Berlin
Germany
April 12 – 15, 2022

16th World Congress
International Cartilage Regeneration & Joint Preservation Society

ICRS 2022

Preliminary Programme & Call For Abstracts



ICRS
International Cartilage Regeneration & Joint Preservation Society

Mark your agenda!

www.cartilage.org



The ICRS is the Main Forum for International Collaboration in Cartilaginous Tissue Research & Joint Preservation

Recognizing that there is a continuum from cartilage injury to degenerative joint disease we bring together basic scientists, clinical researchers, physicians, other healthcare providers and members of industry, engaged or interested in the field of articular biology, its genetic basis and regenerative medicine. We seek to improve our patients´ quality of life, decrease their disability and reduce the impact of degenerative joint disease on healthcare systems worldwide by preserving joints and maintaining function." The Society has currently 1300 active members from 65 countries.

The purpose of ICRS is charitable: The society envisages the scientific research and the exchange of knowledge among physicians, scientists, patients and researchers of the industry in the field of Cartilage Regeneration and Joint Preservation. To serve its purpose, the society organizes international congresses and events, publishes journals and provides a universal internet platform.

Join ICRS Now!

Benefits for ICRS Members

- 4 Issues of the official ICRS Journal Cartilage, published by SAGE
- Highly reduced registration fees for all ICRS educational events
- Eligibility for ICRS Scholarships
- Eligibility for ICRS Travelling Fellowships
- Access to the "Member Only" section of the ICRS Website (incl. Membership Database and access to the Cartilage Knowledge Database, Electronic Posters, Abstracts and selected Symposia presentations)
- Free advertising of your cartilage meeting/course in the ICRS Newsletter and online event calendar

The Annual Membership Fees are:
Ordinary Members: € 220.00
Junior Members: € 100.00
Corporate Members: € 3000.00

Join ICRS online at
www.cartilage.org
office@cartilage.org

Our Mission

Advancing Science & Education of the Prevention & Treatment of Cartilage Disease Worldwide

ICRS
International Cartilage Regeneration & Joint Preservation Society

Dear Colleagues & Friends



It is with great pleasure that I invite you to the 16th World Congress of the ICRS. This venue will be in the beautiful city and capital of Germany, Berlin. This has long been considered one of the most well known and populous (3.8 million) cities of Europe. It is a world city of culture, politics, media and science. It is known for its high tech firms, media, and research. Its convention venues are world renowned, lucky for us.

After an unprecedented turn of events of global proportions in 2020, our Congress in April 2022 will allow us to renew our friendships, networking, collaborations and celebrate our society again together!

Our scientific programme chairs, Magali Cucchiarini and Stefan Nehrer have laid out a great scientific agenda and look forward to receiving your abstracts to finalise our programme. Chris Erggelet is our local host and promises to give us an enjoyable social programme.

Please mark your calendars and plan to join us April 12-15, 2022 in Berlin, Germany.

I look forward to seeing you again. Stay healthy my colleagues and friends,

Best Wishes

Tom Minas
ICRS President 2019 – 2022



Brandenburgertor – Foto: Wolfgang Scholvien





The world is still in the hand of the corona virus and we are all struggling to keep ourselves and the persons next to us surviving this crisis. Even our health systems and economies down to basis of our society are enormously challenged. However, we also have to look into the future and strongly move forward in the world of medical research and experimental science in cartilage repair and joint preservation. The mission of the ICRS to promote science and education in the treatment of musculoskeletal conditions is a sustainable goal and will be thereafter – hopefully – we have mastered this virus disaster. The pandemic of musculoskeletal diseases – like osteoarthritis – and the burden of pain and immobility will still challenge our daily work in research and clinics. We look forward to welcoming all of you healthy and strong in Berlin for the 16th ICRS World Congress from April 12-15, 2022. We - Magali Cucchiarini and Stefan Nehrer - are the Co-chairs of the Scientific Programme Committee and together with our Committee Members, we are now planning the scientific programme with the goal to focus on current developments in our field and report, discuss and analyse those among scientists and clinical researchers as well as orthopaedic surgeons, healthcare providers and – last but not least – industry, providing the economic background of all our efforts. We propose the "R" within the ICRS as our main topics: **Repair, Regenerate, Restore, Replace, Rehabilitate, Research, Review, Redefine, Rethink** will be the bullet points of our meeting.

After many years of increasing our knowledge und insights into cartilage repair and joint preservation, we have to go back on one hand to critically analyse and learn from our successes and failures in regeneration and repair and to rethink what happened. On the other hand, we have to rethink our impact on the health system in light of digitalisation, transdisciplinary approaches, and globalisation. The goal is to redefine our processes and technology in the context of a more complex translational approach and unite our efforts in research and clinic to really move forward. But also, side-effects of those trends connected to Big Data and Artificial Intelligence, as well as fake news and social media, and new regulations like the medical device regulations are challenges to be addressed. Register data and long-term outcomes can set the stage for the evaluation of existing technologies. Obstacles for clinical use of those successful technologies have to be discussed among clinical researchers, scientists, and industry to develop strategic measurements for the implementation of these treatments for the best of our patients. Reviews on results of clinical research and experimental science have to be discussed to translate this knowledge into an assessment of new, upcoming technologies. Artificial Intelligence can help to get more insights into big data or digital imaging analysis. Omics, epigenetics as well as cell signalling, and extracellular vesicles are hot topics which play an important role to understand healing and regenerative mechanisms. Research of joint homeostasis and aging will bring new aspects of treatment modalities in degenerative joint diseases. New surgical techniques in various joints are technical demanding and need advice and training of how and when to use it. Standardised protocols in rehabilitation are the key for patient-related outcomes and have to be updated, especially with respect to back to sports and applied biomechanics. A lot of information through our keynote speakers and distinguished faculty will be provided and interaction of all participants and industry is necessary to reach the goal of the meeting. Plenary sessions and abstract presentations with the highlighted topics, morning workshops on basic and advanced skills in clinic and research, poster sessions and industry exhibition, and lunch workshops will be the backbone of the meeting. The Opening Ceremony hosted by the ICRS Board, the ICRS Awards Ceremony and the ICRS Welcome Cocktail will offer the best opportunities to meet with peers of the ICRS family and to join our efforts to have an outstanding meeting. The ICRS Farewell Night will give you a flavour of Berlin, a vibrant city with many opportunities, just check it out!

Magali Cucchiarini & Stefan Nehrer
Co-Chairs of the Scientific Programme Committee 2022

WELCOME BY THE SCIENTIFIC PROGRAMME COMMITTEE

WELCOME BY THE LOCAL COMMITTEE

Berlin – The Beaten City



Center of the German empire in 1871, stripped off all international influence after Word War I, reinventing itself as a cultural, scientific, and social hotspot in the 1920ies and hosting the Nazi dictatorship with the dream to "make Germany great again". That turned out to be a terrible illusion – details of this dark chapter in the history of the city are now known. Raided, virtually destroyed during world war II, and split up by the winning nations. The Berlin wall became a prominent landmark of the cold war area. Economic growth and political development were cut back according to the decisions made a the Potsdam Conference ending world war II until the reunification of Germany in 1990. Since then, Berlin is struggling to gain international influence again and economic power: Fantastic architecture, museums, art – as well as graffiti, potholes in the streets and remnants of a communist lifestyle. This is where the "Berliner" kicks in – with the unconditioned will to survive, with street cleverness and a good sense of humour – explaining the obvious uniqueness of Berlin.

ICRS is striving as well to support a good life with beaten joints - save, support, and restore existing structures to maintain functioning joints. Therefore, Berlin is the natural choice for a ICRS World Congress!

Plan your trip, bring your family, and learn about the "survival in style" of beaten structures. The team of ICRS and the city of Berlin will be happy to provide guidance, insights, and memories you will never forget! Hope to see you in Berlin!

On behalf of the Local Organizing Committee
Christoph Erggelet, Congress Chair 2022

Local Organizing Committee

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Erggelet Christoph, MD, Prof
Alphaclinic, Zurich, CH

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  Homburg, DE

- Nehrer Stefan, MD, Prof
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Congress Organizing Office

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Congress Venue

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Please note: This is a preliminary programme. The information in this programme is subject to change without prior notice. For updated information, please visit frequently our website: www.cartilage.org

ICRS General Board 2020 – 2022

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Berlin Cathedral

Tuesday, April 12, 2022

10:00–18:00
Registration

12:00–13:00
Opening Session
ICRS Meets Germany

13:15–14:15
Plenary Session
Repair, Restore, Regenerate, Redefine, Rehabilitate

14:30–15:30	14:30–15:30	14:30–15:30
Special Sessions Homeostasis, Aging	Special Sessions Arthroscopic Approach to Cartilage Defects	Special Sessions Clinical Trials in 2019

15:30–16:15
Coffee Break / Exhibition / Poster Session

16:15–17:00
Opening Ceremony & Awards Session

17:00–18:00
Honorary Lectures

18:00–19:30
Welcome Cocktail in the Exhibition Area

Wednesday, April 13, 2022

07:30–08:30
Industry Breakfast Symposia

08:30–09:30
Plenary Session
Digitalisation

9:30–10:45
Coffee Break / Poster Exhibition

10:45–11:45	10:45–11:45	10:45–11:45
Special Sessions Early OA & Cartilage Repair	Special Sessions Development & Signalling	Special Sessions Imaging & AI

12:00–13:00
Industry Satellite Symposia

13:00–14:30
Free Paper Sessions

14:45–15:45	14:45–15:45	14:45–15:45
Special Sessions Omics, Systems Biology	Special Sessions Biomechanics and Gait Analysis	Special Sessions Disease Modelling, Animal Models

15:45–16:30
Coffee Break / Exhibition

16:30–18:00
Free Paper Sessions

19:30–23:00
President's Dinner (Upon Invitation Only)

Thursday, April 14, 2022

07:30–08:30	07:30–08:30	07:30–08:30
Next Gen Workshop Grant Writing	Next Gen Workshop Get your Dream Academic Job	Next Gen Workshop Meet the Experts

08:30–09:30
Plenary Session
Biological Matrices

09:45–10:45	09:45–10:45	09:45–10:45
Special Sessions Blood-Derived Products	Special Sessions Clinical Application Progenitor Cells	Special Sessions Prevention & Rehabilitation in Sports

10:45–11:15
Coffee Break / Exhibition

11:15–12:45
Free Paper Sessions

13:00–14:00
Industry Symposia

14:15–15:45
Free Paper Sessions

16:00–17:00	16:00–17:00	16:00–17:00
Special Sessions Cell Communication & Cell Phenotypes	Special Sessions Repair, Restore, Replace	Special Sessions Cell Therapy, Body Responses

17:00–17:30
Coffee Break / Exhibition

17:30–18:30
ICRS General Assembly (For Members Only)

19:30–23:00
Farewell Party

Friday, April 15, 2022

07:30–08:30	07:30–08:30	07:30–08:30
Morning Workshop Meet the Editors	Morning Workshop Meet the Expert	Morning Workshop Meet the Industry

08:30–09:30
Plenary Session
Translation: Bridging the Gap Between Basic Knowledge & Clinical Applications

09:30–10:30
Plenary Session
Mini Battles

10:30–11:00
Coffee Break / Exhibition

11:00–12:30
Free Paper Sessions

12:30–13:30	12:30–13:30	12:30–13:30
Special Sessions Biomaterials & Bioprinting	Special Sessions Experimental and Natural Biologics	Special Sessions Rehabilitation

13:30
End of Meeting

Tuesday, April 12, 2022

12:00–13:00 Opening Session

ICRS Meets Germany
- Cartilage Repair – The Clinical Perspective
- Cartilage Repair – The Register Perspective
- Cartilage Repair – The Translational Perspective
- Cartilage Repair – The Research Perspective

13.15–14.15 Plenary Session

Repair, Restore, Regenerate, Redefine, Rehabilitate
- Repair is not Good Enough?
- Restore Joints – A Complex Task?
- Regenerate – The Holy Grail?
- Redefine the Goals Of Cartilage Repair – What is Next?

14:30–15:30 Special Sessions 1-3

Homeostasis, Aging
- Progenitor Cells & Aging
- Osteoarthritis & Aging
- Biomarkers
- Musculoskeletal Homeostasis

Arthroscopic Approach to Cartilage Defects
- Knee
- Ankle
- Hip
- Shoulder & Elbow

Clinical Trials in 2020
- Long-Term Results
- Register Data
- Where is the Evidence?
- Guidelines for Cartilage Repair

15.30–16.15 Coffee Break / Exhibition / Poster Viewing

16:15–17.00 Opening Ceremony & Awards Session

17:00–18.00 Honorary Lectures
- ICRS Vision Lecture
- Keynote Lecture

18.00–19.30 Welcome Cocktail in the Exhibition Area

SCIENTIFIC PROGRAMME

Wednesday, April 13, 2022

07:30–08:30 Industry Breakfast Symposia 1–3

08:30–09:30 Plenary Session

Digitalisation
- Digitalisation – A Pandemic Process
- Big Data in Imaging
- Digitalisation – Are there Unintended Effects?
- Fake News in Medicine

09:30 - 10:45 Coffee Break / Exhibition / Poster Viewing

10:45 - 11:45 Special Sessions 4–6

Early OA & Cartilage Repair
- What is Early OA? And What Are We Doing?
- Conservative Treatment
- Surgical Treatment
- Early OA Scientific Perspective

Development & Signalling
- Morphogenesis
- Epigenetics
- Inflammation & Immunity
- Signalling in Cartilage Homeostasis

Imaging & Artificial Intelligence
- MRI News – MOCART 4.0
- AI in OA Diagnosis
- New Modalities in Joint Imaging
- What do we See in Imaging?

12.00–13.00 Industry Satellite Symposia 4–6

13:00–14.30 Free Paper Sessions 1–3

- Knee
- Foot & Ankle
- Shoulder

Wednesday, April 13, 2022

14:45–15:45 Special Sessions 6–9

Omics, Systems Biology
- The Mitochondria in OA
- Proteomics
- Genome Analysis
- Novel Epigenetic Markers

Biomechanics and Gait Analysis
- The BIO-Mechanic of Cartilage Repair
- Biomechanics of Evolution
- Tissue Biomechanics
- Micro Mechanobiology

Disease Modelling, Animal Models
- Large Animal Models
- Progenitor Cells in Vivo
- Experimental OA Models
- Cartilage Disease Modelling

15:45–16:30 Coffee Break / Exhibition

16.30–18:00 Free Paper Session 3–6
- Animal Studies
- Clinical Trials
- Allografts

19:30–23:00 President's Dinner (Upon Invitation Only)

SCIENTIFIC PROGRAMME

Thursday, April 14, 2022

07:30–08:30 Next Gen Workshops 1–3
- Grant Writing
- Get your Dream Academic Job
- Meet the Experts

08:30–09:30 Plenary Session

Biological Matrices
- Cells & Scaffolds
- Biological Controlled Release
- Immune Modulation & Scaffolds
- Clinical Application of Matrices

09:45–10:45 Special Sessions 9–12

Blood-Derived Products – Hype or Fake?
- PRP is not PRP
- How does PRP/BMAC Work Experimentally?
- Stem Cells and/or PRP
- Clinical Application Progenitor Cells

Innovative Gene Therapy
- Gene Therapy
- Genome Editing
- Scaffold-Based Nucleic Acid Therapeutics
- Biomaterial-Guided Clinical Gene Therapy

Prevention & Rehabilitation in Sports
- Sport Injuries – No Sports?
- Prevention of OA – So we Need Surgery?
- Back to Sports after Cartilage Injuries
- OA & Sports

10:45–11:15 Coffee Break / Exhibition

11.15–12.45 Free Paper Sessions 6–9
- Biomaterials
- Translational OA
- Joint Preservation

Thursday, April 14, 2022

13.00–14.00 Industry Symposia 7–9

14.15–15.45 Free Paper Sessions 9–12
- Stem Cells
- Imaging
- Rehabilitation

16:00–17:00 Special Sessions 12–15

Cell Communication & Cell Phenotypes
- Chondrocyte Phenotype
- Mesenchymal Stromal Cells
- The Microbiome
- EVs in Aging

Repair, Restore, Replace
- Borders of Joint Preservation
- Surgical Cartilage Regeneration - Anything New?
- Allograft – Phoenix of Cartilage Treatment
- Partial & Total Joint Repair – The Solution?

Cell Therapy, Body Responses
- Cell Therapy for Cartilage Repair - Modelling
- Cellular Responses to Implants
- Autophagy & Cellular Stress
- Body Responses to Materials

17:00–17:30 Coffee Break / Exhibition

17:30–18:30 ICRS General Assembly (For Members Only)

19:30–23:00 German Night–Farewell Party

SCIENTIFIC PROGRAMME

Friday, April 15, 2022

07:30–08:30 Morning Workshops 4–6
- Meet the Editors
- Meet the Expert – Treatment Strategy for Cartilage Defects
- Meet the Industry

08:30–09:30 Plenary Session

Translation: Bridging the Gap Between Basic Knowledge & Clinical Applications
- Translational Gene Therapy: Advances & Challenges
- Clinical Therapy: Current Progress
- Clinical OA Treatment: Latest Developments
- Legal Aspects

09:30–10:30 Plenary Session

Mini Battlefield
- Do We Need Biological Augmentation?
- Do We Still Need Osteotomy?
- Can We Prevent OA by Regenerative Medicine?
- Do We Really Need PRP?
- Do We Still Need Microfracture?

10:30–11:00 Coffee Break / Exhibition

11:00–12:30 Free Paper Sessions 12–15
- Growth Factors
- Osteoarthritis
- Late Breaking Abstract

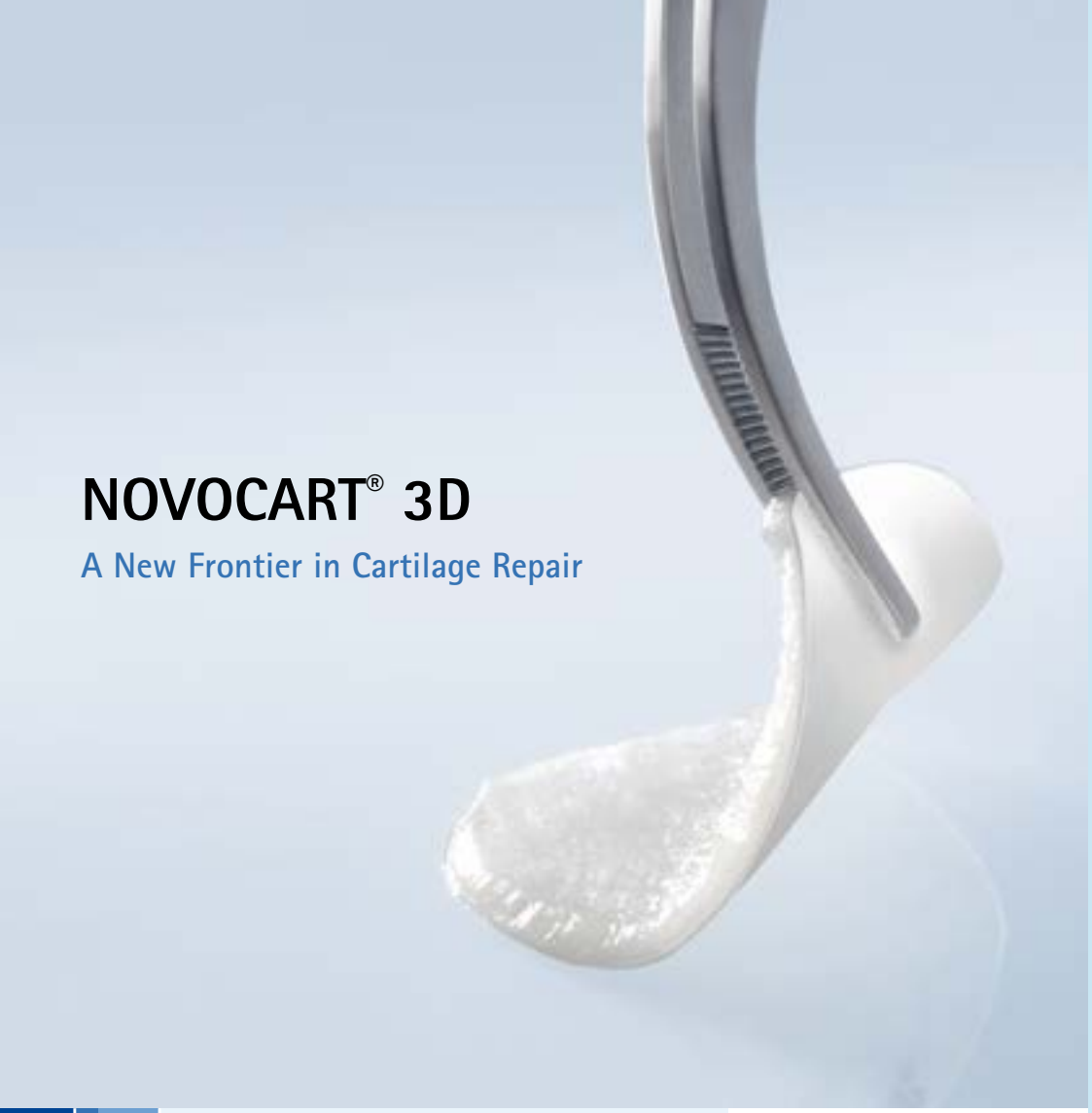
12:30–13:30 Special Sessions 15–18

Biomaterials & Bioprinting
- Biomaterials & Hydrogels
- Tissue Engineering & Cells
- Tissue Engineering & Growth factors
- 3D Bioprinting

Experimental and Natural Biologics
- Recent Advances & Opportunities for Cartilage Repair
- Novel Biologics
- Natural Materials
- PRP & Tissue Engineering

Rehabilitation
- New Concepts of Cartilage Healing – What Can Help?
- Continuous Passive Motion – What is the Science Behind it?
- Loading Unloading – Where is the Evidence?
- Physical Therapy in Joint Rehabilitation

13.30 End of Meeting



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NOVOCART 3D is an investigational product and not approved for use in the U.S. or in Canada outside of the clinical study.

ICRS Member Testimonials

March 2020

„Good scientific meetings - excellent medical information - conferences containing the latest modern science - getting to know colleagues from different countries." *Adel Hossny Hegaze, Saudi Arabia*

„Cartilage is a field of main interest in orthopaedic and one of the most sparkling for research, furthemore ICRS family means a lot for me and my practice. I invite all the young surgeon and reserchers of the field to participate." *Francesca Vannini, Italy*

„Belonging to the ICRS family has opened the doors of research and discovery of the best and most modern therapeutic options to treat my patients with joint injuries." *Ramon Saldana Mattar, Dom. Republic*

„Attending ICRS meetings has been a game-changer for me as an orthopedic surgeon. As a result, I became an early adopter of Biologics. The scientific content pertaining to Biologics that is presented from researchers all over the globe is unsurpassed." *Joanne Halbrecht, USA*

„I enjoy the ICRS since this is a highly motivated and focused global group of scientists, clinicians and industry who come together for the common objective of better solutions for patients." *Daniel Lee, USA*

„ICRS is a great society with global reach and is an it's members and scope are an excellent blend of clinical and basic science in translational medicine." *Tim Woodfield, New Zealand*

„I would like to thank ICRS for its brilliance and enormous contribution to orthopedists around the world! Congratulations !!" *José Leonardo Rocha de Faria, Brazil*

„For me, ICRS is a complete scientific Society, including clinicians and researchers in different fields with a high level of content and friendly community." *Ignacio Dallo, Argentina*

„ICRS is a very dynamic society merging fundamental and clinical scientist, The ICRS is a meeting and exchange place for scientists and health professionals seeking to improve the health of patients with cartilage damage. The multidisciplinary approach to the problem is unique and rich in lessons." *Yves Henrotin, Belgium*

„Great society - excellent interaction between scientists and surgeons." *Ken Zaslav, USA*

„ICRS bridges scientists and clinicans in cartilage repair, regenerative medine anf joint preservation.Go cartilage, go ICRS!" *Stefan Nehrer, Austria*

„The ICRS comprises an extraordinary scientific system where academic and personal realities take place and the sharing and the exchange of views with eminent experts is one of the leading strenght aspects." *Giovanna Desando,Italy*

„ICRS content is the "go-to" educational source for those looking to develop a career in cartilage surgery." *Kristofer Jones, USA*

„The only meeting where I can be a Professor in one session and a Student in the next session and learn from my FRIENDS." *Stephen Abelow, USA/ Spain*

„ICRS it is a great society that mixes science and friendliness." *Hernan Giuria, Argentina*

„People in this society are overall warm and open to anyone. ICRS is very comfortable place." *Takehiko Matsushita, Japan*

„The colloborations of differing medical disciplines coming together at ICRS conferences is truly special. I have learned more at these than many other conferences I attend during the year." *Brice Blatz, USA*

CALL FOR ABSTRACTS
AUTHORS INFORMATION

Call for Abstracts

The scientific programme committee is pleased to invite all authors wishing to present a paper or a poster at the ICRS 2022 World Congress to submit their abstracts until **October 15, 2021** latest. No extension of this deadline will be possible. The overall best rated Abstract and Posters will be awarded by the Society.

• Podium Presentations
Free papers related to all topics in joint preservation and cartilage regeneration will be presented during 15 free paper sessions. Speaking time is 6 minutes plus 3 minutes for discussion. The speaking time must strictly be observed by the presenters. If an abstract is accepted as an oral presentation, presenters must speak in fluent English and be prepared to answer questions from the audience and moderators. All session rooms are equipped with networked computer projection. Presenters are requested to bring their PowerPoint presentation (Windows 10 and Microsoft Office 2016) on a USB stick and to check-in at the Preview Center 3 hours prior to their presentation. Detailed information will be sent to the presenters on time.

• Electronic Posters
One of the main benefits of an electronic poster exhibit is the post-congress availability of the posters for many years in the ICRS member's area. Our scientific cartilage knowledge database is fully searchable by title, poster ID, authors, full text, and image annotation. Information on how to use the electronic poster submission system will be sent to the authors of the accepted posters. An independent jury will judge the electronic posters by online blind review with regard to scientific content, educational value, and visual impression. Awards for the 6 best electronic posters and best abstracts will be given during the ICRS Opening & Awards Ceremony on Tuesday, April 12, 2022 from 16.15 – 17.00.

• Traditional Wall Posters
In addition to the electronic posters, which must be submitted on a mandatory basis, the authors are invited to produce a traditional poster for the poster walls as well. If your abstract is accepted as a poster, you will be requested to submit your electronic version to the ICRS online poster submission system and you might bring with you a traditional wall poster for the poster exhibit onsite by reserving your poster wall in advance through our Office.

Submission of Abstracts – Guidelines

Scientific abstracts must be submitted in impeccable English within the following structure: Purpose – Materials & Methods – Results – Conclusion and must be written according to the few abstract submission instructions to be found in the ICRS abstract online submission system. Abstract length is limited to a maximum of 300 words and may contain up to 2 graphs, pictures, or tabs. For experimental clinical studies and animal studies, a copy of the approval received by the local ethical committee must be sent to our Executive Office after successful submission of your abstract.

Abstract Submission Deadline

Abstracts may be submitted online through **October 15, 2021** at noon CEST (Central European Summer Time) by accessing our online submission system on the ICRS website. No abstract submissions by letter, fax or E-Mail will be accepted and no extension of the submission deadline will be granted. ICRS will NOT edit abstracts for language issues, typing, spelling, or grammatical mistakes. There is no fee charged to submit an abstract for ICRS 2022 and you may submit as many abstracts as you wish. However, it is highly recommended that you do not leave your submissions until the very last day.

Presentation Preference

Submitted abstracts will be peer-reviewed and may be accepted for either an oral- or a poster presentation. Submitters may indicate their presentation preference during the submission process, but the Scientific Programme Committee reserves the right to define the final presentation type. **No podium presentations will be guaranteed to any author.**

Financial Disclosure

Submitting authors must complete a **Financial Disclosure Statement** on behalf of all authors. Disclosures will not be seen or taken into consideration for the abstract grading process nor for the decision of acceptance of an abstract.

We request all submitters to cooperate in this by:

1. **Declaring any potential conflict of interest by any of the authors when submitting an abstract.**
2. **Declaring any commercial role in the related research of any Co-author on the first slides for podium presentations or on the posters for poster presentations.**

Confirmation of Abstracts

Scientific contributions will be confirmed latest by **November 30, 2021** by E-Mail to the submitting author. The **submitting author** must inform the presenter and all co-authors of the notification result. Presenting authors of accepted abstracts will be requested to reconfirm their presentations and they are expected to register normally to the congress. They must cover their own travel, lodging and registration fees.

Publication – Journal "Cartilage"

We encourage authors to additionally submit furthermore manuscripts to our peer reviewed journal "Cartilage" (Impact Factor 3.857) published by Sage ISSN 1947-6043, which publishes full-length original manuscripts on all types of cartilage including articular, nasal, auricular, tracheal/bronchial, and intervertebral disc fibrocartilage. Manuscripts on clinical and laboratory research are welcome. Instructions to authors for submissions are available at http://cart.sagepub.com

Awards & Honours ICRS 2022

Awards for the best abstracts and posters as well as for other achievements will be given during the ICRS Opening & Awards Ceremony on Tuesday, April 12, 2022 from 16.15 – 17.00

- 1 x Overall Best Rated Abstract
- 6 x Best E- Posters
  - 2 x Magna Cum Laude
  - 2 x Cum Laude
  - 2 x Certificate of Merit
- 1 x ICRS Lifetime Award
- 1 x Young Investigator's Award (US$ 1000.00)
- 1 x James Richardson Award

CME Credits
The ICRS 2022 Congress intends to be accredited by the European Accreditation Council for Continuing Medical Educations – EACCME, an institution of the European Union of Medical Specialists – UEMS, recognised by AMA. Information on accreditation and the number of awarded CME credits will be available beginning of 2022 on our website www.cartilage.org.

Speaker Service / AV Centre
Please note that only digital material will be allowed for oral presentations. The material must be in English and must be provided typically on a USB memory stick in a MS Office 2016 format to be placed on the central server on-site. Presentations cannot include any promotional commercial messages. It will not be possible to use your own laptop or notebook for your presentation in the session rooms. It is mandatory that the data carriers are delivered to the Speaker Ready Room at least 3 hours prior to your session. The network of our computers in the session rooms and in the Speaker Ready Room are equipped and run with Microsoft Windows 10. If you use Macintosh, please convert your Key Point presentation or your PowerPoint Presentation for MAC into PowerPoint for PC Windows format. Speaker's presentations should be delivered as a standard in Microsoft Office format to avoid any technical problems with the presentation system. If you have videos included in your PP presentation, make sure that they run in the most commonly used video formats. If you have any doubt, please contact the ICRS Office at least 15 days before the congress. It is the presenters' responsibility to make sure that videos run on our standardised congress IT / AV system.

Important Dates & Deadlines

Abstract Submission Deadline	October 15, 2021
Abstract Notification Letters	November 30, 2021
Early Bird Registration Fee	December 10, 2021
Cancellation Registration (Refund 75%)	December 10, 2021
Hotel Cancellation Deadline no charge	February 28, 2022
Deadline Normal Registration Fee	March 31, 2022
Cancellation Registration (Refund 50%)	March 31, 2022
Hotel Cancellation Deadline Charge of 1 Night	March 31, 2022
Hotel Cancellation Deadline Charge of Entire Reservation	April 01, 2022
Late/Onsite Registration Fee as from	April 01, 2022

Congress Organizer
Cartilage Executive Office (CEO) GmbH
Spitalstrasse 190 - House 3
8623 Wetzikon ZH, Switzerland
Phone: +41 44 503 73 70
Fax: +41 44 503 73 72
office@cartilage.org

Congress Venue / Accommodation
Hotel InterContinental Berlin
Budapester Straße 2, 10787 Berlin, DE
www.intercontinental.com/berlin
Phone: +49 30 2602-0
Toll Free: 0800 186 10 06
E-Mail: berlin@ihg.com

Welcome to Berlin

The German capital Berlin with its 3.8 Million habitants, is not just a city of world-famous faces – it also shines at the highest level with its food and fashion. Urban gardening, green fashion, and vegan gastronomy are turning the former industrial city of Berlin into an increasingly green metropolis. The German capital attracts artists, creative minds, culture lovers, and theatre fans from all over Germany and around the world. The diverse cultural offerings and the colourful hustle and bustle of the city create an incredibly special atmosphere. Opera performances, art exhibitions, theatre productions, concerts, and festivals are all everyday occurrences here. Numerous memorials commemorate events over the course of the city's turbulent history. With around 200 museums, 400 galleries, three opera houses, eight major symphony orchestras, more than 90 cinemas, about 150 theatres and stages, as well as many other cultural institutions, the German capital offers an almost inexhaustible selection of options.

Venue Location
The centrally located Hotel InterContinental Berlin is situated in the city west area next to the winding Landwehr Canal at the edge of the Tiergarten park and close to Berlin Zoo. The Intercontinental is in a prime position to experience both the greener side of the city as well as its bustle. Abundant shops, restaurants and cafés are clustered around the redeveloped Breitscheidplatz area, a 10-minute walk away.



Travel & Transportation

The new **Willy Brandt Berlin Brandenburg Airport (BER)** is currently being built in Berlin Schönefeld with its opening scheduled for October/November 2020 after 10 years of construction delay. In the future the entire air traffic of the region should be handled

from the new airport and the older Berlin Tegel Airport is supposed to be closed.

- **By Train:** Berlin Brandenburg Airport has its own six-platform railway station with three platforms located directly underneath the terminal. The Airport Express already connects Schönefeld Airport with Berlin city centre. In future, these trains will run every 15 minutes between Berlin central station and BER. The journey time is around half an hour.

- **By Taxi:** Taxis can be easily found outside your arrival terminal. Standard fares apply to all Berlin taxi drivers. In addition to distance-based fares, surcharges may apply. Estimated cost to the city center is 50.00 EUR and estimated travel time is 30-40 min.

Time Zone
Central European Summer Time: UTC/GMT +2

Language
The official congress language is English. No simultaneous translation will be provided. German is the official language spoken in Germany.

Climate
In Berlin, the climate is moderately continental, characterised by cold winters and warm summers. The month of April is usually the month with the least rainfall and therefore a great time to visit the city with average temperature ranging between min 6°C (42.4°F) and max 16°C (59.9°F).

Credit Cards / Cash Machines
All major credit cards are widely accepted. Bank cash machines (ATM) can be found easily and debit cards are also widely used. If you are using a foreign card at a bank machine, your money will be disbursed in Euros.

Currency
The currency in Germany is the Euro. 1 € ≈ 1.21 US$ (Date of publication, February 2021)

Electricity, Weights & Measures
- Electricity: 220 - 240 volts 50 HZ
- Weights: Kilo/Gramm System
- Measures: Metric System

Tipping
Service and VAT are always included in the prices all over Germany. Still, it is typical to "round up" the amount to some more-or-less round figure to basic service providers such as Taxi Drivers, Waiters, Porters, etc. A rule of thumb is to add 5-10%, generally ending with a full Euro amount.

Health Care
Special vaccinations are not required for entry into Germany, but an individual travel & health insurance is highly recommended because health insurance plans often do not extend full coverage for medical services received outside the country of residence.

Entry Formality / Visa
The European borderless region, known as "Schengen Area" consists actually of 26 European countries: Belgium, Czech Republic, Denmark, Germany, Estonia, Greece, Spain, France, Italy, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Austria, Poland, Portugal, Slovenia, Slovakia, Finland and Sweden, along with Iceland, Liechtenstein, Norway and Switzerland. Visitors from the Schengen Area can hold a valid ID card to travel within this area. Other visitors must hold a valid passport. Citizens from

GENERAL INFORMATION

another 62 countries can travel to the Schengen Zone as a tourist for periods of up to 90 days without having to process a visa. This information may change without further notice.

If you have any doubts about your current VISA need to enter Germany, we highly recommend checking with your German Embassy or Consulate in your country. You also might find useful information for German visa requirements here: https://www.auswaertiges-amt.de/en

Disclaimer
ICRS and the congress organizer cannot accept any liability for the acts of any suppliers to this meeting nor of the safety of any attendee while in transit to or from this event. Participants are requested to carry proper travel and health insurance as the ICRS cannot accept liability for any accidents or injuries that may occur.

Updated Information
Information in this programme (published in February 2021) is subject to change without prior notice. For updated information please visit frequently our congress website at www.cartilage.org

Cancellation of the Congress by the Organizer
Congress fees will be reimbursed if the congress is cancelled for other reasons than war, warlike events, and acts of terrorism or sickness epidemics/pandemics. In the latter circumstances only a proportion of the congress fee would be refundable. We recommend however that participants book themselves refundable or changeable airfares.

Technical Industry Exhibition
A technical industry exhibition will take place at the Intercontinental Berlin. It will be open every day throughout the meeting and exhibitors from around the world will present a wide range of orthopaedic & cartilage related products. Participants are encouraged to take advantage of this unique opportunity to be updated with the most recent advances and latest news from our industry partners. Interested companies may contact the ICRS Executive Office for further exhibit & sponsoring information.

Intermissions
During intermissions, coffee, tea, and refreshments will be served in the exhibition area as a courtesy from the ICRS.

Services for Persons with Disabilities
Please inform the ICRS office or indicate on the accommodation online booking form any special requirements you may have to allow us to best serve you. The Intercontinental Berlin has international-standard facilities for the physically challenged, including access ramps, elevators, and toilets for people with special needs.

Security / Badges
The safety of all congress attendees is of utmost importance to our society. The ICRS and the Intercontinental Berlin have taken security precautions to ensure the maximum possible safety for all participants. Identity check controls may occur at any time by the security staff. Congress badges are personalised, not transferable and guarantee individual access to different section of the event. For organisational and security reasons, badges have to be worn all the time at the congress venue.

Registration Fees

Early Bird – Prior to Dec 10, 2021

Resident/Students*	€ 350.00*
Physiotherapists/Nurses*	€ 350.00*
ICRS – Members	€ 450.00
Non – Members	€ 590.00
Industry Representatives	€ 690.00
Accompanying Person	€ 100.00

Normal – Dec 10 – March 31, 2022

Resident/Students*	€ 400.00*
Physiotherapists/Nurses*	€ 400.00*
ICRS – Members	€ 550.00
Non – Members	€ 650.00
Industry Representatives	€ 750.00
Accompanying Person	€ 120.00

Late/Onsite – From April 1, 2022

Resident/Students*	€ 450.00*
Physiotherapists/Nurses*	€ 450.00*
ICRS – Members	€ 600.00
Non – Members	€ 700.00
Industry Representatives	€ 800.00
Accompanying Person	€ 150.00

*Registrations to be accompanied by a certificate signed by the head of department or valid student or professional ID

Join ICRS & Benefit from Reduced Fees

Non-member attendees who apply for ICRS membership 2021 right before their congress registration will immediately profit from our highly reduced members' fee. ICRS Members who are not in good-standing with their membership dues 2020 / 2021 will automatically be charged with the non-member fee.

Included in your registration fee

- Access to all scientific sessions
- Access to the technical industry exhibition
- Access to the scientific poster exhibition
- Welcome Reception & Coffee Breaks
- Free Internet Access (WLAN)
- Congress Bag and Final Pocket Programme
- Badge and Certificate of Attendance
- CME Credits (to be confirmed)
- Congress App

Cancellation of Congress Registrations - Name Changes

Written notification is required for all congress cancellations and name changes. Notifications should be sent to the Cartilage Executive Office office@cartilage.org. In case of a congress cancellation due to rejection of an abstract or entry Visa, the full amount of the paid registration fee will be refunded, minus 50 Euros processing fee.

Refunds for congress cancellations by the attendee are as follows:

- 75 % refund for cancellations until December 10, 2021
- 50 % refund for cancellations until March 31, 2022
- No refund thereafter
- Name changes will be charged with a fee of € 100.00

Complimentary Internet/WLAN

As a special courtesy, ICRS will provide free WLAN Hot Spot with basic speed to all attendees and exhibitors in the convention area.

Smoking

The ICRS World Congress is a non-smoking congress. Smoking is not permitted at the Intercontinental Berlin and its Conference Centre except in designated smoking areas.

Mobile Phones

All attendees will be requested to turn off, or to switch to silent mode their mobile phones during all scientific sessions.

Recording/Pictures

Taking photos or video/ audio recording during the scientific presentations or from the poster area is strictly prohibited. Note that the majority of the presentations, posters and many officially recorded sessions will become available online after the congress at the ICRS website in the members' area, therefore there is no need to take pictures during the sessions or from the poster exhibits.

ACCOMODATION

Important: The ICRS has made a major commitment to the Intercontinental Berlin in order to secure a sufficient block of quality hotel rooms at competitive rates within the venue. We kindly ask participants and industry partners to book their hotel rooms at the Intercontinental Berlin through the official reservation link on our website. There is no extra administrative charge for this service, and we guarantee excellent discounted rates in this property. Hotel rooms will be allocated on a first-come, first-serve basis. If you wish to extend your stay, the same discounted hotel rates are available up to three nights prior and three nights after the congress dates subject to room availability.

Official Congress Hotel / Venue

Intercontinental Berlin,
Budapester Strasse 2, 10787 Berlin, DE
www.intercontinental.com/berlin

Special Courtesy: As a special courtesy, the hotel offers to ICRS congress attendees, complimentary fitness club access and free basic WLAN internet access in the hotel rooms.

Hotel Room Rates:

SGL €154.00 / DBL €179.00 (Breakfast, Services & VAT Taxes are included, 5% City Tax to be paid by the guest upon check out) Upgrades to higher room categories and to the Club Level are available through the booking system through an additional fee.

Reservations / Hotel Booking

Hotel InterContinental Berlin
Group Reservation Code: ICRS 2022
Phone: +49 (0)30 2602 1287
Toll Free: 0800 186 1006
Email: berha.reservations@ihg.com
A direct hotel reservation link will be provided on our website www.cartilage.org as from May 2021.

Individual Reservations

For individuals, online reservations will be accepted through www.cartilage.org. Online reservations should be submitted as early as possible, latest until March 31, 2022. Rooms will be confirmed on a first come, first serve policy. Reservations thereafter are only confirmed upon availability and the hotel may charge a significantly higher rate.

Group Reservations – Industry
The Intercontinental Berlin Reservation department is pleased to receive group reservations (9 Rooms or more). Please contact the Event Sales Team Ms. Tamara Janowitz by phone +49 (0)30 2602 1145 or Email: intercontinental.berlin@ihg.com

Credit Card Guarantee / Payment
A credit card guarantee for the entire reservation period is required to confirm and secure your hotel room reservation. Please note that your hotel invoice shall be settled directly to the hotel upon your checkout.

Hotel Room Cancellation
Cancellations are to be addressed to the hotel directly in writing. The following cancellation fees will apply: For cancellations until February 28, 2022: No Charge. For cancellations until March 31, 2022: Charge of 1 night. For cancellations after April 1, 2022 and No-Shows: Charge of the entire reservation period.

Hotel Reservation Changes
Hotel reservation changes must be directed to the Intercontinental Berlin. Room night reductions of existing reservations are subject to the cancellation conditions as described above.



ICRS supports compliance with international ethical standards and therefore emphasises that participants who would like to attend social events shall bear all related costs themselves.

Tuesday, April 12, 2022

Opening Ceremony & Welcome Reception
19.00 – 20.30



All participants, industry representatives and accompanying persons are invited to join the opening ceremony and the welcome cocktail at the Intercontinental Berlin. The Welcome Reception is offered to you by the ICRS on a complimentary basis. After the cocktail, participants have free time for their own leisure to discover Berlin and enjoy one of the many nice restaurants, bars & clubs in town.

Wednesday, April 13, 2022

President's Dinner
(upon invitation only)
19.30 PM – 23.00 PM

Free Evening for participants' individual programmes and for industry related events. The hotel concierge is pleased to book a table for you at one of your favourite restaurants in town.

Thursday, April 14, 2022

German Night - Farewell Party
19.30 PM – 23.00 PM



Great entertainment for everyone! Join us for a fun summer evening with traditional mouth-watering German food, beer & drinks in a relaxed party atmosphere. Enjoy typical music and live show acts.

Price per Person: € 80.00
(partly sponsored by ICRS)
(incl. dinner, drinks & entertainment)

BERLIN ATTRACTIONS

The city has so many attractions, it is hard to say how many exactly! Berlin's Mitte district alone has a wealth of famous sights from Brandenburg Gate and the Reichstag Parliament building to Berlin's Cathedral Church and the TV Tower – just to mention a few. You can also explore Berlin's neighbourhoods, discovering little known places and insider tips! Here are a few of the most popular attractions in the city – Berlin's absolute must-see sights!

Reichstag
When the decision was made to move the Federal Government to Berlin, it was time to reawaken the Reichstag building from its long years of slumber on the Mauerstreifen, the military zone between the two sides of the Wall. The building has since been completely modernised, and today's visitors to the Reichstag can look out from the building's glass dome to get a bird's eye view of the hustle and bustle in the city. There are also a number of government buildings in the vicinity of the Reichstag, for example the Bundeskanzleramt (Federal Chancellery) and the Brandenburg Gate.

Brandenburger Gate
Without a doubt, the Brandenburg Gate is Berlin's signature attraction. Built in 1791, it was just one of many old city gates around the city of Berlin which, at that time, was still a manageable size. The decorative Pariser Platz was laid at the foot of the gate and is now home to many of the city's important buildings, for example, the Hotel Adlon with its wealth of history and the Akademie der Künste (Academy of the Arts).

Berlin Television Tower
The Berlin Television Tower, which is known to locals as the "Fernsehturm", and is instantly recognisable from the distance, stand outs of the skyline at 368 m,



making it the tallest building in Berlin. Built in the 1960s, visitors to the tower can enjoy a unique 360° panorama of the city.

Checkpoint Charlie
Checkpoint Charlie was the best known border crossing during the Cold War. The sign, which became a symbol of the division of Cold War Berlin and read like a dire warning to those about to venture beyond the Wall – "YOU ARE LEAVING THE AMERICAN SECTOR" – in English, Russian, French and German - stood here. It is today an iconic marker of territorial boundary and political division. Until the fall of the Berlin Wall on November 9, 1989, it signified the border between West and East, Capitalism and Communism, freedom, and confinement. More dramatically, US and Soviet tanks had a close encounter here in October 1961 when J.F. Kennedy and Nikita Khrushchev's tanks faced each other in an acrimonious moment feared around the World as a possible lead up to World War III.

Gendarmenmarkt
The Gendarmenmarkt is one of the most stunning squares in the city, located close to Friedrichstraße, Berlin's exclusive shopping street in the central Mitte district. Three of the most impressive examples of architecture in the capital city are to be found here: the Concert House designed by Schinkel and the German and French Cathedrals (the Deutscher Dom and the Französischer Dom).

Berlin Cathedral
The Berlin Cathedral (Berliner Dom) with its magnificent dome is a remarkable example the of late 19th century architecture. Near the Cathedral are also the German Historical Museum and the Museum's Island. On the side of Berlin's boulevard "Unter den Linden" stands the Catholic St.Hedwigs-Cathedral.

Kurfürstendamm
Extending all the way from the ruins of the Kaiser Wilhelm Memorial Church on Breitscheidplatz to Berlin's elegant Halensee neighbourhood, the affectionately termed Kurfürstendamm is the most expensive address in the capital city and home to the most exclusive brands. Europe's biggest department store KaDeWe is also situated on the extension of the Ku'damm, on the street known to locals as the Tauentzien (short for Tauentzienstrasse).

Charlottenburg Palace
The magnificent Charlottenburg Palace is located just out of the centre of the city. The beautiful palace hosts fine collections of china and paintings and is situated in the middle of a picturesque palace garden right next to the river Spree. If you do not fancy a walk in the park, you can feed your mind instead in the Charlottenburg museums located directly opposite.

Museum Island
Berlin's Museum Island is one of the UNESCO world heritage sites and home to the city's most important exhibition centres: the Altes Museum (Old Museum), the Neues Museum (New Museum) the Bode Museum, the Pergamon Museum and the Old National Gallery. The collections in these buildings encompass over 6,000 years of art and cultural history.

The Berlin Wall Memorial
The Berlin Wall Memorial is located between the districts of Wedding and Mitte on Bernauer Straße, consisting of the Memorial to the Victims of the Wall, a Documentation Centre, and the Chapel of Reconciliation. The surviving section of the wall and watchtower enable visitors to get a real feel for the reality of the border facilities.

Potsdamer Platz
Once the bustling heart of the city before the Second World War, then a no man's land from 1945 until the fall of the wall, the history of Potsdamer Platz has been eventful to say the least. It changed completely after the fall of the wall in 1989

and is now dominated by the presence of the Sony Center, skyscrapers, and endless shops. What is more, Potsdamer Platz is the main place to be for stars and celebrities, and not only during film festivals.

Nightlife & Clubbing
(Close to the InterContinental)
Before the Wall fell in 1989, City West around the Zoo was one of the most important nightlife areas in old West Berlin, but it lost a bit of its charm in the years after reunification as the city's attention shifted eastwards. Since then, the district has revived itself and offers plenty of modern bars and lounges for a sophisticated evening. The Monkey Bar in the Bikini Berlin concept mall offers breath-taking views of the Zoo and Tiergarten Park. Numerous hotel bars like the Lang Bar, one of the best cocktail bars in the city, and the House of Gin with its over 150 varieties of gin promise special and unforgettable evenings in City West. The nightlife around Savignyplatz in Charlottenburg, meanwhile, has nothing to apologise for. Here, old-school Berliners have mingled with students, artists, and visitors since time immemorial. Das Schwarze Café is open almost around the clock. A visit to Dicke Wirtin, a true classic pub in West Berlin, will take you back in time to the Cold War era. And Diener is an artists' café with an atmosphere you will find hard to resist. If you are really hungry, head over to Restaurant 12 Apostel, home to massive pizzas. As an extra tip, we also recommend the restaurants and cafés on Ludwigkirchplatz. The square around the church of St. Ludwig seduces especially with its cosy atmosphere, Mediterranean food, and good wine.

Note
As the official Berlin visitor's site, https://www.visitberlin.de/en is your perfect guide to this exciting city and your Hotel Concierge will be pleased to assist you for tailor-made bookings and reservations!



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