

Projekt „**Zintegrowany program AWF Wrocław dla Rozwoju Regionalnego**”  
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## INVITATION

We kindly invite you to attend the series of lectures  
**“The Science Behind the Strokes™”** by **Professor Jan Prins**  
from the Department of Kinesiology & Leisure Sciences, University of Hawaii-Manoa

Dates:

**22.03.2023r.** time: 19.15-20.45;  
**28.03.2023r.** time: 19.00-20.30;  
**04.04.2023r.** time: 19.00-20.30;  
**12.04.2023r.** time: 19.15-20.45;  
**18.04.2023r.** time: 19.00-20.30;  
**25.04.2023r.** time: 19.00-20.30;

**The link to the first meeting:**

<https://awf-wroc-pl.zoom.us/j/91269091726?pwd=V3A3cW9lMDh0WlIMdnFnS2hLamtoZz09>

**The link to the meetings from 2 to 6:**

<https://awf-wroc-pl.zoom.us/j/91621028268?pwd=c2MrcE5sZlQvc3FGOGVsTzArcW9aQT09>

### The lecture topics:

1. The Basis for Efficient Swimming.
2. The Interplay between Resistive & Propulsive Drag Forces .
3. Why Propulsive Drag Force ... “Pushing the water backwards” ... is now the dominant motion in Freestyle, Backstroke, & Butterfly.
4. Applying multi-camera high-speed videography and subsequent motion analysis software to better understand swimming stroke mechanics.
5. Impulse in swimming.
6. Asymmetries in swimming.
7. Why swimming with a more “Obtuse-Angled Elbow-Bend” is producing faster swimming times.
8. High-speed motion analyses of Backstroke, Breaststroke, and Butterfly.
9. The interpretation of the resulting data to specific areas of focus for each of these three strokes.
10. The Biomechanics of Unintended Consequences.
11. A biomechanical perspective of “Body Roll in the Freestyle ... The implications of “Conscious Body Roll”.
12. Continued discussion on why “Sculling” actions of the hands in swimming does not produce optimum propulsive forces ... now discontinued “S-Pull”.
13. Extraneous arm and shoulder motion and “Pressing down on the T”.
14. Freestyle Stroke Mechanics: Efficient Mechanics.
15. Freestyle Stroke Mechanics: Common Stroke Defects.

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