

>

A New Paradigm  
in Ophthalmology  
and Beyond



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The  
Espansione  
Group

— WHY WE'RE HERE

Helping people, through science.  
That's the privilege we take pride in.

We have the ambition to establish new paradigms in ophthalmology, driven by our desire to provide our customers and their patients with the best, certified medical technologies.

Since 1981, Espansione Group has delivered the highest standard in the industry—pushed on by expert craftsmanship and family-owned values coupled with a global mindset and aspiration. Every day, we invest heavily in researching and developing the Espansione Ecosystem of technologies and solutions to achieve our ambition.

— ECOSYSTEM



## Technologies

Our technologies are at the very core of the Expansione Ecosystem—they leverage the power of light and its outstanding ability to benefit the human condition.

- > LM<sup>®</sup> LLLT
- > OPE<sup>®</sup> IPL

## Solutions

Our technologies are seamlessly built into all our solutions, from diagnosis to treatment. We design, craft and test with the greatest attention and care in Italy.

- > eye-light<sup>®</sup>
- > mgd mask<sup>®</sup>
- > my-mask<sup>®</sup>
- > me-check<sup>®</sup>

— BENEFITS

Ecosystem is the term we use to describe the synergy between our technologies and the solutions that leverage on them.

Every interaction within the Espansione Ecosystem has been designed to provide both patients' and operators' with the best experience possible.

## ① Integration

Our technologies and solutions are seamlessly integrated for operators and patients to benefit from their unique capabilities. We developed our solutions' software and hardware from scratch to work together as one—from diagnosis to treatment, every step is as easy as it gets.

## ② Simplicity

We put great effort and energy in building hassle-free solutions. From how we craft our devices and terminals, to the materials we chose, all the way to the design of our solutions' software. Everything has been done to maximize simplicity in utilization.

## ③ Effectiveness

It's not only about making it simple and easy, though. Our technologies just work. Indeed, the resonance of Espansione technology has been impressive with the scientific community—every day, thought leaders from all over the world leverage the possibilities of the Espansione Ecosystem in their practices.

## ④ Consistency

Our technologies and solutions are consistently reliable in their ability to deliver. In the words of one of our global key opinion leaders in ophthalmology, when asked about what made the Espansione Ecosystem great, he answered “It works, every single time.” Consistency is a promise we make our partners and patients—one that we love to live up to.

— WHERE WE'RE GOING

Our ambition isn't limited to that of becoming the undisputed thought leader in diagnosing and treating ocular surface conditions.

Beyond that, we aim at leveraging our know-how and apply it synergically in other fields beyond ophthalmology.

We have already delivered great degrees of innovation to the fields of ophthalmology and dermatology through our patented technology Light Modulation® Low-Level Light Therapy and its seamless integration in the Espansione Ecosystem of solutions.

LM® LLLT has set a new medical standard in painlessly and effectively treating the majority of ocular surface conditions, on top of being extremely effective in its dermatology applications.

— WHERE WE ARE

Enabling progress through science for the betterment of all isn't an easy purpose to work towards—yet it's our north star, the guiding principle of all our actions.

That's what guided us for over four decades. That's what moved us to become the one and only company to develop, patent and certify a unique photobiomodulation technology, Light Modulation® LLLT, for use in medical fields such as ophthalmology, dermatology and dentistry.

We've done all of this by believing in challenging the status quo, innovating with care and ingenuity, and believing in the power of our people.



6<sup>+</sup> Technology Patents

25<sup>+</sup> Scientific Papers

50<sup>+</sup> Countries



②

Technologies



## LM<sup>®</sup> LLLT

LM<sup>®</sup> Low-level Light Therapy is a unique, light-based photobiomodulation technology. We developed and patented for medical use the technology originally employed by NASA (i.e., Low-level Laser Therapy) to treat wounds of astronauts in space.

## Light Modulation<sup>®</sup> The power of light, cubed.

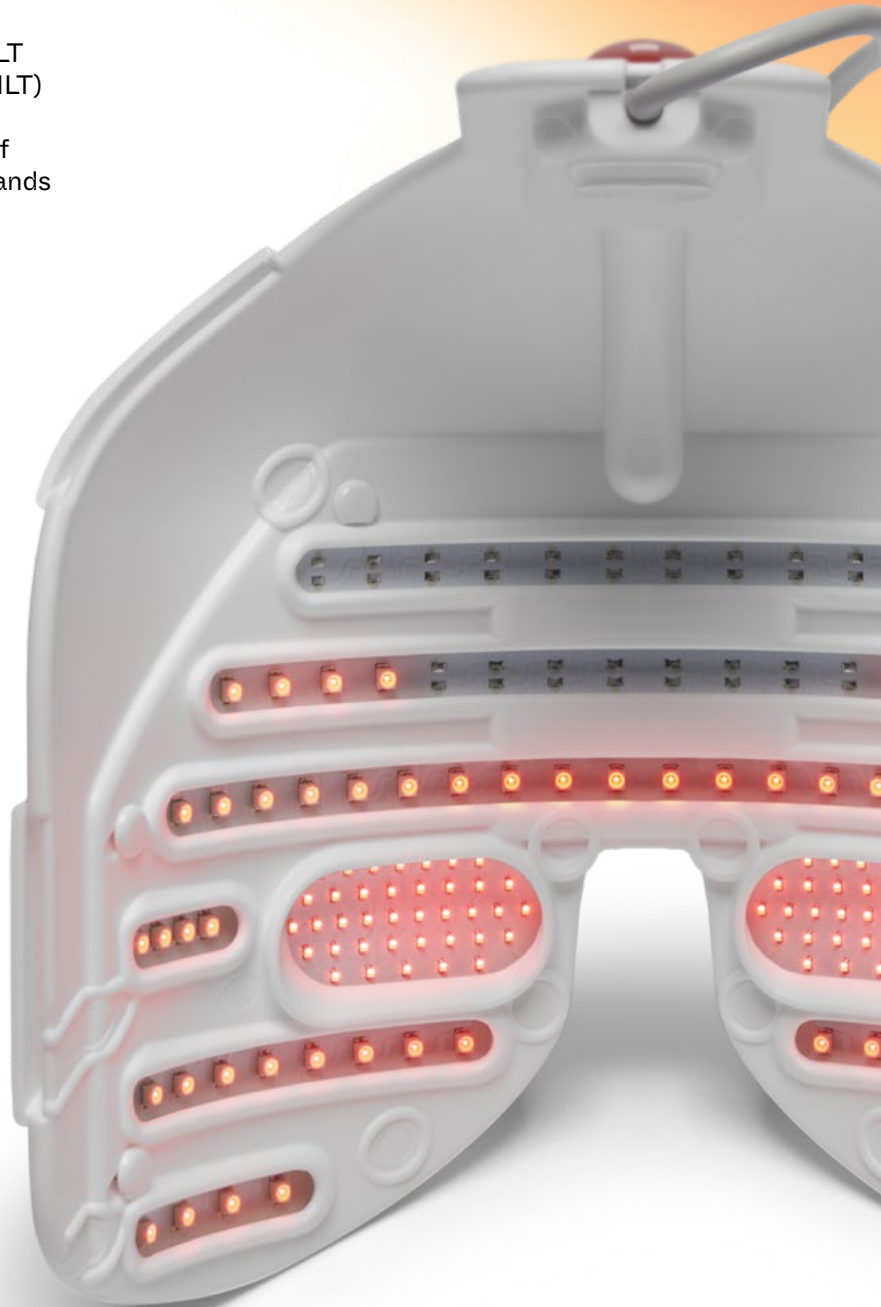
LM<sup>®</sup> LLLT has nothing to do with Red Light Therapy (RLT), which only acts on the surface of the dermis—instead, LM<sup>®</sup> LLLT works at biological level, generating endogenous heat through powerful LEDs stimulating ATP production in cells.

# Discover the Science behind LM<sup>®</sup> LLLT

No pain,  
Extreme gains.

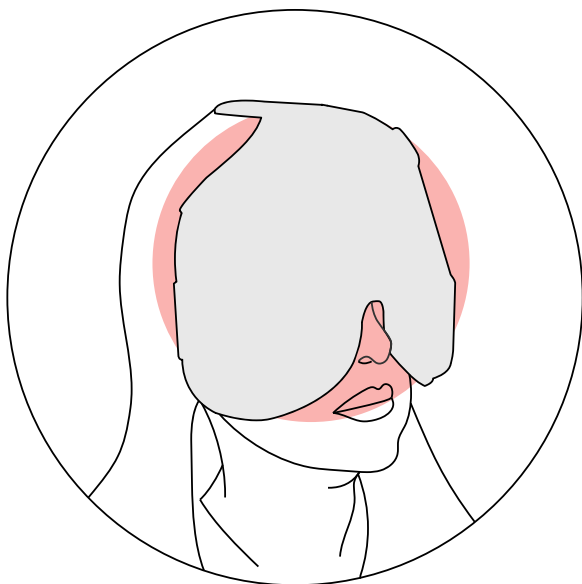
Photobiostimulation therapy enabled by LM<sup>®</sup> LLLT is a unique kind of near-infrared light therapy (NILT) that's completely painless for the patient—yet extremely effective in managing a vast number of ocular surface conditions such as Meibomian Glands Dysfunction. Different wavelengths (Red, Blue, Yellow) are available, for different use cases.

CERTIFIED FOR  
MEDICAL USE



# Maximum convenience, exceptional value.

The degree of simplicity offered by LM<sup>®</sup> LLLT technology to the operator, and the convenience hence provided to the patient benefitting from its therapy is, put simply, unmatched. This, paired with LM<sup>®</sup> LLLT exceptional efficacy in treating most ocular surface diseases (e.g., MGD, Chalazia, Blepharitis, Sjögren's Syndrome),



## Science told us. It just works.

LM<sup>®</sup> LLLT has recently been studied in a piece of research that compared it directly against IPL. The study has confirmed the efficacy of LM<sup>®</sup> LLLT, proving also its superior performance against traditional IPL technologies.

Another recent scientific paper has confirmed that LM<sup>®</sup> LLLT, employed jointly with OPE<sup>®</sup> IPL, is the key factor in effectively managing the most severe cases of recalcitrant MGD-induced DED and other ocular surface diseases.

[Read more @ espansionegroup.it/newsroom](https://www.espansionegroup.it/newsroom)

# Beyond treatments, elevating refractive surgery routines.

LM<sup>®</sup> LLLT's potential doesn't end with direct treatment of most ocular surface diseases. Literature tells us that unresolved ocular surface disease (OSD) represents a major risk factor for suboptimal outcomes in refractive surgery (Labetoulle M. Et Al, 2019). That's why the Espansione Ecosystem, above all through LM<sup>®</sup> LLLT, is the best option to elevate your surgery routine.

## A technology Like no other.

Operators and patients can enjoy the unique benefits of LM<sup>®</sup> LLLT technology.

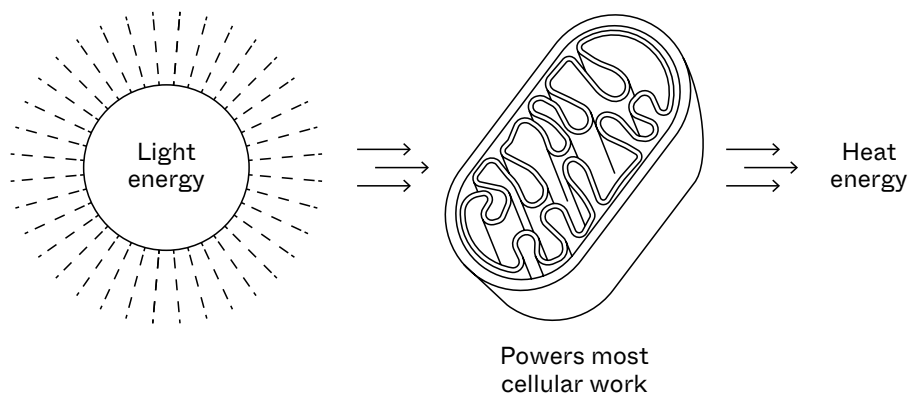
- ① It's fast—a treatment lasts 15'
- ② It's painless
- ③ It grants immediate relief to the patient
- ④ It's easy and safe for the operator
- ⑤ It's plug&play—it doesn't require the operator to be constantly present during the treatment





# Light Science

LM<sup>®</sup> LLLT is our patented photobiomodulation technology—it works by triggering endogenous heating of both eyelids, stimulating ATP production.



## Three frequencies. Endless possibilities.

Light Modulation<sup>®</sup> Low-level Light Therapy can be leveraged employing three different light frequencies—each with its own unique benefits and use cases.

### • Red Light

Used for Inflammation Reduction and ATP Production Stimulus

Key facts on Red LM<sup>®</sup> LLLT:

- ① Improves cells metabolism due to increased ATP production within mitochondria
- ② Reduces inflammation by regulating anti-oxidant defenses and reducing oxidative stress
- ③ Light-induced activation of transcription factors and signaling pathways
- ④ When a 15-minute treatment is applied, the total fluence in the treated area is 100 Joules/cm<sup>2</sup>
- ⑤ The photobiomodulation device has an emission power of 100 mW/cm<sup>2</sup>

Use Cases in Ophthalmology:  
DED/MGD, Chalazion, Stye, Sjögren's Syndrome, Stye, Blepharitis, Ocular Surgery, Ectropion



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## • Blue Light

Used for Bacteria Elimination

Key facts on Blue LM<sup>®</sup> LLLT:

- ① Blue light energy is absorbed by molecules called porphyrins within bacteria and photosensitization occurs
- ② Exposure to the light can result in photodynamic inactivation, a process in which bacteria are killed by light
- ③ The membrane-bound porphyrin molecules generate singlet oxygen radicals that damage or disrupt the cell wall of a variety of gram-positive bacteria and lead to cell death
- ④ The relatively weak defense mechanism in bacteria against singlet oxygen induces damage, contributing to the high efficiency of the photodynamic inactivation

Use Cases in Ophthalmology:  
Demodex, Blepharitis, Rosacea



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## • Yellow Light

Used for Drainage and Swelling Reduction

Key facts on Yellow LM<sup>®</sup> LLLT:

- ① Yellow light also acts on mitochondrial respiration and increases ATP production
- ② Promotes the release of nitric oxide to assist in neuro-transmission and tissue repair
- ③ Decreases the inflammatory response by reducing the oedema
- ④ Increases skin elasticity and decreases metalloproteinases activity

Use Cases in Ophthalmology:  
Post-Invasive Surgery (e.g., Blepharoplasty)

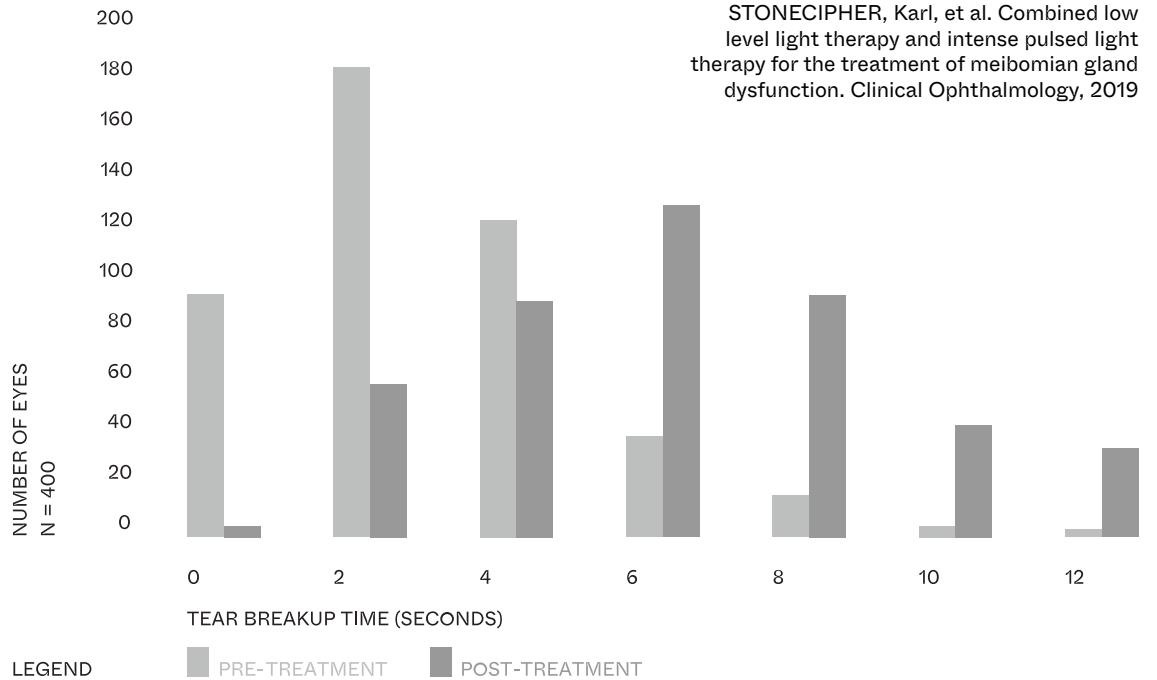


# Benefits

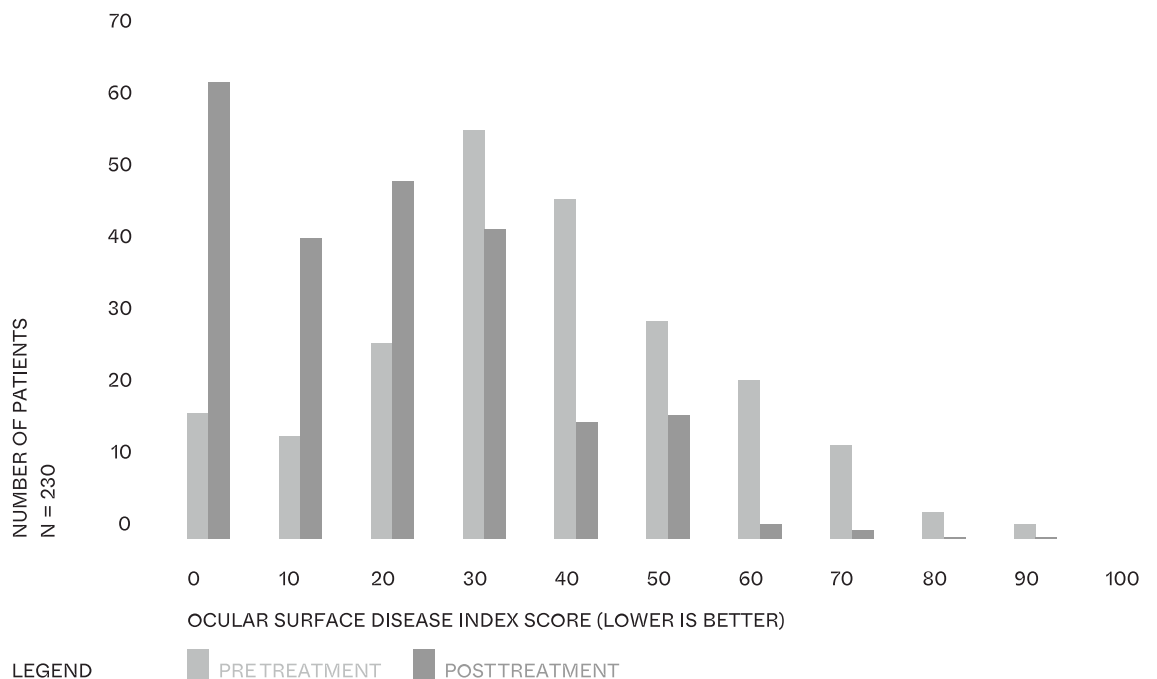
Studies show that tear production quality increases dramatically, as the treatment nearly doubles tear breakup time, resulting in immediate relief of symptoms.

And consequently, the treatment improved by 10% or more the patient's ocular surface disease index—i.e., OSDI Index, in over 70% of cases, with only one treatment

## IMPACT ON TEAR BREAKUP TIME



## IMPACT ON OCULAR SURFACE DISEASE INDEX





# Endogenous Heating

Recently run thermography studies have shown upper and lower meibomian glands being simultaneously, directly treated at optimal temperature—i.e., 42°C, through LM<sup>®</sup> LLLT.

Light Modulation<sup>®</sup> LLLT triggers endogenous heating to both eyelids, stimulating ATP production and removing blockage from meibomian glands preventing proper functioning—and it does so with zero discomfort for the patient.

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Courtesy of Dr. Heiko Pult —OD, PHD

PULT, Heiko. Low-level light therapy in the treatment of meibomian gland dysfunction. *Investigative Ophthalmology & Visual Science*, 2020, 61.7: 99-99.”





## OPE® IPL

Optimal Power Energy®  
The best IPL on the market.

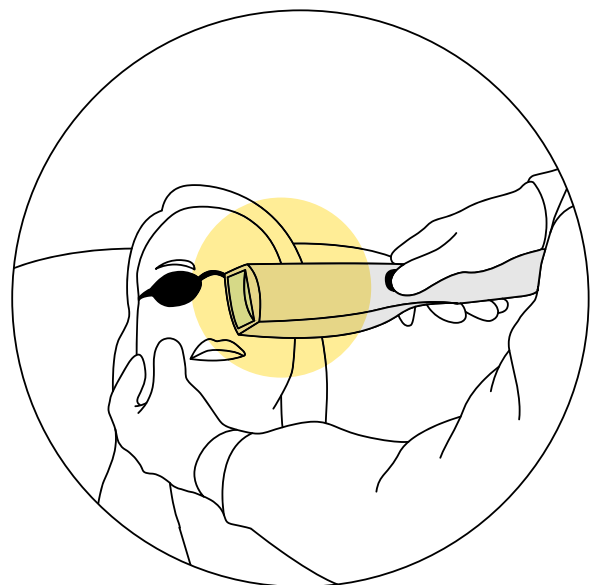
OPE® IPL is our patented Intense Pulsed Light technology. We designed OPE® as a polychromatic light whose thermal impulses are calibrated through software to always be emitted at just the right intensity, providing an extremely high degree of safety and effectiveness.

# Safe, quick, with no side effects.

We invested heavily in designing an IPL technology that could minimize risk during treatment for the patient whilst maximizing ease of use for the operator administering the therapy—whether we're talking meibomian gland dysfunction (MGD) or dermatological conditions such as rosacea.



## Maximum convenience, exceptional ease of use



OPE® IPL is the only pulsed light in the world allowing for usage without any protective gel. This is made possible by our patented, software-enabled technology providing a light impulse that's emitted at just the right frequency, every time, throughout every beam. This provides both operators and patients with an invaluable asset: the convenience of an exceptional, frictionless experience.

③

# Solutions

# Espansione Ecosystem of Solutions

Screening-to-treatment,  
delivered today.

The Espansione Ecosystem of solutions is an end-to-end portfolio of certified medical devices, designed and manufactured focusing on patients' and operators' needs, whilst preserving the maximum degree of safety and reliability.

We developed me-check® and other solutions of the Espansione ecosystem in partnership with valued key opinion leaders.



HEIKO PULT—OD, PHD

## QUALIFICATIONS

Optometrist at College of Optometry Munich, Germany  
MSc (Optometry) at PCO Salus University, Philadelphia, USA  
PhD (Vision Sciences) at School of Optometry and Vision Sciences, Cardiff University, Cardiff, UK  
Hon. – Vis. Prof. at Cardiff University, Cardiff, UK  
Academic Fellow at Aston University

## MEMBERSHIPS

Fellowship+Founding Member European Academy of Optometry and Optics (EAOO) Fellowship, American Academy of Optometry (AAO) Fellowship, British Contact Lens Association (BCLA) Association of Research in Vision and Ophthalmology (ARVO) Tear Film and Ocular Surface Society (TFOS)



JAMES WOLFFSOHN—OD, PHD

## QUALIFICATIONS

Honours degree in Optometry (first class), University of Manchester  
Institute of Science and Technology (UMIST) PhD (Cardiff University)  
Diplomate of American Academy of Optometry  
University of Houston: Adjunct Professor  
Aston University: Senior Lecturer

## MEMBERSHIPS

Fellowship, American Academy of Optometry Fellowship, Higher Education Academy Fellowship, International Association of Contact Lens Educators Fellowship, British Contact Lens Association Fellowship of Society of BiologyZ



me-check®

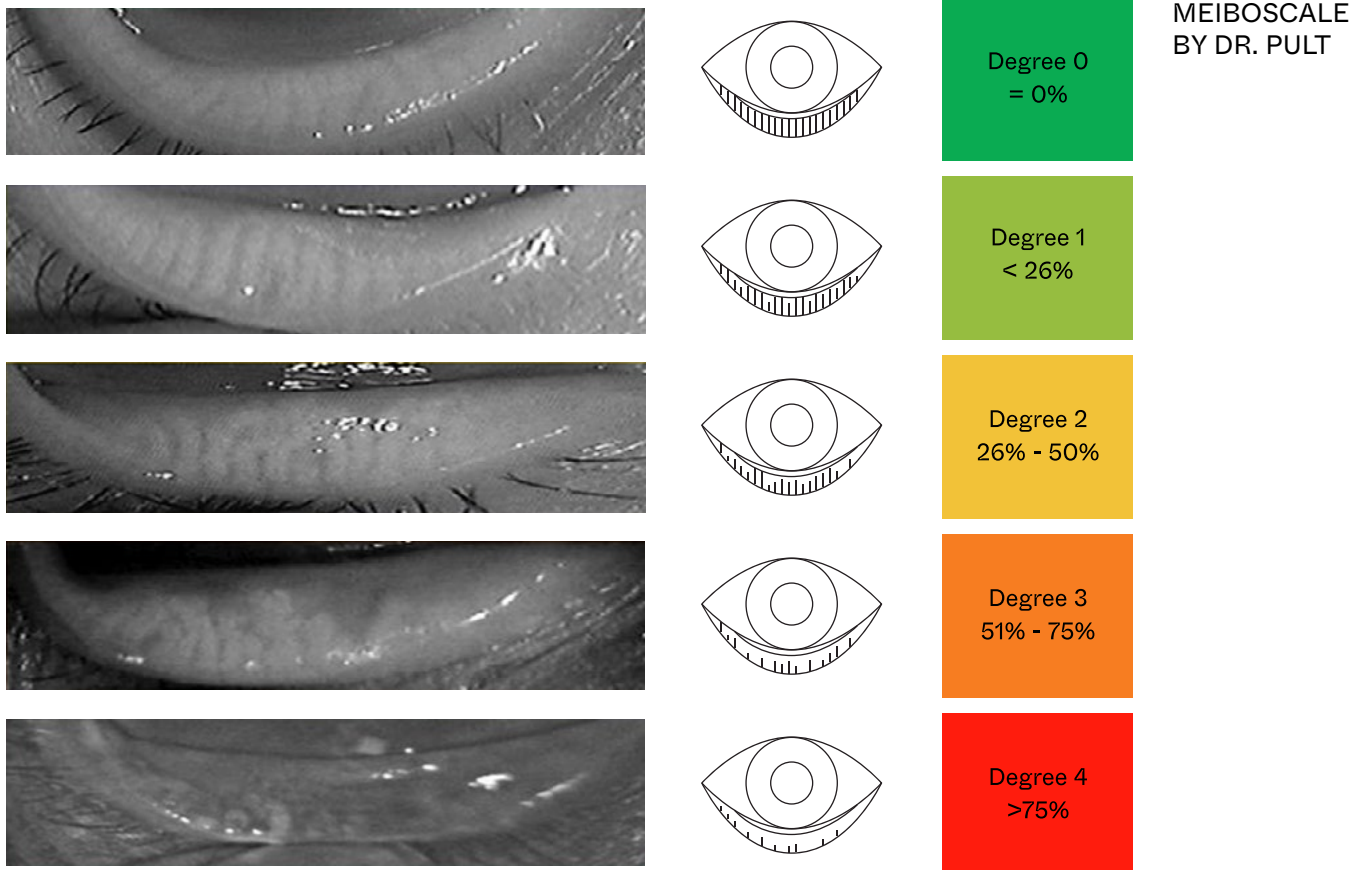
Actionable, versatile,  
modular screening.

We believe screening for MGD and other ocular surface conditions shouldn't be hard nor expensive, for both operators and patients alike. That's why we invested heavily in building a diagnosis+screening device that could tackle this challenge easily, quickly and effectively for all—introducing me-check®.



# Developed with practitioners, for practitioners

Me-check® is the ultimate solution for screening and diagnosing MGD/DED, Demodex and other ocular surface conditions. It's the only device certified (CE CLASS II Device) for use also in optic centers. We developed me-check® in cooperation with Dr. Heiko Pult and Prof. James Wolffsohn. It features the Meiboscale developed by Dr. Heiko Pult, alongside the OSDI-6 test developed with Prof. James Wolffsohn. This means me-check® software was built from scratch through complex mathematical algorithms, yet packaged with an fresh, operator-oriented UI to provide specialists with the simplest, most effective screening—actionable in under 5 minutes.





## ① Eye Test

Both eyes are tested—e.g., through a 2D/3D Meibography for MGD/DED. The average eye test is conducted within 5', start to finish, with no harm nor discomfort for the patient. The result is repeatable and consistent, and a wide variety of tests are available (i.e., Demodex, OSE, OSDI-6, Interferometry, Blink Quality).

## ② OSDI-6

An OSDI-6 questionnaire is conducted to complete the results of the eye test. The questionnaire is conducted by the practitioner, requires no more than 5' and the results are input straight into me-check® OS.

## ③ Diagnosis

The me-check® OS provides a comprehensive overview of the patient's conditions leveraging Dr. Pult's scale for MGD/DED.

## ④ Treatment

If possible, diagnosis is seamlessly loaded straight into any Espansione solution—e.g., eye-light®, mgd mask®, for treatment. If the me-check® workflow is brought forward without the possibility of an immediate treatment, the diagnosis is sent over directly from the software via email to whoever will treat the patient.



# Two different solutions:

## SCREENING OS, BASIC SOLUTION

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The simplest, fastest device, made for any eye care operator.

### AVAILABLE TESTS

2D Meibography  
OSDI-6 Test

### KEY BENEFITS

- ① Quick (3')  
> rapid patient turnover
- ② Intuitive  
> no training needed
- ③ Objective Measurement  
> repeatable+consistent

## DIAGNOSIS OS, FULL-FLEDGED SOLUTION

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The most complete solution, designed for eye care professionals.

### AVAILABLE TESTS

3D Meibography  
12-level Meibography  
Five-zone Evaluation of Glands  
OSDI-6 Test  
Demodex Screening  
OSE (Ocular Surface Evaluation)  
Interferometry\*  
Blink Quality Test\*

### KEY BENEFITS

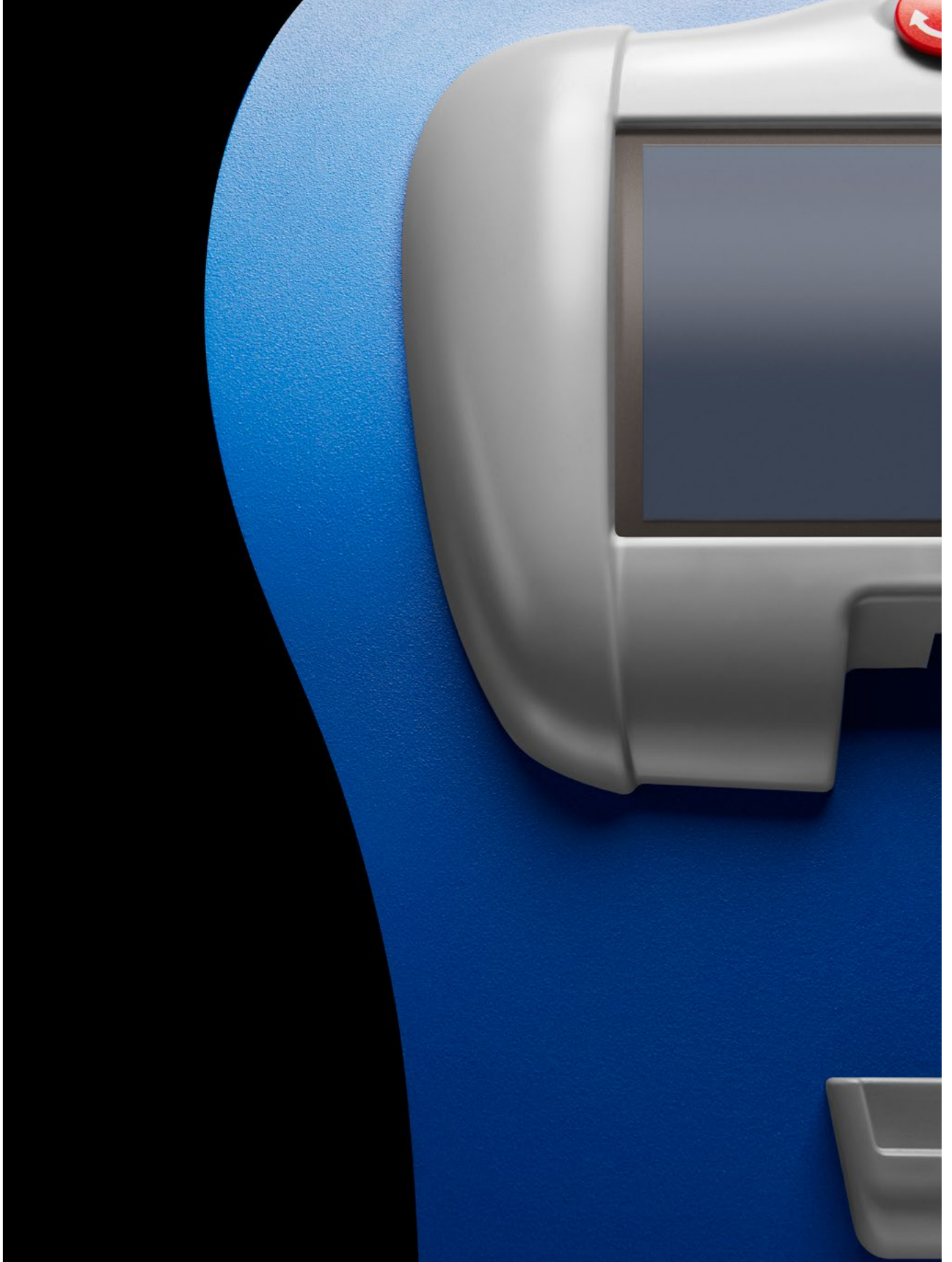
- ① Quick (5')  
> rapid patient turnover
- ② Intuitive  
> no training needed
- ③ Objective Measurement  
> repeatable+consistent
- ④ Upgradeable  
> always up to date
- ⑤ Automatic  
> no input needed
- ⑥ Comprehensive Reporting  
> all analyses in one place



## eye-light®

An all-in-one powerhouse for ocular surface health.

eye-light® is our flagship solution featuring both our core technologies, Light Modulation® LLLT and Optimal Power Energy® IPL, for an optimal, non-invasive treatment of most ocular surface conditions from Dry Eye Disease (DED) induced by Meibomian Glands Dysfunction (MGD) to Sjögren's Syndrome.



Our eye-light® solution was built to last and keep on delivering value to eye practitioners and patients alike. A beautifully crafted, durable stainless steel body houses a technological wonder, developed entirely in-house to be future-proof, thanks to an upgradable operating system.



Hardware and software work hand in hand to provide effective, painless care to patients, whilst being extremely easy to program and operate.



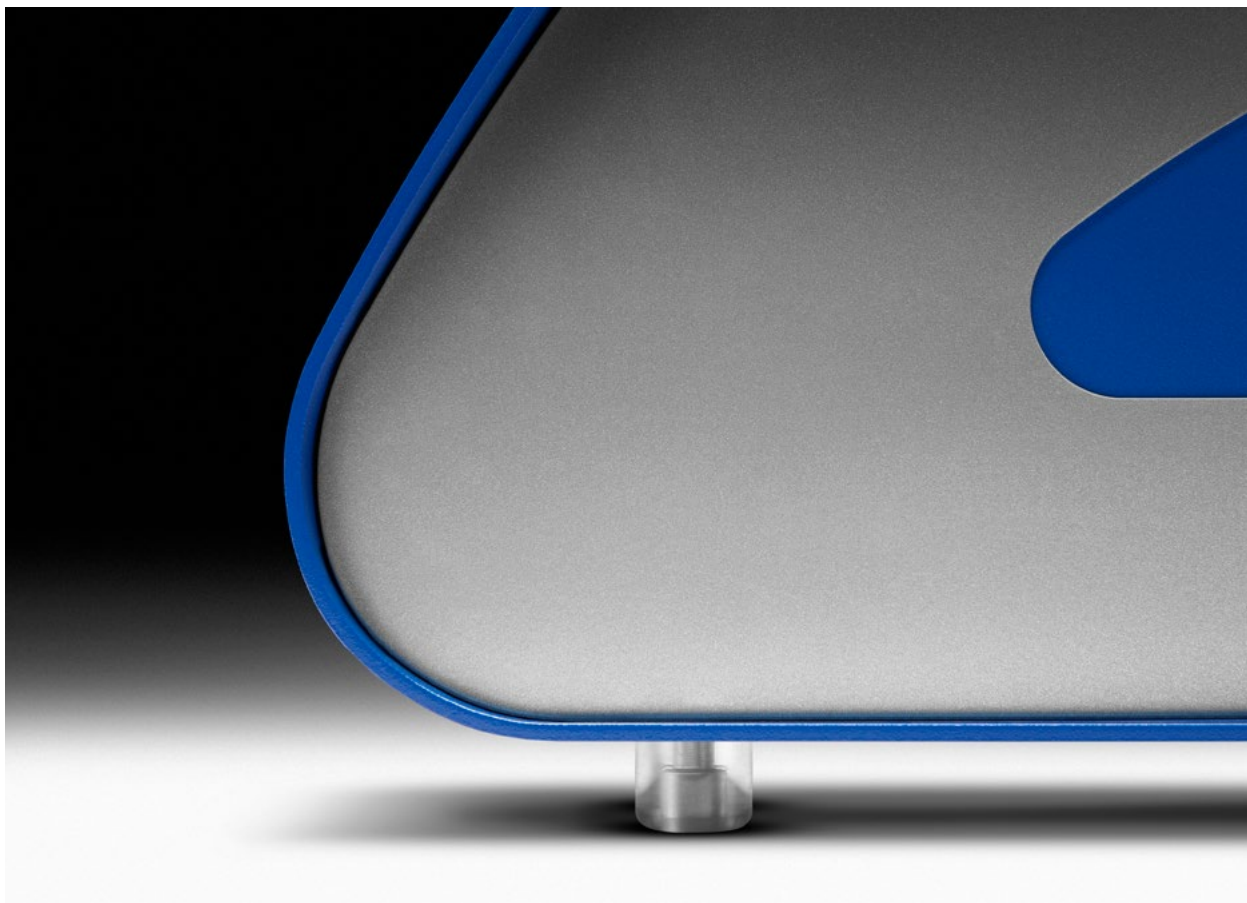


## About OPE® IPL

Leveraging OPE® IPL on eye-light® is as easy as turning on the flashlight on your phone. The first step of most treatments consists in few, painless shots of light around the eye, focusing on the inferior eyelid. Our OPE® IPL technology improves blood circulation by dissipating blood vessels, improving the secretion of anti-inflammatory cytokines.

## About Light Modulation® LLLT

The power of our Light Modulation® LLLT technology gets unleashed to the fullest on eye-light®. On top of our Red Light, eye-light® is the only solution featuring Blue and Yellow LM® LLLT technology to administer the photobiostimulation therapy for most ocular surface diseases.





## mgd mask®

Photobiomodulation  
champion.

Mgd mask® is our answer to professionals that want to focus on the unique benefits of our LM® LLLT technology for the treatment of most ocular surface diseases.

# What are the benefits?

Built with the same industrial design of our other solutions, mgd mask<sup>®</sup> packs a punch when it comes to photobiomodulation technology—enabling patients and operators to benefit from everything Light Modulation<sup>®</sup> Low Level Light Therapy (LM<sup>®</sup> LLLT) has to offer:

## ① Complete + Direct Treatment

mgd mask<sup>®</sup> enables a full therapy, covering both lower and upper eyelids, to grant maximum efficacy in treating Dry Eye Disease (DED) induced by Meibomian Glands Dysfunction (MGD), Chalazion, Blepharitis, Sjögren’s Syndrome, Post-blepharoplasty.

## ② Totally Painless

mgd mask<sup>®</sup> and LM<sup>®</sup> LLLT provide patients with an entirely painless therapy. Near-infrared light is emitted on the skin at a medically-certified wavelength, generating endogenous heating by stimulating cells’ ATP production.

## ③ Quick

For patients, this means immediate relief, just 15’ after the therapy—for operators, it means delivering greater value to patients, with much less effort.

## ④ Easy

No training needed, no set-up time. It just works.



## About Light Modulation<sup>®</sup> LLLT

Our patented photobiomodulation technology solicits cells’ mitochondria, triggering biochemical and biophysical reactions that stimulate them to a better protein synthesis. Thanks to the near-infrared emission of light, the tear lipid layer is increased and stabilized.

mgd mask<sup>®</sup> provides patients with custom treatments based on the MGD severity level detected with me-check<sup>®</sup> screening. According to the severity of meibomian glands loss, mgd mask<sup>®</sup> releases the correct amount of energy and treatment duration for every specific patient.



## my-mask®

Portable. Powerful.  
Light Therapy

We developed my-mask® with convenience in mind. Miniaturizing our Light Modulation® LLLT technology into such a portable, small package was a challenge we faced with the intention of providing operators and patients with a convenient yet powerful solution to benefit from light-based therapy wherever they feel like.



# What are the benefits?

Built with the same, iconic industrial design of other Espansione solutions, my-mask® is powered by photobiomodulation technology enabling patients and operators to benefit from everything Red Light Modulation® Low Level Light Therapy (LM® LLLT) has to offer. The main difference with other solutions lies in my-mask®'s extremely lightweight, portable form factor. We developed this innovation to deliver the power of our Red Light Modulation® LLLT treatment to patients in the comfort of their home—or wherever they feel like.

## ① Convenient

my-mask® is an extremely lightweight, portable and convenient solution. Both the device's body and the mask terminal have been designed to grant patients with the greatest comfort in administering (or self-administering) our light-based therapy (Light Modulation® LLLT).

## ② Complete + Direct Treatment

my-mask® enables a full therapy, covering both lower and upper eyelids, to grant maximum efficacy in treating Dry Eye Disease (DED) induced by Meibomian Glands Dysfunction (MGD) and other ocular surface conditions.

## ③ Totally Painless

my-mask® and LM® LLLT provide patients with an entirely painless therapy. Near-infrared light is emitted on the skin at a medically-certified wavelength, generating endogenous heating by stimulating cells' ATP production.

## ④ Quick + Easy

For patients, this means immediate relief just after the 15' therapy—for operators, it means delivering greater value to patients, with much less effort.



## About Light Modulation® LLLT

Our patented photobiomodulation technology (PBT) isn't just like any other red light therapy. We patented and certified it for medical use, designing it to leverage near-infrared light beams that solicit cells' mitochondria, triggering biochemical and biophysical reactions that stimulate them to a better protein synthesis. Thanks to this process of endogenous heating, the tear lipid layer is increased and stabilized.

④

# Scientific Compendium

# Ophthalmology

Our main focus today lies on ocular surface conditions—thanks to our unique photobiomodulation technology, LM<sup>®</sup>LLLT. From MGD/DED [...] to Blepharitis, we're setting the standard in the industry.

Looking forward, we are researching new ways to apply Light Modulation<sup>®</sup> LLLT beyond the ocular surface, starting with retina applications.



**BEATRICE COCHENER**  
MD, PHD, FORMER PRESIDENT ESCRS



**SARAH FARRANT**  
OD, TFOS AMBASSADOR



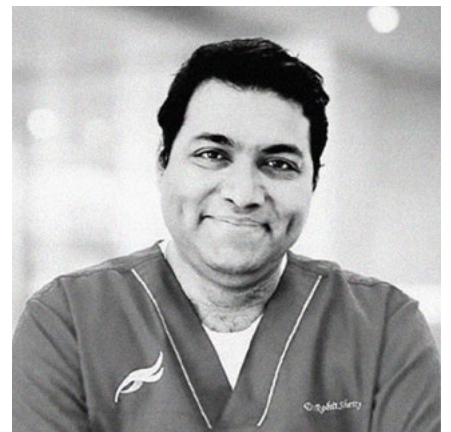
**PAUL KARPECKI**  
OD, TFOS AMBASSADOR



**PROF. GIANNACCARE**  
MD, PHD, FEBOPHTH



**KARL STONECIPHER**  
MD, AAO, ISRS, ASCRS AMB









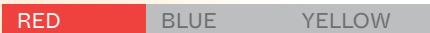
**ROHIT SHETTY**  
MD, PHD, KOS, ASCRS AMBASSADOR

SINGLE USAGE      JOINT USAGE

PATHOLOGY	TECHNOLOGY		
MGD/DED	OPE® IPL	+	LM® LLLT RED BLUE YELLOW
	OPE® IPL		LM® LLLT RED BLUE YELLOW
Blepharitis	OPE® IPL	+	LM® LLLT RED + BLUE YELLOW
	OPE® IPL		LM® LLLT RED + BLUE YELLOW
Chalazion	OPE® IPL		LM® LLLT RED BLUE YELLOW
Stye	OPE® IPL		LM® LLLT RED BLUE YELLOW

## Technology Use Cases

Thanks our patented technologies, Light Modulation® LLLT and Optimal Power Energy® IPL, the Espansione Ecosystem is the perfect choice to treat to treat the ocular surface and beyond.

PATHOLOGY	TECHNOLOGY		
Sjögren's Syndrome	OPE® IPL	+	LM® LLLT 
Pre-/Post-Surgery Cataract/Refractive	OPE® IPL		LM® LLLT 
Demodex	OPE® IPL		LM® LLLT 
Post-blepharoplasty	OPE® IPL		LM® LLLT 
Rosacea	OPE® IPL	+	LM® LLLT 
	OPE® IPL		LM® LLLT 
Ectropion	OPE® IPL		LM® LLLT 

# Bibliography

The patented technologies built into our solutions have been reported as clinically successful in treating many ocular surface conditions.

MGD (DED)

17+

Scientific  
Papers  
+ Articles

CHALAZION

1

Scientific  
Articles

SJÖGREN'S SYNDROME

1

Scientific  
Papers

BLEPHARITIS

2+

Scientific  
Papers, WIP

DEMODEX

2+

Scientific  
Papers, WIP

Throughout the years, valued members of the scientific community have contributed to the resonance of Espansione technologies such as Light Modulation® LLLT and Optimal Power Energy® IPL by publishing a vast array of research and scientific, peer-reviewed papers.

1. D'SOUZA, Sharon, et al. Clinical and Molecular Outcomes After Combined Intense Pulsed Light Therapy With Low-Level Light Therapy in Recalcitrant Evaporative Dry Eye Disease With Meibomian Gland Dysfunction. *Cornea*, 2021.
2. GIANNACCARE, Giuseppe, et al. Low-Level Light Therapy Versus Intense Pulsed Light for the Treatment of Meibomian Gland Dysfunction: Preliminary Results From a Prospective Randomized Comparative Study. *Cornea*, 2022.
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6. DI MARINO, Matteo, et al. Combined Low-Level Light Therapy and Intense Pulsed Light Therapy for the Treatment of Dry Eye in Patients with Sjögren's Syndrome. *Journal of ophthalmology*, 2021, 2021.
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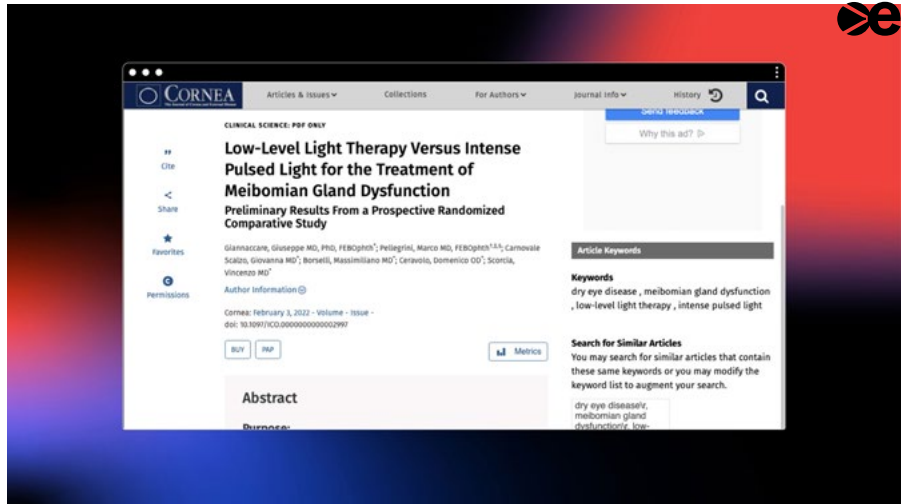
A number of other scientific articles, on numerous journals, have been published on Espansione technology.

1. STONECIPHER, Karl, et al. Dry-eye Management Before Surgery, *Review Of Ophthalmology*, 2018.
2. STONECIPHER, Karl, et al. Low-Level Light Therapy LLLT as an Adjunct Treatment For Meibomian Glands Dysfunction (MGD), *Acta Scientific Ophthalmology*, 2020.
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4. STONECIPHER, Karl. Low-Level Light Therapy, *CRSTEurope*, June 2021.
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# Light Modulation<sup>®</sup> LLLT: Superior Tech

We're proud to announce our Light Modulation<sup>®</sup> LLLT technology has recently been studied in a piece of research that compared it directly against IPL tech.

The study, published on Cornea, the Journal of Cornea and External Disease, by Giuseppe Giannaccare (MD, PhD) et al., has confirmed the efficacy of LM<sup>®</sup> LLLT, proving also its superior performance against IPL.

The purpose of the study was to evaluate and compare the safety and efficacy of low-level light therapy (LLLT) and intense pulsed light (IPL) for the treatment of meibomian gland dysfunction (MGD).

Directly citing the conclusions of the research paper:

Both LLLT and IPL were safe and effective in improving ocular discomfort symptoms in patients with MGD; however, the former determined a greater improvement in symptoms and an improvement of tear volume.

SOURCE:

*Giannaccare, G., Pellegrini, M., Scalzo, G. C., Borselli, M., Ceravolo, D., & Scorcia, V. (2022). Low-Level Light Therapy Versus Intense Pulsed Light for the Treatment of Meibomian Gland Dysfunction: Preliminary Results From a Prospective Randomized Comparative Study. Cornea. ISO 690*





## LM<sup>®</sup> LLLT + OPE<sup>®</sup> IPL: Power Couple.

A recent scientific paper, published on Cornea, the Journal of Cornea and External Disease, by Sharon D'Souza (MD), Rohit Shetty (MD, PhD) et al., has confirmed that our Light Modulation<sup>®</sup> LLLT technology, employed jointly with our Optimal Power Energy<sup>®</sup> IPL technology, is the key factor in effectively managing the most severe cases of recalcitrant MGD.

The purpose of the study was that of evaluating the effects of combined light therapy [intense pulsed light (IPL) and low-level light therapy (LLLT)] on clinical and molecular outcomes in evaporative DED with meibomian gland dysfunction (MGD).

Directly citing the conclusions of the paper:

Combined light therapy shows promising results in patients with chronic MGD and DED, even in recalcitrant cases. Clinical and molecular factor alterations support the improved symptomatology and reduced inflammation.

SOURCE:

*D'Souza, S., Iyappan, G., Dickman, M. M., Thakur, P., Mullick, R., Kundu, G., ... & Shetty, R. (2021). Clinical and Molecular Outcomes After Combined Intense Pulsed Light Therapy With Low-Level Light Therapy in Recalcitrant Evaporative Dry Eye Disease With Meibomian Gland Dysfunction. Cornea.*

## Dermatology

Dermatology is our heritage offering, leveraging both our technologies' unique prerogatives to provide patients with medical-grade cosmetic treatments.

## Lab

We constantly focus our effort on innovation. Our Lab division is where we develop new technologies and solutions.

In the Espansione Lab we also work alongside top-tier members of the global scientific community to research new applications of existing technologies.



# science onward



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