

# Laser World



July 2013

## *Lijia Xu Talks About Her Amazing Laser Success*



THE SECRETS OF METEOROLOGY



ARE YOU MENTALLY FIT?



ILCA UPDATE FROM TRACY USHER



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# The Secrets of Meteorology

by Jon Emmett



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Emmett with Olympic Gold Medallist Lijia Xu (Lily)

*Jon Emmett explains how to prepare for the expected conditions and how to react to changes in the weather!*

One of the aspects which makes sailing so exciting is all the variables involved. No race is ever the same as another and this is what makes sailing a sport for life. One of the biggest variables is the weather and I often think that if I could control that, then I would be a very rich man!

We can however make sure that we are well prepared for the expected conditions and can react well to any changes in the weather. After all it is not unusual for the locals to comment the weather is never normally like this.

The first thing to mention is whatever happens you need to get your head out of the boat and look at the "now cast" as whatever the wind is "fore cast" (meaning to happen in the future) it is the wind "now" that you have now which you have to race in.

Weather forecasts can predict the weather coming in too late or too early, over or under predict the wind strength or just be completely wrong. Having said this you always need to arm yourself with as much accurate information as possible, as if you know there is going to be a change then you can be the first to react to take advantage of it.

You need to understand what type of wind you are experiencing, perhaps it is a gradient wind which is pressure driven. The easiest way to think of this is wind is like water, it behaves like a fluid and therefore always chooses the easiest route.

If you look at rivers they very rarely go in a straight line (unless man made). They tend to take the route of least resistance, so rather than trying to go through hard granite they will go through soft soil, even if this means they have to bend round.

This happens with wind. A good example of this is Portland Harbour so rather than going over high ground like the Island of Portland, the wind will bend around it. This means that there is an area of light wind close by and to leeward of high ground and a wind bend

and more pressure either side of it. This is why in certain wind directions there is often more wind in Portland Harbour than in Weymouth Bay.

Water runs downhill and you can think of the pressure differences being much the same as this with highs and lows. The greater the pressure differences the stronger the wind. If you look at an Isometric chart the lines on it mark areas of constant pressure just like the contours on a map, so the closer the lines are together the steeper the hill/ greater the pressure.

We also get winds which are either sucked or blown by clouds, which is why it is important to look up at the sky, to predict what wind you are going to get.

If we think about the UK again we will notice that the west (Wales) is much wetter than the east (Essex). This is not only because the majority of weather systems roll in from the west but because the land is higher there too.

The way I think of this is that the dark heavy rain clouds need to lose some "weight" (wind and water in the form of rain) to make it over the hills. If the height of the rain cloud is greater than the height from the land/ sea to the bottom of the cloud then it will drop wind and rain, and as a sailor we can take advantage of this!

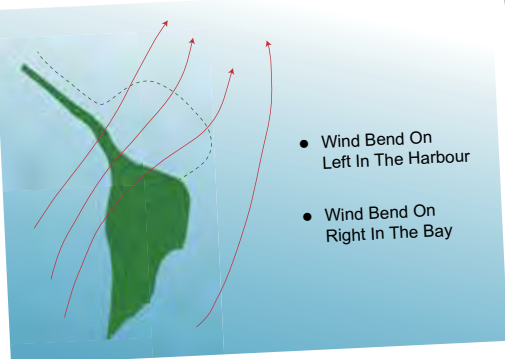
In the main more wind is only a good thing and the extra wind coming out of the cloud gives a clear advantage to the sailor who arrives there first as well as a lift around the outside of the cloud. Of course you need to make a judgement: can you get closer to the rain cloud (without going past the laylines etc) to get an advantage? and remember the cloud will also be moving downwind.

Of course we tend to have big white clouds as well on a hot summer day, where there is a lot of mixing of the air: the higher the cloud the more mixing. This is simply caused as the warm air over the land rises.



© Jon Emmett

Formation of cloud associated with sea breeze



- Wind Bend On Left In The Harbour
- Wind Bend On Right In The Bay

use wind bends to your advantage when racing



When there is a lot of mixing we say the air is unstable (as it is going up and down). Please, please, please do not confuse this with shifty wind (one where the wind keeps changing direction).

You can have a very unstable wind which holds its direction absolutely steady all afternoon and you can have a very shifty wind which is perfectly stable (no mixing) because it is coming off the land with lots of high buildings.

When the air over the land rises and forms the big fluffy clouds it creates a low pressure, and this is filled by the cold air from the sea. Just as well or the people on the beach would have no air to breathe! This cold air from the sea is often referred to as a "sea breeze" and if you pay attention you can really notice the temperature difference.

The "return flow" (from the land to the sea) is at a higher level and is helped if there is an offshore gradient wind at the start of the day.

So there are two factors:

1. Pressure gradient (the temperature difference between the land and the water and the amount of land and water)
2. Return flow (is the gradient going from land to sea?)

So again if we look at the south coast of the UK:

	Pressure Gradient	Return Flow
North Westerly gradient	Good	Good
North Easterly gradient	Bad	Good
South Easterly gradient	Bad	Bad
South Westerly gradient	Good	Bad

So just knowing what the gradient wind is in the morning can give you a good indication of the chances you have of a sea breeze, as often the wind will die off before the sea breeze appears.

If the return flow is favourable:

i) and gradient breeze is light to medium then you will tend to get a very good sea breeze.

ii) and the gradient breeze is over twenty knots it will tend to stay in all day.

If the return flow is unfavourable:

i) and the gradient breeze is "strong" and the sea breeze is "weak" (large pressure gradient) then the gradient wind will tend to stay but may die slightly in the afternoon.

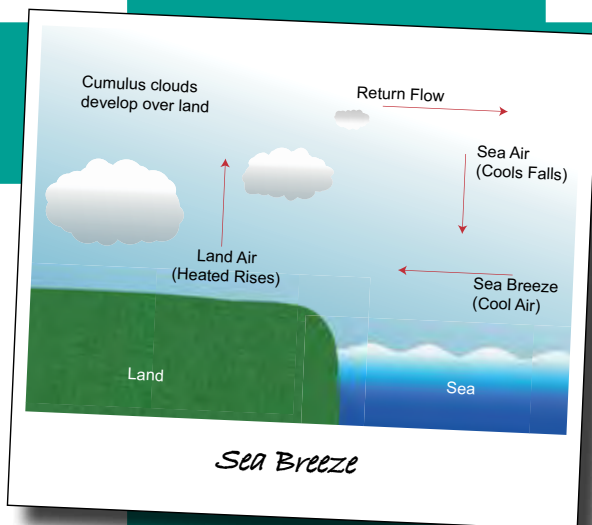
ii) and the gradient breeze is "weak" and the sea breeze is "strong" (large pressure gradient) then the sea breeze will tend to win and the weaker the gradient then the stronger the sea breeze will be.

iii) Sadly if both the sea and the land breeze are of similar strength then maybe you end up with no sea breeze and no land breeze (no wind at all!)

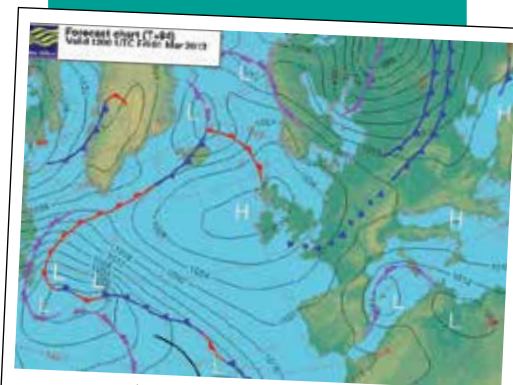
As a sailor we can clearly take advantage of a sea breeze as we know in the Northern hemisphere we expect the wind to increase over the afternoon and go right (whereas in the Southern hemisphere it goes left).

Places like Egypt are always very popular with windsurfers as they often have excellent thermal wind as they are very hot and the land which is sand heats up very quickly and can get very hot (as opposed to land which is covered with trees, as the trees absorb the sunlight).

Wherever you are racing it is very important to spend as much time there as possible to get used to the local wind and weather conditions.



*Dark clouds dropping wind and rain*



*An isometric chart showing a high pressure over the UK*

# Lijia Xu

## Olympic Gold Medallist 2012

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**Name:** Lijia Xu  
**Height:** 176 cm  
**Age:** 25



London 2012 Olympics

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Olympic Walk of Fame!



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On the podium: London 2012

### A minute with ....

Lijia Xu

#### How did you get involved with sailing?

At the age of 10, when I was a swimmer, the Shanghai Optimist coach Zhang Jing introduced me to sailing. I found it much more interesting than swimming so I switched to a totally new sport both for me, my family, friends and my country.

#### Why did you choose the Laser?

After the Optimist I sailed a Europe for two years since it was the Olympic class at that time. Then, following the Olympic Game Class change, I hopped on a Laser from 2006 till today.

#### Did you consider other classes?

My body size is very suitable for a single-handed dinghy so I never even considered the 470 or other classes.

#### Are you excited about competing at the 2013 Radial Worlds in China?

Yeah, very much indeed. I know how it feels to race in the home water and there will be more support behind me. Besides, it's a good chance to have more media exposure to further promote the sport of sailing to the Chinese people thanks to last year's Olympic gold medal.

#### What can the other sailors expect when they visit China?

Rizhao has very similar conditions to Qingdao - big swell and strong currents. But it will be held in October when the weather is much colder and much better winds. You may well expect some strong wind racing during that time.

#### Congratulations on winning the 2013 Radial Women's Olympic Gold medal.

**How did it feel when you won?**  
 I finally realized our Chinese Sailing Dream as well as the first-ever sailboat gold for the whole of Asia! I am in profound proud satiation and more than grateful for everything.

#### Where do you keep your gold medal?

In the Chinese Maritime Museum.

#### You were also ISAF 'Sailor of the Year'. Your speech was inspirational - do you enjoy public speaking?

After the Games I experienced lots of public and social activities, I sure get nervous since I am not an expert talker. But I just regard these as a good chance to practice and improve my social and communication skills to help me better prepare for future jobs, accumulate more experience and also make friends from a wild variety of different careers.

#### What was it like to meet Ben Ainslie? Did you discuss Laser sailing?

He's been my idol since I picked up sailing, and I learnt a lot from his book 'Close To The Wind'. We actually talked about the America's Cup, hehe.

#### Do you intend to compete in the Laser Radial at the 2016 Olympics?

Yes, I want to keep sailing throughout my life span, its just a matter of Olympic sailing or some other big boat racing.

#### Do you have any other goals for your sailing career?

Helm the America's Cup boat and sail around the world. It may just be a dream goal instead a reality one, but its nice to keep those in mind and see if there's any chance in the future.

#### How much time do you spend training?

8-10 sessions/week for around 20-25 hrs. Sailing? 4-5 times per week. Gym? 5-6 times/week. Other? Cycling, swimming, psychology.

#### Do you have a special training diet?

Personally I like to lead a healthy eating habits no matter whether I am training or not. The most important part is the portion size of carbohydrates should be raised to a higher amount to assist good performance and endurance workout.

#### How much do you work with your sailing coach Jon Emmett?

Jon started coaching me from 2011 and we will keep the good cooperation towards the Rio Games.

#### What other sports do you enjoy?

Outdoor cycling, badminton, pilates, ice skating, etc.

#### Which 2013 Laser regattas do you plan to attend?

Hyeres, Medemblic, Weymouth, and the Worlds in Rizhao.

**Favourite Book?** Too many to name one. I would recommend Jon Emmett's 'Be Your Own Sailing/Tactical Coach' to sailors worldwide as it teaches you useful knowledge and top sailing tips.

**Favourite food?** Salad or fish.

**Favourite music?** Pop and country.

**Sporting hero?** Roger Federer.

**Favourite place to visit?** New Zealand because it's environment-friendly and protects the best of the origin of nature.

# ILCA Update from Tracy Usher

## From the ILCA President

As I am sure many Laser sailors already know, this past March both ILCA and ISAF were included as defendants in a lawsuit filed by Bruce Kirby Inc. primarily against LaserPerformance. To date much has been written in the sailing press on this issue but it's probably worth a few lines to try to make the situation a bit clearer to all Laser sailors.

At its heart, the suit appears to be simply about allegations of non-payment of royalties owed to Kirby Inc. by Laser Performance over the past two years, with the ILCA and ISAF added on what appear to be technical grounds. However, the genesis of these disputes are rarely as simple as they may seem and it's important to realize that the suit is the culmination of a series of events that began some five years ago when Bruce Kirby sold his Bruce Kirby Inc. to a group with close ties to another Laser builder. To fully understand the dispute requires a full history of everything that has transpired during that time and would require more pages than would fit in this issue of LaserWorld. In any case, for those who really want to know the details, the defendants will be soon filing their responses to the suit giving everyone the opportunity to see more of the story. The important point here is that throughout the history of the dispute both the ILCA and ISAF have made every effort to take a neutral position in what is, at its core, a contractual dispute between two commercial interests.

Recently, with the threat of a disruption in the supply of boats and equipment to nearly 80% of Laser sailors worldwide, ISAF approved the change to the ILCA Fundamental

In addition to taking a neutral stance, both ILCA and ISAF have worked hard to try to prevent the sailors from being impacted by the commercial dispute and subsequent lawsuit.

Rule previously approved by the class membership. In addition, ISAF has issued a newly designed ISAF

plaque (see picture with this article) to affix to new boats to indicate they are fully class legal Lasers. ILCA has already begun to distribute these plaques to ALL of the current builders which should assure that boats and equipment remain available to sailors around the world. In addition, ILCA is working hard to ensure that the championship events are all on track in 2013 and beyond.

One area is impacted by the disagreement amongst the parties - progress on technical issues. In particular, it was hoped to have by now introduced the new Standard sail, have a full evaluation and recommendation on spars, etc. Unfortunately, these issues require the cooperation of all the builders and these technical items will have to wait until a full resolution of the dispute. On the measurement and rules side, in his role as Chief Measurer, Jean-Luc Michon is issuing any interpretations that may be necessary - again until such time as the full Technical and Measurement Committee can resume its functions.

At the time of this writing and as it seems these things go, the situation, as they say, remains rather fluid. ILCA and ISAF have met with Bruce Kirby and his representatives to discuss the situation and possible solution and we have been continuing a dialog aimed at getting all parties to the dispute to the table to find a final solution. ILCA is optimistic that a solution is going to be found and in the ideal case by the

time you read this article the dispute may well be over.

In the meantime, we hope the impact to you, the sailor, is minimal and that you continue to focus on getting out sailing on your Laser. To help facilitate that the ILCA office is busy processing entries to the year's

world championships with an aim to ensuring another banner year of Laser sailing throughout the world!



Tracy Usher  
ILCA President



ILCA has over 15,000  
members in 108 countries



# Are You Mentally Fit?

by Meka Taulbee

© Thom Touw

*Meka Taulbee from SailFit discusses why mental fitness is equally important as physical fitness!*

Are you mentally fit? When it comes to any athletic event or even just day-to-day living mental fitness is just as important as physical fitness. Lets consider the sailor who wins the majority of races he competes in or the person who seems to find success in everything they attempt. These people go to the next event with an established sense of self-confidence. They have shown to others and themselves what they are capable of. They have come to expect the same results at each event and others come to expect the same as well. Whether they are consciously aware of it or not they have created a mental edge over the rest of the competitors. On the other hand many of the competitors have let themselves be taken over by this mental edge. Whether they are consciously aware of it or not they automatically expect that they will finish behind this person.

Consider how you view yourself. Do you go to an event thinking "I am a winner" or do you assume that there are those that will always finish in front of you? Consider how the other competitors view you in relationship to themselves. Do they assume you will always finish in front of them or that you are not a threat? It seems the longer we let ourselves and others believe something the more true it becomes. Why not go into each event with some confidence and give yourself an even greater chance of achieving the results you want! This isn't to say that you should start acting over confident and cocky. Unlike physical fitness, mental fitness can't be seen on the outside, but comes from within.

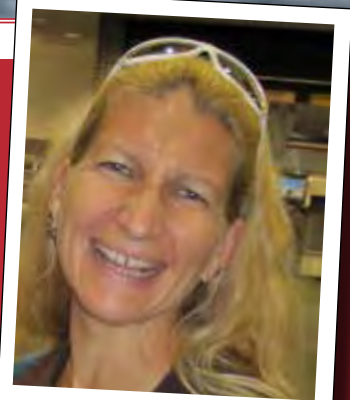
Mental fitness doesn't happen overnight, but rather takes time to develop. To start, think about what type of competitor you would like to be. Do you want to become better at what you do? What will make you feel good about your performance at the end of the day? Then think about how you would want others to perceive you. Do you want them to know that you are going to make them work to beat you instead of letting them assume they can? Do you want to be known as being a fair player or would you be satisfied if people thought you played dirty? Having a good picture of the type of competitor you would like to be will help you take actions to become that person. Just by being aware your subconscious will help you become what you envision for yourself.

Next, start setting some small, attainable

goals for yourself. This is important because it gives you something personal to work toward that when achieved will help establish more confidence in yourself as a competitor. Start with the next event, maybe you want to finish in the top half of the fleet, maybe just two places better than you did the previous year, perhaps you and Joe Sailor are always neck & neck and now it's time to show him your stuff or maybe you just want to make it across the finish line. Whatever your desire, start by breaking it down into small chunks and working one at a time. Before you know it you will be making great advances and in turn you will feel good about yourself and much more confident. Others will start to notice this new confidence and now is when you are gaining your mental edge.

Many factors can affect your state of mind and in turn hinder your performance. If you or any outside influence put too much pressure or emphasis on winning it can have the reverse effect. If you don't do as well as you hoped it could be easy to dwell on it and let it knock you back a few steps. The next time you will be so concerned with not wanting to feel that way again you won't focus on the task at hand. You may have an injury that you think will hold you back. If you just worry about the "what ifs" that "could" hold you back then here again you are not putting your full focus on the event. You are so worried about the outcome that you are not living in the moment. Every event will have its ups and downs and you need to recognize those and learn what you can from them. For example, if you hit a mark and are forced to do a 360 you may spend the rest of the race mad at yourself and thinking about how much it will cost you. Instead, do your 360 and be confident that you can make the best out of the rest of the race. Dwelling on it pulls your focus away from the task at hand and may make you miss other opportunities that will arise to help you gain back some ground.

When you start to become aware of the type of competitor you want to be and setting some goals for yourself you will start to feel more relaxed, become more confident and enjoy things more. The next time you go out to compete in an event picture what you want to happen that day and think about what your goals are. With this clear picture it will become easier to achieve those goals. Take a minute to put everything in perspective then go out there and let it rip!



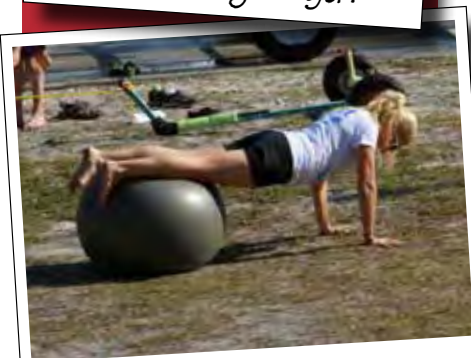
*Meka Taulbee*



*Fitness training for the young!*



*...and even younger!*



*Meka practises what she preaches!*