2021 Late-breaking Abstract and Visionary Abstract Submission Guidelines and Procedures

Put a Spotlight on Your Innovative Research!

The 2021 CRS Virtual Annual Meeting offers an exceptional opportunity to share your research with an international audience of experts in the design, development and implementation of novel delivery technologies.

Two Kinds of Abstracts

- **Late-breaking Abstracts** have the same scope and format as regular Abstracts but are being accepted with a later deadline (Poster presentation or On-demand talk).
- **Visionary Abstracts** are for presentation of early-stage research that has a vision for impact but does not yet have sufficient data to be considered a full abstract (Poster presentation only).

Two Types of Presentations

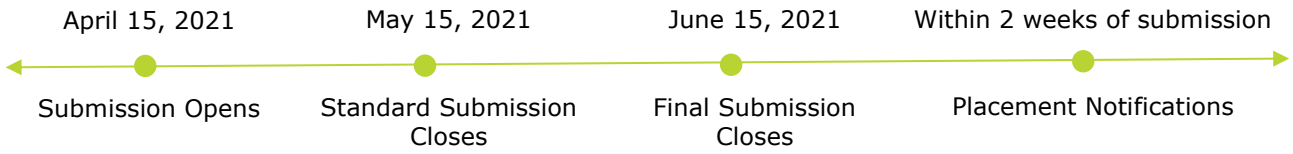
- **Poster presentations** will have an online poster format and be available for viewing anytime.
- **On-demand talks** will be prerecorded presentations with slides available for on-demand viewing anytime.

Two Deadlines to Submit

- **Standard submission deadline** on May 15, 2021 will accept abstracts considered for Poster presentation or On-demand Talk.
- **Final submission deadline** on June 15, 2021 will accept abstracts considered only for Poster presentation.

Acceptance decisions about abstracts will be made on a rolling basis within two weeks of submission.

2021 Submission Timeline



Important Information to Know Before Submitting

Abstract Preparation Checklist

- ✓ Abstract prepared and formatted as outlined in the Preparing for Abstract Submission section. Abstracts that are not properly prepared and formatted are subject to automatic rejection.
- ✓ Abstract has not been previously submitted for consideration at another meeting.
- ✓ License is granted to CRS to publish the abstract (subject to acceptance) online.
- ✓ Designated presenting author registered for the CRS Annual Meeting and has paid the registration fee.

Abstract Submission

- If accepted, you will be part of the scientific program in the form of poster presentation or on-demand talk, depending on submission date.
- **Abstracts for the 2021 CRS Annual Meeting will be accepted until the Standard Submission deadline of May 15, 2021 – 11:59 PM EDT or the Final Submission deadline of June 15, 2021 – 11:59 PM EDT.**
- All authors are expected to review this document prior to submitting.

View/Edit/Withdraw Your Abstract

- You may view, edit, or withdraw your abstract submission(s) by using the link provided in the confirmation email sent to the presenting author.
- Once the abstract is submitted, no further changes will be possible.

Notification

- Acknowledgement of submission will be emailed to the presenting author as the primary contact.
- The presenting author will be notified of the abstract status **within two weeks of submission** on a rolling basis. All future communications will be sent to the presenting author.
- The presenting author must register for the annual meeting and pay the registration fee.
- If the presenting author is not registered, the abstract will be withdrawn and will not be included in the annual meeting program.

Preparing for Abstract Submission

Author Information

- There is no limit to the number of abstracts an author may submit. If an abstract is accepted, the presenter must be one of the co-authors listed.
- Communications will only be sent to the designated presenting author

Format

- **The abstract body is limited to 3,000 characters *(including title, biography, abstract body and learning objectives). Spaces are also included within the character count.***
- **Up to two images may be uploaded** (optional)
- **In addition to the abstract, there must be three Learning Objectives** that at the conclusion of the presentation, meeting participants should have learned. Use measurable action words and avoid using numbers, bullet points, asterisks, or any other special characters.
- **Late-breaking Abstract – content should be structured into the following sections:**

  Introduction - A brief statement about the purpose of the study and pertinent background.
  Methods - The method(s) of study or data collection employed.
  Results - A summary of study research including sufficient details to support the conclusions.
  Conclusion/Implications - A concise statement explaining the significance of the work and the implications for further research, practice and/or policy.
  Acknowledgements: In one brief sentence, state the supporting grant number and agency name. (optional)
  References: List Author Name(s). Journal Name. Year. Page Number(s).
  Presenter Biography: A brief, 2-3 sentences about the presenting author.

- **Visionary Abstract – content should be structured into the following sections:**

  Problem Statement - A brief statement about the purpose of the study and pertinent background, ending with a specific, one-sentence statement of the scientific question/hypothesis/problem being addressed.
  Study Approach - A summary of approach to research that is being taken in this study.
  Preliminary Data – Any data, results or analyses that have been performed to address study objectives.
  Expected Impact - A statement explaining the expected outcomes of the study and their potential impact.
  Acknowledgements: In one brief sentence, state the supporting grant number and agency name. (optional)
  References: List Author Name(s). Journal Name. Year. Page Number(s).
  Presenter Biography: A brief, 2-3 sentences about the presenting author.

- **Abstract must be written in clear English**.
- If not all data (example: active compound used) can be disclosed due to confidentiality, the abstract will not be rejected automatically; however, the reviewers will decide whether it contains enough interesting insights for acceptance.

Review Procedure

All abstracts submitted to the CRS Annual Meeting will go through a rigorous review procedure to maintain the highest scientific quality of the meeting. The abstract will be evaluated by the CRS Annual Meeting Program Committee and will be assigned a priority based on its scientific content. Abstracts will be rejected if they do not comply with minimum submission instructions, do not follow the proper format, and/or do not include all required fields.

Submitted abstracts must meet the following minimum requirements:

- Significant and original contribution within the scope of the Controlled Release Society.
- Abstract submitted by the deadline.
- Written in clear English.
- Few or no syntax/spelling mistakes.
- Sufficient data presented, adequately analyzed and discussed with appropriate conclusions supported by the data for Late-breaking Abstracts.
- A compelling problem with a well-designed research strategy and the potential for significant scientific impact for Visionary Abstracts.
- Meets format guidelines.

Process for Abstract Selection

- All abstracts must not have been previously submitted for consideration at another meeting.
- The criterion for acceptance of presentation at the CRS Annual Meeting and Exposition is based on a peer-review process.
- The authors must obtain any necessary permissions prior to submission of the abstract.
- The CRS Annual Meeting Program Committee reserves the right to evaluate, accept, or reject any submitted abstract. The committee will determine the status (accept or reject) of all submitted abstracts and the placement (poster presentation) of all accepted abstracts. The committee may also switch abstracts to any topic category based on their evaluation and organization requirements.

Notification

- If the abstract is accepted, the designated presenting author must register and pay the fee **by June 15, 2021** for the 2021 CRS Annual Meeting, July 25 – July 29 and must agree to present the abstract at the annual meeting.
- It is the responsibility of the presenting author to register by the presenter registration deadline. If the designated presenting author is NOT registered by the **June 15** deadline, the abstract will be withdrawn and will not be included in the program or in the 2021 CRS Annual Meeting online abstract library.

Abstract Permission

Submission Permissions

Submitting author must obtain the necessary permissions for research prior to abstract submission. The Controlled Release Society does not assume any liability or responsibility for publication of any submitted abstracts.

Copyright Assignment

Submitting author confirms that the abstract is an original work and has not been previously published. The submitter and any contributing authors, as sole proprietors of the abstract, agree to transfer copyright of the abstract to the Controlled Release Society. By agreeing, the submitter accepts the copyright transfer. Failure to accept the copyright transfer will result in cancellation of the abstract submission.

Copyright Permissions

Publication of tables, charts, and graphs projected onto the online virtual platform at the Annual Meeting by anyone other than an author or presenter is prohibited unless a release has been requested and received in writing from an author or presenter.

Agreement to Present

Designated presenting author must agree to present their abstract (subject to acceptance) at the CRS Annual Meeting.

Agreement to Register
Designated presenting author of the abstract (subject to acceptance) must register for the annual meeting and pay the fee by **June 15, 2021**.

Session Categories Information

Abstracts should be tagged with a minimum of three keywords and a maximum of six keywords from among of the following:

Route/Target of Delivery
-Brain/Blood Brain Barrier
-Intracellular/Organelles
-Intratumor
-Microbiome
-Nasal
-Ocular
-Oral/Buccal/Gastrointestinal
-Pulmonary
-Subcutaneous
-Transdermal/Topical/Mucosal

Type of Delivery Agent
-Antibody
-Cells
-DNA/RNA
-Drug Conjugate
-Gene Editing
-Imaging Agent
-Immunomodulatory
-Microbiome
-Non-Pharmaceutical Agent
-Poorly Soluble
-Prodrug
-Protein/Peptide
-Small Molecule
-Vaccine

Patient Population/Context
-Consumer Product
-COVID-19
-Geriatric
-Neglected/Rare Diseases
-Pediatric
-Personalized Medicine
-Self-Administration/Remote Health Care
-Translational
-Women's Health

Delivery Vehicle
-Amorphous Systems
-Biodegradable
-Bioinspired/Biomimetic
-Cell/Virus
-Cell Mimicking Nanovehicles
-Coating
-Device
-Drug-Drug Combination
-Emulsion/Multiphase
-Exosome
-Hot-Melt Extrusion
-Hydrogel
-Liquid/Semi-Solid
-Long Acting Injectable
-Liposome/Micelle/Suspension
-Microparticle
-Nanoparticle/Nanomaterial
-Permeation Enhancer
-Polyethylene Glycol (PEG)
-Polymer
-Rational Design
-Responsive
-Scaffold
-Tablet/capsule
-Targeted
-Theranostic

Research Approaches/Methods/Tools
-Clinical Trial/Human Subjects
-Formulation Development
-In Vitro Models
-Mathematical/Computational Modeling
-Microfluidics/Organ-on-a-Chip
-Microscopy/Imaging Tool
-Novel Methods
-Synthetic Biology

Non-Drug Delivery Topics
-Agricultural/Food
-Artificial Intelligence
-Cosmetic/Cosmeceutical
-Diagnostic
-Imaging
-Manufacturing/GMP
-Nutraceutical
-Regenerative Medicine/Tissue Engineering
-Regulatory
-Stability
-Toxicity

Late-breaking Abstract Sample

The abstract body is limited to 3,000 characters *(including title, biography, abstract body and learning objectives (1-3). Spaces are also included within the character count.*

Title: Development and formulation of arsenic-based compounds to treat syphilis

Presenting Author: Paul Ehrlich, Institute of Experimental Therapy, Germany
Co-Authors: Sahachhiro Hata, Kitasato University, Japan; Franziska Speyer, Institute of Experimental Therapy, Germany

Abstract Body

Introduction: Syphilis is a sexually transmitted infection caused by the bacterium *Treponema pallidum* and is the cause of ~6 million new cases each year worldwide (1). In addition, more than 300,000 fetal and neonatal deaths are attributed to syphilis. There is a need for better methods and agents to improve treatment of syphilis infection and better prevent its transmission (2). Arsanilic acid is an attractive lead compound for drug discovery of a "magic bullet" that selectively targets *T. palladium*, because of its use in veterinary feed to promote animal growth and prevent dysentery.

Methods: Starting with arsanilic acid as a lead compound, a library of arsenic-based derivatives were synthesized and screened for antimicrobial activity against *T. pallidum*. The most promising candidates were further characterized for physicochemical properties, including aqueous solubility, physical structure, hygroscopicity and stability. Minimum effective dose (ED50) and minimum lethal dose (LD50) were determined in rats.

Results: After screening more than 600 derivatives of arsanilic acid, we discovered arsphenamine to have a low ED50 of 5 µg/kg and LD50 of 200 µg/kg, giving a therapeutic index of 50 in the rat model. Further characterization revealed that arsphenamine was a yellow, crystalline powder with poor water solubility that was hygroscopic and unstable in air. Formulation of the drug in sterile, distilled water for parenteral administration required an oxygen-free environment. Aqueous solutions of arsphenamine were found to be stable for at least 6 months when stored under nitrogen in sealed vials. Guided by the limitations of arsphenamine, a second-generation derivative, neoarsphenamine, was developed, which has increased water solubility and greater stability, but was three-times less effective than arsphenamine, having an ED50 of 12 µg/kg.

Conclusion: Arsphenamine is a promising new drug candidate for treatment of syphilis with high efficacy in the rat model. Although it has stability challenges, it is currently being developed as a new drug called Salvarsan® under license to Hoechst AG.

Acknowledgements: This work was supported by a grant from the Georg Speyer Foundation.

References (up to three): (1) Kojima N, Klausner JD. Curr Epidemiol Rep. 2018:24-38. (2) KJ Williams KJ. J R Soc Med. 2009:343-8.

Presenter biography: Paul Ehrlich is Professor and Director of the Institute of Experimental Therapy in Frankfurt, Germany. He earned an MD at the Charité Medical School. He carries out research in the fields of hematology, immunology, and antimicrobial chemotherapy.

Example of Learning Objectives

Understand the screening process used to identify arsphenamine as a promising drug candidate
Explain the strengths and weaknesses of arsphenamine for targeted treatment of syphilis
Evaluate the differences between arsphenamine and neoarsphenamine as candidate drugs

Visionary Abstract Sample

The abstract body is limited to 3,000 characters *(including title, biography, abstract body and learning objectives (1-3). Spaces are also included within the character count.*

Title: Development and formulation of arsenic-based compounds to treat syphilis

Presenting Author: Paul Ehrlich, Institute of Experimental Therapy, Germany
Co-Authors: Sahachhiro Hata, Kitasato University, Japan; Franziska Speyer, Institute of Experimental Therapy, Germany

Abstract Body

Problem Statement: Syphilis is a sexually transmitted infection caused by the bacterium *Treponema pallidum* and is the cause of ~6 million new cases each year worldwide (1). In addition, more than 300,000 fetal and neonatal deaths are attributed to syphilis. There is a need for better methods and agents to improve treatment of syphilis infection and better prevent its transmission (2). Arsanilic acid is an attractive lead compound for drug discovery of a "magic bullet" that selectively targets *T. palladium*, because of its use in veterinary feed to promote animal growth and prevent dysentery. The objective of this study is to develop new arsenic-based drug candidates for treatment of syphilis using arsanilic acid as a lead compound.

Study Approach: We are studying a library of arsenic-based derivatives of arsanilic acid and screening them for antimicrobial activity against *T. pallidum*. The most promising candidates will be further characterized for physicochemical properties, including aqueous solubility, physical structure, hygroscopicity and stability. Minimum effective dose (ED50) and minimum lethal dose (LD50) will be determined in rats. These studies are designed to optimize drugs that achieves potent antimicrobial activity, a large therapeutic window and favorable physicochemical properties for formulation and stability.

Preliminary Data: We have identified a collection of more than 600 compound with structures related to arsanilic acid that we consider candidates for a screening study to optimize drug structure and develop structure-activity relationships. Initial studies of 15 compounds have yielded some with water solubility up to 18 times greater compared to arsanilic acid, which is a critical point of improvement needed for the drug. However, in this limited data set, those compounds with highest water solubility were also highly hygroscopic, which is undesirable. The screening experiments are continuing at a rate of approximately 10 compounds per week, and are expected to accelerate in the future.

Expected Impact: This screening study is expected to identify drug candidates with high water solubility, good stability, low hygroscopicity, high potency and low toxicity that may enable improved treatment of syphilis.

Acknowledgements: This work is supported by a grant from the Georg Speyer Foundation.

References (up to three): (1) Kojima N, Klausner JD. Curr Epidemiol Rep. 2018:24-38. (2) KJ Williams KJ. J R Soc Med. 2009:343-8.

Presenter biography: Paul Ehrlich is Professor and Director of the Institute of Experimental Therapy in Frankfurt, Germany. He earned an MD at the Charité Medical School. He carries out research in the fields of hematology, immunology, and antimicrobial chemotherapy.

Example of Learning Objectives

Understand the screening process used to identify promising drug candidate derived from arsanilic acid.
Explain the strengths and weaknesses of the screening approach being used.
Evaluate the improvements enabled by candidate drugs produced by the screening study compared to arsanilic acid.