

**Sheffield  
Hallam  
University**



# Winter School 2023

<https://www.shu-rouen-schools.com/>

## Introduction and Project Overview

**Monday 9am**

**Dr. Joe Stone**

**joseph.stone@shu.ac.uk;**  [DrJoeStone](https://twitter.com/DrJoeStone)

- Welcome
- Winter School Overview

<https://www.shu-rouen-schools.com/>

- Data Sources

# Staff and Speakers



# Schedule

Winter School 2023 Provisional schedule Collegiate Campus, Sheffield Hallam University			
Monday 9th Jan	Session Title	Room	Session Leader/s
09:00-10:45	Winter School Introduction and Project Overview	A201	Joe Stone
11:00-12:30	Identifying the Project Issue	A201/A004	Ben Strafford & Joe Stone
12:30-14:00	Lunch and Group Work	HoC Café	
14:00-16:00	Project development and Group Work	A201	Joe Stone & Ben Strafford
17:00-Onwards	Sport Social/Free Time	TBC	David Farrokh & Ben Strafford
Tuesday 10th Jan	Session Title	Room	Session Leader
09:00-10:45	DoM Introduction and Practical Consideration	A201	Sam Hydes
11:00-12:30	Group Work	A201/A004	Joe Stone & Ben Strafford
12:30-14:00	Lunch and Group Work	HoC Café	
14:00-16:00	Constraints based Coaching	A201	Anna Fitzpatrick
16:00-17:00	Group/Project Work Update	A201/A004	Joe Stone & Ben Strafford
18:00-Onwards	Optional drinks/dinner	Kommune	
Wednesday 11th Jan	Session Title	Room	Session Leader
09:00-10:45	Psychology in a Department of Methodology	A201	Jen Hobson
11:00-12:30	Group Work	A201/A004	Joe Stone & Ben Strafford
12:30-14:00	Lunch	HoC Café	
14:00-17:00	TBC	A201	Marianne Davies
17:00-onwards	Sport Social/Free Time		David Farrokh & Ben Strafford
Thursday 12th Jan	Session Title	Room	Session Leader
09:00-10:00	Movement Variability	A201/A004	Jon Wheat
10:15-12:30	Group Work		Joe Stone & Ben Strafford
12:30-14:00	Lunch	HoC Café	
14:00-16:00	ASM & Donor Sports	A201/A004	Ben Strafford
16:00-17:00	Group/Project Work Update		
Friday 13th Jan	Session Title	Room	Session Leader
09:00-10:45	Group/Project Work	A201/A004	Joe Stone & Ben Strafford
11:00-12:30	Group/Project Work		Joe Stone & Ben Strafford
12:30-14:00	Lunch	HoC Café	
14:00-16:00	Group Presentations	A201/A004	JS/BS/LS/JW
16:00-Onwards	Optional: Social Drinks	Nursery Tavern	

**A201 and A004**

- Work in small teams to solve an applied sport science problems
- Focus on Women's' International Football Teams
- Each group will adopt the role of the coaching and sport science team for a Euro 2022 woman's team



# Scenario: Competition Stage

**Group A**

	Played	Won	Draws	Lost	For	Against	Goal differen...	Points
 England	3	3	0	0	14	0	14	9
 Austria	3	2	0	1	3	1	2	6
 Norway	3	1	0	2	4	10	-6	3
 Northern Ireland	3	0	0	3	1	11	-10	0
<a href="#">▼ Group details</a>								

**Group B**

	Played	Won	Draws	Lost	For	Against	Goal differen...	Points
 Germany	3	3	0	0	9	0	9	9
 Spain	3	2	0	1	5	3	2	6
 Denmark	3	1	0	2	1	5	-4	3
 Finland	3	0	0	3	1	8	-7	0
<a href="#">▼ Group details</a>								

**Group C**

	Played	Won	Draws	Lost	For	Against	Goal differen...	Points
 Sweden	3	2	1	0	8	2	6	7
 Netherlands	3	2	1	0	8	4	4	7
 Switzerland	3	0	1	2	4	8	-4	1
 Portugal	3	0	1	2	4	10	-6	1
<a href="#">▼ Group details</a>								

**Group D**

	Played	Won	Draws	Lost	For	Against	Goal differen...	Points
 France	3	2	1	0	8	3	5	7
 Belgium	3	1	1	1	3	3	0	4
 Iceland	3	0	3	0	3	3	0	3
 Italy	3	0	1	2	2	7	-5	1
<a href="#">▼ Group details</a>								

# Scenario: Quarter Finals



**vs**



**vs**



**vs**



# Scenario: Preparing the Team

The head coach has suggested three focus areas:

1. Tactical Approach

2. Set Pieces

3. Penalty Kicks

Your group can select how many areas to focus on

However more tasks completed will result in extra points during the final presentation (if done well)

Proposed methods should be informed by a guiding theoretical framework and research evidence base

# Area 1: Tactical Approach

- Identify tactical/performance weaknesses in the opposition
- Create a presentation designed for players to demonstrate these weaknesses
- Propose a game plan to exploit these weaknesses and suggested intervention/training designs to implement this plan

## **Area 2: Set Pieces**

- Select one set piece (e.g. free kick, throw-in, corner, goal kick)
- Design a set piece strategy for your team to exploit your oppositions weakness and your teams' strengths
- Propose an intervention/training session to implement these set piece strategies

## **Area 3: Penalty Kicks**

- Evaluate previous penalty data
- Plan a strategy to prepare the players for the penalty shoot-out
- Propose an intervention/training session to implement these preparation ideas

# Key Project Milestones

- 1. Team formation and task planning
- 2. Evaluate data sources to guide your tasks and decide on your guiding theoretical framework
- 3. Data processing and analysis to demonstrate the strategies/problems
- 4. Design the proposed intervention/training sessions
- 5. Create a presentation ready for Friday afternoon to explain your work and performance preparation plans

# Groups and Teams



Team	England	Germany	Netherlands	France	Spain	Austria
	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6
Shu						
Shu						
Rouen						
Rouen						
Rouen						
Rouen						

# Get to know your groups

- Introduce your name and short background
- Sport or exercise you like to play/watch
- Your main discipline area (e.g., Psychology, S&C, Performance Analysis....)
- SHU Student: Best/iconic UK food the Rouen students should try
- Rouen students: Food you would like to try while in the UK
- Any “fun” facts about yourself you want to share with the group



# The Project Focus Ideas

# Tactical Approach: Starting point

- Dynamic systems of play in invasion sports

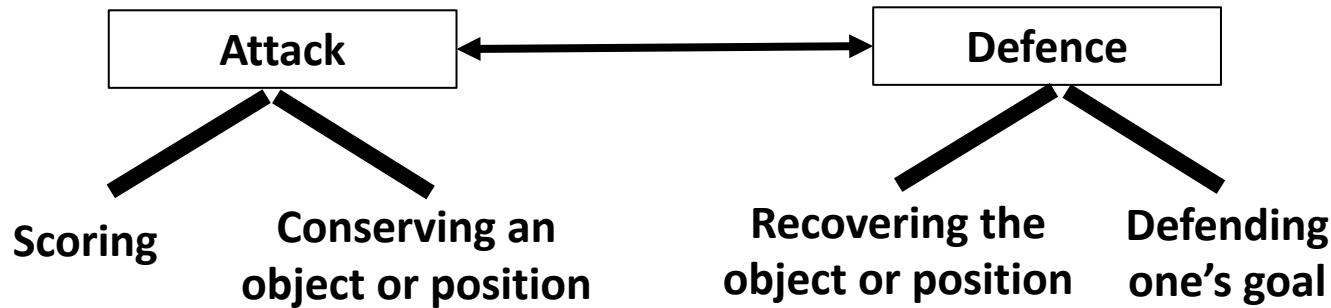
## Attack



## Defence



# Dynamic System of Play

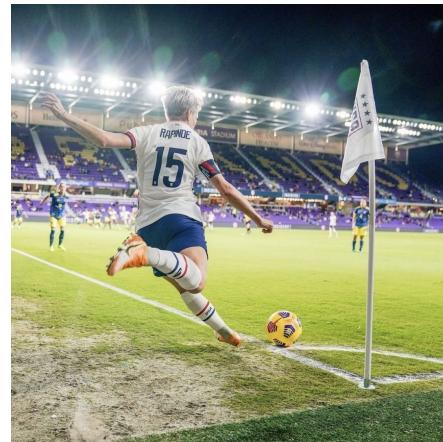


# Tactical Problems: Invasion

- **Scoring:** What is the main problem for **poor conversion rate**?
- **Scoring:** What is the reason for poor **attack efficiency**?
- **Scoring:** Where is the **effective area** for creating chances?
- **Scoring:** What is the **temporal pattern** of shot attempts?
- **Conserving:** What is the best strategy for building up attacks in terms of **passing styles**?
- **Conserving:** What are the **reasons for losing the ball** possession?
- **Conserving:** What is the role of **speed in counter-attack** play after the ball is regained?
- **Recovering:** How the team **recovers the ball** to prevent goal conceding?
- **Defending:** Where is the most **vulnerable area** to concede a goal?

# Set Pieces: Pick One

- Attack or Defense?
- How does it fit with your tactical approach in area 1?
- How is the best way to training the selected strategy?



# Penalty shoot out

- Attack or Defense?
- How is the best way to training the selected strategy?
- How does that training strategy fit with your theoretical framework?



# Next Fixture: Quarter Finals



**VS**



**VS**



**VS**



# Data Sources

[SHU-Rouen-Schools](#)



# Typical Data Sources



**inStat®**



**STATSBOMB**

- Full Matches
- Pre-Clipped Footage
- Ask Joe for specific requests



# Code/Tag Data

- Pen and Paper, Excel or Nacsport



The image shows a screenshot of the Nacsport software interface. At the top, there is a video player window showing a rugby match between Paignton and Burnham On Sea. Below the video player is a timeline and playback controls. The main interface is divided into several sections:

- Rugby Possession Analysis 2:** A chart showing possession percentages (Paignton 49%, Opp 51%) and a table of possession statistics.
- Set Piece Success:** A table showing success rates for Lineout Own (83%), Scrub Own (89%), and Restart Own (83%).
- Sources Of Our Possessions:** A table showing sources of possessions from Set Piece (23) and Kick (4).
- How Our Possessions Ended:** A table showing endings such as Handling Error (8), Kicked (19), Ran Into Touch (2), etc.

On the left side of the interface, there is a sidebar with a list of possession events and a playback lead-in timeline.

# Pre-Tagged InStat Data

InStat™ Flag search Find a player Smart search Help Logout

**Germany**  
Germany, World. Friendlies Women

**OVERVIEW** **MATCHES** **PLAYERS** **GOALKEEPERS** **SHOTS** **SET PIECES CROSSES** **COMPARE** **EPISODES SEARCH**

**STATISTICS**

Season stats	22/23
Goals scored	2.7
Chances	9 30%
Ball possession	58% 82%
Shots / target	19 / 7
xG	3
Passes	557 82%
Key passes	13 / 6
Corner	8 39%
Counter-attacks	15 22%
Challenges	162 52%
Air challenges	36 55%
Dribbles	31 59%
Fouls	13 15%
Yellow cards	1
Red cards	—
<input type="checkbox"/> Compare with previous season	
<input type="checkbox"/> Compare with team's opponents	

**VIDEO CLIPS** Last 3 matches ▾

Germany in attack		Germany in defense	
Goals	5	Goals conceded	4
Chances	19	Opponent's chances	31
Positional attacks with shots	28	Opposition's positional attacks with shots	20
Corner	11	Opponent's corners	15
Free-kick attacks	8	Opponent's free-kick attacks	13
Building up under pressing	72	Pressing	54
Free-kick shots last 15	0	Opponent's throw-in attacks	1
Penalties	11	Opponent's free-kick shots last 12	10
Opponent's penalties last 10			

**PLAYERS**

Goalkeepers	
A. Berger	M. Fohrns
S. Johannes	M. Luisa Grohs
M. Tufekovic	
Defenders	
M. Doorsoun-Khajeh	J. Feldkamp
M. Hegering	K. Hendrich
S. Kleinherne	J. Meissner
M. Rall	F. Rauch
L. Rebeka Mairer	G. Ronja Gwinn
B. Schmidt	C. Simon
J. Wedemeyer	
Midfielders	
S. Anette Huth	J. Brand
L. Dallmann	F. Dongus
L. Freiung	K. Gabriele Buhl
C. Hagel	S. Ilonka Dabritz
T. Knak	P. Krumblegel
L. Latwein	S. Lohmann
L. Maria Magull	D. Marozan
J. Minge	S. Nusken
R. Petzelberger	A. Popp
L. Sophie Oberdorf	T. Wassmuth
Forwards	
P. Bremer	S. Cerdi
M. Kosser	E. Nicole Anyomi
L. Schuller	

**MATCHES**

PDF	United States 2:1 Germany	14.11.2022 World. Friendlies Women	<input type="checkbox"/> Full match	<input type="checkbox"/> Ball in play	<input type="checkbox"/> Highlights	<input type="checkbox"/> Goals scored
PDF	United States 1:2 Germany	11.11.2022 World. Friendlies Women	<input type="checkbox"/> Full match	<input type="checkbox"/> Ball in play	<input type="checkbox"/> Highlights	<input type="checkbox"/> Goals scored
PDF	Germany 2:1 France	07.11.2022 World. Friendlies Women	<input type="checkbox"/> Full match	<input type="checkbox"/> Ball in play	<input type="checkbox"/> Highlights	<input type="checkbox"/> Goals scored
PDF	Bulgaria 0:8 Germany	04.11.2022 World. Friendlies Women	<input type="checkbox"/> Full match	<input type="checkbox"/> Ball in play	<input type="checkbox"/> Highlights	<input type="checkbox"/> Goals scored

InStat™ Flag search Find a player Smart search Help Logout

**Germany**  
Germany, World. Friendlies Women

**OVERVIEW** **MATCHES** **PLAYERS** **GOALKEEPERS** **SHOTS** **SET PIECES CROSSES** **COMPARE** **EPISODES SEARCH**

**OWN SHOTS** **OPPONENT'S SHOTS**

Last 10 matches ▾ 194 38:48

All shots	Goals	Shots wide	Blocked shots
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Attack type ▾**

Positional attacks	Corner attacks	Free-kick attacks	Free-kick shots	Penalties
<input type="checkbox"/>				

**Players ▾**

Alexandra Popp	Lina Maria Magull	Svenja Arlette Huth	Klara Gabriele Buhl	Linda Dallmann	Sara Ilonka Dabritz	Lea Schüller	Laura Freiung	Julie Brand	Tabea Wassmuth	Sophia Kleinherne	Chantal Hagel	Felicitas Rauch
GER	GER	GER	GER	GER	GER	GER	GER	GER	GER	GER	GER	GER
R. Shahanska	K. Talaslahti	P. Magrin	S. Alagoz	M. Zinsberger								

**Opponent players ▾**

R. Shahanska	K. Talaslahti	P. Magrin	S. Alagoz	M. Zinsberger
BUL	FIN	FRA	TUR	AUS

**Shots, body ▾**

Right	Left	Head	Body
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Goalkeepers ▾**

R. Shahanska	K. Talaslahti	P. Magrin	S. Alagoz	M. Zinsberger
BUL	FIN	FRA	TUR	AUS

**Expected goals ▾**

0 - 0.2	0.2 - 0.4	0.4 - 0.6	0.6 - 0.8	0.8 - 1.0
<input type="checkbox"/>				

**SPOTS ON FIELD**

**ZONES**

1 - 2	51 - 116	0 - 0
50%	44%	0%
1 - 2	51 - 116	0 - 0
15%	18%	0%
4 - 27	9 - 49	0 - 0

```
```{r}
#This chunk of code imports the specific competition of data we need. the euros 2022
Comp <- FreeCompetitions()
Women_Euros <- FreeCompetitions() %>%
  filter(competition_id==53 & season_id==106) #this loads the specific WSL 20-21 season.
StatsBombMatches <- FreeMatches(Women_Euros)
StatsBombEvents <- StatsBombFreeEvents(MatchesDF = StatsBombMatches, Parallel = T)
````
```

The screenshot shows the RStudio interface. The top bar includes tabs for Environment, History, Connections, and Tutorial, along with various icons for file operations like Import Dataset and a search bar. The Global Environment pane lists four objects:

| Object           | Description                  |
|------------------|------------------------------|
| Comp             | 42 obs. of 12 variables      |
| StatsBombEvents  | 104988 obs. of 141 variables |
| StatsBombMatches | 31 obs. of 42 variables      |
| Women_Euros      | 1 obs. of 12 variables       |

A red arrow points from the text "31 matches of data" below to the "31 obs. of 42 variables" entry in the list.

31 matches of data



```
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````
```

Environment History Connections Tutorial

Import Dataset 425 MiB

R Global Environment

List C

Data

- Comp 42 obs. of 12 variables
- StatsBombEvents 104988 obs. of 141 variables
- StatsBombMatches 31 obs. of 42 variables
- Women\_Euros 1 obs. of 12 variables

104988 observations of data

141 variables of data

Total of 14,803,308 data observation



# Is having more data better?

<http://www1.skysports.com/watch/video/sports/rugby-union/9756589/sports-science-in-rugby-union>

- **What's and Wherefore's**
- Data **interpretation** is **critical**
- Coaches running the data, not the data running the coaches

<http://www1.skysports.com/watch/video/sports/rugby-union/9756589/sports-science-in-rugby-union>

- What data and interpretation does your group require to support issue and proposed intervention?



# Which data to use?

- Time is short, like in professional sport
- Use the skillset of your group
- Plan and distributed the work
- Use the staff for advice to help if you are unsure
- You need to be ready to present on **Friday** afternoon

- 20 minutes maximum per group
- Presentation guide here:
- Each group member should speak at least once during the presentation
- Powerpoint slides can be used, but other methods of presentation style are also ok

# ADD TITLE OF PROJECT

ADD A PICTURE OF YOUR GROUP HERE

**INSERT STUDENT NAMES  
Winter School 2023**

- | • 1. Start to examine the data sources
- 2. Map out which areas you want to start investigating
- 3. Define the area of interest you will investigate