



We absolutely loved using the OKKULO system, we can feel the improvement it has made and it feels really natural.

DURHAM COUNTY CRICKET CLUB



## FAQ

### How is it different to traditional reaction training?

We do not class the OKKULO system as a reaction-time tool. The OKKULO system goes beyond this – providing an environment in which an athlete can improve at a biological level and then perform above and beyond their current capabilities.

### Will It work for everyone?

Yes it will work for everyone. The research has shown an improvement with every single participant that has trained in the OKKULO system.

### How long is a typical session?

A typical session is 15 minutes of high intensity training.

### How long will it take to notice the improvement?

The user will feel the benefit of playing under the OKKULO lights in their very first session. Within a short space of time the body adapts and begins to quicken the neurological processes of the eye, sending signals to the muscle groups in order to more quickly prepare for the perceived moving object.

### How long do the benefits last?

The benefits last around 7 days and will need to be topped up with regular OKKULO sessions in order to maintain maximum efficiency.

### What is the “OKKULO Score”?

The “OKKULO Score” is a scoring system calculated by our unique algorithm. Each athlete’s personal score will be updated after every session. This generates a leaderboard of players, further encouraging competitive use and improvement.

### Is the OKKULO system safe?

Training under the OKKULO lights is completely safe. The wavelength and strength of the lights have been designed to comply with all health and safety and UV light regulations. The safety of the athlete is our number one priority.

### What research has been conducted?

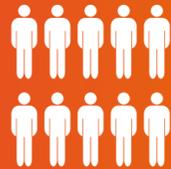
The OKKULO system has been extensively researched and fine-tuned with athletes and scientists over a 20 year period with the help of two world renowned vision scientists, Prof Andrew Stockman and Prof LT Sharpe, as well as academics at Durham University. OKKULO has been proven to improve reaction times in users.

### Will this replace club coaches?

Our tagline is “Excel Together” and that is exactly what we intend to do. We could not replace a coach, this is actually a tool for coaches. The OKKULO system is completely intuitive and the software is extremely user friendly for all staff members. Results are presented in easy to read graphs and statistics to aid the coaching staff as part of their wider training programme.

## Feedback

100%



of users improved their ability to react to faster objects



Users able to adjust to a 16% ball velocity increase



Percentage that players must speed up their response



okkulo.com

Design by El Roboto

# OKKULO



excel together



## What is OKKULO?

The OKKULO system is game-changing technology geared towards making substantial individual and collective gains in performance that will translate into greater sporting success and improved results.

Our cutting-edge training system pioneers the innovative control of lighting to improve response times leading to enhanced performance and a tangible competitive advantage.

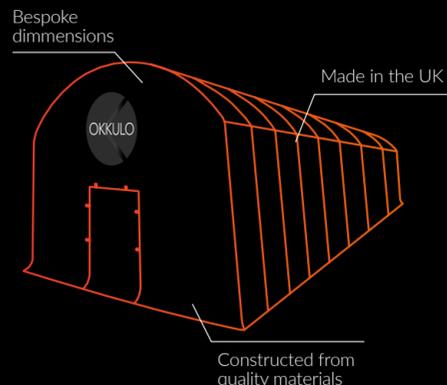
Particularly beneficial with fast-paced ball sports like football, cricket, tennis, baseball and basketball, OKKULO can help shave crucial milliseconds off sports requiring responses to fast-moving objects. We aim not merely to be innovative, but to be integral to the improvement of athletic capabilities.

## Our system

The OKKULO system is a unique training environment in which the intensity and spectrum of the illumination is carefully controlled during training to enhance performance under normal illumination conditions.

The OKKULO environment can be created in almost any enclosed space with the possibility of both internal and external environments depending on the client's needs.

The system comprises of our unique lighting stacks, ball-illumination technology, ball-delivery machine, the OKKULO goal-sensing technology, goal-sensing target boxes and OKKULO software that allows the coach to view the performance of the player in real time. Those data are then collated to build a unique OKKULO Score tracking performance over the duration of a player's career.



## The science

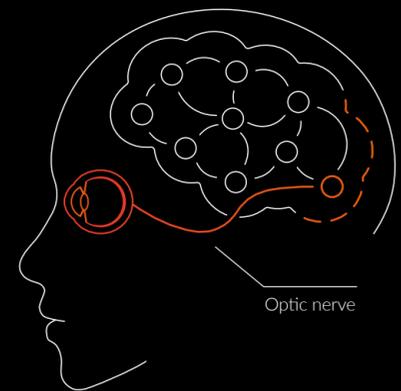
The OKKULO lighting conditions take advantage of biological processes in the eyes and brain that delay our perception under reduced illumination. Sports training under such conditions requires a speeding up of response times that translates into improved performance that can be the difference between “what if” and delivered results.

When we look at a scene, an upside-down image of it is formed by the lens and cornea of our eye on its inner, back surface, where light-sensitive photoreceptors (called rods and cones) absorb the arriving light and produce a neural representation of the image. This representation is processed and transmitted to the brain where it eventually leads to our perception of the scene and the objects within it. It is important to note that our perception is by no means instantaneous. Even in bright light, the delay between the scene being imaged and our conscious perception of that scene is about 200ms. To put this delay into context, if a ball is moving at 90mph, it will have travelled about 8m before we are able to perceive it at any given instant. For example, when we catch a ball, we must position our hands based on the trajectory and speed of the ball 200ms before it arrives! Consequently, we cannot respond to unexpected deflections of the ball in the last few meters before we catch it.

What we do at OKKULO is delay the visual system by a further 50ms by lowering the mean illumination. The player then has to recalibrate and adapt to the new environment and the reduced time available to respond. This causes performance to improve significantly in a way that converts naturally to normal illumination levels.

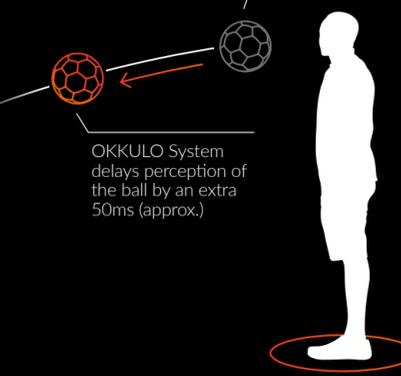
The system takes natural processes of human light adaptation to delay the visual response. An athlete faced with a fast-moving object, say a baseball or football, under these lighting conditions perceives the object as being delayed by about an additional 25% as a result of which they have less time to respond and must speed up their response. After training under these conditions, players were able to deal with balls delivered at higher velocities under normal illumination conditions than before training.

In sporting industries where even marginal gains in performance can relate to huge financial gains, this can mean a concrete advantage.



Optic nerve

Ball arrives at the player at the same time



Players learn to speed up their responses by 50ms to play ball successfully

## The team

The team at OKKULO comprises a collection of individuals with a broad range of experience and skills. Each member brings unique insight to the system and has been pivotal in it's creation and continued development.

### Mel O'Connor CEO

With a background in television and football training, Mel has devoted his career to creativity and innovative thinking. Having studied training techniques on the back of playing football for his hometown club, he developed the OKKULO system with the support of Durham University and a team of professional athletes and coaches from the worlds of football and cricket.

### Ryan McKnight Sports Consultant

Ryan's knowledge from more than a decade working, educating and researching the UK football industry and in leadership and consultancy roles with several professional football clubs offers proven insight into the industry. He now owns Frickley Athletic FC and offers his extensive expertise and pedigree to OKKULO as senior sports consultant.

### Prof Andrew Stockman Scientific adviser

A professor at University College London, Andrew is an eminent vision scientist with a worldwide reputation as an expert in human visual adaptation, colour and visual processing.

### Mark Westerhof Ops Director

Mark heads up OKKULO's Ops team on the back of a decade of project management and sales experience within the engineering industry. A veteran of high-pressured customer-facing environments, he is key to OKKULO's strategies and brings with him extensive management experience.

### Phil Jermyn Engineering Director

A highly experienced and decorated chartered engineer with extensive experience of full lifecycle development in the fields of cutting-edge technologies, Phil lends more than two decades of engineering excellence to OKKULO's technical department. The system's ongoing evolution is in his capable hands.

### Abu Ali Financial Director

Abu oversees the financial management of the Company. An experienced Chartered Accountant and Corporate Finance Advisor, Abu brings a wealth of experience to the team. Abu is a Partner in an advisory firm based in the North of England and an award winner for his work in assisting businesses.

## Find out more

Get in touch for more information on how OKKULO could help each and every member of your team.

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WORLD  
RENOWNED VISION  
SCIENTISTS

5  
RESEARCH  
PROGRAMMES ACROSS  
VARIOUS SPORTS

20  
YEARS  
OF RESEARCH

excel together