

About us

IRISIOME is a French startup company from Bordeaux, in France founded in 2015. The company is the result of a project valorization led by the CELIA Laboratory (Centre Lasers Intenses et Applications) which was aiming at developing a user friendly and simple laser source for medical applications. Since the beginning of the project our team has strengthened its expertise by developing an innovative laser architecture which would be easily integrated in any experiment or system.

Willing to widen its offer and confront its laser sources to challenging applications, IRISIOME has created a new brand, IRISIOME Solutions, fully dedicated to the scientific and R&D markets. To be able to fulfill our users' specific requirements, we are making ourselves available to take up any challenge and new developments that will push our systems to the highest level of performance.

Contact us

IRISIOME

Cité de la Photonique – Bâtiment Elnath
11 Avenue de Canteranne
33600 PESSAC – France

+33 6 17 03 32 16
contact@irisiome-solutions.com

www.irisiome-solutions.com

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*High
end Tunable
Picosecond and
Femtosecond
Fiber Lasers
for
Scientific and
Industrial
Applications*



**IRISIOME
SOLUTIONS**

Our technology and products

The main benefit of our specific architecture is to offer a very user-friendly solution without giving up on versatility. Thank to the pulse gating technology, we can tune the pulse duration from ten's picoseconds to few nanoseconds and the repetition frequency from single-shot to few GHz.

-  **USER TUNABLE AND ADJUSTABLE PULSE DURATION**
From 50 ps to few ns, narrow linewidth spectrum
-  **USER TUNABLE AND ADJUSTABLE PULSE REPETITION FREQUENCY**
Up to 2 GHz, with internal or external triggering
-  **HIGH POWER CAPABILITY**
Multistage fiber amplifier, up to 30 W
-  **EASY TO USE**
Compact, turn-key and robust lasers
-  **BROAD WAVELENGTH AVAILABILITY**
Many wavelength available in IR and Visible

| | SID Series | Manny Series | Diego Series |
|-------------------------------|--|------------------------------|-----------------------------|
| Central Wavelength (1) | 1030 nm, 1064 nm or 1550 nm, 1560 nm | | |
| Frequency doubling | YES | YES | NO |
| Pulse duration | Fixed, ~25 ps | Tunable from 50 ps to few ns | Fixed, from 350 fs to 25 ps |
| Spectral bandwidth | < 1 nm | < 0,2 nm | < 1 nm |
| Avg. Output Power (2) | Up to 30 W | | |
| Max pulse energy (3) | >1 μJ | | |
| Power stability | < 2 % RMS | | |
| Timing jitter (4) | < 3 ps RMS | | |
| Repetition rate | Single-shot to 2 GHz, Burst capable | | |
| Polarization | Linear, > 20 dB | | |
| Synchronization | Master/Slave | | |
| Beam quality | Fibered output or free-space, M ² < 1,3 | | |
| Cooling system | Air cooled | | |

(1) Other wavelength available upon request

(2) Average power is depending on pulse repetition rate

(3) Depends on pulse repetition frequency

(4) Depends on clock or sync signal rate

Application to Biophotonics

Due to their characteristics, Iriosome Solutions systems are perfect for biophotonics application. Recently, our lasers have proven to be the excellent choice for spectroscopy and microscopy. Here we give an example of their use in Stimulated emission depletion (STED) microscopy, one of the many techniques of super-resolution microscopy.

Which systems?

Excitation laser: SID 532 nm

- Pulse duration < 30 ps,
- Power > 50 mW,
- Rep. Rate > 10MHz,
- External synchronization



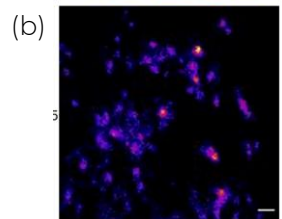
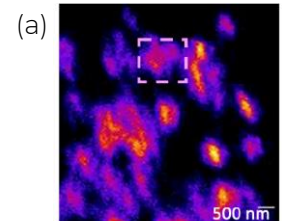
Depletion laser: MANNY 775 nm

- Tunable repetition rate and pulse duration
- 2W
- External synchronization

Our advantages

- Tunable pulse duration and repetition rate to optimize the set-up conditions
- Easy external triggering with low jitter for a perfect synchronization
- Turn-key system, really easy to use even for users who are not expert in optics and lasers

Fluorescent 35 nm nano-diamonds imaged with (a) confocal microscopy and (b) STED- Depletion has been don with a MANNY laser at 775 nm and 45 mW. Thanks to the tunability of the system, the depletion pulse duration has been optimized at 150 ps



More applications? Contact us!