

Application

Bio-mimetic research on insects, reptiles and other small animals

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<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Research
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Automotive
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Defense

Subject

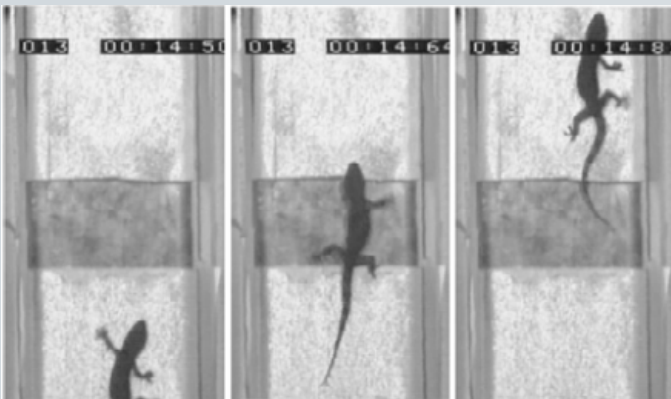
Bio-mimetic (often called “bio-mechanics”, “bio-technologies” or “bionics”) is the research of nature in order to duplicate specific parts or a system and transferring into man-made technical products. A successful and often cited example are the gecko’s feet which allow this little reptile to climb on walls and even ceilings. Not only are the brushlike fingertips a key element for this ability, the unique walking pattern is a prerequisite too.

Solution

High speed cameras help the researchers to see and understand every single phase of a gekko’s walking pattern. The visual data are analysed with a purpose-written software to transfer the visual data into a mathematic formula, which allows to duplicate the principle into mechanical “walking robots”. The invisible IR-light emitted by an AOS StrobeLED allowed the gecko to behave naturally. Secondly, the StrobeLED did not create excessive heat due to its short IR-light burst, another essential benefit when monitoring small creatures.

Customer benefits

- instant insight into the animals walking pattern
- fast transformation into mathematics for further studies



High speed motion study under IR illumination



S-PRI high speed camera



StroboLED light head

Your AOS Partner:

Specifications are subject to changes without prior notice – v0810

Scope of supply

- S-PRI high speed camera with option 1 (gain control)
- 25mm lens
- tripod
- AOS StroboLED INFRARED (880nm)

Competitive advantage:

- small, compact camera size allows the camera positioned near the object, making sure the camera really sees the object
- solid, extruded all-aluminium housing, protecting the camera against mechanical impacts and malfunctions due to excessive electromagnetic noise
- simple to setup (1 data cable, 1 I/O-cable)
- simple control software, ready to provide images within 1 minute. Also ideal for occasional users
- IR Stroboscope allows a convenient setup without disturbing the object, providing pin-sharp images for precise motion analysis

Customers:

- research institutes in bio mimetic, bio technologies, bionics
- engineering companies / R&D centres for bionics