



**IBU**

# **DEVELOPMENT INFO DAY 2024**

**27 MARCH 2024  
ONLINE VIA ZOOM**



# ***05 IBU ACADEMY***



- ✓ **141 coaches** from **41 NFs** were/are supported so far (2022-2024)
- ✓ All development categories with great **gender equality** (44 % female)
- ✓ **Criteria:** coach's qualification, NF category, gender, NF participation in other courses, NF's need for education
- ✓ Basic Course 2024: 35 Applicants, 20 selected (13 females)
- ✓ First Level Course 2024/25: 36 Applicants, 20 selected (new: a short **Para-Biathlon module** included)



## Second Level Course 2024/25

- ✓ **Application deadline: 31 March 2024**
- ✓ Experienced Coaches (international), Junior National Team or higher
- ✓ Week 1: 14-18 September in Oberhof
- ✓ Week 2: 5-9 April in Lillehammer
- ✓ Week 3: June 2025: TBC
- ✓ **Mentoring**

## Third Level Course 2024/25

- ✓ **Application deadline: 31 March 2024**
- ✓ Elite Coaches (international), National Team Coaches
- ✓ Week 1: 21-24 October in Östersund
- ✓ Week 2: May 2025: TBC
- ✓ Week 3: July 2025: TBC
- ✓ **Mentoring**



## Coach Education

### Regional Basic Course

- ✓ Lack of Coaches in NFs
- ✓ Decentralized course – no language barrier
- ✓ Strengthen NFs with high demand
- ✓ Save and share costs
- ✓ Regional venue and facilities

### Pilot Course: July 2024 in Kazakhstan

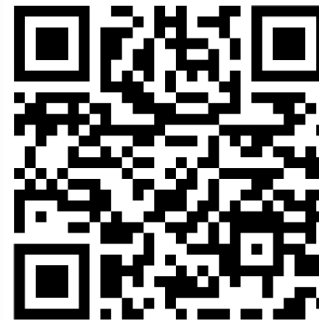
- ✓ Venue & Hotel: Shchuchinsk
- ✓ Hybrid learning
- ✓ 4.5 days course
- ✓ 2 IBU educators, 2 regional educators
- ✓ Support from University
- ✓ 20 coaches from 3 NFs: KAZ, GEO, KGZ



**Autumn 2024: Application for 2025 shall open**

## Journal of Biathlon Coaching

- ✓ First issue in January 2024
- ✓ Focus on biathlon knowledge for coaches & athletes
- ✓ 6 topics: shooting, skiing, nutrition, sleep, mental preparation, interview
- ✓ More than 2,000 reads so far
- ✓ Channels: Email link, Website, Learning Suite, Social Media
- ✓ Issue 2: **July 2024**
- ✓ Material collection from March 2024





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## SEMINARS/WEBINARS

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### SEMINARS/WEBINARS 2024/25

- ✓ 16 May 2024      **IBU Coach Webinar: The Female Biathlete**
- ✓ 26 June 2024    **IBU Coach Webinar: Skiing Technique**
- ✓ 17 July 2024     **IBU Athletes Webinar: **Mental Health****
- ✓ 4 September 2024    **IBU Coach Webinar: Strength and Endurance Training**



## Partnerships of Universities with a strong winter sports background:

- ✓ Mid Sweden University (SWE)
- ✓ Norwegian School of Sport Science (NOR)
- ✓ Academy of Physical Education Katowice (POL)
- ✓ University of Salzburg (AUT)
- ✓ University of Leipzig/Cologne (GER)
- ✓ Montana State University (USA)
- ✓ University of Jyväskylä (FIN)

## RGP 2023/24: 6 projects supported

- ✓ University of Alberta (CAN)
- ✓ University of Salzburg (AUT)
- ✓ AECC University College (GBR)
- ✓ Northumbria University (GBR)
- ✓ Technical University Munich (GER)
- ✓ Texas A&M University (USA) [ funded by Sustainability Dep. ]

### High-level biathletes with a fast-start pacing pattern improve time-trial skiing, without changes in shooting performance, by using a more even pacing strategy

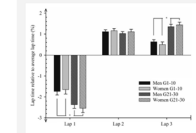
Thomas Losnegard<sup>1</sup>, Magne Lund-Hansen<sup>1</sup>, Erlend Vedeler Stubbe<sup>1</sup>, Even Granrud Dahlen<sup>1</sup>, Ham Luchsinger<sup>2</sup>, Øyvind Sandbakk<sup>2</sup> & Jan Kocbach<sup>2</sup>

<sup>1</sup> Department of Physical Performance, Norwegian School of Sport Sciences, Oslo, Norway

<sup>2</sup> Dept of Neuromedicine and Movement Science, Faculty of Medicine and Health Sciences, Center for Elite Sports Research, Norwegian University of Science and Technology, Trondheim, Norway

#### Background

In World-cup biathlon sprint, the most common pacing pattern is a J-shaped pacing strategy with a relatively fast first lap (before prone shooting), a slower second lap (before standing shooting) and then a (slightly) faster third lap. Faster skiing speed on laps 2 and 3 differentiates medalists from other top 20 finishers (Bjørklun & Laakkonen 2022). Compared to lower performing athletes, the best biathletes tend to have lap times closer to their average pace, indicating that they employ a more even pacing pattern.



#### Methods

Twelve female (age 20 ± 1 yrs) and 26 male (age 22 ± 1 yrs) biathletes were recruited to the project. All biathletes were highly trained national and regional level athletes.

All participants performed two time-trials on the same two days separated by 72 hrs. The participants performed an individual sprint 7.5 km (3x2.5 km) for females or 10 km (3x3.3 km) for males in the freestyle technique on a roller ski track at an international racecourse at Birkebeiner ski area (Lillehammer, Norway).

Prone shooting (after lap 1) and standing shooting (after lap 2) were performed on standardized paper targets on a 50 m outdoor shooting range, with scoring rings from 1-10.

On Day 1, participants performed the biathlon sprint with a self-selected pacing

#### Results

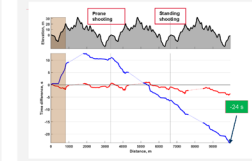


Figure 2: Relative skiing time differences (excluding shooting) from Day 1 to Day 2 for INT (intervention) in blue and CON (Control) in red. The thin dotted lines illustrate the segments were only the males used. Females performed 7.5 km and males 10 km. The brown area illustrates the segment where INT were told to adjust the start pace the first lap.

- INT slowed their starting pace for the first ~800-m by (mean ± 95% confidence interval) 5.0 ± 1.5% (P<0.01) from Day 1 to Day 2, with no significant differences for CON (-0.8 ± 2.7%).

## RSG 2024/25 Application Deadline: 31 March 2024!

#### Purpose

This study tested the hypothesis that biathletes with a fast-start pacing pattern would improve time-trial skiing and shooting performance by using more even pacing during a simulated sprint biathlon competition.

More specifically we investigated how this change in pacing strategy influences

- a) time-trial roller ski performance,
- b) hit rate and precision of prone and standing shooting and
- c) rate of perceived exertion and heart rate responses.

their assigned group before the warm-up. INT were instructed to target their Day 1 average ~800 m segment pace from Lap 1-3 at Lap 1, and they were informed how many seconds slower they should ski the first 800 m segment relative to Day 1. CON was instructed to maintain the same starting pace and overall pacing strategy as Day 1.

During the race, the participants wore an integrated Inertial Measurement Unit (IMU) and Global Navigation Satellite System (GNSS) unit on their back to capture position and speed continuously.

Rate of perceived exertion (RPE) using a 6-20 scale was reported verbally during the race (after ~800 m of each lap, before ~150 m) and after 1<sup>st</sup> shooting (~50 m), before and after 2<sup>nd</sup> shooting, ~200 m before the finish) and ~30 s after crossing the finish line.

#### Practical application

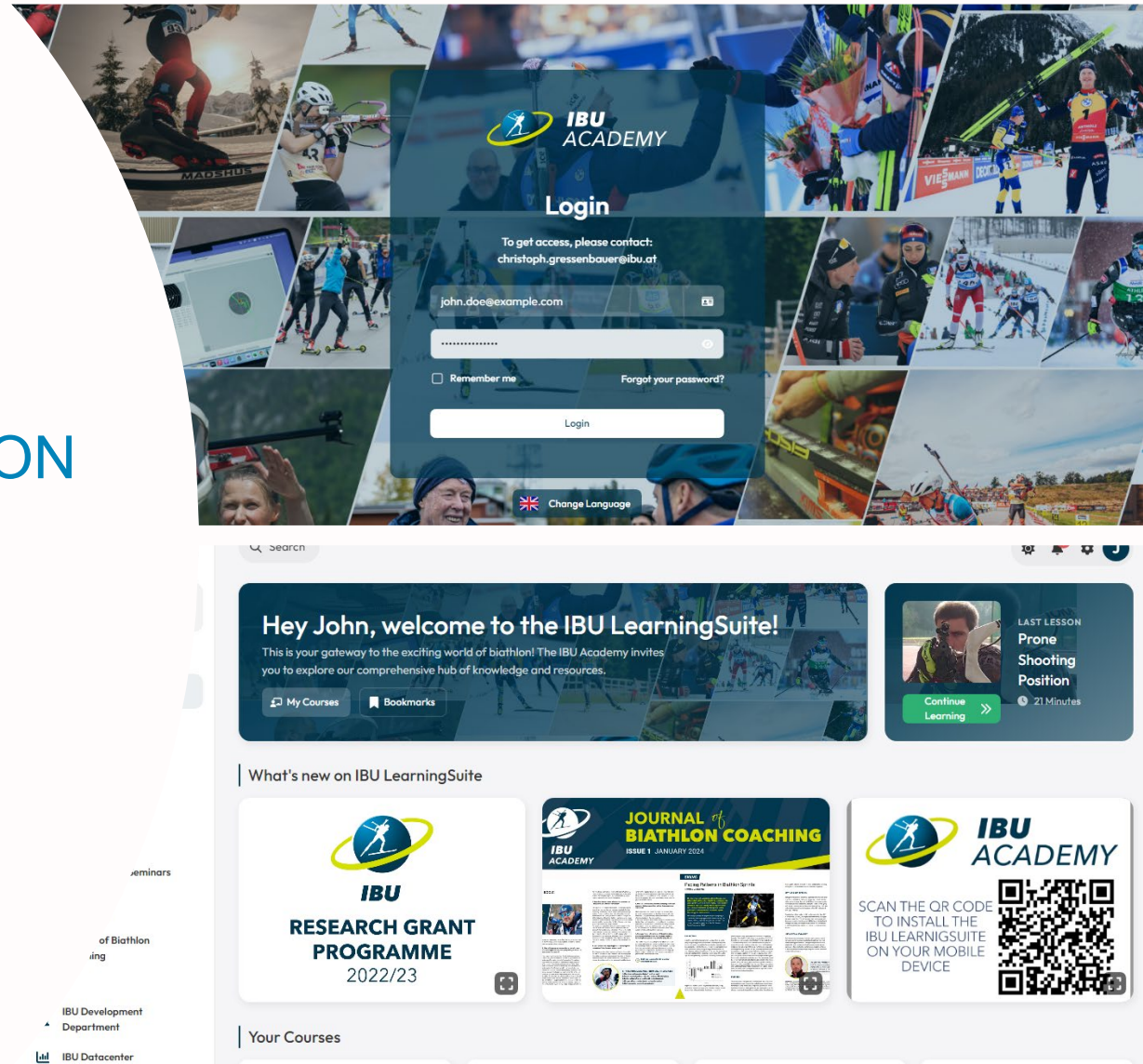
The present findings demonstrate that reduced starting speed during the first ~3 min of a biathlon sprint competition substantially improves skiing performance for fast-starting biathletes. The beneficial effects of adjusting the starting pace were equal to a penalty lap (~25 s). Since changing the pacing strategy did not influence shooting performance, but did reduce overall RPE, it appears that biathlon coaches and athletes would benefit from systematically evaluating individual pacing strategies and changing pacing patterns towards a more even lap-to-lap pacing for fast-starting biathletes. The improved skiing performance was accompanied by reduced summated RPE, implying less discomfort during the race.

**Founding:** This project was supported with grants from the International Biathlon Union (IBU).

# IBU LEARNINGSUITE

## ADVANCING BIATHLON EDUCATION FOR NATIONAL FEDERATIONS

<https://ibu-academy.learningsuite.io/>



The screenshot displays the IBU LearningSuite interface. At the top, there is a login form with the IBU Academy logo and the text "Login". Below the logo, it says "To get access, please contact: christoph.gressenbauer@ibu.at". The login fields include an email address "john.doe@example.com" and a password field. There are checkboxes for "Remember me" and a link for "Forgot your password?". A "Login" button is at the bottom of the form. A "Change Language" button with a UK flag icon is also visible.

The dashboard below the login screen features a search bar, a navigation menu, and a main content area. The main content area includes a welcome message: "Hey John, welcome to the IBU LearningSuite! This is your gateway to the exciting world of biathlon! The IBU Academy invites you to explore our comprehensive hub of knowledge and resources." Below this message are buttons for "My Courses" and "Bookmarks". To the right, there is a "LAST LESSON" card for "Prone Shooting Position" with a "Continue Learning" button and a "21 Minutes" indicator.

The dashboard also features a "What's new on IBU LearningSuite" section with three cards: "IBU RESEARCH GRANT PROGRAMME 2022/23", "JOURNAL of BIATHLON COACHING ISSUE 1 JANUARY 2024", and "IBU ACADEMY" with a QR code and the text "SCAN THE QR CODE TO INSTALL THE IBU LEARNINGSUITE ON YOUR MOBILE DEVICE".

At the bottom left, there is a sidebar menu with the following items: "seminars", "of Biathlon", "ing", "IBU Development Department", and "IBU Datacenter".

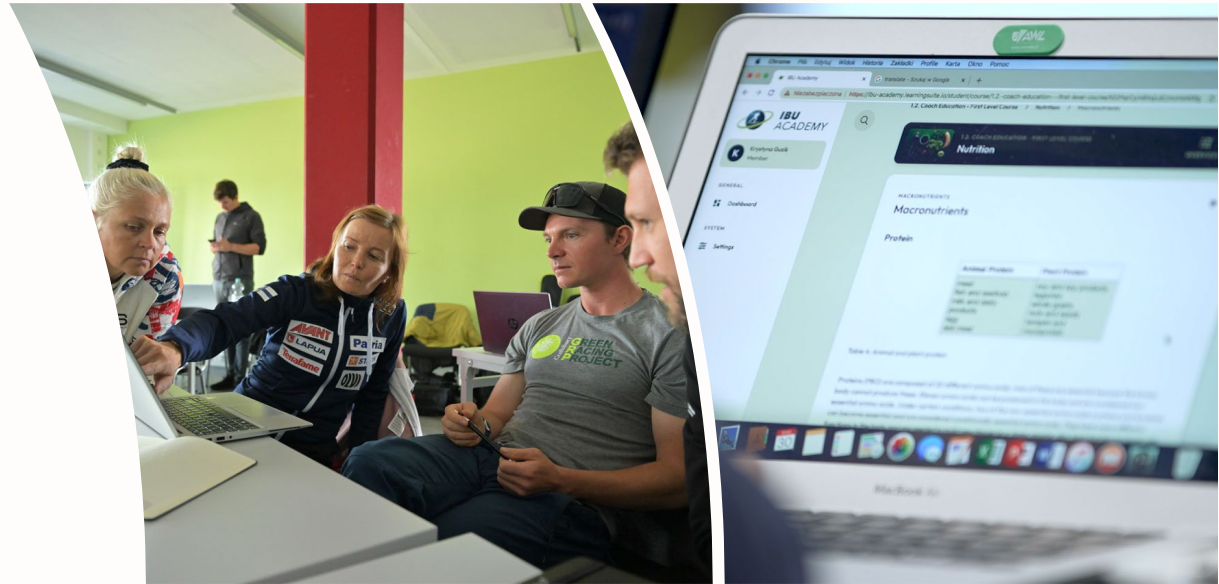


# IBU LEARNINGSUITE

## 1<sup>st</sup> Purpose

**Online learning platform for the Coach Education Programme & future educational programmes of IBU**

- Dedicated courses & modules created by experts
- Selective access
- Interactive learning
- Media-supported content
- Progress tracking
- Online exams



**IBU LEARNINGSUITE FEATURES**

- **Multimedia**  
content is supported by graphics and videos
- **Structure**  
a well-based course structure leads you through all content step-by-step
- **Flexibility**  
access your courses and materials at any time and at any place
- **Combination with face-to-face lectures**  
enables the best possible learning outcome

**3,352**  
MINUTES OF CONTENT

**22**  
MODULES

**189**  
LESSONS

**580**  
PAGES

**LAUNCH OF THE IBU LEARNINGSUITE**

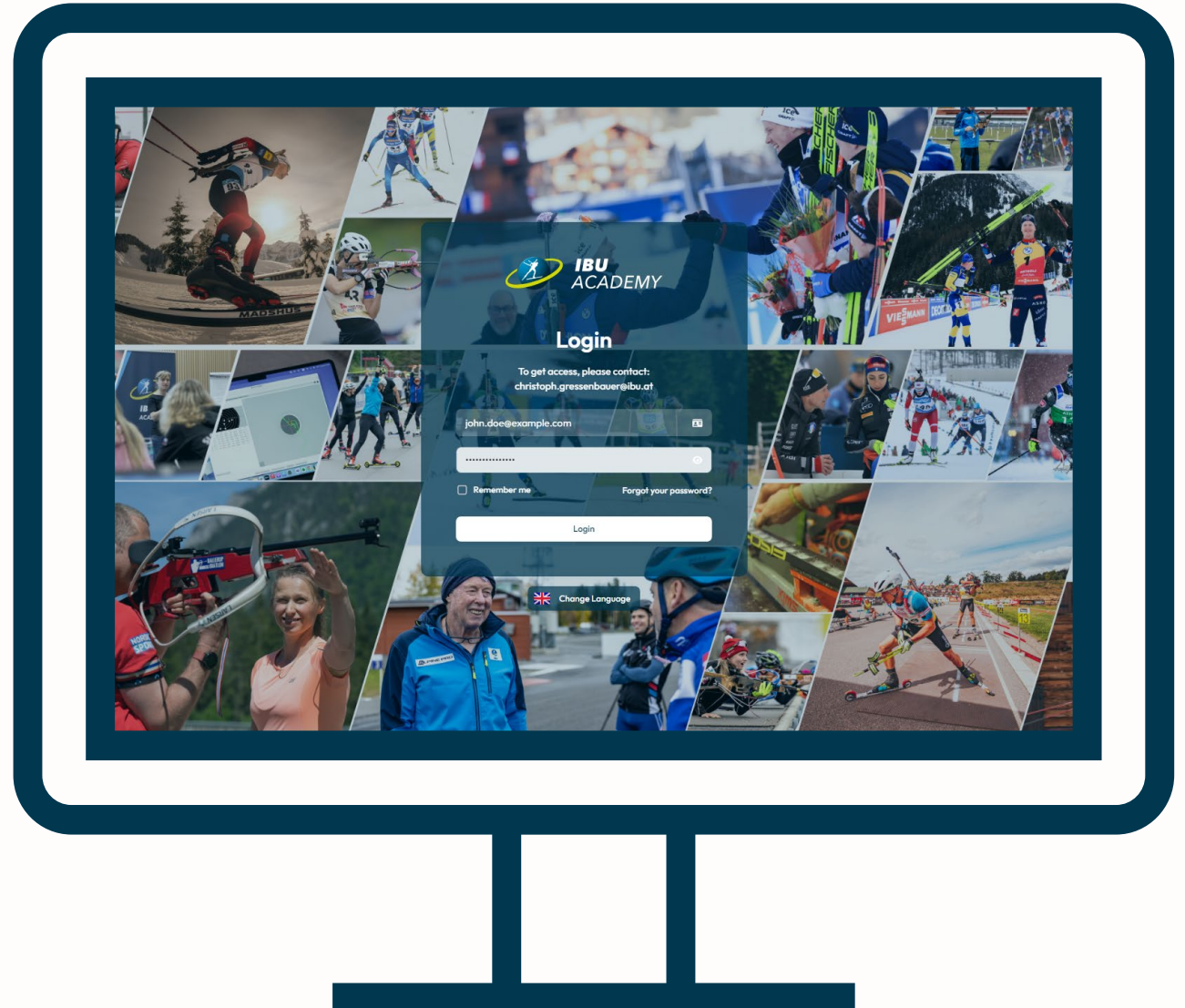
As part of the IBU Academy, we launched an online learning platform for all participants of the first IBU Coach Education Courses Basic and Elite

# IBU LEARNINGSUITE

## 2<sup>nd</sup> Purpose

### Biathlon Knowledge Hub

- Open access for all members of the biathlon family
  - [Registration via NF and IBU](#)
- Selected content from the Coach Education Programme
  - [Basic Biathlon Knowledge](#) (e.g. shooting, skiing, rifle maintenance, etc.)
  - [IBU Event and Competition Rules](#)
  - [Additional content on special topics](#) (e.g. Nutrition)
- IBU Webinar/Seminar recordings
- Research on Biathlon
- Journal of Biathlon Coaching



# Strengthen your NF with Knowledge



- 1. Start using the platform's potential in terms of education in your NF.**
- 2. Spread the word to your members about this valuable resource.**
- 3. Encourage coaches, officials, athletes, etc. to register and make use of the IBU LearningSuite in their daily work.**

## Registration Process

- NF creates a list of all their members who want to be registered (Coaches, Technicians, Officials, Athletes, Volunteers, etc.)
  - Use the provided template.
  - Make sure the contact information is recent.
  - Inform your members about the registration process.
  - Don't forget to reach out to clubs, schools, etc. (Grassroot Level).
  - By adding people to the list the NF confirms, that the person is or will be active in the sport of biathlon.
- NF sends the list to [christoph.gressenbauer@ibu.at](mailto:christoph.gressenbauer@ibu.at).
- IBU adds the NFs members to the IBU LearningSuite.
- Each Member gets an email from "IBU Academy" to complete the registration.
- Members can unsubscribe at any time.