation.

The door has opened.

Now is the time to turn that opening into lasting scientific progress-and to ensure that the potential of affordable, nutrition-based approaches to human health receives the attention it deserves.

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Editorial disclosure: The author participated as a speaker at ICOM-ATU 2026. This article presents his editorial perspective on the congress and the future of orthomolecular medicine.

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Conference Presentations and Further Learning

PowerPoint presentations, lecture recordings, and further learning resources from ICOM-ATU 2026 will be added to the I-OM Systems Medicine community resource hub:

https://community.i-om.ai/t/algeria-icom-2026-cancer-conference-resource-hub/660