PENNSYLVANIA CONVENTION CENTER



CRS 2025 ANNUAL MEETING & EXPOSITION

PHILADELPHIA, PA JULY 14-18, 2025

NEXT-GENERATION
DELIVERY INNOVATIONS

ABSTRACT GUIDE #CRS2025



Empowering Today's Breakthroughs In Nucleic Acid Delivery For Tomorrow !



Market Overview











Product Presentation

INano™ L⁺

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INano[™] HT-Smart

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INano[™] Optimux

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BOOJ



Welcome to CRS 2025 Annual Meeting & Exposition in Philadelphia, PA, USA!

On behalf of the CRS Annual Meeting Program Committee (AMPC) and the CRS Board of Directors, I am pleased to invite you to the **CRS 2025 Annual Meeting & Exposition** at the **Pennsylvania Convention Center** in the historic

city of Philadelphia, PA, USA, taking place July 14-18, 2025.

This year's theme, "**Next-Generation Delivery Innovations,**" highlights the exciting advancements shaping the future of controlled release science. In addition, this year's meeting will also focus on our **CRS Connecting People** initiative, offering multiple opportunities to discuss, interact, and build lasting collaborations. Whether you're a seasoned expert or new to the field, our diverse program is designed to help you connect, learn, collaborate, and have fun!

Philadelphia, renowned for its rich history and vibrant culture, provides the perfect setting to spark innovation and collaboration. Explore iconic landmarks like the Liberty Bell, take on the famous "Rocky steps" at the Philadelphia Museum of Art, and indulge in the city's beloved Philly cheesesteak. This dynamic city offers endless opportunities to connect, engage, and be inspired, making it the ideal backdrop for shaping the future of transformative therapies.

We look forward to welcoming you for an unforgettable experience of science, networking, and discovery!

Warm regards,

On behalf of CRS 2025 Annual Meeting Program Committee,



Assaf Zinger, Ph.D. Chemical Engineering Department

Technion Israel Institute of Technology AMPC Chair

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CRS headquarters team members value current members, future members, partners and programs & meetings attendees. Our goal is to consistently provide you with outstanding service, products, and programs. Use the following quick reference list to reach the appropriate persons in areas in which you may need assistance. Please call the general number for assistance Monday through Friday during the office hours of 08:30 AM – 5:00 PM Eastern Time (13:30 to 22:00 GMT/UTC). You can leave a voice mail or e-mail message at any time. We look forward to hearing from you!

GENERAL INFORMATION:

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Amanda Bray Senior Manager of Industry Relations abray@controlledreleasesociety.org

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GENERAL MEETING INFORMATION

ALL EVENTS WILL TAKE PLACE AT THE PENNSYLVANIA CONVENTION CENTER IN PHILADELPHIA, PA, USA, JULY 14–18, 2025. *All times listed in Eastern Daylight Time

REGISTRATION HOURS

The registration desk will be open daily from 7:00 AM - 7:00 PM

USE OF CRS SCIENTIFIC PROGRAM CONTENT

Information presented during the 2025 CRS Annual Meeting & Exposition is the property of CRS and the presenter. Information may not be recorded, photographed, copied, photocopied, transferred to electronic format, reproduced, or distributed without the written permission of CRS and the presenter. Any use of the program content, which includes, but is not limited to oral presentations, audiovisual materials used by speakers, and program handouts, without the written consent of CRS is prohibited.

SPEAKER READY ROOM HOURS:

Monday, July 14:	<mark>7:00 am –</mark> 7:00 pm
Tuesday, July 15:	7:00 am – 7:00 pm
Wednesday, July 16:	7:00 am – 7:00 pm
Thursday, July 17:	7:00 am – 7:00 pm

The Speaker Ready Room is located in the **120 A room**. All speakers are requested to check in at least 2 hours prior to their presentation (schedule permitting). Verification of proper performance in the Speakers' Ready Room is essential, particularly if video and animation is included in the presentation.

ACCESS THE ABSTRACTS

CRS annual meeting abstracts can easily be accessed on the CRS Meeting Mobile App. Within the app, click on the Posters icon to begin viewing poster abstracts. You can search by abstract category, presenter, & poster number. You can view podium abstracts directly from the full schedule by speaker, session track, time, and day.

ELECTRONIC DEVICES

As a courtesy to other meeting attendees, please turn off or silence all electronic devices during all workshops, sessions, and presentations.

PHOTOGRAPHY

Photography is not permitted in the session rooms, exhibit hall, or poster sessions.

PHOTO RELEASE

By virtue of your attendance, you agree to the Controlled Release Society's use of your likeness in promotional media.

CHILDREN AND THE CRS ANNUAL MEETING & EXPOSITION

The CRS Annual Meeting & Exposition is a professional, scientific meeting. CRS does not permit anyone under the age of 18 to attend the scientific sessions, poster sessions, exposition, and social events. For safety reasons, only registered exhibitors and poster presenters are permitted in the exposition/poster hall during set-up and take-down hours. Anyone 18+ must register and buy applicable individual tickets if not attending/ registering as a student.

CRS will be offering on-site childcare services, provided by Jovie Nannies & Sitters, for the 2025 Annual Meeting from Monday, July 14, to Friday, July 18, 2025. Childcare service packages are available to attendees for purchase. All children found present at the Annual Meeting and un-badged will automatically be enrolled in childcare services and the associated fees will be billed accordingly. For further information please stop by the registration desk to speak with a CRS representative.

CRS ANTITRUST POLICY

It is the undeviating policy of the Controlled Release Society (CRS) to comply strictly with the letter and spirit of all U.S.A. federal laws, as well as state, and applicable international trade regulations and antitrust laws. Any activities of CRS or related actions of its staff, officers, trustees, or members that violate these laws and regulations are detrimental to the interests of CRS and are unequivocally contrary to CRS' policy. The implementation of the antitrust compliance policy of CRS shall include, but not be limited to the following:

- a. All the association activities or discussions shall be avoided that might be construed as tending to: (1) raise, lower, or stabilize prices; (2) allocate markets; (3) encourage boycotts, (4) foster unfair trade practices; or (5) in any way violate U.S.A. federal, state, or applicable international trade regulations and antitrust laws.
- b. No officer, director, or member of CRS shall make any representation in public or in private, orally or in writing, that states, or appears to state, an official policy or position of CRS without specific authorization to do so.
- c. CRS members, officers, or directors who participate in conduct that the Board of Directors, by a two-thirds majority vote, determine to be contrary to the CRS. Antitrust Policy shall be subject to disciplinary measures up to, and including, termination.

EXHIBITS

The exhibits are an integral part of the complete education experience and will feature the latest research products in the field of controlled release. The Exhibit Hall will be open Daily at 8:00 AM and will close after the last event each day. The main times to expect activity in the Exhibit Hall are below. Please make time during the meeting to visit the exhibits during their open hours.

Installation:	MONDAY, JULY 14: 2:00 pm –4:30 pm
	TUESDAY, JULY 15: 8:00 am – 4:00 pm
Exhibit Hours	TUESDAY, JULY 15
	Welcome Reception / Exhibit Hall & Posters
	6:30 pm to 8:00 pm
	WEDNESDAY, JULY 16
	Breakfast /Exhibit Hall & Posters
	8:00 am - 9:00 am (coffee/tea & lite bites provided)

Lunch Break /Exhibit Hall & Posters 1:00 pm – 2:00 pm (boxed lunch provided)

Afternoon Break /Exhibit Hall & Posters 4:00 pm - 4:30 pm (coffee/tea provided)

GENERAL INFORMATION (CONTINUED)

Networking Break – Exhibit Hall & Postes 6:00 pm – 8:00 pm (food & beverages provided)

THURSDAY, JULY 17

Breakfast /Exhibit Hall & Posters 8:00 am - 9:00 am (coffee/tea & lite bites provided)

Lunch Break /Exhibit Hall & Posters 1:00 pm – 2:00 pm (boxed lunch provided)

Afternoon Break /Exhibit Hall & Posters 4:00 pm – 4:30 pm (coffee/tea provided)

Networking Break - Exhibit Hall & Posters 6:30 pm - 8:00 pm

Dismantle:

THURSDAY, JULY 17: 8:00 pm – 10:00 pm **FRIDAY, JULY 18:** 8:00 am – 12:00 pm

POSTER SESSIONS

Posters are located in the Exhibit Hall. All posters must be removed during Poster Breakdown or they will be discarded. The poster viewing area will be secured overnight. Photographing posters is not permitted. The Posters Sessions are an important educational event of this meeting. We hope you support and attend these scientific presentations. Poster Installation:Tuesday, July 154:30 pm - 6:00 pm(installation must be complete by 6:00 pm)

Presentation Times: WELCOME RECEPTION

Tuesday, July 15 6:30 pm – 8:00 pm

EXHIBIT HALL & POSTERS

	Wednesday, July 16	Thursday, July 17
	8:00 am - 9:00 am	8:00 am - 9:00 am
	1:00 pm – 2:00 pm	1:00 pm – 2:00 pm
	4:00 pm – 4:30 pm	4:00 pm – 4:30 pm
	6:00 pm – 8:00 pm	6:30 pm – 8:00 pm
Dismantle:	Thursday, July 117	Friday, July 18
	8:00 pm - 10:00 pm	10:30 am - 12:00 pm

(IF YOUR POSTER IS NOT COLLECTED BY 12:00 PM ON FRIDAY,

JULY 18, IT WILL BE DISCARDED)

2025 CRS Awards & Recognition

Congratulations to the 2025 Award Winners! CRS proudly announces the recipients of Awards that honor those who have contributed to the CRS society and science. Awards will be presented during the 2025 CRS Annual Meeting.

DISTINGUISHED SERVICE AWARD



Claus-Michael Lehr, Ph.D. Helmholtz Institute for Pharmaceutical Research Saarland (HIPS)

EXCEPTIONAL LEADERSHIP AWARD -BY THE YOUNG SCIENTIST COMMITTEE



Twan Lammers, Ph.D. RWTH Aachen University

FOUNDERS AWARD



Samir Mitragotri, Ph.D. Harvard University

MEMBER OF THE YEAR AWARD



Maria Vivero-Lopez, Ph.D. University of Nottingham

SAMYANG AWARD IN HONOR OF SUNG WAN KIM



Ronit Satchi-Fainaro, Ph.D. Tel Aviv University

TRANSDERMAL DELIVERY KYDONIEUS FOUNDATION AWARD



Ana Melero, Ph.D. University of Valencia

RISING WOMEN IN SCIENCE AWARD



Hagar Labouta, Ph.D. University of Toronto

WOMEN IN SCIENCE AWARD



Soumya Rahima Benhabbour, Ph.D. The University of North Carolina at Chapel Hill

YOUNG INVESTIGATOR AWARD



Assaf Zinger, Ph.D. Technion - Israel Institute of Technology

JOURNAL OF CONTROLLED RELEASE BEST PAPER AWARD



Janin Germer, Ph.D.

Cytiva "Lipo-Xenopeptide Polyplexes for CRISPR/Cas9 based Gene editing at ultra-low dose"

PhD THESIS AWARD



Anshuman Dasgupta Massachusetts Institute of Technology



David Klein Cerrejon

ETH Zürich

DRUG DELIVERY AND TRANSLATIONAL RESEARCH JOURNAL BEST PAPER AWARD



Christopher McConville, Ph.D.

University of Birmingham "Local administration of irinotecan using an implantable drug delivery device stops high-grade glioma tumor recurrence in a glioblastoma tumor model"

CRS COMMITTEE MEETINGS

(Dates & times subject to change)

MONDAY, JULY 14	TIME	ROOM
GMEC Meeting	12:00 PM - 1:00 PM	121 A
FG Leadership Meeting	2:00 PM – 3:00 PM	122 A
TUESDAY, JULY 15	TIME	ROOM
DDTR Meeting	8:30 AM – 9:30 AM	121 A
FG Chat & Chews	1:00 PM - 2:00 PM	119 A/B, 120 B/C, 121 B/C, 123, 124, 125
WEDNESDAY, JULY 16	TIME	ROOM
International Chapters Meeting	1:00 PM - 2:00 PM	122 A
ADDR Editorial Meeting	1:00 PM - 2:00 PM	121 A
THURSDAY, JULY 17	TIME	ROOM
JCR Editorial Meeting	11:30 AM - 1:00 PM	121 A
YSC & Industry Foresight Council Meeting	1:00 PM – 2:00 PM	122 B
JCR Board Meeting	1:00 PM - 2:00 PM	121 A
C&DP Board Meeting	2:00 PM - 3:00 PM	121 A

CONNECT @ THE EXPO

EXPOSITION HALL

The CRS Exposition is the place to CONNECT and discover the latest delivery science and technology trends! Meet face-to- face with leading companies from around the world—learn about new products, discuss industry challenges, and build your network. 2025 Exhibitors as of (6/27/2025)

Detailed description of current Exhibitors and the schedule of Exposition hours can be found in the CRS AM&E Mobile App.

EXHIBIT HALL HOURS

Tuesday, July 15	Welcome Reception / Exhibit Hall & Posters
	6:30 pm – 8:00 pm
Wednesday, July 16	Breakfast /Exhibit Hall & Posters
	8:00 am – 9:00 am (coffee/tea & lite bites provided)
	Lunch Break /Exhibit Hall & Posters
	1:00 pm – 2:00 pm (boxed lunch provided)
	Afternoon Break /Exhibit Hall & Posters
	4:00 pm – 4:30 pm (coffee/tea provided)
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	Afternoon Break /Exhibit Hall & Posters
	4:00 pm – 4:30 pm (coffee/tea provided)
	Networking Break - Exhibit Hall & Posters
	6:30 pm – 8:00 pm

COMPANY NAME	BOOTH NUMBER	COMPANY NAME	BOOTH NUMBER
Ashland	312	MDPI	202
Bezwada Biomedicals, LLC	401	MeltPrep	212
Cayman Chemical Company	200	NanoFCM Inc.	101
Certest	102	Nisso America Inc.	210
Colorcon	201	NOF Corporation	306
Corbion	109	Oakwood Labs	309
CRS AMPC	410	PharmaCircle	107
Curapath	301	Pion Inc	205
digiM solution	211	PolyMicrospheres	106
Dionamix Scientific	409	Precigenome LLC	406
Dolomite Microfluidics	311	ProMed Pharma	304
Early Career Scientist Meet-up Station	412	Royal Society of Chemistry	114
Elsevier	TT2	Sartorius BIA Separations	310
Erweka, part of Verder Scientific	203	Schrödinger	302
Evonik Corporation	213	SEQENS	112
Exodus Bio	407	Shin-Etsu Chemical Company	207
Glatt Pharmaceutical Services - CDMO Unlimited	115	Simulations Plus	103
Helix Biotech	206	SOTAX	111
InnoGI Technologies	303	Southwest Research Institute	307
Inside Therapeutics	308	Spectradyne	113
International Pharmaceutical Excipients Council of the Americas	300	Surface Measurement Systems	<u> </u>
IOI Oleochemical	408	Tenshi Kaisen Private Limited	402
Izon Science	405	Thermo Fisher Scientific, Inc.	214
Lipoid, Inc.	204	Thermo Fisher Scientific, Inc.	305
Logan Instruments	313	Waters Wyatt Technology	208
Lonza Capsules & Health Ingredients		XGen Bio	
Lubrizol	104	Yokogawa Fluid Imaging Technologies (FlowCam)	108
Marama Labs	105		

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THANK YOU

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Exceptional Abstracts

All exceptional abstracts are listed alphabetically. First by abstract category. Second by abstract title.

Alternative Methods to Animal Testing

3D(Bio)printed infection models of human lung cells and skin hair follicles to study nanoantibiotics

Claus-Michael Lehr, PhD, HIPS - Helmholtz Institute for Pharmaceutical Research Saarland & Saarland University, Saarbrücken

Co-Authors: Samy Aliyazdi - PhD student, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland; Brigitta Loretz - Senior Scientist, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland; Nicole Schneider-Daum - Senior Scientist, HIPS-Helmholtz Institute for Pharmaceutical Research Saarland

Identification of Functional Biomarkers for Personalized Nanomedicine in Breast Cancer 3D Models

Maria Vicent, PhD, CIPF

Co-Authors: Ana Armiñan de Benito - Researcher, CIPF; Paz Boix-Montesinos - PhD, CIPF; Paula Carrascosa - Technician, CIPF

Reconstructed Human Patient Dynamic Models for Engineering Targeted Therapeutics for Aneurysms

Netanel Korin, PhD, Technion IIT

Co-Authors: Mark Epshtein - Post Doc, University of Massachusetts Medical School; Meinrad Gawaz - Professor, Eberhard Karls Universität Tübingen; Matthew Gounis - Professor, University of Massachusetts Medical School; Maria Khoury - Research associate, Technion IIT; Moran Levi - PhD student, Technion IIT

Artificial Intelligence and Predictive Models

3D-bioprinted cancer models for prediction of nanomedicine response driven by H&E-based AI algorithm

Ronit Satchi-Fainaro, PhD, Tel Aviv University

Co-Authors: Ranit Aharonov - CTO, Pangea Biomed; Opal Avramoff -PhD Student, Tel Aviv University; Tuvik Beker - CEO, Pangea Biomed; Gal Dinstag - Researcher, Pangea Biomed; Anshika Katyal - PhD Student, Tel Aviv University; Anne Krinsky - MD/PhD student, Tel Aviv University; Yulia Liubomirski - Research Associate, Tel Aviv University; Ronnie Shapira-Frommer - Oncologist, Sheba Medical Center; Omer Tirosh - Researcher, Pangea Biomed

Delivery Technologies for Diversified Products

Organic nanocarriers encapsulating streptomycin for managing citrus greening disease

Kurt Ristroph, PhD, Purdue University

Co-Authors: Riley Jones - Graduate student, University of California Riverside; Hagai Kohay - Postdoc, Carnegie Mellon University; Gregory Lowry - Professor, Carnegie Mellon University; Luiza Oliveira - Graduate student, Purdue University; Philippe Rolshausen - Professor, University of California Riverside; Kenedy Sanchez - Graduate student, Carnegie Mellon University; Arnold Schumann - Professor, University of Florida

Bioengineering

In vitro assessment of cell-based drug delivery systems

Michael Dunne, PhD, Moffitt Cancer Center

Co-Authors: Shirin Changizi - Postdoctoral Fellow, Moffitt Cancer Center; Jacob Hensley - Research Associate, Moffitt Cancer Center; Victor Madubueze - PhD Student, Moffitt Cancer Center; Andrew Mayts - Research Associate, Moffitt Cancer Center; Duy Nguyen - Assistant Professor, Moffitt Cancer Center; Diego Pedro - Research Engineer, Moffitt Cancer Center; Alfonso Pepe - Research Scientist, Moffitt Cancer Center; W. Gregory Sawyer - Professor, Moffitt Cancer Center; Jose Serrano-Velez - Biolmaging Director, Moffitt Cancer Center; Sanem Yilmaz - PhD Student, Moffitt Cancer Center

Leveraging a pulsatile delivery platform to create a singleinjection rabies vaccine

Kevin McHugh, PhD, Rice University Co-Authors: Alyssa Kunkel - Graduate Research Assistant, Rice University; Tyler Graf - Graduate Research Assistant, Rice University

Delivery to the Nervous System

Breaking Barriers: Gold Nanoparticle-Based Strategies for Delivering Biologics to the Brain

Rachela Popovtzer, Bar Ilan University

Co-Authors: Osher Badur - MSc student, Bar Ilan University; Oshra Betzer - COO, Nanocarry Therapeutics; Menachem Motiei - Lab Manager, Bar Ilan University; Tamar Sadan - Research Associate, Bar Ilan University; Revital Stolov - MSc student, Bar Ilan University; Ayelet Zefran - Head of Biology, Nanocarry Therapeutics

Empowering the Blood-Brain Barrier: VCAM Targeted Nanocarriers in Neuroinflammatory Diseases.

Oscar Marcos-Contreras, University of Pennsylvania Co-Authors: Jia Nong - Research Associate, UPenn; Patrick Glassman -Assistant Professor, Temple University; Sahily Reyes-Esteves - Intructor, UPenn; Soomin Jeong - Postdoc, UPenn; Hamideh Parihz - Assistant Prof, UPenn; Michel Zaleski - PhD, UPenn; Scott Kasner - Professor, UPenn; Jacob Myerson - Research Assistant Professor, UPenn; Drew Weissman -Professor, UPenn; Vladimir Muzykantov - Professor, UPenn; Jacob Brenner - Assistant Professor, UPenn

Exceptional Abstracts

Intracerebral Delivery of Cytokine Immunotherapy with Hydrogel Accelerates Recovery Post-ICH in Rats

John Clegg, PhD, University of Oklahoma

Co-Authors: Harsh Joshi - Postdoctoral Research Associate, University of Oklahoma; Christopher Pierce - Graduate Student, University of Oklahoma; Kar-Ming Fung - Professor, University of Oklahoma Health Sciences Center; Andrew Bauer - Assistant Professor, University of Oklahoma Health Sciences Center

Modulating the Response of Neurons and Glia Cells for Spinal Cord Injury Recovery

Roberta Censi, University of Camerino

Co-Authors: Cristina Casadidio - Post doc researcher, University of Camerino; Piera Di Martino - Professor, University of Chieti; Sofia Figoli - PhD student, Leeds University; Nikita Gamper - Professor, Leeds University; Maria Rosa Gigliobianco - Post doc researcher, University of Chieti; Ronaldo Ichiyama - Professor, Leeds University; Saniya Salathia -PhD student, University of Camerino

Gene Delivery and Gene Editing

Development of SORT lipid nanoparticles (LNPs) for genome correction of disease-causing mutations

Daniel Siegwart, PhD, University of Texas Southwestern Medical Center

DNA-loaded lipid nanoparticles (DNA-LNPs): a platform technology to treat common chronic diseases Jacob Brenner, MD, PhD, University of Pennsylvania

Engineer Lipid Nanoparticle Surface Hydrophobicity to Modulate Nano-Bio Interface and Enable Tissue-Selective mRNA Delivery

Fan Zhang, PhD, University of Florida

Enhanced pDNA Delivery Mediated by Backbone-Degradable RAFT Copolymers

Adam Gormley, PhD, Rutgers University Co-Authors: Chris Radford - Postdoctoral Associate, Rutgers University

Evaluating the effects of PEGylated lipid shedding on targeted nanomedicines

Lisa Volpatti, PhD, Northwestern University Co-Authors: Ethan Cisneros - Graduate Student, Northwestern University; Aadya Wijesekera - Undergraduate Student, Northwestern University

Nature-inspired nanotechnology for RNA delivery to myeloid cells and bone marrow progenitors

Roy van der Meel, PhD, Eindhoven University of Technology

Imaging in Drug Delivery

Multimodal Immunoimaging of CCR2-Driven Inflammation in Metabolically Stressed Myocardial Infarction

Katrien Vandoorne, PhD, DVM, Technion, Institute of Technology Co-Authors: Betsalel Elgrably - MSc student, Technion, Israel Institute of Technology; Maya Rom - MSc student, Technion, Israel Institute of Technology; Galit Saar - Staff Scientist, Technion, Israel Institute of Technology

Immuno Delivery

'Naked' liposomal delivery to heal a broken heart Vincent Venditto, PhD, *University of Kentucky*

Dendritic Cell-Targeted Nanoparticles to Enhance T Cell Activation and Immune Checkpoint Modulation

Ayelet David, Ben-Gurion University of the Negev Co-Authors: Marie Ruetter - Postdoc, Ben-Gurion University of the Negev; Yvonne Ventura - Postdoc, Ben-Gurion University of the Negev; Prateek Srivastava - Postdoc, Ben-Gurion University of the Negev

Multidirectional Nano-Immunotherapy to Re-educate Host Immunity against Breast Brain Metastases

Helena Florindo, PhD, University of Lisbon

Co-Authors: Rita Acúrcio Acúrcio - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Bárbara Carreira - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Margarida Ferreira - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Cláudio Ferro - PhD student, Faculty of Pharmacy, University of Lisbon; Ana Matos - Postdoctoral Researcher, Faculty of Pharmacy, University of Lisbon; Ronit Satchi-Fainaro - Full Professor, Tel Aviv University

Poly(beta aminoester) – extracellular vesicles hybrids for Antitumor Nucleic Acid Vaccination

Cristina Fornaguera, Institut Químic de Sarrià (IQS) - Universitat Ramon Llull (URL)

Co-Authors: Salvador Borrós - Full professor, Institut Químic de Sarrià (IQS) - Universitat Ramon Llull (URL)

Virus-inspired self-assembled vaccine to elicit B and T cell immunity against cancer

Yang Shi, PhD, RWTH Aachen University Co-Authors: Dirk Baumjohann - Prof. Dr., Bonn University Clinic; Maximilian Moll - PhD student, Bonn University Clinic; Bi Wang - Postdoc, RWTH Aachen University

Exceptional Abstracts

Nanomedicine and Nanoscale Delivery (Focus: Gene)

Characterizing CRISPR-Cas ribonucleoprotein delivery with bioreducible polymer nanoparticles

Christopher Grigsby, PhD, Queen's University Belfast Co-Authors: Miina Ojansivu - Postdoctoral Researcher, Karolinska Institutet; Bernhard Schmierer - Head of Unit, Karolinska Institutet; Molly Stevens - Professor, University of Oxford

Gold Nanoparticles as Carriers of MicroRNA Mimics for Cancer Immunotherapy and Muscular Diseases

Álvaro Somoza, PhD, IMDEA Nanociencia

Co-Authors: Paula Milán-Rois - Postdoctoral Researcher, IMDEA Nanociencia; Milagros Castellanos - PI, IMDEA Nanociencia; Francesco Millozzi - Postdoctoral Researcher, Università Cattolica del Sacro Cuore; Sara Dosil - PhD Student, Universidad Autónoma de Madrid; Mario Martinez - Postdoctoral Researcher, IMDEA Nanociencia; Irene Pardo -PhD Student, IMDEA Nanociencia; Susana García - Senior Scientist, CNIO; Lola Fernandez - Associate Professor, Universidad Complutense de Madrid; Arghya Sett - Postdoctoral Researcher, University of Bordeaux; Héctor Peinado - PI, CNIO; Francisco Sanchez-Madrid - Professor, Hospital de la Princesa; Jean-Jacques Toulmé - CSO, Novaptech; Daniela Palacios - PI, CNR

mRNA Vaccine Delivery Using Lipid Nanoparticles: Focus on Muscle Cell Involvement

Giovanna Lollo, PhD, University of Lyon

Co-Authors: Francesco De Sanctis - Associate Professor, University of Verona; ARNAUD JACQUIER - Post Doc, University Lyon 1; David Kryza - Associate Professor, University Lyon 1; Mathieu Repellin - Post doc, University Lyon 1; Laurent Schaeffer - Full Professor, University Lyon 1; STEFANO UGEL - Associate Professor, University of Verona

Peptide-Lipid Conjugates for Enhancing mRNA-LNP Delivery and Colon Cancer Vaccines

Kuo-Ching Mei, Binghamton University-SUNY

Co-Authors: Reena Jatyan - Postdoc, Binghamton University-SUNY; Zitao Ma - PhD Student, Binghamton University-SUNY; Pu-Sheng Wei - Postdoc, Binghamton University-SUNY

Polymeric Mesoscale Nanoparticles Selectively Target Gene Therapies to the Kidneys

Ryan Williams, PhD, The City College of New York Co-Authors: Adnan Arnaout - PhD Student, CCNY; Melis Baltaci - Senior Research Associate, CCNY; Pratyusha Ghosh - PhD Student, CCNY; Edgar Jaimes - Chief of Nephrology, Memorial Sloan Kettering Cancer Center; Julia Morris - Postbac, CCNY; Zoe Schoales - PhD Student, CCNY; Anastasiia Vasylaki - PhD Student, CCNY; Arantxa Roach - Research Assistant, CCNY

Rational design of mRNA folding architecture to enhance protein production

Qianqian Ni, National University of Singapore

Nanomedicine and Nanoscale Delivery (Focus: Imaging)

Toolbox of self-propelled nanomotors for bladder cancer therapy

Samuel Sánchez, Credentials, Instituto de Bioingeniería de Cataluña (IBEC), Spain

Nanomedicine and Nanoscale Delivery (Focus: Immuno)

Subcutaneous administration of antibody-drug-conjugates

Alexandre Detappe, PhD, Institut de Cancérologie Strasbourg Europe

Co-Authors: Coralie Grange - Assistant Proff, ICANS; Sébastien Harlepp -Associate Prof, ICANS; Guillaume Jacquot - PhD student, ICANS

Elastin-like polypeptide (ELP) antibody fusions targeting IL-6: pharmacokinetic modeling

J. Andrew MacKay, PhD, USC Mann

Co-Authors: Ashley Ramirez - Graduate Student, University of Southern California, Mann School; Alvin Phan - Post-doctoral fellow, University of Southern California, Mann School; Shin-Jae Lee - Graduate Student, University of Southern California, Viterbi School; Sara Attia - Graduate Student, University of Southern California, Mann School; Quratulain Bhatti - Graduate Student, University of Southern California, Mann School; Maria Edman - Professor of Research, University of Southern California, Keck School; Sarah Hamm-Alvarez - Professor, University of Southern California, Keck School

Nanomedicine and Nanoscale Delivery (Focus: Nano)

Overcoming Fungal Cell Barriers: Nanoparticle-Mediated Photoporation for Effective RNA Delivery

Adriana Avila Flores, Auburn University Co-Authors: Guillaume Laurent - Professor, Auburn University; Erin McGraw - PhD candiate, Auburn University

Exceptional Abstracts

Nanomedicine and Nanoscale Delivery (Focus: Nervous)

SARS-CoV-2 clearance in the brain and lungs of K18-hACE2 mice after intranasal liposomal remdesivir

Frédéric Frézard, PhD, Universidade Federal de Minas Gerais Co-Authors: Pedro Costa - Post-doc, Universidade Federal de Minas Gerais; Vivian Costa - Professor, Universidade Federal de Minas Gerais; Natália da Silva - PhD Student, Universidade Federal de Minas Gerais; Clara Fernandez - PhD student, Universidade Federal de Minas Gerais; Pedro Guimaraes - Professor, Universidade Federal de Minas Gerais; Gabriel Pereira - undergraduate student, Universidade Federal de Minas Gerais; Robson Santos - Full professor, Universidade Federal de Minas Gerais; Mauro Teixeira - Full professor, Universidade Federal de Minas Gerais; Sabrina Mendes - PhD Student, Universidade Federal de Minas Gerais; Lays Guimaraes - PhD Student, Universidade Federal de Minas Gerais; Leonardo De Oliveira - Post-doc, Universidade Federal de Minas Gerais

Nanomedicine and Nanoscale Delivery (Focus: Oral)

NAC-based Ionic Liquids for GLP-1 Delivery: A Mechanistic Understanding of In Vivo Performance

Zhigao Niu, Novo Nordisk

Co-Authors: Lasse Blaabjerg - Senior Scientist, Novo Nordisk; Damiano La Zara - Senior Scientist, Novo Nordisk; Henrik Pedersen - Principal Scientist, Novo Nordisk; Rene Rebollo - Associate Scientist, Novo Nordisk; Philip Sassene - Scientific Director, Novo Nordisk

Nanomedicine and Nanoscale Delivery (Focus: Skin / Mucosal)

Polymersome assay for point-of-care blood urea diagnostics in dialysis patients

Simon Matoori, Université de Montréal

Ocular Delivery

Evaluation of the effects of TiO2 Nanoparticles conjugated with fluorescein on retinal angiography

Silvia Fialho, PhD, Ezequiel Dias Foundation Co-Authors: Koiti Araki - Professor, University of São Paulo; Marina Dias - Researcher, Ezequiel Dias Foundation; Robson Guimarães - Professor, University of São Paulo; Rodrigo Kawassaki - Researcher, University of São Paulo; Lutiana Melo - Researcher, Ezequiel Dias Foundation

Oral Delivery

Development of a Novel Antibody-Based Oral Factor VIII Mimetic Drug Candidate (Inno8)

Philip Jonas Sassene, PhD, Novo Nordisk

Hemi-porous Janus microparticles as a muco-adhesive enteral delivery system for BCS Class III drugs

Akihiro Matsumoto, PhD, Osaka Ohtani University Co-Authors: Satoru Murao - Researcher, Osaka Ohtani University; Syou Maki - Associate professor, Okayama University of Science; Masayuki Kaneda - Associate professor, Osaka Metropolitan University; Takeo Kitazawa - Associate professor, Yasuda Women's University; Yuta Hatori - Lecturer, Yasuda Women's University; Masahiro Murakami - Professor Emeritus, Osaka Ohtani University

Skin and Mucosal Delivery

3D-Printed Acyclovir Nanocrystals: An Advanced Approach to Herpes Simplex Treatment

Alejandro Paredes, PhD, Queen's University Belfast Co-Authors: Alejandro Paredes - Senior Lecturer, Queen's University Belfast; Lucia Lopez-Vidal - PosDoc, Queen's University Belfast; Kornelija Justaike - n/a, n/a; Octavio Fandino - PosDoc, Queen's University Belfast; Martina Sangalli - PhD student, Queen's University Belfast; Masoud Adhami - PhD student, Queen's University Belfast; Jiawen Wang - PosDoc, Queen's University Belfast; Santiago Palma - Professor, Universidad Nacional de Cordoba; Fabiana Volpe-Zanutto - Lecturer, Ulster university; Eneko Larraneta - Professor, Queen's University Belfast

Chitosan nanobubbles as a combined chemoimmunotherapy strategy against melanoma

Monica Argenziano, University of Turin

Co-Authors: Roberta Cavalli - Full Professor, University of Turin; Chiara Dianzani - Assistant professor, University of Turin; Stefania Pizzimenti -Associate Professor, University of Turin

Development of a new modality of transdermal platform based on nanofibers for the delivery of APIs

Jose M. Lagaron, CSIC

Co-Authors: Zoran Evtoski - Research Scientist, CSIC; Cristina Prieto - Research Scientist, CSIC; Jorge Teno - R\$D Project Leader, BioNanoPharma SL

Women's Health

Breaking barriers in endometriosis: from 3D microphysiological models to combination therapies Paola Luciani, Credentials, *University of Bern*

ORAL ABSTRACTS

All oral abstracts are listed alphabetically. First by abstract category. Second by abstract title.

Alternative Methods to Animal Testing

3D Cell assemblies to evaluate inflammatory response to dual-agent delivery platforms targeting BV

Arielle Greiner, BS, University of Louisville Co-Authors: Hermann Frieboes - Principal Investigator, University of Louisville; Anthony Kyser - Research Technician I, University of Louisville

Blood-brain barrier/glioblastoma interplay 3D in vitro model for (nano-)therapeutic screening

Claudia Martins, i3S-University of Porto

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Collagen Microgel 3D Organoid Culture and Extracellular Vesicle Production for Drug Development

Samantha Ali, PhD, Credentials, University of Florida Co-Authors: Mei Hi - PhD student, University of Florida; Pei Zhuang -Research Assistant Professor, University of Florida

Development of innovative 3D colorectal cancer models as preclinical tools for drug screening

Sofia Dias, i3S – Institute for Research and Innovation in Health, University of Porto

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Elucidation of Lipid Nanoparticle Fusion Mechanisms Using Artificial Membranes

Shu Okumura, PhD, Toshiba Corporation Co-Authors: Kozue Furuya - Researcher, Toshiba corporation; Mitusko Sugano - Senior Fellow, Toshiba corporation

Exploring the Impact of Ion-Releasing Fabrics on Inflammatory Pathways by 3D In-RED In Vitro Model

Giovanna Della Porta, Università degli Studi di Salerno Co-Authors: Giovanna Della Porta - Full Professor, University of Salerno; Saveria Batti - research fellow, University of Salerno; Erwin Pavel Lamparelli - Post-doc fellow, University of Salerno; Gina Myers -DIRECTOR OF RESEARCH, INCREDIWEAR HOLDINGS, INC.; Nicola Maffulli - Full Professor, University of Rome "La SAPIENZA"

Genomic Instability and Shear Stress Influence Nanoparticle-Induced Endothelial Cell Responses

Yasmin Abdelkader, Li Ka Shing Knowledge Institute Co-Authors: Mahmoud Abdelkarim - Ph.D student, Li ka Shing institute; Hagar Labouta - Assistant professour, Li Ka Shing Knowledge Institute

mRNA-LNPs Microneedle Delivery in 3D Human Dermal Equivalent Model for Preliminary In-Vitro Testing

Elena Lagreca, PhD, Credentials, Istituto Italiano di Tecnologia Co-Authors: Roberta Passariello - Technician, Università degli studi di Napoli Federico II; Daniela Orefice - PhD student, Istituto Italiano di Tecnologia; Atefeh Malek Khatabi - Post Doc, Istituto Italiano di Tecnologia; Alessandro Attanasio - Post Doc, Istituto Italiano di Tecnologia; Stefano Persano - Researcher, Università degli studi di Milano; Giorgia Imparato - Chief Technician, Istituto Italiano di Tecnologia; Raffaele Vecchione - Chief Technician, Istituto Italiano di Tecnologia; Paolo Netti - Professor, Istituto Italiano di Tecnologia

Stimuli-responsive bioengineered biomaterials: 3D in vitro models & regenerative medicine therapies

Silvia Panseri, National Research Council of Italy Co-Authors: Federica Arienti - PhD student, National Research Council of Italy; Monica Montesi - Researcher, National Research Council of Italy; Noemi Ravaglia - PhD student, National Research Council of Italy; Arianna Rossi - post-doc, National Research Council of Italy

The A**β**42:A**β**40 ratio in amyloid plaques and its role in bloodbrain barrier dysfunction

Stefanie Gier, PhD, Goethe University Frankfurt Co-Authors: Annika Haessler - PhD student, Goethe University Frankfurt; Nathalie Jung - PostDoc, Goethe University Frankfurt; Maike Windbergs -Full Professor, Goethe University Frankfurt

The SCISSOR technology: Investigating Biopharmaceutics of Subcutaneously Delivered Oligonucleotides

Karin Somby, Novartis Pharma AG

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Transport of Red Blood Cell Carriers Through Microfluidic Model Mimicking Human Pulmonary Capillary

Danielle Nemcovsky, MSc, Technion - Israel Institute of Technology Co-Authors: Merav Belenkovich - researcher, Technion; Anat Glozman -MSc student, Technion; Netanel Korin - Prof., Biomedical eng., Technion; Hagit Stauber - researcher, Technion; Josué Sznitman - Dean, Prof., Biomedical eng., Technion

ORAL ABSTRACTS

Artificial Intelligence and Predictive Models

3D-bioprinted cancer models for prediction of nanomedicine response driven by H&E-based AI algorithm Yuchen Fan, *Genentech*

Machine Learning-driven rational design of exosome-mimic nanoparticles

Joonchul Shin, Yonsei University

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Multiphysics modeling towards a digital twin platform for drug-loaded polyester-based implants

Marion Krapez, M.S., Secant Group

Co-Authors: Victor Mishin, Michelin; Sebastien Garruchet - Research Engineer, Michelin; Melaine Guillou - Research Engineer, Michelin; Denise Preddie - Scientist, Secant Group; Joel Tchoufag - Research Engineer, MIchelin

Nanocarrier imaging at single-cell resolution across entire mouse bodies with deep learning

Jie Luo, Purdue University Co-Authors: Yu Zhu - Postdoctoral Associate, Purdue University

Physics Informed One-stop AI Preformulation Prediction Platform

Nannan Wang, University of Macau, Macau, People's Republic of China

Co-Authors: Defang Ouyang - Associate Professor, University of Macau

Proton sponge or membrane fusion? – Endosomal escape of siRNA polyplexes unveiled by MD simulations

Katharina Steinegger, PhD Candidate, LMU Munich Co-Authors: Min Jiang - PhD Student, LMU Munich; Olivia Merkel -Professor, LMU Munich; Benjamin Winkeljann - Postdoc, LMU Munich

Bioengineering

"Affinity cocktails" of alpha-particle radionuclide antibodyconjugates for solid tumors

Aira Sarkar, B. Tech, MSE, Institute for NanoBioTechnology (INBT), Johns Hopkins University

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Albubody platform for enhanced anti-tumor efficacy of scfvbased drug conjugates

Na Hyun Kwon, Credentials, *Gwangju institute of Science and Technology (GIST)*

Co-Authors: Inchan Kwon, Gwangju Institute of Science and Technology; Jae Hun Lee - PhD student, Gwangju Institute of Science and Technology

Antibody drug-loaded unimicelle conjugates (ADUCs): a novel platform enabling ultra-high DAR

Kenichi Suzuki, Ph.D., Kowa Pharmaceutical Europe AG Co-Authors: Yohei Arai - Researcher, Kowa Company Ltd.; Nobuhiro Fujimaki - Researcher, Kowa Company Ltd.; Kahori Hosono - Researcher, Kowa Company Ltd.; Hideo Yoshida - Researcher, Kowa Company Ltd.

Biophysical State-Driven Regulation of Biomimetic Nanoparticles: Nanomedicine Applications

Sebastião Mendanha, Federal University of Goiás Co-Authors: Matheus Arebalo - Msc candidate, Federal University of Goiás; Eliana Lima - Full Professor, Federal University of Goiás; Nathalia Oliveira - PostDoc, Federal University of Goiás; Tacio Hayasaki - PnD candidate, Federal University of Goiás; Mariana Salomão - PnD candidate, Federal University of Goiás; Maikon Campos - PnD candidate, Federal University of Goiás; Lucas Sousa - PnD candidate, Federal University of Goiás

Development of Hybrid Cell Membrane Nanovesicles for Enhanced Pancreatic Cancer Treatment

HO THI LUU, Taipei Medical University

Co-Authors: Yu-Jui Fan - Professor, Taipei Medical University; Yao-An Shen - Associate Professor, Taipei Medical University

Efficient Vascular Handoff: Rapid Cargo Transfer from Carrier RBCs to Downstream Vasculature

Jing Lu, UPENN

Co-Authors: Vladimir Muzykantov - Principal Investigator, University of Pennsylvania; Jacob Myerson - Research Assistant Professor, University of Pennsylvania; Oscar Marcos-Contreras - Research Assistant Professor, University of Pennsylvania

Engineering Human PEG10-based Nanoparticles for RNA Selfpackaging, Delivery and Cancer Therapy

Yu-Chen Hu, National Tsing Hua University

Engineering narrow band gap nanotherapeutics for multimodal treatments of colon cancer

Manoj Kandel, National Tsing Hua University Co-Authors: Hsin-Cheng Chiu - Professor, National Tsing Hua University; Arjun Sabu - PhD student, National Tsing Hua University

Evaluation of a Collagen Type II-Targeted Peptide-Drug Conjugate for Rheumatoid Arthritis Treatment

Laavanya Devarajan, Indian Institute of Technology Madras Co-Authors: Kevin McHugh - Assistant Professor, Rice University; Vignesh Muthuvijayan - Professor, Indian Institute of Technology Madras

Gas-entrapping materials to improve HIPEC for ovarian cancer

James Byrne, MD, PhD, University of Iowa Co-Authors: Jianling Bi - Research Scientist, University of Iowa; Emily Witt - Lab manager, University of Iowa

ORAL ABSTRACTS

High resolution solution biophysics for identifying lipid nanoparticle trends in vivo and ex vivo Marshall Padilla, PhD, University of Pennsylvania

Injectable devices as cell factory implants for therapeutic antibody production

Marwa Sallam, School of Engineering, Brown University Co-Authors: Akram Abassi - Postdoctoral Fellow, School of Engineering, Brown University; Anthony Davis - PhD Student, Department of Bioengineering, Rice University; Omid Veiseh - Professor, Department of Bioengineering, Rice University; Daniel Bernards - Senior Scientist, University of California, San Francisco; Bhushan Kharbikar - Postdoctoral Fellow, University of California, San Francisco; Daria Smuk - Student, School of Engineering, Brown University; Brendan Knittle - Masters Student, School of Engineering, Brown University; Jean Jerome - PhD Student, School of engineering, Brown University; Meerab Aziz - student, School of Engineering, Brown University; Tejal Desai - Dean of School of engineering, Brown University; Tejal Desai - Dean of School of engineering, Brown University

Isolation and Focal Treatment of Brain Aneurysms using Interfacial Fluid Trapping

Maria Khoury, Technion IIT

Co-Authors: Mark Epshtein – Post Doc, University of Massachusetts Medical School; Matthew Gounis – Professor, University of Massachusetts Medical School; Netanel Korin – Professor, Technion IIT; Yevgeniy Kreinin – PhD student, Technion IIT; Tirosh Mekler – PhD student, Technion IIT; Josué Sznitman – Dean, Professor, Technion IIT

Low-dose chemotherapy Empowers alpha-Particle Radionuclide Therapy Against Metastatic Breast Cancer

Pooja Hariharan, Johns Hopkins University

Co-Authors: Rajiv Nair - Ph.D., Johns Hopkins University; Aira Sarkar - Ph.D. Candidate, Johns Hopkins University; Daniele Gilkes - Assistant Professor, Johns Hopkins University; Rangaramanujam Kannan - Professor, Johns Hopkins University; Stavroula Sofou - Professor, Johns Hopkins University

Physics-Informed Predictive Modeling of Bacterial Vaginosis Pathogen Dynamics

Bassam Fotouh, B.Sc., University of Louisville Co-Authors: Davis Verhoeven - Research Technician, University of Louisville; Hermann Frieboes - Professor, University of Louisville

Poly(β-amino ester) Backpacks for Adoptive Macrophage Transfers in High-Grade Serous Carcinoma

Courtney Bailey, MSc, University of Colorado

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Silicon Nanoneedles A Breakthrough Platform for Controlled, Sustained Macular Degeneration Treatment

Phuc Nguyen, Johns Hopkins University

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Stretching cell stimulation enhances nonviral genedelivery: internalization pathways and YAP dynamic

Flaminia Fruzzetti, Politecnico di Milano

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Delivery Technologies for Diversified Products

Advancing RNAi Delivery in Plants through Guanidinylated Polymer System

Sven Vereecken, Ghent University

Co-Authors: Kristof De Schutter - Professor, Ghent University; Peter Dubruel - Professor, Ghent University; Els JM Van Damme - Professor, Ghent University; Ellen Vandenbussche - PhD Candidate, Ghent University

Delivery systems for efficacy improvement of volatile herbicides

Renata Raffin, PhD, Croda Co-Authors: Juliana Siqueira - RT Manager, Croda; Joel Souza -Technology Specialist, Croda

Environmentally Biodegradable Core/Shell Capsules Containing Hydrophobic Actives

Jiten Dihora, B.Sc. Chem Eng, MBA, Spray-Tek LLC

Medicine to Agriculture: Microfluidic-Produced N-Loaded Liposomes as Enhanced Efficiency Fertilizer

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Sustainable and Environmentally Friendly Biological Bird Repellent Formulation for Seed Treatment

Tapashi Sengupta, Bayer Crop Science

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ORAL ABSTRACTS

Delivery to the Nervous System

Al-Validated Brain Targeting mRNA Lipid Nanoparticles with High Neuronal Specificity

Gal Chen, PhD, Technion – Israel Institute of Technology Co-Authors: Dganit Danino - Full Professor, Technion - Israel Institute of Technology; Peleg Hasson - Full Professor, Technion – Israel Institute of Technology; Amit Zeisel - Assistance Professor, Technion - Israel Institute of Technology; Mor Sela - Postdoctoral scholar, Rice University; Avi Schroeder - Full Professor, Technion - Israel Institute of Technology; Kira Radinsky - Visiting Professor, Technion - Israel Institute of Technology

Development of neuron-derived, mitochondria-containing extracellular vesicles for ALS treatment

Paromita Paul Pinky, B.Pharm, Duquesne University Co-Authors: Purva Khare - Graduate research assistant, Duquesne University; Audrey Lawrence - Undergraduate student, Duquesne University; Devika S Manickam - Associate professor, Duquesne University; Carolanne E. Milligan - Professor, Wake Forest University; Adithri Pingali - High-school student, Duquesne University; Krithika S Rao - Post-doctoral research associate, University of Pittsburgh; Sruti S. Shiva - Professor, University of Pittsburgh; Donna B Stolz - Professor, University of Pittsburgh; Ming Sun - Research specialist, University of Pittsburgh

Engineering of mitochondria-enriched brain endothelial cellderived extracellular vesicles

Vivek Basudkar, MPharm, Duquesne University Co-Authors: Devika Manickam - Associate Professor, Duquesne University; Paromita Paul Pinky - Graduate Student, Duquesne University

Nanoparticle Functionalization to Target the Circadian Clock in Alzheimer's Disease

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Nose-to-Brain Delivery of Novel Fingolimod-Ibuprofen Salt for Pain Relief in Multiple Sclerosis

Minqi Fu, MSc, The University of Hong Kong Co-Authors: Si Nga Wong - Postdoc fellow, The University of Hong Kong & Advanced Biomedical Instrumentation Centre; Shing Fung Chow -Associate Professor, The University of Hong Kong

Novel Biodegradable NanoArtemisinin to Treat Leukemia in Blood and Brain

Charles Dai, PhD, University of Maryland School of Dentistry Co-Authors: Curt Civin - Zaffere Distinguished Professor, University of Maryland School of Medicine; Brandon Cooper - Research Lead Specialist, University of Maryland Greenebaum Comprehensive Cancer Center; Noha Ghonim - PhD student, University of Maryland School of Dentistry; Rena Lapidus - Director, TLSS, University of Maryland Greenebaum Comprehensive Cancer Center; Tao Lowe - Professor, University of Maryland School of Dentistry; Eman Mirdamadi - PhD Student, University of Maryland A. James Clark School of Engineering

Novel triple-drug cocktail for glioblastoma exhibits potent synergistic antitumoral effects

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Peptide-Functionalized Lipid Nanoparticles for Targeted Systemic mRNA Delivery to the Brain

Emily Han, BS, University of Pennsylvania Co-Authors: Michael Mitchell - Associate Professor, University of Pennsylvania

Targeted glucose dendrimer ketamine therapy protects against refractory status epilepticus in mice.

Preeti Vyas, John Hopkins University

Co-Authors: Maria Paula Avalos - Post doc fellow, Johns Hopkins University School of Medicine; Narendra Kale - Postdoc fellow, Johns Hopkins University School of Medicine; Sujatha Kannan - Professor, Johns Hopkins University School of Medicine; Rangaramanujam Kannan -Professor, Johns Hopkins University School of Medicine; Javier Allende Labastida - Postdoc fellow, Johns Hopkins University School of Medicine; Kathleen Lac - Undergraduate Student, Johns Hopkins University School of Medicine; Jinhuan Liu - Research Technician, Johns Hopkins University School of Medicine; Wathsala Liyanage - Research Associate, Johns Hopkins University School of Medicine; Kunal Parikh - Assistant Professor, Johns Hopkins University School of Medicine

Targeting Axonal Pathways: Advancing Nanoparticle Delivery Strategies for Neuronal Therapeutics

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Gene Delivery and Gene Editing

Advancing T cell therapy: mRNA nanocarriers optimization for ex vivo and in vivo T cell engineering

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ORAL ABSTRACTS

An Optimized Polymeric Delivery Platform for Pulmonary mRNA Vaccines

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Antibody-conjugated lipid nanoparticles to enhance extrahepatic nucleic acid delivery

Sanjib Saha, PhD, AstraZeneca Pharmaceuticals LP Co-Authors: Annette Bak - Executive Director, AstraZeneca Pharmaceuticals LP; Sabrina Khan - Senior Scientist, AstraZeneca Pharmaceuticals LP; Liping Zhou - Senior Director, AstraZeneca Pharmaceuticals LP; Bei Cheng - Senior Scientist, AstraZeneca Pharmaceuticals LP

Boosting CAR T cells with Advanced Adjuvant Cancer Nanovaccines

Flavia Sousa, PhD, University of Groningen

Breaking Barriers: Stabilized Lipid Nanoparticles Transform Oral Nucleic Acid Delivery

Kanika Suri, PhD, Takeda Pharmaceuticals, Northeastern University

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Cardiac-tropic Lipid Nanoparticles Provide Selective Vascularization After Myocardial Infarction

Junchao Xu, University of Pennsylvania

Co-Authors: Michael Mitchell - Professor, University of Pennsylvania

Degradable cyclic amino alcohol ionizable lipids as vectors for potent influenza mRNA vaccines

Akash Gupta, PhD, MIT

Co-Authors: Daniel Anderson - Professor, MIT; Robert Langer - Professor, MIT; Kaelan Reed - Grad Student, MIT; Arnab Rudra - Research Scientist, MIT

Enhancing mRNA-lipid nanoparticle prediction via the language model and multi-task learning

Yiyang Wu, ME, University of Macau

Co-Authors: Defang Ouyang - Associate professor, University of Macau

In vivo nucleic acid targeted delivery in bone-marrow via antibody conjugated lipid nanoparticles

Sabrina Khan, AstraZeneca

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Lipid Nanoparticle Delivery for CRISPR Gene Editing in Primary Human T-cells

Joy Chen, BS, UC Berkeley

Co-Authors: Daniel Chu - Undergraduate, UC Berkeley; Atip Lawanprasert - Postdoctoral Fellow, UC Berkeley; Niren Murthy - Principal Investigator, UC Berkeley; David Nguyen - Principal Investigator, UC Berkeley, UC San Francisco

Lipid nanoparticle-mediated metabolic reprogramming of dendritic cells for mRNA vaccines

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Microrobot-Assisted Delivery of Circular RNA-Lipid Nanoparticles to Treat Lung-Associated Diseases

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Multi-stage mixing creates high-efficiency core-then-shell DNA lipid nanoparticles

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One-component Janus dendrimers: a novel platform for efficient mRNA vaccine delivery

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ORAL ABSTRACTS

Optimization of Nanoparticle Delivery of Nucleic Acids to Cells using Poly(glycerol esters)

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Optimized lipid nanoparticles for CRISPR/Cas9 delivery: advancing gene editing in lung tumor cells

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PBAE-Based Pulmonary siRNA Delivery to T-Cells: A Potential Approach for Asthma Therapy

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Polymer lipids reduce anti-PEG antibody binding for repeated administration of mRNA therapeutics

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RNA Nanotherapeutics with Fibrosis Overexpression and Retention for MASH Treatment

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Targeting NEBL via a siRNA-loaded nanocarrier for advanced non-small cell lung cancer treatment

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The lipid nanoparticle shape and morphology affect the efficiency and duration of mRNA transfection

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Unraveling endosomal escape: mechanistic insights into lipid nanoparticle-mediated RNA delivery

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Virus-Mimicking Nanoparticles for Precise Intracellular siRNA Delivery

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Imaging in Drug Delivery

Charge-Reversed Lipid Nanoparticles Containing Metal-Organic Cages for In Vivo Anti-Cancer Treatment

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High-resolution screening of barcoded lipid nanoparticles in tissue cleared mice

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Nanomedicine for Brain Delivery of Monoclonal Antibodies: The Impact of Nanocarrier Structure

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ORAL ABSTRACTS

Optimizing the Biodistribution and Pharmacokinetics of Polysarcosine-based Star Dendrimers by PET/CT

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Size-tunable theranostics micelles for subcutaneous drug delivery and sentinel lymph node targeting

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Vascular Pre-Treatment for Augmented Focused Ultrasound Mediated Drug Delivery

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Immuno Delivery

A DC-targeted nano-vaccine to overcome immune suppression and enhance the SoC efficacy for PDAC

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Anti-tumor activity of an RNA-encoded antibody combining T-cell engagement and checkpoint inhibition

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Aromatic mRNA-LNP platform confers vaccine protection with reduced off-target delivery

Hannah Yamagata, University of Pennsylvania Co-Authors: Michael Mitchell - Primary Investigator, University of Pennsylvania; Marshall Padilla - Post-doctoral fellow, University of Pennsylvania

CD44v6-Driven Nanoparticles Combined with Immune Therapy for Colorectal Cancer

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CD47-Targeted Antibody Polymer-Drug Conjugates: Immune Checkpoint Blockade and Targeted Cytotoxicity

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Dendrimer-Antibody Conjugates: An Innovative Approach for Targeted Intracellular Antibody Delivery

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Immunomodulatory nano-in-microgel to prevent extrahepatic islet graft rejection in type 1 diabetes

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Impact of Nanofiber Physical and Chemical Properties on Immune Response

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ORAL ABSTRACTS

Inhalable Icariin-Loaded Micelle-in-Microparticles Targeted IL-4 Signal Pathway for COPD Treatment

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Intradermal administration of immune modulating Spherical Nucleic Acids as anti-glioma therapy

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Nanoparticle Metalloimmunotherapy for Cancer Eradication: Comprehensive Evaluation From Mice to NHPs

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Nanoparticle-based immunometabolism approach to mitigate allergic airway inflammation

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Nanoparticles in Microparticles: A Potential Immunomodulatory Therapeutic System for Osteoarthritis Paul Sagoe, Syracuse University

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Nanoparticles-mediated Inhibition of DPP4 for Improved Cancer Immunochemotherapy

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Oral nanotherapeutics for precision targeting of antigen presenting cells in type 1 diabetes

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Platelet-Drug Conjugates Engineered via One-step Fusion Approach for Cancer Treatment

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Prodrug-tethered lipid nanoparticles for synergistic mRNA cancer immunotherapy

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Sequential delivery of macrophage activators and checkpoint inhibitors reduces mice melanoma burden

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Targeted STING agonism modulates saRNA vaccine immunogenicity

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Thermal focused ultrasound ablation combined with vascular normalization drives anti-tumor immunity

Mark Schwartz, University of Virginia

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Timely administration of drug combination improves chemoimmunotherapy of an immune-cold tumor Yanving He, Purdue University

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ORAL ABSTRACTS

Treatment of acute lung injury using one-component LNP to deliver TGF**β** mRNA to the lower lung

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Lyophilized lymph nodes improved CAR T cell delivery

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Manufacturing and Process Scale-Up

Effect of formulation strategy and polymer grade on hydration and dissolution of Push Pull OROS

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Effects of Polymer Morphology on PLGA degradation kinetics

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Molecular dynamics simulations uncover drying-induced lipid nanoparticle-excipient interactions.

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Optimizing Lyophilized Cake Appearance: Case Studies in Monoclonal Antibody Formulations

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Spray drying siRNA-polymeric nanoparticles for dry powder pulmonary delivery.

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Sustainable Waste Silk: Sericin-Hyaluronic Acid Conjugates for Advanced Drug Delivery

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MERCK GRADS Award Finals

Therapeutic Genome Editing of Gliomas via Focused Ultrasound-Mediated Ribonucleoprotein Delivery

Anna Debski, University of Virginia Co-Authors: Victoria Breza - PhD Candidate, University of Virginia; Catherine Gorick - Senior Research Scientist, University of Virginia;

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Embedding Hyaluronic Acid-Doxorubicin in Hemostatic Paste for the Treatment of Resected Glioblastoma

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Probing the Role of Lipid Nanoparticle Elasticity on mRNA Delivery to the Placenta

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ORAL ABSTRACTS

Nanomedicine and Nanoscale Delivery (Focus: Bioengineering)

Advancing PROTAC Delivery: Liposomal, NAB, and Cyclodextrin-Based Formulations of ACBI2

Miriam Jaki, Universität Freiburg

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Chiral Quantum Dots Enhanced Small Extracellular Vesicles for Gene Delivery

Yichun Wang, University of Notre Dame

Fabrication and evaluation of calcium polyphosphate-based graft materials for spinal fusion

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Leveraging Cell-Penetrating Peptides and Liposomes to Enhance Nanobody Therapy in Breast Cancer

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Lipid Nanoparticles Comprising Poly-phosphocholine Conjugates for Nucleic Acid Delivery

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Novel glucose dendrimer approach to target hyperactive neurons in vivo: mechanistic insights

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Programmably Degradable Oxanorbornadiene Hydrogels for Functional Biomolecular Release

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Short-Chain Brushed PEGylation Evades Anti-PEG Immunity to Enhance Nanomedicine Safety and Efficacy

Si-Han Wu, Taipei Medical University

Single-Administration Self-Boosting Microneedle Patch for The Treatment of Obesity

Parbeen Singh, University of Connecticut Co-Authors: Thanh Nguyen - Associate Professor, University of Connecticut; Tra Vinikoor - Student, University of Connecticut

Tendon-derived ECM enables percutaneous delivery of iMSC-SCX+ for tendon defect healing

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Extracellular Vesicle Lipid Rafts Profiling as a Blueprint for Targeted EV-Mimetic Therapies

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Sweet Encounters:Studying nanoparticle-glycan interactions by metabolic labeling and click chemistry

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ORAL ABSTRACTS

Nanomedicine and Nanoscale Delivery (Focus: Gene)

Dual Centrifugation: A Novel Perspective on LNP Formulation Development

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Dual Zn2+/Cu2+ Chelation-Engineered Nanotherapeutics for DNA-Mitochondrial Disruption in TNBC

Kai Xiao, Credentials, Sichuan University Co-Authors: Cheng Zhuang - Ph.D. Candidate, Sichuan University

Dual-Shielding Approach for TNFa Silencing in Inflammatory Bowel Disease via Bioadhesive Microbeads

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High-throughput screening of lipid nanoparticles for lung delivery of mRNA

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Hybrid LNP prime dendritic cells for nucleotide delivery

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Hybrid polymer-lipid nanoparticles as innovative transfection vectors for microRNA delivery

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Lipid stereochemistry of lipid nanoparticles significantly influences mRNA expression levels in vivo

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Lipid-siRNA Organization Modulates the Intracellular Dynamics of Lipid Nanoparticles

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Novel Biodegradable Lipids for the Delivery of mRNA to Liver and Genome Editing in Lung Epithelia

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Overcoming Chemoresistance in Colorectal Cancer by FcRn-Driven Nucleic Acid Delivery

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Precision Attack: GD2-Directed siRNA-Lipid Nanoparticles to Target Neuroblastoma's Weak Spots

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Pulmonary delivery of circular RNA therapeutics for cystic fibrosis

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Targeted-LNPs capable of functional DNA delivery to T cells enable in vivo CAR-T generation

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ORAL ABSTRACTS

Targeting the lower regions of the lung; a novel platform for pulmonary mRNA delivery

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The modular platform to deliver bio-orthogonal macromolecular conjugates (BMCs) for therapeutic gene editing

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Towards vascularized bone tissue engineering: siRNA Delivery via Cross-Linked Gelatin Microparticles

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Tunable surface charge on polymer nanoparticles and the effect on endothelial cellular drug delivery

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Xkr8 Knockdown Enhances Chemotherapy Efficacy Through Modulating Tumor Immune Microenvironment

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Nanomedicine and Nanoscale Delivery (Focus: Imaging)

A DNA-Guided Lipid Nanoparticle Platform for Targeted Drug Delivery Beyond the Liver

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Auger electron-emitting theranostic micelles for imageguided radio-chemotherapy

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Evaluation of Long-Acting Injectable In-Situ Forming Gels through in vivo and in vitro MRI

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Theranostic Targeted pH-sensitive Liposomes for Breast Cancer Bone Metastasis

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ORAL ABSTRACTS

Tumor microenvironment is a key driver for drug delivery and efficacy in HER2+ breast cancer

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uSPIO-5D3-DM1 Nano-conjugates as Optical-MRI Theranostics for PSMA-Positive Prostate Cancer Therapy

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Nanomedicine and Nanoscale Delivery (Focus: Immuno)

Engineering Neutrophil-Targeted Antibiotic Nanoparticles to Prevent Lung Injury in Sepsis

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Localized antitumor therapy via mitochondrial apoptosis with siRNA-loaded metallo-alginate hydrogels

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Micro-to-nano oncolytic microbial therapy for spatiotemporal targeting of tumors and TDLNs

Zhichao Chen, Shenyang Pharmaceutical University Co-Authors: Mengchi Sun - Professor, Shenyang Pharmaceutical University; Jin Sun - Professor, Shenyang Pharmaceutical University

Self-Assembling Multi-Antigen T Cell Hybridizers for Precision Immunotherapy in Multiple Myeloma

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Triazine lipids as a platform for subunit vaccine development

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Understanding the inflammatory targeting of Lipid nanoparticles to deliver therapeutic RNAs

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Nanomedicine and Nanoscale Delivery (Focus: Nano)

A designer transcytotic Paclitaxel nanovesicle for TNBC and pancreatic cancer combination therapies Jiangin Lu, PhD, University of Arizona

Engineering of Crystalline-Based Formulations for Controlled Release of Antifibrotic Drugs for Long-term Therapies and Complexed Implants Rejection Prevention Applications Shady Farah, PhD, Israel Institute of Technology, Israel

Functional Personalized Complex Combination Nano Therapy for Osteosarcoma

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Improving Tumor-Specific Drug Delivery: The Role of ADAM17 Inhibition in CD44-Targeted Nanoparticles

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Innovative nanocarrier-enabled chemo-photothermal combination therapy for targeting acidic tumors

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Integrating MD simulations in the design and preparation of Ibrutinib (IBR)-loaded liposomes

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ORAL ABSTRACTS

Localized delivery Antibacterial Gallium-based Nanoparticles to Treat Lung Infections

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Lysine-acetylated human serum albumin: enhanced uptake by cancer stem cells and application

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Lysosomal Drug Entrapment Enables Laser-induced Vapor Nanobubble Formation for Tumor Cell Ablation

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Membrane dynamics modulate the functional activity of biomimetic nanoparticles

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MUC4-Targeted Nanoparticles Deliver MRTX1133 and MDP5 to **Overcome Pancreatic Cancer Chemoresistance**

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Poly (β-amino ester) particles with programmable shape, stiffness, and degradation for drug release

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Pulmonary surfactant-based pirfenidone-loaded nanovesicles for inhalation in pulmonary fibrosis

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Staying alive (and neurologically intact): liposomal adrenaline for cardiopulmonary resuscitation Michele Schlich, University of Cagliari

Sustained heme-albumin release as a potential therapy for dry age-related macular degeneration

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Sustained-Release of Novel Therapies for Treating Opioid Use Disorder

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TGX-1214 - A Nanoemulsion Formulation of a Novel Taxoid for **Treating Pancreatic Adenocarcinoma**

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Nanomedicine and Nanoscale **Delivery (Focus: Nervous)**

Blood-brain barrier targeted nanoparticles for peptide delivery to glioblastoma.

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Dopamine-Modified Exosome: Autophagy Induction and **Therapeutic Potential in Parkinson's Disease**

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ORAL ABSTRACTS

Glucose Dendrimer-Cannabidiol Conjugates :Safe and Effective Treatment of Pain and Epilepsy

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H-bonded organic frameworks as ultrasound-programmable delivery platform

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NLC for Intranasal Delivery in Alzheimer's disease-Pharmacokinetic, Biodistribution and PD study

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Rapid Cooling and Neuroprotection: Intranasal Vanilloid Nanodrugs for Acute Brain Injuries

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Nanomedicine and Nanoscale Delivery (Focus: Oral)

Intestinal Fc receptor-targeted nanomedicines boost semaglutide effect in type 2 diabetes

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Improving bioavailability of poorly soluble oral drugs

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Oral delivery of MSC-EVs as a novel approach to treat inflammatory bowel disease

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Predicting Drug Delivery of Push Pull OROS: A Biorelevant Dissolution and PK Simulation Strategy

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Transforming Healthcare: Treatment of Inflammatory Bowel Disease with Biocatalytic Nanobots

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Development and characterization of abuse-deterrent tablets

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ORAL ABSTRACTS

Nanomedicine and Nanoscale Delivery (Focus: Skin / Mucosal)

Enhancing transmucosal uptake of GLP-1RA: Ionic lipidation and Self-Nanoemulsifying Delivery system

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Gel-based high-permeation vesicles for localized fulvestrant delivery to treat breast cancer

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Impact of DNA origami shape, ligand, and ligand density on diffusion through intestinal mucus

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Is transdermal delivery achievable for levodopa? Microarray patch for Parkinson's disease treatment

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Nano meets micro: Enhanced dermal delivery of lipophilic tocotrienol nanoemulsion using microneedles

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Novel Solid Lipid Nanoparticles-Enriched Hydrogels for Topical Delivery of Anti-Ageing Glutathione

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Ocular Delivery

Breaking Corneal Barriers: GelMA-Based Hybrid Microneedles for Enhanced Intrastromal Drug Delivery

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CRISPR-Cas Delivery Using Lipid-Polymer Nanoplexes in Microneedle Patches for Corneal Dystrophy

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Intravitreal Delivery of A190 loaded Microparticles in a Model of Age-related Macular Degeneration

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Mucoadhesive Micelle Nanoparticles: A New Dosing Paradigm for Glaucoma Treatment

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Nanoscale activated carbons for intrastromal controlled drug release

Tejabhiram Yadavalli, PhD, University of Illinois Chicago

Rational Design of Medicated Contact Lenses Using ToF-SIMS for Ocular Drug Delivery

Maria Vivero-Lopez, PhD, University of Nottingham Co-Authors: Morgan R. Alexander - Professor of Biomedical Surfaces, University of Nottingham; Andrew L. Hook - Associate Professor, University of Nottingham; Anna M. Kotowska - Research Fellow, University of Nottingham; David J. Scurr - Principal Research Fellow, University of Nottingham

Oral Delivery

3D Printed Ileum Targeted Tablet for the Treatment of IgA Nephropathy

Xiaoling Li, PhD, Thomas J. Long School of Pharmacy at the University of the Pacific

Co-Authors: Lanfang Chen - Senior Industry Analyst, Triastek, Inc.; Fenge Zhang - Director, CMC, Triastek, Inc.; Zhaoyang Chu - Scientist, Formulation Development, Triastek, Inc.; Aiming Ma - Senior Manager, Formulation Development, Triastek, Inc.; Feihuang Deng - VP, Technology, Triastek, Inc.; Senping Cheng - Founder and CEO, Triastek, Inc.

ORAL ABSTRACTS

A successful application of high-loading amorphous solid dispersions in HME & Additive Manufacturing

Carolina Alva, Research Center Pharmaceutical Engineering Co-Authors: Susanna Abrahmsén-Alami - Sustainable Innovation and Transformational Excellence, AstraZeneca, Gothenburg, Sweden; Jonathan Booth - New Modalities and Parenteral Product Development, AstraZeneca, Macclesfield, United Kingdom; Vinith Mohan - PhD Student, Research Center Pharmaceutical Engineering; Thomas Rillman - Head of Business Development Functional Excipients, IOI Oleo; Sharareh Salar-Behzadi - Key Researcher, Research Center Pharmaceutical Engineering; Martin Spoerk - Scientific Leader, Research Center Pharmaceutical Engineering; Elisa Goetzinger - Student, University of Graz; Josip Matić -Senior Scientist, Research Center Pharmaceutical Engineering

AI-Driven Optimization of Self-Emulsifying Drug Delivery Systems for a Peptide

Anita Goren, University of Toronto Co-Authors: Christine Allen - Professor, University of Toronto

An antioxidant MOF with functional coatings for oral antibody delivery in inflammatory bowel disease

Cheng Chen, Université catholique de Louvain

Co-Authors: Ana Beloqui - Professor, Université catholique de Louvain; Inês Domingues - Student, Université catholique de Louvain; Léo Guilbaud - Student, Université catholique de Louvain; Valentina Marotti -Student, Université catholique de Louvain; Yining Xu - Professor, Sichuan University; Hafsa Yagoubi - Technician, Université catholique de Louvain; Wunan Zhang - Student, Université catholique de Louvain

An innovative inflammation-targeting platform for ulcerative colitis treatment

Waliul Islam, PhD, Johns Hopkins University School of Medicine Co-Authors: Alina luga - Associate Professor, University of North Carolina School of Medicine; Haiming Chen - Research Specialist, Johns Hopkins University School of Medicine; Florin Selaru - Professor, Johns Hopkins University School of Medicine

Elucidation of Tablet Dissolution and Functional Excipient Behavior with In Situ Exposure Imaging

Andrew Clark, *digiM Solution*

Co-Authors: Jonah Gautreau - Application Scientist, digiM Solution; Josh Lomeo - Director of Application Science, digiM Solution; Aiden Zhu -Director of Image Analysis, digiM Solution

Evaluation of Acid-Base Supersolubilization Principle on Telmisartan to Lower HME Temperature

Mohammed Syed, Evonik Corporation, St. Johns University Co-Authors: Haripriya Kandagatla - Graduate Researcher, St. Johns University; Abu Serajuddin - Professor, St. Johns University

Fabrication of 3D-printed chewable tablets using hot melt extrusion coupled with direct extrusion

Siva Satyanarayana Kolipaka, University of Greenwich Co-Authors: Bruce Alexander - Programme Leader in Formulation Science • School of Science, University of Greenwich; Dennis Douroumis - Professor, University of Greenwich (Medway Campus); Laura Andrade Junqueira - Post doc, Delta Pharmaceutics Ltd; Vivek Trivedi - Senior Lecturer, University of Kent; Venkata Subrahmanyam Kolipaka - Student, Northeastern University

Formulating Biologics for Buccal Delivery: An Investigation of Feasibility and Stability

Anthony Rajabi, Aston University Co-Authors: Afzal Mohammed - Professor of Pharmaceutics, Aston University

Increasing Efficacy - Decreasing Toxicity for a Given Dose Via Controlled Delivery

Leslie Benet, PhD, UCSF

Lipid Formulations in Customized Enteric Capsules Show Promising Results For Oral GLP-1 RA Delivery

Vincent Jannin, Capsugel France SAS / Lonza Co-Authors: Marine Agisson - Scientist, Capsugel France SAS / Lonza; Camille Dumont - Manager, Capsugel France SAS / Lonza; Delphine Nombret - Sr Scientist, Capsugel France SAS / Lonza; Sandrine Picco - Analytical Dev. Lead, Capsugel France SAS / Lonza; Pierre Verlhac -Scientist, Capsugel France SAS / Lonza; Vanessa Gonzalez - Scientist, Capsugel France SAS / Lonza;

Mitochondria-targeted nitric oxide releasing graphene oxide for cardiovascular therapeutics

Tanveer Tabish, University of Oxford

Optimizing Leuprorelin-Permeability Enhancer Complexes for Oral Release

Deborah Shalev, Azrieli College of Engineering Jerusalem Co-Authors: Adel Penhasi - Co-founder and CSO, Polycaps Holdings Ltd; Zeina Zaatari - Research Assistant, Azrieli College of Engineering Jerusalem

Oral Protein Delivery: Nanoassemblies for Targeted Treatment of Intestinal Diseases

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ORAL ABSTRACTS

Orally administered macrophage targeted dendrimer-Tesaglitazar for obesity and atherosclerosis

Jose Diego Almodiel, Johns Hopkins University Co-Authors: Javier Allende Labasita - Research Fellow, Johns Hopkins University; Travis Brady - Graduate Student, Johns Hopkins University; Mahin Gadkari - Graduate Student, Johns Hopkins University; AJ Hernandez - Undergraduate Student, Johns Hopkins University; Sujatha Kannan - Professor, Johns Hopkins University; Wathsala Liyanage - Research Associate, Johns Hopkins University; Marta Martinez Yus -Graduate Student, Johns Hopkins University; Kannan Rangaramanujam - Professor, Johns Hopkins University; Lakshmi Santhanam - Associate Professor, Johns Hopkins University; Saanvi Sudhir - Undergraduate Student, Johns Hopkins University

Precision nanomedicine for pediatric oral drug delivery in infectious diseases

Jonathan Chanyandura, University of the Witwatersrand Co-Authors: Yahya Choonara - Head and Chair, Wits Advanced Drug Delivery Platform; Lisa Du Toit - Research Professor and Lecturer, Wits Advanced Drug Delivery Platform

Reduced griseofulvin permeation across a hollow fiber membrane due to drug micellization

Roshini Patel, MS, University of Maryland, Baltimore Co-Authors: James Polli - Professor, University of Maryland

Tips and tricks for increasing oral drug absorption from nanoemulsions

Anette Müllertz, University of Copenhagen

Skin and Mucosal Delivery

Biocatalytic Nanobots: Modulating Oxidative Stress in Cellular Models of Inflammatory Bowel Disease

Ezequiel Coscueta, Universidade Católica Portuguesa Co-Authors: André Mayer - MSc Student, Universidade Católica Portuguesa; Manuela Pintado - Professor, Universidade Católica Portuguesa; Celso Reis - Professor, i3S–Instituto de Investigação e Inovação em Saúde; Ana Sousa - PhD Student, Universidade Católica Portuguesa

Boosting buccal absorption: Bilosomes for effective therapeutic delivery

Eleftheria Pantazoglou, Technical University of Denmark Co-Authors: Line Hagner Nielsen - Associate Professor, Technical University of Denmark; Leticia Hosta-Rigau - Associate Professor, Technical University of Denmark; Jette Jacobsen - Associate Professor, University of Copenhagen; Ramona Jeitler - Senior scientist, University of Graz; Eva Roblegg - Professor, University of Graz; Matteo Tollemeto -PhD candidate, Technical University of Denmark; Scarlett Zeiringer - PhD candidate, University of Graz

Branched PEGylation as a strategy to overcome the mucus barrier to aerosolized nanomedicine

Alexa Stern, University of Maryland Co-Authors: Gregg Duncan - Associate Professor, University of Maryland

Combination of liposomes and ultrasound for noninvasive rapid transdermal cosmeceutical delivery

Jingru Li, Shanghai Jiao Tong University

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Development and assessment of mucus penetrating lipoparticles for mRNA vaccine delivery Hiba Hassoun, PhD, CNRS LBTI

Integrated Fiber Microneeedles in the Oral Mucosa Prime **Antigen-Specific Immunity**

Ioana Tobos, B.S., University of Washington Co-Authors: Deborah Fuller - Professor, University of Washington; Thomas Lewis - Research Assistant, University of Washington; Maya Nathani-Sim - Undergrauate Research Assistant, University of Washington; Om Sahaym - Undergraduate Research Assistant, University of Washington; Kim Woodrow - Professor, University of Washington

Nasal Delivery Redefines Immunity: Fighting Melanoma Brain Metastases with a Cancer Nanovaccine

Bárbara Carreira, iMed.ULisboa - University of Lisbon Co-Authors: Adelaide Fernandes - Professor, iMed.ULisboa - University of Lisbon, Lisbon, Portugal; Helena F Florindo - Professor, iMed.ULisboa -University of Lisbon, Lisbon, Portugal; Ron Kleiner - PhD Student, Sackler Faculty of Medicine, Tel Aviv, Israel; Ana I Matos - Junior Investigator, iMed.ULisboa - University of Lisbon, Lisbon, Portugal; Liane IF Moura -Junior Investigator, iMed.ULisboa - University of Lisbon, Lisbon, Portugal; Ronit Satchi-Fainaro - Professor, Sackler Faculty of Medicine, Tel Aviv, Israel; Daniella Vaskovich-Koubi - PhD Student, iMed.ULisboa - University of Lisbon, Lisbon, Portugal; Sara Xapelli - Professor, GIMM, University of Lisbon, Lisbon, Portugal; Rita C Acúrcio - Junior Investigator, iMed.ULisboa - University of Lisbon, Lisbon, Portugal; Sabina Pozzi - Post Doc, Sackler Faculty of Medicine, Tel Aviv, Israel

Non-covalent lipidation and self nanoemulsions: Ex-vivo porcine buccal mucosal permeation of GLP-IRA Muhammad Ijaz, University College Dublin

Co-Authors: David Brayden - Professor, University College Dublin; Sandeep Karki - PhD student, University College Dublin

Nonspecific Binding of Biotherapeutics and the Extracellular Matrix: Implications for Drug Delivery

Evelyn Nonamaker, Purdue University Co-Authors: Paulina Babiak - Graduate Research Assistant, Purdue University; Luis Solorio - Associate Professor, Purdue University

Novel Dissolving and Hydrogel-Forming Microarray Patches for Transdermal Delivery of Apomorphine HCI

Andrew Graham, BSc, Queen's University Belfast

Co-Authors: Ryan Donnelly - Professor, Queen's University Belfast; Alejandro Paredes - Senior Lecturer, Queen's University Belfast; Yaocun Li - Post Doc, Queen's University Belfast; Qonita Anjani - Post Doc, Queen's University Belfast; Subrin Jahan - PhD Student, Queen's University Belfast

ORAL ABSTRACTS

Pharmacokinetics and Skin Permeation of Psychedelic Drugs Delivered by Hydrogel-Forming Microneedles

Octavio Fandiño, Queens University Belfast

Co-Authors: Ryan F. Donnelly - Professor, Queens Uiversity Belfast; Aaron R.J. Hutton - Postdoctoral Research Fellow, Queens Uiversity Belfast; Yaocun Li - Postdoctoral Research Fellow, Queens Uiversity Belfast; Yara A. Naser - Postdoctoral Research Fellow, Queens Uiversity Belfast; Alejandro J. Paredes - Senior Lecturer, Queens Uiversity Belfast; Marco T.A. Abbate - PhD Student, Queen's University Belfast, UK; Chunyang Zhang - Postdoctoral Research Fellow, Queens Uiversity Belfast

QbD-guided development of hydrogel-forming microneedles with reservoir for enfuvirtide delivery

Huanhuan Li, Queen's University Belfast Co-Authors: Ryan Donnelly - professor, Queen's University Belfast

Quantifying the impact of the mucin protein corona on nanoparticles in the female reproductive tract

Alyssa Petersen, B.S., University of Maryland Co-Authors: Elizabeth Everich - Undergraduate Student, University of Maryland; Caroline King - Undergraduate Student, University of Maryland; Darby Steinman - Graduate Student, University of Maryland; Hannah Zierden - Assistant Professor, University of Maryland

Rapid In Situ Forming PEG Hydrogels for Mucosal Drug Delivery

Taj kumari Yeruva, PhD, University of Maryland

Co-Authors: Gregg Duncan - Associate Professor, University of Maryland, College Park; Peter Kofinas - Professor, University of Maryland, College Park; Robert Morris III - Graduate Student, University of Maryland, College Park; Luke Zhao - Undergraduate Researcher, University of Maryland, College Park

Safety evaluation of repeated microarray patch applications using a miniature pig model

Qonita Anjani, PhD, Queen's University Belfast

Co-Authors: Ryan Donnelly - Professor, Queen's University Belfast; Aaron Hutton - Research Fellow, Queen's University Belfast; Eneko Larrañeta -Professor, Queen's University Belfast

Thermal Stabilization and Immunogenicity of mRNA Vaccine Delivered by Single-Use Microneedle Patches

Nidhi Sharma, University of Connecticut Co-Authors: Hasan AKABABA - Post-Doc, University of Connecticut;

Thanh Duc Nguyen - Associate Professor, University of Connecticut

Thermo-reactive In-situ forming Liposome Depot (TILD): From computational design to in-vivo efficacy

Remo Eugster, University of Bern, Switzerland Co-Authors: Simone Aleandri - Senior Scientist in Drug delivery sciences, University of Bern, Switzerland; Davide Bochicchio - Senior Scientist in molecular dynamics simulations, University of Genova, Italy; Belinda Haemmerle - Veterinary doctor for companion animals, VetTrust Clinic Basel, Switzerland; Laura Baraldi - Post Doc, ETH Zürich, Switzerland; Stefan Schürch - Professor in Chemical Analytics, University of Bern, Switzerland; Martina Vermathen - Senior Scientist in NMR analytics, University of Bern, Switzerland; Peter Vermathen - Magnetic Resonance in Medicine, University Hospital, University of Bern, Switzerland; Raffaele Mezzenga -Group head Food and Soft Materials, ETH Zurich, Switzerland; Giulia Rossi - Ass. professor in Molecular dynamics simulations, University of Genova, Italy; Alessandra Bergadano - Head of Experimental Animal Center, Experimental Animal Center, University of Bern, Switzerland; Paola Luciani -Professor in Pharmaceutical technology, University of Bern, Switzerland

Thermostabilization of a Model Viral-Vectored Oral Thin Film Vaccine using DoE Approach

Annika Yardy, McMaster University

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Women's Health

Development of a gel-forming vaginal estradiol formulation for treatment of post-menopausal atrophy

Marina Better, B.S., Johns Hopkins University School of Medicine Co-Authors: Laura Ensign – Professor, Johns Hopkins University School of Medicine; Henry Hsueh – Graduate, Johns Hopkins University; Peggy Yang – Undergrad, Johns Hopkins University

Enabling the rational development of long-Acting contraceptive levonorgestrel intrauterine systems Ashwin Abhang, *University of Connecticut*

Co-Authors: Suraj Fanse - Graduate Research Assistant, University of Connecticut; Diane Burgess - Distinguished Professor of Pharmaceutics, University of Connecticut

Engineering protein-conjugated lipid nanoparticles for targeted mRNA delivery to the placenta

Hannah Geisler, MSE, University of Pennsylvania Co-Authors: Michael Mitchell - Associate Professor of Bioengineering, University of Pennsylvania

Genetic modification of bacterial extracellular vesicles for vaginal drug delivery

Varunaa Sri Hemanth Kumar, University of Maryland Co-Authors: Raifah Alam - Undergraduate Research Assistant, University of Maryland; Hahnbit Kang - Undergraduate Research Assistant, University of Maryland; Sara Molinari - Assistant Professor, University of Maryland; Hannah Zierden - Assistant Professor, University of Maryland; Darby Steinman - Graduate Assistant, University of Maryland; Pranshu Tyagi - Undergraduate Research Assistant, University of Maryland

Impact of Cream Composition on Critical Quality Attributes of Miconazole Nitrate Vaginal Creams

Zizhao Xu, PhD, Northeastern University

Co-Authors: Chenfei Zhou - Student, Northeastern University; Krisha Hardik Desai - Student, Northeastern University; Megan Kelchen - Senior Pharmacologist, U.S. Food and Drug Administration; Lingxiao Xie - ORISE Fellow, U.S. Food and Drug Administration; Priyanka Ghosh - Lead Pharmacologist, U.S. Food and Drug Administration; Jie Shen - Associate Professor, Northeastern University

ORAL ABSTRACTS

Long-acting multipurpose prevention technology (MPT) implants to prevent HIV & unintended pregnancy

Archana Krovi, PhD, RTI International

Co-Authors: Rhonda Brand - Associate Professor of Medicine, Department of Medicine and Magee-Womens Research Institute, University of Pittsburgh, PA; Mackenzie Cottrell - Associate Professor, Division of Pharmacotherapy and Experimental Therapeutics, Eshelman School of Pharmacy, University of North Carolina, Chapel Hill, NC; Greg Gatto - Senior Research Pharmacologist, RTI International; Leah Johnson - Senior Director, RTI International; Leanna Levin - Chemist, RTI International; Ellen Luecke - Project Manager, RTI International; Amanda Swistok - Laboratory Manager, Department of Medicine and Magee-Womens Research Institute, University of Pittsburgh, Pittsburgh, PA

Next generation 3D printed intravaginal rings for prevention of HIV and unintended pregnancy

S. Rahima Benhabbour, MSc. PhD, University of North Carolina at Chapel Hill

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Pregnancy-Associated Disease Organ-on-a-Chip Models to Pioneer Targeted Therapies

Hagar Labouta, PhD, University of Toronto

Co-Authors: Christine Allen - Professor, University of Toronto; Yasmin Abdelkader - PhD Student, University of Toronto; Mahmoud Abdelkarim - PhD Student, University of Toronto; Luis Davalos - PhD Student, University of Toronto; Amr Abostait - PhD Student, University of Toronto; Matthew Kraljevic - PhD Student, University of Manitoba; Richard LeDuc - Professor, University of Manitoba; Rene Zahedi - Professor, University of Manitoba

Six-Month Contraception with Microneedle Patches

Gulcin Arslan Azizoglu, Georgia Institute of Technology Co-Authors: Avantika Dalvi - Postdoctoral researcher, Department of Pharmaceutical Sciences and the Biointerfaces Institute, University of Michigan, Ann Arbor, MI 48109, USA; Nicolas Kelhofer - MD candidate, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA, 30332, USA and Carle Illinois College of Medicine, University of Illinois at Urbana-Champaign, Urbana, IL 61801, USA; Mark Prausnitz - Regents' Professor and Regents' Entrepreneur, School of Chemical and Biomolecular Engineering, Georgia Institute of Technology, Atlanta, GA, 30332, USA; Steven Schwendeman - Ara G. Paul Professor of Pharmaceutical Sciences, Department of Pharmaceutical Sciences and the Biointerfaces Institute, University of Michigan, Ann Arbor, MI 48109, USA; Tao Zheng - PhD candidate, Department of Pharmaceutical Sciences and the Biointerfaces Institute, University of Michigan, Ann Arbor, MI 48109, USA

Spatiotemporal targeting of mRNA LNPs to the endometrium for the treatment of infertility

Kimberly Bockley, PhD, Johns Hopkins School of Medicine Co-Authors: Saed Abbasi - Research Associate, Johns Hopkins School of Medicine; Emily Chen - Undergraduate Student, Johns Hopkins School of Medicine; Laura Ensign - Professor, Johns Hopkins School of Medicine; Hongyu Feng - Masters Student, Johns Hopkins School of Medicine; Justin Hanes - Professor, Johns Hopkins School of Medicine; Sr. Research Specialist, Johns Hopkins School of Medicine

Ultra-long-acting biodegradable polymeric solid implants for HIV treatment maintenance

Annu Anna Thomas, University of North Carolina at Chapel Hill Co-Authors: Soumya Rahima Benhabbour - Associate Professor, The University of North Carolina at Chapel Hill; Mackenzie Cottrell - Assistant Professor, The University of North Carolina at Chapel Hill; Amanda Schauer - Bioanalytical Chemist & Safety Officer, The University of North Carolina at Chapel Hill; Craig Sykes - Director of Bioanalytical Chemistry, The University of North Carolina at Chapel Hill; Nanditha Chundayil Kalathil - Postdoctoral Research Associate, The University of North Carolina at Chapel Hill

Young Scientist Committee (YSC) Scientific Workshop

A novel vaginal film for HIV prevention achieves one-month drug release in pigtail macaques

He Zhang, University of Pittsburgh and Magee-Womens Research Institute

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Advancing Personalized Breast Cancer Vaccine with Multiepitope Antigens and Biomimetic Nanoparticles

Anushri Sambanthan, National University of Malaysia Co-Authors: Fazren Azmi - Associate Professor, Senior Lecturer, National University of Malaysia

Developing and validating imaging methods for lipid nanoparticle-based gene delivery

Melissa Hendrén, University of Helsinki Co-Authors: Shiqi Wang - Principal Investigator, Academy Research Fellow, University of Helsinki

Development and Evaluation of Polymeric In-Situ Implant of PROTACs for NSCLC with IVIVC Integration

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ORAL ABSTRACTS

Liquid Crystalline Nanoparticles as a versatile platform for mRNA delivery

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Optimizing In-Situ Forming Implants for Controlled Drug Release in Parkinson's Disease Treatment

Deepa Nakmode, University of South Australia Co-Authors: Sanjay Garg - Professor, University of South Australia; Yunmei Song - Lab manager, University of South Australia

Sweetener-mediated conversion of albendazole into ionic liquid for improved oral bioavailability

Joseph Adams, MPharm, The University of Arizona Co-Authors: Abhijit Date - Assistant Professor, R. K. Coit College of Pharmacy, The University of Arizona; Chirag Miglani - Post doctoral research assistant, R. K. Coit College of Pharmacy, The University of Arizona; Srushti Mukkirwar - Masters student, R. K. Coit College of Pharmacy, The University of Arizona; Yogesh Sutar - Post doctoral research assistant, R. K. Coit College of Pharmacy, The University of Arizona

Targeted Delivery of Rosiglitazone for Traumatic Brain Injury Using 2DG-Functionalized Dendrimer

Shamila Gopalakrishnan, Washington State University Co-Authors: Aqib Iqbal Dar - Post Doc, Washington State University; Anjali Sharma - Professor, Washington State University; Zhi Zhang -Professor, University of Michigan -Dearborn

POSTER ABSTRACTS

All poster abstracts are listed alphabetically. First by poster number. Second by abstract category.

Alternative Methods to Animal Testing

100: Incorporating enzymatic activity into in vitro analysis of biotransformable drugs

Imogen Anastasiou, Ph.D., Pion Inc.

Co-Authors: Conor Gomes, Pion Inc.; Karl Box - Chief Scientific Officer, Pion Inc.; Balint Sinko - Vice President of Research & Development, Pion Inc.

101: Microstructural Analysis of In Situ Formed Depots for Universal In Vitro Assessment

Melissa Rooney, DigiM Solution, LLC

Co-Authors: Mckenzie Roy - Department of Pharmaceutical Sciences, University of Connecticut 69 N Eagleville Road U3092, Storrs CT, USA; Andrew Clark - DigiM Solution LLC, 500 West Cummings Park, Suite 3650, Woburn, MA 01801, USA; Shawn Zhang - DigiM Solution LLC, 500 West Cummings Park, Suite 3650, Woburn, MA 01801, USA; Diane Burgess -Department of Pharmaceutical Sciences, University of Connecticut 69 N Eagleville Road U3092, Storrs CT, USA

102: Local Inflammation Response of Salbutamol Formulations on ex-vivo Mouse Skin

Annina Hahn, Credentials, University of Bonn Co-Authors: Alf Lamprecht - University of Bonn

102-A: Pulmonary Fibrosis Modeling with Tyramine-Modified Silk Hydrogels

Mariah Arral, Tufts University

Co-Authors: Thomas Falcucci - Researcher, Tufts University; Jing-Jie Huang - Researcher, Tufts University; David Kaplan - Principal Investigator, Tufts University; Sabrina Madiedo-Podvrsan - Researcher, Tufts University; Jugal Sahoo - Researcher, Tufts University; Aria Yang -Researcher, Tufts University

Artificial Intelligence and Predictive Models in Pharmaceutical Technologies

103: Machine learning driven web-based app platform for the designing of monoamine oxidase B inhibitors

Sunil Kumar, M.Pharm, Amrita School of Pharmacy, Amrita Institute of Medical Science, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India

Co-Authors: Bijo Mathew - Professor, Amrita School of Pharmacy, Amrita Institute of Medical Science, Amrita Vishwa Vidyapeetham, Kochi, Kerala, India

104: Scaling Rules for Designing Intra-vaginal Rings and PK Studies in Animals vs. Humans

Bhavana Morankar, North Carolina State University Co-Authors: Daniel Adrianzen Alvarez - Post Doctoral Fellow, Duke University; William Herbst - Research Associate, Duke University; David Katz - Professor, Duke University

105: Mathematical Modeling Explains the Strain-Dependence of Monoclonal Antibody Pharmacokinetics in Mice

Jonathon DeBonis, *Rice University* Co-Authors: Anthony Davis - Rice University; Oleg Igoshin - Rice University; Omid Veiseh - Rice University

106: 3D In Vitro Models of Osteosarcoma: A Novel Hydrogel-Scaffold System for Therapeutic Research

Silvia Panseri, ISSMC-CNR

Co-Authors: Lorenzo Apolloni - National Research Council of Italy; Federica Arienti - National Research Council of Italy; Giada Bassi -National Research Council of Italy; Monica Montesi - National Research Council of Italy; Tatiana Patricio - Polytechnic Institute of Leiria; Noemi Ravaglia - National Research Council of Italy; Arianna Rossi - National Research Council of Italy; Mohamed Saqawa - National Research Council of Italy

107: Long-Acting Injectable Dose Prediction: Where Are We Really?

Adam Mitchinson, Seda Pharmaceutical Development Services Co-Authors: Jake Dickinson - Seda Pharmaceutical Development Services; Paul Dickinson - Seda Pharmaceutical Development Services; Claire Patterson - Seda Pharmaceutical Development Services; Linette Ruston - Seda Pharmaceutical Development Services

108: Novel Integrated PBPK-IVIVC Framework for Predicting Human PK of Sustained-Release Formulations

Joonhee Kim, BS, Chung-Ang University Co-Authors: Se Hee Hahm - Sungkyunkwan University; Beom Soo Shin -Sungkyunkwan University; Soyoung Shin - Chung-Ang University

109: Target-mediated drug disposition modeling of nonlinear pharmacokinetics in GLP-1 receptor agonists

Joonhee Kim, BS, Chung-Ang University Co-Authors: Soyoung Shin - Chung-Ang University; Beom Soo Shin -Sungkyunkwan University

110: Unmanned Aerial Vehicle-Mediated Drug Delivery for First Aid

Tao Sheng, *Zhejiang University* Co-Authors: Zhen Gu - Zhejiang University; Jicheng Yu - Zhejiang University

III: Machine Learning-Driven Insights into Nanoparticle Delivery Efficiency for Cancer Therapy

Vandana Soni, PhD, Dr. Harisingh Gour university, Department of Pharmaceutical Sciences

Co-Authors: Sushil Kashaw - Dr. Harisingh Gour Central University, Sagar; Arpana Purohit - Dr. Harisingh Gour Central University, Sagar; Utkarsh Soni - Arizona State University

112: TuNa-AI: A Hybrid Kernel Machine to Design Tunable Nanoparticles for Drug Delivery

Zilu Zhang, Duke University

Co-Authors: Yan Xiang - Duke University; Joe Laforet - Duke University; Ivan Spasojevic - Duke University School of Medicine; Ping Fan - Duke University School of Medicine; Ava Heffernan - Duke University School of Medicine; Christine Eyler - Duke University School of Medicine; Kris Wood - Duke University School of Medicine; Zachary Hartman - Duke University; Daniel Reker - Duke University, Duke University School of Medicine

POSTER ABSTRACTS

113: Physiologically Based Pharmacokinetic Modeling and IVIVC for Long-Acting Injectable Suspensions

Daniela Amaral Silva, PhD, Simulations Plus Co-Authors: Viera Lukacova - Simulations Plus; Khondoker Alam - FDA; Eleftheria Tsakalozou - FDA; Abdullah Al Shoyaib - FDA

114: A Method to Quantify Protein Binding Kinetics and Supersaturated Solutions Precipitation Kinetics Robert Bellantone, Physical Pharmaceutica LLC

Bioengineering

115: Membrane dynamics modulate the functional activity of biomimetic nanoparticles

Mariana Arraes Salomao, UFG

Co-Authors: Lucas Sousa - PhD student, UFG; Tacio Hayasaki - PhD student, UFG; Nathalia Oliveira - Post Doc, UFG; Sebastião Mendanha -Professor, UFG; Eliana Lima - Full Professor, UFG

116: Exploiting Metabolite-Presenting Molecules for Targeted Therapies

Iris Batalha, University of Bath

Co-Authors: Giuseppe Battaglia - ICREA Professor, Institute for Bioengineering of Catalonia (IBEC); Gennaro De Libero - Full Professor, University of Basel; Joana Fort - Research Associate, Institute for Research in Biomedicine (IRB Barcelona); José Pedro Loureiro - PhD Student, University of Basel; Víctor Mejías - PhD Student, Institute for Bioengineering of Catalonia (IBEC); Manuel Palacín - Full Professor, Institute for Research in Biomedicine (IRB Barcelona)

117: Efficient and controlled drug release from PEDOT synthesised via surface-tethered dopant templating

Williams Kweku Darkwah, Deakin University Co-Authors: Tacio G Hayasaki - Master, UFG; Sebastião Mendanha -Professor, UFG; Eliana M Lima - Professor, UFG

118: Biomimetic RBC-Liposomes: Impact of Membrane Properties on Protein Corona and Stability

Lucas De Sousa, Federal University of Goiás Co-Authors: Tacio G Hayasaki - Master, UFG; Sebastião Mendanha -Professor, UFG; Eliana M Lima - Professor, UFG

119: Unveiling the Role of Lipid Composition on Stability and Fusion of Biomimetic Liposomes

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120: Cluster differentiation-modified liposomes for lung targeted anti-inflammatory therapy

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121: Synthesis of exosome-mimicking exosomal nanoparticles using a microfluidic chip

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122: Bioinspired lipoprotein-mimetic nanocarriers: Tackling drug solubility and permeability challenges

Fabian Klos, Goethe University Frankfurt Co-Authors: Stefanie Gier - PostDoc, Goethe University Frankfurt; Christopher Hauss - PhD Student, Goethe University Frankfurt; Maike Windbergs - Full Professor, Goethe University Frankfurt

123: Endoplasmic reticulum stress-based approach for reprogramming tumor-derived exosome

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124: Microfluidic Fabrication of Alginate-PEGDGE Hydrogel Microspheres for Drug Delivery and Cell Therapy

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125: Macrophage-Mediated Delivery of Focused Ultrasound-Activated Nanocarriers for Triggered Drug Release

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126: Novel Intravenous Anticoagulant: Development and Testing for Safe, Effective Thrombosis Prevention

Alina Peshkova, University of Pennsylvania Co-Authors: Vladimir Muzykantov - Professor, University of Pennsylvania; Rustem Litvinov - Senior Researcher, University of Pennsylvania; John Weisel - Professor, University of Pennsylvania

127: Interactions of biomimetic liposomes with enterocytes explored by 3D Raman imaging

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128: Development of a microfluidic chip for efficient lipid formulation discovery of lipid nanoparticles

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129: Engineering Metal-Organic Framework-biopolymerbased Hydrogels for Controlled Therapeutic Delivery

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130: Development of TransMIT, nanocapsules for mitochondria-mediated cell function modulation

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131: Development of a solid-phase synthetic approach for triazine-based lipids

Julian Mory, University of Kentucky Co-Authors: Vincent Venditto - University of Kentucky

132: Multimodal evaluation of a porous HA/ β -TCP scaffold for bone repair and localized therapy in rats.

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133: Anticancer activity of extended release loperamide from styrene-isoprene-styrene polymer in vitro

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134: Cryoshocked T Lymphocytes (CSTLs) for Enhanced Delivery of Chemotherapeutics to the Lymph Node

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135: Responsive Silk Protein Plastics for Controlled Drug Release

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137: Dendritic particles with nanostructured tendrils for adhesion and drug release to bladder cancers

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138: Kidnapper SA-Biosomes for alveolar macrophages targeting for managing pulmonary inflammation. Naiara leza Benedetti, *UFG*

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139: Rheology-driven development of bioinks for advanced 3D-bioprinting in drug discovery

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140: Mesenchymal stem cells as gene delivering vehicles for activating prodrug around tumor cells

Ching-An Peng, PhD, University of Idaho Co-Authors: Ian Peng - University of Pennsylvania; Xutu Wang -Washington State University

141: Ultrasonic stimulation in a 3D HA hydrogel accelerates cellular reprogramming for iPS generation

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142: Erythrocyte membrane biomimetic nanoparticles for Dapagliflozin delivery in the fibrotic heart

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143: Synthesis and its HTS of Antibody conjugated quantum dots functionalized Palbociclib nanocarriers

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Delivery Technologies for Diversified Products

147: GPNMB as an Orthobiologic for Bone Regeneration and Spinal Fusion for an Osteoporotic Rat Model

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148: Green formulations of benzalkonium chloride with enhanced antibacterial properties.

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149: Manufacturing near monodispersed solvent free complex coacervation microcapsules at industrial scale

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Delivery to the Nervous System

150: Sustained Release Implant Delivery of BDNF Upregulating Oligonucleotide in Parkinson's Disease

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151: Microglia-targeting nanocarriers reduce hypothalamic inflammation in cancer-related cachexia

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152: Harnessing cannabidiol and lipid nanocapsules to modulate P-glycoprotein in glioma

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153: Two to tango: chemotherapy "speed-dating" for cannabidiol in lipid nanocapsules against glioblastoma

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155: In-Vivo Study on Nose-to-Brain Delivery of Liposomal siRNA/Drug Combination for Alzheimer's Disease

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156: A new technology for photo-controlled release of bioactive molecules in the brain.

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157: Microfluidic formulations of Non Ionic Surfactant Vesicles Riccardo D'Elia, DSTL

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Gene Delivery and Gene Editing

158: Lipid Polymer Hybrid Nanoparticles for pulmonary mRNA delivery

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159: Exploring Substrate Stiffness and YAP/TAZ Pathways in Non-Viral Gene Delivery Applications

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160: Targeted Lipid Nanoparticles for Delivery of Gene Editing Technology to the Pulmonary Vasculature

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161: A dive into optimization of novel ionizable lipid nanoparticles for enhanced siRNA delivery

Mittal Darji, B.Pharm, MS, University of Connecticut Co-Authors: Xinhao Lin - Graduate Student, University of Connecticut; Xiuling Lu - Professor, University of Connecticut; Michael Nantz -Professor, University of Louisville

162: Branched Copolymer Nanogels Synthesized by RAFT Polymerization for Gene Delivery Vehicles

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163: Nanoparticle-mediated E-selectin siRNA Delivery Reduces Inflammation in MHV-3 Infected Mice

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164: mRNA-Lipid Nanoparticle Formulations for Targeted Drug Delivery as Cancer Vaccines

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165: Lung editing via inhalation of base editors delivered by amino acid-derived lipid nanoparticles

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166: Iterative High-throughput Screening Identifies Nanoparticles with Improved Delivery Efficiency

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167: Surf-LNPs: Lung surfactant-doped lipid nanoparticles for enhanced RNA pulmonary delivery

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168: Advanced lentiviral vector engineering with polymer surface modification for CAR-T cell therapy

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169: Development of a Cationic Light-Responsive Polymer for Enhanced Intranasal Gene Delivery

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170: Tailoring Ionizable Lipid Composition for better immune response

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171: Tracking Endosomal Escape of Tunable Polymer Nanoparticles for Inhibition of Inflammatory Pathways

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172: Substituting PEG-Lipid with Amphiphilic Polycarbonates in mRNA-Loaded Lipid Nanoparticles

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173: Synthetic bacterial spores for mRNA targeting and delivery

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174: Preparation of PAMAM Dendrimer-based Nanoclusters for **Enhanced Gene Delivery Application**

Shewaye Mekuria, University of Gondar

175: Microfluidic Erythrocyte-Camouflaged Chitosan Nanoparticles for Nucleic Acid Delivery

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176: Preliminary Development of "Decoy" Oligodeoxynucleotide-LNPs for NF-kB Inhibition

Sarah O'Neill, Preliminary Development of "Decoy" Oligodeoxynucleotide-LNPs for NF-KB Inhibition, University of Pennsylvania Co-Authors: Carolann Espy - PhD Candidate, University of Pennsylvania; Yufei Wang - Post-Doctoral Researcher, University of Pennsylvania

177: Effect of ionizable lipid source on the quality attributes of siRNA lipid nanoparticle therapeutics

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178: Hybrid vesicles for enhancing intracellular uptake of siRNA

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179: PEGylated siRNA loaded LNPs with enhanced cytosolic release

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180: Real-Time Label-free study of spherical nucleic acids for delivery of antisense TAUoligonucleoutides

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181: Multi-engineered selenium nanoparticles: a smart shuttle for gene therapy of BRAF-mutated melanoma

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183: Formulation of Mesoscale Lipid Nanoparticles for **Targeted Nucleic Acid Delivery to the Kidneys**

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184: Novel lipid nanoparticles for pulmonary delivery of circRNA vaccines

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185: An End-to-End High-Throughput Formulation Device Platform for mRNA & LNP Screening

Rui Zhang, PhD, XGen Bio

186: An alternative method to RNA lipid nanoparticle (LNP) production

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187: Layered F-PEI Nanoparticles for Targeted Delivery of **TXNDC5 Silencing for Pulmonary Fibrosis**

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188: DoE-driven formulation development of multi-miRNAloaded lipid nanoparticles

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189: Design of improved and safer ionizable lipids for nextgeneration nanomedicines

Sara Nogueira, MilliporeSigma Co-Authors: Aleksej Turockin - MilliposeSigma; Aditi Mehta -MilliposeSigma

190: Development of polymer-lipid hybrid Hepa-SENS platform technology for the treatment of liver disease

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191: VLP-mediated CRISPR/Cas9 gene editing of islets to inhibit IBMIR in islet transplantation

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192: LafB-mRNA LNP: Advancing S. pneumoniae Vaccination

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193: Optimization of mRNA structure for the enhancement of stability and translational activity

Eunbin Kim, Ewha Womans University, Seoul National University Co-Authors: Yuna Hwang - Ewha Womans University; Hyukjin Lee, Seoul National University

194: The introduction of Ligand for Enhanced Nuclear Delivery of Antisense Oligonucleotide

Dahye Lee, Seoul National University Co-Authors: Hyukjin Lee - university

195: Layered Lipid Nanoparticles for Ovarian Tumor-Targeted Gene Delivery

Namita Nabar, MIT Co-Authors: Tamara Dacoba - MIT; Gil Covarrubias - MIT; Paula Hammond - MIT

196: Development of a Targeting Strategy to Enable Selective Photoporation of The Nuclear Envelope

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197: Development of ionizable lipids for gene delivery to the lung using an Ugi four component reaction

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198: Liver-targeting oral lipid nanoparticle for CRISPR/Cas9 therapy in MASLD

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199: Systematic Optimization of Cationic Liposomes for Stable and Efficient mRNA Delivery

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200: LNP-Exosome Hybrid System for Targeted KRASG12D siRNA Delivery in Pancreatic Cancer Therapy

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201: Formulation strategies for stable lipid nanoparticles: insights and implications

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202: Design of PD-L1-Targeted Lipid Nanoparticles to Turn on PTEN for Efficient Cancer Immunotherapy

Yelee Kim, Korea Institute of Science and Technology Co-Authors: Sun Hwa Kim - Korea Institute of Science and Technology; Yoosoo Yang - Sungkyunkwan University

203: Quaternary amine-based helical polypeptides prime anticancer immunity and facilitate gene delivery

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204: Non-Inflammatory mRNA-LNP Formulation for the Treatment of Type 1 Diabetes

Rose Razavi, University of Pennsylvania

Co-Authors: Michael Kegel - Perelman School of Medicine; Jilian Melamed - Perelman School of Medicine; Jenna Muscat-Rivera -Perelman School of Medicine; Drew Weissman - Perelman School of Medicine

205: Myeloid Targeted Disulfide Lipid Nanoparticle with Enhanced Endosomal Escape Improves HIV-1 Excision

Soumya Dey, MS, University of Nebraska Medical Centre Co-Authors: Sudipta Panja – University of Nebraska Medical Center; Bharat Chaudhary – University of Nebraska Medical Center; Mohammad Uzair Ali – University of Nebraska Medical Center; Santhi Gorantla – University of Nebraska Medical Center; Howard Gendelman – University of Nebraska Medical Center

206: Designing of nanostructured lipid carrier for topical gene silence therapy in chronic wound healing

Maria Vitória Lopes Badra Bentley, Universidade de São Paulo (USP) Co-Authors: Maria Vitória L Bentley - Universidade de São Paulo (USP)

207: MMP9 gene silencing by siRNA delivery using hybrid nanoparticles reduced the migration of TNBC cells

Ana Beatriz Caribé dos Santos Valle, Oswaldo Cruz Foundation Co-Authors: Ana Moura Gualberto - Brasília University; Frederico Pittella - Federal University of Juiz de Fora; Jacy Gameiro - Federal University of Juiz de Fora

208: Red-light Accelerated Photoactivation of Melittin-mRNA lipid nanoparticles Enhances mRNA Delivery

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209: Advanced Functionalization Strategies for Lipid Nanoparticles: Expanding Delivery Beyond the Liver

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210: Acoustic mRNA delivery via 19F MRI-trackable ultrasound-responsive nanodroplets

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211: APC-Mimetic Lipid Nanoparticles delivering mTOR siRNA for Regulatory T cell Induction

Bowon Kim, B.S., Dongguk University Co-Authors: Jinsung Ahn - Dongguk University

212: AI-Empowered LNP Discovery for Organ-Targeted RNA Delivery

Andong Liu, PhD, METIS Pharmaceuticals Co-Authors: Shaoli Liu - METIS Pharmaceuticals; Jing Xie - METIS Pharmaceuticals; Zhuorui Sun - METIS Pharmaceuticals; Zimo Liu - METIS Pharmaceuticals; Yu Lu - METIS Pharmaceuticals; Ruilu Feng - METIS Pharmaceuticals; Feng Shi - METIS Pharmaceuticals; Kai Wang - METIS Pharmaceuticals; Hongming Chen - METIS Therapeutics

213: Surface-Capped Protein Nanoparticles for Non-Viral Gene Delivery

Fjorela Xhyliu, University of Michigan

214: Novel Ether-Ionizable Lipids Complexed into Lipid Nanoparticles Enhance mRNA Delivery Efficiency

Joshua Yang, Rowan University

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Global Health, Special Population, and Women's Health

215: Acid-cleavable Tobramycin cross-linked nanogels for antibiotic delivery to P. aeruginosa biofilms

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216: Enhancing PARP inhibitors efficacy in BRCA1-deficient tumors with radiation-guided nanoparticles

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217: Understanding Depot Formation of Long-Acting Injectable Suspensions: A Physicochemical Perspective

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218: Development of dissolvable microneedles for scalp drug delivery in traction alopecia treatment

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219: Interventions to reduce CAUTIs in primary care settings: A systematic review

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220: Amphotericin B Nanocrystals-in-Nanofibers Films for the Topical Treatment of Cutaneous Leishmaniasis

Martina Sangalli, MSc, Queen's University Belfast

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221: Electrospun Nanofibers for Dual Probiotic and Antibiotic Delivery Targeting Bacterial Vaginosis

Davis Verhoeven, B.Sc., University of Louisville Co-Authors: Arielle Greiner - Research Technician 1, University of Louisville; Anthony Kyser - Research Technician 1, University of Louisville

222: Revolutionizing Abuse Deterrence: Caffeine as a Model for Innovative Formulation Technology

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Imaging in Drug Delivery

223: Polypeptide Based Conjugates for Precision Theranostics: Integrating Drug Delivery-Real Time Imaging

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224: Enzyme-activated MRI contrast agent for tumor-specific gadolinium delivery

Gayong Shim, Soongsil University

225: Advancing Cancer Imaging and Therapy Through Peptide PET Tracers Targeting c-Met

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Immuno Delivery

226: System of fluorescent nanogels functionalized with glucosamine capable of crossing the BBB

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227: Trehalose Enhanced Cold Atmospheric Plasma-Mediated Cancer Treatment

Guojun Chen, McGill University

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228: Programming antitumor gamma delta T cells via a phosphoantigen nanoparticle delivery vehicle

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229: A Cryogel-Based Dendritic Cell Vaccine Enhances Breast Cancer Post-Surgical Immunotherapy

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Co-Authors: Yunching Chen - Professor, National Tsing Hua University; Lam-Duc-Huy Nguyen - Post Doc., National Tsing Hua University

230: Metabolite induced Treg expansion restores immune homeostasis in multiple autoimmune murine models

Julia Crowther, University of Michigan- College of Pharmacy Co-Authors: Young Seok Cho - Postdoc, University of Michigan; James Moon - John Gideon Searle Professor, University of Michigan; Mariko Takahashi - Assistant Research Scientist, University of Michigan; Fang Xie - Graduate Student Research Assistant, University of Michigan-College of Pharmacy; Jin Xu - BI Innovation Fellow, University of Michigan

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231: Metformin-loaded rod-shaped iron(III) carboxylate biomimetic MOFs for antibacterial immunotherapy

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232: pH-Responsive Peptides for Enhanced Chemotherapy and Anti-tumor Immunity

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233: Development of TAM-targeted nanoparticles for immunotherapy in pancreatic cancer

Hsin mei Lee, National Tsing Hua University Co-Authors: Yunching Chen - Professor, National Tsing Hua University; Sheng Liang Cheng - PhD candidate, National Tsing Hua University

234: Sustained Delivery Of Immunoglobulin (IgG) Through Biodegradable Poly(Orthoester) Solid Implant

Harsh Patel, PhD, Celanese Corporation

Co-Authors: Brian Duke - Sr. Manager, Celanese Corporation; Cyonna Holmes - Global Strategy Leader - Pharma, Celanese Corporation; Zion Oh - Associate Chemist, Celanese Corporation; Jeffery Haley - Sr. Manager, Celanese Corporation

235: Mesoporous Silica Based Radionuclide Therapy shows Immunomodulatory Effects & Enhanced Outcome

Rama Prajapati, University of Connecticut Co-Authors: Xiuling Lu - Professor, University of Connecticut; Xueli Zhu -Postdoc, University of Connecticut

236: pH-Sensitive Zinc-Zoledronate Inhalation Therapy for Macrophage Modulation in Lung Cancer

Arifenur Safak, The University of Texas at Austin Co-Authors: Hugh Smyth - Professor, The University of Texas at Austin

237: A shared neoantigen melanoma vaccine formulated with a novel biodegradable liquid polymer

Sandra Shahriar, University of Minnesota

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238: Steroid-containing lipid NPs enable mRNA delivery while reducing inflammation in autoimmune disease

Ajay Thatte, M.S.E., University of Pennsylvania Co-Authors: Michael Mitchell - Principal Investigator, University of Pennsylvania; Benjamin Nachod - Student, University of Pennsylvania

239: LNP-RNA-mediated antigen presentation leverages SARS-CoV-2-specific immunity for cancer treatment

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240: Proteolysis-targeting vaccines (PROTAVs) for robust combination immunotherapy of melanoma

Qiyan Wang, University of Michigan

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241: Development of subcutaneous In Situ gelling formulation of anti-PD-L1 peptide for cancer treatment

Sushil Koirala, University of Missouri-Kansas City Co-Authors: Kun Cheng - University of Milsouri Kansas City

242: PEGylated peptide therapeutics for inducing immunosuppressive cells to treat autoimmune diseases

Su Jeong Song, The University of Kansas Co-Authors: Xiaodi Li - the university of kansas; Jin Xie - the university of kansas; Hyunjoon Kim - the university of kansas

243: Roles of metabolite polymers regulating immune responses in Rheumatoid Arthritis

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244: Particle shape modulates macrophage phenotype: Insights for cell-mediated drug delivery systems

Matthew Kwan, University of Colorado Boulder

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245: mRNA formulation development: Looking Beyond the Pandemic

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246: Design of experiments-based development and in vitro evaluation of a triple adjuvanted nanovaccine

Ellen Wasan, University of Saskatchewan

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247: Development of mRNA nanoparticles to produce CAR - T cells to treat Diffuse Intrinsic Pontine Glioma

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Manufacturing and Process Scale-Up

248: Polymorphism and crystallinity variation of loratadine in polymeric delivery systems

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249: Microfluidic methods for fabrication of W/O/W microspheres using ultra-stable primary emulsion Yejin Choi, *HLB Pharmaceutical*

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251: Twin Screw Extrusion Process Design and Die Modeling for Directly Extruded Implants.

Brian Haight, Leistritz Extrusion

Co-Authors: Steve Post - Product Manager - Life Science, Leistritz Extrusion; John Perdikoulias - President, Compuplast

252: Enlighting the black box: Nanocarrier formation inside microfluidic mixing devices

Christopher Hauss, Pharmacist, M.Sc., Goethe University Co-Authors: Stefanie Gier - PostDoc, Goethe University; Maike Windbergs - Full Professor, Goethe University; Alexander Erb - PhD candidate, TU Darmstadt

253: A manufacturing method of semaglutide-loaded PLGA microspheres using microfluidics

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254: Preparation and evaluation of inhalable nintedanib microparticles using mechanofusion technique

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255: Biocalorimetry to predict bacterial extracellular vesicle production to improve biomanufacturing

Robert Kirian, University of Maryland Co-Authors: Hannah Zierden - Assistant Professor, University of Maryland

256: Monoliths for a novel selective and high recovering purification process of RNA-LNP pharmaceuticals

Tristan Kovačič, Sartorius BIA Separations

257: Impact of Processing Induced Mesophases on Dexamethasone Release in Polycaprolactone Matrices

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258: Manufacturing Process Design: Scaling up studies for success

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259: Engineering the structural and optical properties of gold nanostars with microfluidics

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260: Reproducible and scalable polymer nanoparticle manufacturing facilitates clinical translation

Emma Schmitz, BS, Battelle Memorial Institute Co-Authors: Nickolas Andrioff - Biomedical Engineer II, Battelle Memorial Institute; Ashlee Colbert - Materials Scientist II, Battelle Memorial Institute; Dean Constantine - Chemical Engineer I, Battelle Memorial Institute; Phil Denen - Materials Scientist II, Battelle Memorial Institute; Sam Farrar - Chemist I, Battelle Memorial Institute; Danielle Huk - Senior Biologist, Battelle Memorial Institute; Andrea McCue - Lead Biologist, Battelle Memorial Institute; Miguel Pedrozo - Materials Scientist I, Battelle Memorial Institute; Kenneth Sims - Senior Materials Scientist, Battelle Memorial Institute; Pong Thongsavanh - Technician Specialist, Battelle Memorial Institute

261: 3D-Printed Antimicrobial Wound Dressing with Argan-Shell Lignin & EssentialOils for Advanced Healing

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262: Preparation of Rivaroxaban Dry Powder for Inhalation Using a Two-Step Milling Process

Yechan Song, Chungbuk National University

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263: Development of a new spray drying method for sustained release of VEGF from marine biopolymers

Frederik Waltz, Kiel University Co-Authors: Regina Scherließ - Professor, Kiel University

264: Revolutionizing Nanovesicle Production for Continuous Manufacturing with In-Line Homogenization

Ankita Yawalkar, Institute of Chemical Technology, Mumbai Co-Authors: Kshitija Phatak - Ph.D. Research Student, Institute of Chemical Technology, Mumbai; Pradeep Vavia - Professor, Institute of Chemical Technology, Mumbai

265: How to make robust a commercial peptide-based lyophilized formulation .

Fabio Selis, Patheon Part of Thermofisher Group Co-Authors: Maria Grazia Casillo - PDS Director, Patheon Thermo Fisher Group; Giuseppina Salzano - PDS Supervisor formulation sciences, Patheon Thermo Fisher Group

266: Effect of freezing conditions, cryoprotectant concentrations, and PVP on crystallization

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267: Nano vs. Micro: Impact of Drug Particle Size in Extrusionbased 3D Printing on Tablet Performance

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268: Special challenges for developing sterile biological drug product for intravitreal injection.

Tuo Meng, Merck & Co., Inc.

269: Optimizing PAT: Refractometer in Continuous Manufacturing of Lipid-Based Therapeutics

Luke Burroughs, University of Connecticut Co-Authors: Diane Burgess - University of Connecticut

270: End-To-End Process for Improved Purity, Combined With Innovative Analytics of LNP-Based Therapeutics

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271: DoE-Optimized Process for Residual Ethanol Reduction in Codaewon-S Syrup

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272: Impact of Polymer Concentration on Metformin HCI Tablet Properties and Extended-Release Profiles

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273: Next-Generation Lipid Nanoparticles: Advancing Ionizable and PEG-Free Shielding Lipids Sergio Esteban Pérez, PhD, Curapath

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274: Microstructural and compositional analysis of dexamethasone-loaded poly(lactide-co-glycolide) rods John Garner, BS, *Akina, Inc.*

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275: Pharmacokinetics of a Liposomal Amphotericin B Prepared using Simplified Thin Film Hydration Method

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276: Development of SiRNA-loaded nanobubble formulation with Nova™ Benchtop turbulent mixing system

Anna Scomparin, University of Turin

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Nanomedicine and Nanoscale Delivery

277: Astrocyte Membrane-Coated Nanoparticles: A Targeted Therapeutic Strategy for Glioblastoma Treatment

María Teresa Abengoza Bello, Instituto de Investigación Sanitaria Santiago de Compostela (IDIS)

278: Melting the Iceberg – Nanomedicines-driven Matrix **Remodeling and Immune Recruitment in PDAC**

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279: Creating a novel implant for controlled release to improve radiation sensitivity in prostate cancer

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280: Hyaluronic Acid-Functionalised pH-Responsive Nanococktails Targeting Breast Cancer Stem Cells

Kamel Ahmed, Auckland University

Co-Authors: Emma Nolan - Research fellow, University of Auckland; Andrew Shelling - Cancer society Director, University of Auckland; Jingjing Wang - Research fellow, University of Auckland; Zimei Wu -Professor/lecturer, University of Auckland

281: Lyotropic liquid crystalline mesophases for restoring glutathione peroxidase after oxidative stress

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282: Aggregation Behavior of Sodium Caprate: Insights from **Coarse-Grained Simulations and SAS Techniques** Shahina Akter, Uppsala University

283: Liposomal Delivery of Caffeine and Cafestol for Enhanced **Skin Absorption**

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284: Evaluation of Vaccine Induced Antitumor Response of **Cationic Nanoparticles in Colorectal Cancer**

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285: Investigating the Cellular Internalization and Endosomal **Escape of Polymeric Mesoscale Nanoparticles** Adnan Arnaout, City College of New York

286: In vivo metabolism of cholesterol-containing

nanoparticles generates immune modulatory oxysterols Patricia Back, MS, Texas Tech University Health Sciences Center Co-Authors: Vindhya Edpuganti - Senior Research Scientist, Texas Tech University Health Sciences Center; Md. Rakibul Islam - Post Doctoral Research Associate, Texas Tech University Health Sciences Center; Ninh La-Beck - Associate Professor, Texas Tech University Health Sciences Center; Shadan Modaresahmadi - PhD candidate, Texas Tech University Health Sciences Center; Jalpa Patel - Lead Technician, Texas Tech University Health Sciences Center; William Putnam - Professor, Texas Tech University Health Sciences Center; Indhumathy Subramaniyan - Sr Research Scientist, Texas Tech University Health Sciences Center

287: Inhalable TPGS/DPPC Micelles Co-Loaded with Curcumin and Icariin for Targeted Lung Cancer Therapy

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288: Investigating the potential of Dual-drug-loaded **Electrospun Nanofibers for Breast Cancer Treatment**

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289: Peptide-Guided Nanoparticles for Targeted Temozolomide Delivery in Glioblastoma

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290: Precision-Activated Masked Antibodies Reduce Immune Toxicities in Checkpoint blockade Cancer Therapy

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291: Biological evaluation of lycopene-loaded silica-based nanoparticle for vulvovaginal candidiasis

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292: The Development of Long-acting Teriparatide Formulations to Treat Osteoporosis

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293: Advancing Idiopathic Pulmonary Fibrosis treatment with PROTAC Nanomedicine

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294: A biomimetic redox-responsive hybrid lipid polymer antibiotic-nanocarrier against bacterial sepsis

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295: Inducing Mucosal Immunity in IPV Immunization Using Retinoid Derivative-Encapsulated Nanoparticles

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296: Enhancing mRNA-LNP Efficacy: Investigating the Role of Ionisable and Cationic Lipid Combinations

Maria Evdokimou, University Of Strathclyde Co-Authors: Yvonne Perrie - Head of Institute/Supervisor, University Of Strathclyde

297: Urease-powered nanomotors for enhancing bladder cancer chemotherapy

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298: Behavior of Lipid Nanoparticles in Aqueous Formulations

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299: The potential effect of L-carnosine loaded hyalurosomes as a novel anti-aging nano-cosmeceutical gel

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300: Optimization of amiloride-loaded nanoparticles for podocyte injury in glomerular disease.

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301: Drug-loaded cyclodextrin-based polymers to treat pulmonary infections

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302: PLGA Nanobots for therapeutic siRNA delivery: A novel strategy for bladder cancer therapy

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303: Optimizing LNP-RNA Formulations: Key Insights into Size, Zeta Potential, and Stability

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304: Targeted mRNA delivery to metastatic tumors using functionalized nanoparticles

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305: Ratiometric coloaded human serum albumin nanoparticles for effective breast cancer treatment Ujala Gupta, PhD Scholar, NIPER Hyderabad

306: Polyelectrolyte Complexes as Versatile Vehicles for the Controlled Release of Cefazolin.

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307: Enhancing Mucosal Diffusion of Polymeric Nanoparticles **Using Novel Coating Methods**

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308: Machine Learning-derived Insights in Design of Small **Polymeric Nanoparticles for Gene Delivery**

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309: A Two-component Two-step Transformable Nanoplatform against Cancers Based on Bioorthogonal Chemistry

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310: Conventional vs PEG-modified PLGA nanoparticles for sodium channel blockade in neuropathic pain

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311: LinTT1 peptide-functionalized Camptothesome enhances tumor delivery, boosting anti-cancer efficacy. Yanhao Jiang, The University of Arizona

312: Biodistribution, Pharmacokinetics and Acute Toxicity of Disulfide Crosslinked P(AAm-co-MAA) Nanogels

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313: Tiny Particles, Big Plans: Nanoparticles for Controlling Drug Transfer through the Placental Barrier

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314: Enhanced anti-sarcopenic activity of perindopril erbumine using ultradeformable liposomes

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315: Self-Immolative Polymeric Prodrug for Targeted Cancer Therapy through Disturbing the Redox Balance Jiyeon Kim, Hanyang University

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316: Lipidic Nanoparticle for Brain-targeted Treatment in **Bacterial Meningitis**

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317: Novel Non-Aqueous Emulsification-based Microsphere **Platform for Sustained Delivery of Proteins**

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318: Phenylboronic acid functionalized poly (lactic-coglycolic acid) nanoparticles towards lung cancer

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319: Multifunctional nanoparticles to fight hormone-resistant prostate cancer

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320: Engineered Nanobubbles for Inducing Unprogrammed Necrosis in Cancer Immunortherapy

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321: Biodynamers, dynamic protein nanorods, potentiate antibiotics via membrane interactions

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322: pH-dependent Zinc Ion and Photosensitizer Release Nanoparticles for Cancer Targeting Treatment

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323: Electrospinning of nanofibers and the perspectives for dermatological application

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324: pH-sensitive Ionizable Lipid-based Nanoparticles for siRNA delivery to Liver

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325: Enhanced Solubility & Anti-Dilution Properties of Lipophilic Drugs with Solid Micellar Nanoparticles

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326: Nanoparticles-mediated codelivery of cell cycle blockers for the treatment of prostate cancer

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327: Sphingomyelin-derived nanovesicles for the delivery epacadostat enhance melanoma immunotherapy Wenpan Li, University of Pittsburgh

328: Engineering Extended-Release Profiles for Biologics via Crosslinking of Poloxamer 407 Hydrogels

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329: Mannosylated Lipid Nanoparticles for Targeted in Vivo mRNA Delivery

Shonya Lingesh, A*STAR Co-Authors: Jin Yue Zeng - Senior Scientist, A*STAR

330: Immunoliposomes as a targeted delivery system for enzyme replacement therapy in Fabry disease

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331: 1-Min Nanocrystals: A Fast, Cost-Effective and Efficient Technique to Mill Drugs Using Speed Mixer

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332: Controlled Release of Fluticasone Propionate after Intra-Articular Injection of EP-104IAR in Sheep

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333: Targeted IL-10 mRNA Lipid Nanoparticles Improve Outcomes in Experimental Intracerebral Hemorrhage

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334: Immunomodulatory effects of cholesterol oxidation and their implications in liposomal drug delivery

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335: Endoscopic Delivery of Regorafenib-Curcumin Microparticles to Locally Treat Colorectal Cancer

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336: Targeting Serpinb9 via Gemcitabine-based SiRNA/Drug Nanocarrier to Improve Pancreatic Cancer Therapy

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337: Use of gamma-alumina for acyclovir release

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338: Inhaled lipid nanocarriers for the eradication of pseudomonal biofilms in cystic fibrotic lungs

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339: Lipophilization as a design strategy to tune the release of Tofacitinib from lipid nanoparticles

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340: Thermoresponsive GPNMB-Hydrogels as an Innovative Therapeutic Strategy for Bone Regeneration

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341: Liposome-Encapsulated Bacteriophage Therapy for Drug-Resistant Mycobacterium abscessus

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342: Development of PLGA-Based Nanoparticles for a novel therapeutic peptide in Cardiovascular Diseases

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343: In vitro release testing system development for buprenorphine in situ forming implant

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344: Local Extended-Release Colchicine for Intra-Articular Treatment of Gout Flares

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345: Optimized HPLC Method for TX & FV Estimation in Plasma & Brain: Pharmacokinetics & Biodistribution

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346: Nano-in-micro particles for the pulmonary delivery of remdesivir

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347: An Ultra-long-acting Atovaquone Prodrug Formulation for Malaria Chemoprophylaxis

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348: Effective screening of LNP formulations with centrifugal microfluidics devices

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349: Ginsenoside-Gemcitabine Nanocomplex-based Delivery System for Enhanced Cancer Therapy

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350: Targeting alveolar macrophages with sialic aciddecorated liposomes

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351: An ultra-long-acting prodrug of buprenorphine for opioid dependence

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352: Ionic liquid-based nanoemulsion to improve sorafenib oral absorption & repurposing it in AML therapy

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353: Controlled Release of Gemcitabine with Partially Molecular Imprinted Microspheres for Cancer Therapy

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354: Microneedle enabled dual drug delivery system for vaginal infections using magnetic hyperthermia

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355: Evaluation of Apisolex™ for Parenteral Use: Solubilizing Poorly Soluble Small Molecules and PROTACs

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356: Rational development of donepezil-curcumin intranasal nanotherapies for Alzheimer's disease

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357: Microfluidics Manufacturing of Liposomal Adjuvants

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358: Marginated Neutrophils Compete for Pulmonary Endothelial-targeted Nanoparticles, part of the RES

Marco Zamora, PhD, University of Pennsylvania Co-Authors: Eno Essien - Medical Fellow, University of Pennsylvania

359: Exosome-Liposome Fusion System for Targeted Treatment of MCAO-Induced Brain Injury

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360: Hybrid nanoparticles with TGF**β**1 EVs and cartilagetargeting liposomes for osteoarthritis treatment

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361: Infection-Responsive Theranostic System for Preventing & Monitoring Surgical & Wound Site Infections

Shabana Falak, Indian Institute of Technology Bombay Co-Authors: Rohit Srivastava - IIT Bombay

362: Bioinspired Polymer-Membrane Insulin Crystal Enables Long-Term, Self-Regulated Release

Wei Liu, Zhejiang University

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363: The Extended Potentiated Anticoagulant Effect of Novel Warfarin-α-Tocopherol-Chitosan Nanoparticles

Sarah Amer, AASTMT

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364: Evaluation of triazine-based lipid nanoparticle (LNP) formulation for mRNA delivery in a mouse model

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365: Hybrid nanoparticles leveraging cell-cell interactions for immunotherapy & metabolic Modulation

Jaehyun Choi, Seoul National University

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366: Effect of Pegylayion on liposomal adhesion on breast cancer tumor

Giacomo Spano, University of North Texas Co-Authors: Christine Jacob - University of North Texas Health Science Center; Michail Kastellorizios - University of North Texas

367: Insulin-Gold Nanoplatform: Boosting Antibody-Drug Conjugate Efficacy

Osher Badur, Bar Ilan

368: Refining peptide-functionalized LNPs for enhanced tumor-targeted mRNA delivery

Lukas Finger, RWTH Aachen University Co-Authors: Adrien Kenne Tedayem - RWTH Aachen University; Jeffrey Momoh - RWTH Aachen University; Twan Lammers - RWTH Aachen University

369: Nanoparticles enhance gemcitabine efficacy by overcoming fibroblast barriers in pancreatic cancer

Yao-An Shen, Taipei Medical University Co-Authors: Lu-Yi Yu - National Yang Ming Chiao Tung University; Ming-Wei Liu - National Yang Ming Chiao Tung University; Chun-Liang Lo -National Yang Ming Chiao Tung University

370: Lyophilization approach to improve long-term stability of LGA-PEI nanoparticles for drug delivery

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371: Development of a High-Concentration Fulvestrant Depot Formulation with Sustained Release Properties

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372: Surface modification of sustainably-formulated bacterial cellulose nanoparticles for drug delivery

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373: Biodegradable silica-based ultra long-acting tirzepatide formulations for the treatment of obesity

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374: Advancements in Lyophilized Exosomes for Enhanced Stability and Therapeutic Applications

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375: Exploring the Impact of Iron Availability on Antibiotic Resistance in Mycobacterium Species

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376: Design and Screening of Ionizable Lipids for Precision mRNA Delivery to Extrahepatic Organs

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377: Highly Porous Microparticles with TLR7 Agonist-3 Liposomes and siTGF-**β** LNPs for Pulmonary Fibrosis

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378: Dextran-based T-cell expansion nanoparticles for ex vivo generation of efficacious CAR T cells

Tao Zheng, Technical University of Denmark

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379: Actively targeting colorectal cancer using nanoparticles co-loaded with small molecule inhibitors

Ramkrishna Sen, PhD, University of Iowa

Co-Authors: Leela Sai Lokesh Janardhanam - University of Iowa; Mohammad Al-Natour - University of Iowa; Sean Geary - University of Iowa; Aliasger Salem - University of Iowa

380: Synthesis and non-covalent interaction investigation of metformin-conjugated poly(methyl acrylate)

Park Jimin, Keimyung University Co-Authors: Duhyeong Hwang - Keimyung University

381: Towards Understanding LAI Suspensions: Impact of Size Reduction Techniques and Aggregation State

Saurabh Bhorkade, University of Connecticut Co-Authors: Diane Burgess - University of Connecticut

382: Development of EGFR-Targeted Dual-Loaded Polymeric Nanoparticles for Triple Negative Breast Cancer

Gantumur Battogtokh, Howard University Co-Authors: Emmanuel O Akala - Howard University

383: Physically Crosslinked Nanocomposite Hydrogels for Sustained Subcutaneous Delivery of Peptides

Mazna Almatroudi, MsC, UCL Co-Authors: Jonathan, Booth - AstraZeneca; Gareth Williams - UCL; Christopher Morris - UCL

384: Development of a solid lipid nanoparticle platform for the delivery of vancomycin

Lewis Dymock, BSc (Hons), University of Strathclyde Co-Authors: Paul Evans - NextPharma; Clare Hoskins - University of Strathlcyde

385: Impact of nanomaterials on the anti-Candida activity of cysteine-modified amidated decoralin

José das Neves, i3S/University of Porto Co-Authors: Vânia Rocha - i3S/University of Porto; Helena Almeida - i3S/ University of Porto; Bruno Sarmento - i3S/University of Porto

386: Evaluation of the biocidal activity of Origanum vulgare L. essential oil in nanoemulsion

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387: Polymer-lipid hybrid nanoparticles for sonographic monitoring of subcutaneous fat reduction

In Young Lee, Hanyang University Co-Authors: Hye Won Lee - Hanyang University; Eun Ju Jeong -Supernova Bio; Kuen Yong Lee - Hanyang University

388: Multi-Functional Polymer Nanoparticles for Localized Fat Reduction

Juyeong Park, Hanyang University

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389: Green Propolis-loaded Lipid Nanostructure Reduce SARS-CoV-2 Replication and Inflammation

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390: Gas-Driven Fat Reduction with PEG-Based Nanocarriers

Yunchan Lee, Credentials, Hanyang University Co-Authors: Chunggoo Kim - Hanyang University; Eun Ju Jeong -Supernova Bio, Inc.; Kuen-Yong Lee - Hanyang University

391: Engineered Nanovaccines for STING-Activated Antigen Cross-Presentation in Cancer Immunotherapy

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392: In Vitro Evaluation of Ionizable Lipids in Lipid Nanoparticle (LNP) Formulations.

Sara Barham, PhD, MSc, BSc, University of Strathclyde Co-Authors: Yvonne Perrie – University of Strathclyde

393: Budesonide- nanoparticles based inhaled therapy for potential treatment of COPD

Hamad Alyami, PhD, Najran University, College of Pharmacy, Pharmaceuticals Department, Saudi Arabia Co-Authors: Eman Da - Najran University

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394: Optimizing supramolecular and chemical stability to enhance the design of self-assembling prodrugs

Mardhika Santosa, Johns Hopkins University Co-Authors: Tian Xu - Johns Hopkins University; Honggang Cui - Johns Hopkins University

395: Quantification of Payloads in Lipid Nanoparticles by Scatter-Free UV/Visible Absorption Spectroscopy

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396: Development an injectable in situ formulation of targeted liposomal cisplatin for chemoradiotherapy

Lu-Yi Yu, National Yang Ming Chiao Tung University Co-Authors: Chun-Liang Lo - Nation Yang Ming Chiao Tung University; Pei-Wei Shueng - Far Eastern Memorial Hospital; Chang-Ting Ke - Nation Yang Ming Chiao Tung University

397: Polymeric nanoparticles delivering bevacizumab and avoiding hyperglycolysis in glioblastoma therapy

Catarina Pacheco, i3S

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398: Metabolism regulating metal phenolic networks reverse the immunosuppressive tumor microenvironment

Hoyeon Nam, KAIST

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399: Paclitaxel-Based Prodrug Hydrogelators

Ziqi Chen, Johns Hopkins University Co-Authors: Honggang Cui - Johns Hopkins University; Jiarui Yang -Johns Hopkins University

400: Plasmonic enhanced femtosecond laser anticancer drug delivery using gold-lipid nanoparticles

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401: Design of Supramolecular Hydrogelators for Enhanced Drug Loading and Sustained Therapeutic Release

Katrina Schwensen, BEng, Johns Hopkins University Co-Authors: Boran Sun - Johns Hopkins University; Mi-Kyung Shin -George Washington University School of Medicine and Health Sciences; Tian Xu - Johns Hopkins University; Claire Skylar - Johns Hopkins University; Sophia Yang - Johns Hopkins University; Vsevolod Polotsky -George Washington University School of Medicine and Health Sciences, Washington; Honggang Cui - Johns Hopkins University

402: CD44-Targeted Antibody-Drug Conjugates with Cathepsin B-Cleavable Linker for Ovarian Cancer Therapy

Simmyung Yook, PhD, Sungkyunkwan University Co-Authors: Prabhat Shrestha - Sungkyunkwan University

403: Nicotinamide-loaded Peptoid Nanotubes for Energy Regeneration in Brain Injury

Hui Du, University of Washington

Co-Authors: Hoang Trinh - Pacific Northwest National Laboratory; Olivia Brandon - University of Washington; Kylie Corry - University of Washington; Thomas Wood - University of Washington; Chunlong Chen - Pacific Northwest National Laboratory; Elizabeth Nance - University of Washington

404: Design, Optimization and Evaluation of Tazarotene Loaded Emulgel Formulation for Treatment of Acne

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405: Antiretroviral Supramolecular Prodrug Hydrogelators as Long-Acting Injectables

Jinpyo Seo, Johns Hopkins University

Co-Authors: Boran Sun – Johns Hopkins University; Han Wang – Johns Hopkins University; Maya Monroe – Johns Hopkins University; Charles Flexner – Johns Hopkins Hospital; Honggang Cui – Johns Hopkins University

406: Co-delivery of TLR7/8 agonist and Dox using targeted liposome nanocarrier for bladder cancer therapy

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407: AI and Human Based Design of High-Complexity Nano-

Therapies for KRAS-Driven Cancer

Yuval Harris, MSc, The Technion

408: Development and assessment of a BCS class II drug in the form of solid lipid nanoparticle

Rajesh Vooturi, Aurigene pharmaceutical services limited Co-Authors: Dileep J Babu Bikkina - Aurigene pharmaceutical services limited

409: Directed discovery of high-loading nanoaggregates enabled by drug-matched oligo-peptide excipients Atena Farahpour, *MSKCC/ASRC*

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410: Investigation of nifedipine and piperine loaded Bio-SNEDDS for the treatment of hypertension

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411: Disruption of the airway mucus barrier enhances nebulized RNA delivery to reverse pulmonary fibrosis Chang Liu, *Shenyang Pharmaceutical University*

412: Preparation and characterization of Eudragit S 100 nanoparticles

Namita Giri, PhD, Ferris State University Co-Authors: aahna patel - Ferris State University

413: Antioxidative HABN Targeting Activated Hepatic Stellate Cells for Anti-Hepatic-Fibrosis Therapy

Jongyoon Shinn, Ewha Womans University Co-Authors: Yonghyun Lee - Ewha Womans University

414: pH-Responsive Doxorubicin Dimeric Nanoassemblies with High Loading, Stability, and Tumor Selectivity

Yu Jeong Kim, Ewha Womans University Co-Authors: Yonghyun Lee - Ewha Womans University

415: Development of an EZH2 PROTAC-Nanoparticle targeting Breast Cancer Brain Metastases

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416: VCAM-Targeted Delivery of MFSD2A mRNA Mitigates Blood-Brain Barrier Dysfunction in Ischemic Stroke

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417: Developing LNPs for Pediatric Acute Myeloid Leukemia through Two Biological Mechanisms

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418: A 3D Co-Culture Model of Lipid Nanoparticle Uptake in Senescent Pancreatic Cancer

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419: Immuno-Nanoparticles Co-Delivering Rifampicin and Vit D3 for Macrophage-Targeted TB Treatment

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420: Towards Clinical Translation of Autophagy Inhibitor BAQ13 LNP (TR002) for Cancer Therapy

Sohaib Mahri, UCDavis Co-Authors: Yuanpei Li - Professor, UCDavis; Tzu-Yin Lin - Professor, UCDavis; Menghuan Tang - Postdoc, UCDavis

421: A Novel Long-acting Injectable Formulation Enabling Sustained Release of Dutasteride over 3 months

Taeho Lee, MSc, Chong Kun Dang pharmaceutical Corp.

422: Self-Assembly of Peptide–Drug Conjugates into Supramolecular Polymers Enhances Immunogenic Cell Death in Glioblastoma Cells

Tian Wu, Johns Hopkins University

423: A novel one month long acting injection (LAI) technology for prolonged release of leuprorelin Suhwan Kim, Chong Kun Dang pharmaceutical Corp.

424: Breaking the Endosomal Barrier: Polymer-Enhanced Lipid Nanoparticles for Potent & Safe RNA Delivery Ramya Kannan, *University of British Columbia*

424-A: Cubic Liquid Crystalline Nanoparticles for Co-Delivery of siRNA and Drugs in Alzheimer's Therapy.

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Ocular Delivery

425: Biocompatibility assessment of Dexamethasone-Loaded Hydrogel ocular Implants

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426: Developing ciprofloxacin-loaded HEMA contact lenses for sustained release.

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427: Apatinib-loaded polymeric micelles for ophthalmic delivery to the posterior segment

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428: Fenofibrate Eyedrop: A Novel Therapeutic Approach for Mustard Gas-Induced Corneal Injuries

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429: Development of PEG and VE containing block copolymer to form nanomicelles for ocular drug delivery

Lina Liu, McMaster University

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430: Inspection of Ocular Drug Delivery Implants

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431: Cationic mucoadhesive Posaconazole NioTherms:A potential approach for management of Fungal Keratitis

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432: Mucoadhesive micelle for anterior segment ocular drug delivery

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433: DECON- a novel platform for Sustained Ocular Delivery of Corticosteroids

Ankita Sarkar, University of Illinois Chicago

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434: Mucoadhesive Polymer-Drug Conjugate and Nanoparticle for Anterior Ophthalmic Drug Delivery Lindsay Sheardown, HBSc, *McMaster University*

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435: Development of a Polymeric Nanofiber Device for the Prevention of Post-Surgical Secondary Cataracts

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436: Muco-penetrating nanoparticles to sustain drug release for ophthalmic drug delivery

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437: CBD Niosomes as an Innovative Strategy for the Treatment of Retinal Degenerative Diseases

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438: Autologous Serum ocular inserts for treatment of Dry Eye Disease

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439: Loteprednol etabonate-loaded nanoemulsion: antiinflammatory effect

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440: A dissolvable gel-based in vitro dissolution method for in situ-forming implants

Meredith Garrett, University of North Texas Health Science Center Co-Authors: Michail Kastellorizios - HSC College of Pharmacy

441: Development of an in situ gelling ocular vehicle: A design of experiments (DOE) approach

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442: In vitro enzymatic degradation of PLGA microparticles

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443: Flavonoid loaded solid lipid nanoparticles in Pluronic gel for combating dry eye disease

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444: Synchronized Codelivery of Dexamethasone and Propranolol for the treatment of Macular Degeneration

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Oral Delivery

445: Dual-Responsive HEMA-Based Hydrogels for Targeted Colonic Delivery of Metronidazole.

Marah Abu Qdais, Queen university belfast Co-Authors: Colin Mccoy - QUB; Matthew Wyllie - QUB

446: Targeted LNPs for Improved In Vivo mRNA Delivery and Immune Responses

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447: Ticagrelor Amorphous Solid Dispersion tablets: formulation with Gelucire® 48/16

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448: Direct Compression of Co-Processed Mannitol-HPMC for Controlled Release Tablets

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449: Triple-strengthened formulation for oral delivery of liraglutide-loaded nanoparticles

Cheong-Weon Cho, PhD, Chungnam National University Co-Authors: Young-Guk Na - professor, Chungnam National University; Suyeon Hwang, Chungnam National University

450: Klucel[™] Xtend hydroxypropylcellulose (HPC) for Dual Active Diabetic Controlled Release Dosages

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451: Advancing Oral Delivery of Biologic Drugs: Overcome Formulation Challenges with Permeation Enhancers

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452: Designing MELTSOFT: User-Centric Dosage via Hot Melt Extrusion

Madhuri Kshirsagar, Ph.D, Institute Of Chemical Technology,Mumbai Co-Authors: Purnima Amin - Senior Professor In Pharmacy, Institute Of Chemical Technology,Mumbai

453: A190, a new PPAR**a** agonist loaded microemulsion for chemotherapy-induced peripheral neuropathy

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454: Development of pH-responsive Hydrogel in Gastro-Resistant Capsules for Colon Targeted Drug Delivery Mohmmad Rabeh, *Jerash University*

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455: Dissolution of Sodium Oxybate ER Drug Product (LUMRYZ) in Different Reconstitution Liquid Vehicles

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Development, Avadel Pharmaceuticals; Jason Vaughn - Senior Vice President of Technical Operations, Avadel Pharmaceuticals

456: 3D Printed Bioinspired Mucoadhesive Oral Patch for Long-acting Naltrexone Delivery

Bollareddy Srivarsha Reddy , Birla Institute of Technology and Science (BITS) Pilani, Hyderabad campus Co-Authors: Venuganti Venkata Vamsi Krishna - Professor (Corresponding author), BITS PILANI; Neeharika Vatsavai - student, BITS PILANI

457: Efficient Manufacturing of Delayed Release Minitablets using a Seal and Enteric Coating Approach

Ming Ji, PhD, BASF Corp

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458: Alternative Reconstitution Soft Foods Vehicles for Sodium Oxybate Extended-Release Drug Product

Thorsteinn Thorsteinsson, Avadel Pharmaceuticals Co-Authors: William Schaefer - Senior Director, Avadel Pharmaceutical; Jason Vaughn - Senior Vice President, Avadel Pharmaceutical

459: Early Phase Selection of a Controlled Release Amorphous Dispersion Formulation

David Vodak, Bend Bioscience

Co-Authors: Michael Grass - Head of Innovation, Bend Bioscience; Kiana Kawamura - Senior Research Scientist, Bend Bioscience

460: Harnessing the Power of Human Breast Milk to Boost Intestinal Permeability for Nanoparticles

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461: Identifying optimal process and formulation parameters for the TSWG of acetaminophen using L-HPC

David Nakhla, SE Tylose USA, Inc. Co-Authors: Kess Agatovure - SE Tylose USA, Inc.; Luis Mejia - SE Tylose USA, Inc.; Saurabh Mishra - SE Tylose USA, Inc.

462: Enteric-coated spherical granules for dual delivery of orlistat & acarbose with diverging properties

Stefan Grudén, PhD, Empros Pharma AB

Co-Authors: Jérôme Revel - Recipharm Pessac; Göran Alderborn -Uppsala University

463: Exploring Orodispersible Films Containing the PROTAC ARV-110 in Solvent Casting using PVA

Alana Gouveia, Merck Life Science KGaA

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464: 3D molded carbidopa stoppers for fix dose levodopa gastro retentive tube delivery system

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465: The influence of PEGylated surfactants on the colonic absorption of celecoxib from nano-emulsion

Anette Müllertz, Københavns Universitet

Co-Authors: Jette Jacobsen - university of copenhagen; Anette Müllertz - university of copenhagen

466: Enabling Oral Delivery of Salmon Calcitonin via SNEDDS: Impact on Protection and Activity

Anette Müllertz, Københavns Universitet

Co-Authors: Thomas Rades - Department of Pharmacy, Copenhagen University, Denmark; Anette Müllertz - Department of Pharmacy, Copenhagen University, Denmark

467: Zero-Order Drug Release from Push-Pull Osmotic Tablets in Varying Dissolution Media

Jeffrey Gimbel, PhD, Colorcon, Inc.

Co-Authors: David Ferrizzi - Colorcon, Inc.; Jeffrey Gimbel - Colorcon, Inc.; Lawrence Martin - Colorcon, Inc.; Dr. Ali Rajabi-Siahboomi - Colorcon, Inc

468: In-Vitro Evaluation of Different Marketed Brands of **Metformin Tablets Using Quality Control Tests**

Bader Dunquwah, Najran University Co-Authors: Omar Alwadi - Najran University, Saudi Arabia; Hamad Alyami - Najran University, Saudi Arabia

469: Nanoparticle-stabilized Pickering emulsion for oral vaccine delivery

Jin Xie, PhD, University of Kansas

Co-Authors: Xiaodi Li - University of Kansas; Sujeong song - University of Kansas; Grahmm Funk - University of Kansas; Hyunjoon Kim - University of Kansas

470: Effect of Hydroxypropyl Cellulose Grade on the Tablet **Characteristics in Continuous Granulation** Yuta Yamauchi, NIPPON SODA CO., LTD

471: Enhancing pH-responsive drug release in gastrointestinal environment by alginate-CMC/CAP microbeads

Changyang Zhang, Southern University of Science and Technology

Co-Authors: Qiuzhu Chen - Undergraduate student, Southern University of Science and Technology; Jiawen Wen - Undergraduate student, Southern University of Science and Technology; Shilei Zhang -Undergraduate student, Southern University of Science and Technology; Changyang Zhang - Undergraduate student, Southern University of Science and Technology

471-A: Impact of HPMC and formulation parameters on the dissolution profiles of modified release tablets

Margaret Brunell, MS, Merck and Co., Inc.

471-B: Formulation and Process Parameters Optimization in Chewable Tablet.

Santosh Kesarpu, Credentials, Granules Pharmaceutical Inc. Co-Authors: Rajanikant Patel, Senior Scientist, R & amp; D Product development, Granules Pharmaceuticals Inc., USA.

471-C: Complex coacervation as a strategy of semaglutidecationic polymer complex formation

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Skin and Mucosal Delivery

472: Hydrogel-Forming Microneedles For Vancomycin **Delivery To Combat Antimicrobial Resistance**

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473: Enhancing Therapeutic Efficacy and Immune Response with Bispecific Gold Nanoparticles in Cancer Adi Anaki, Bar-Ilan University

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474: Controlled-Release Surface Coating to Prevent Ventilator-Associated Pneumonia on Endotracheal Tubes

Rania Ayasreh, Queen's University Belfast (qub) Co-Authors: Colin McCoy - Dean of the Graduate School, Queen's University Belfast; Matthew Wylie - Lecturer, Queen's University Belfast

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475: Design and Characterization of Long-acting Subcutaneous Implants Developed Using Hot-Melt Extrusion

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476: Mechanical analysis of pharmaceutical films containing Soluplus for topical delivery of copaiba oil

Marcos Bruschi, State University of Maringa

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477: Characterization of physical properties and design of delivery systems for a chlorin e6 derivative

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478: Formulation and Screening of Ionic Liquid APIs for Transdermal Delivery

Kunal Dani, Georgia Institute of Technology Co-Authors: Monica Perez-Cuevas - Scientist, Georgia Institute of Technology; Mark Prausnitz - Regents' Professor, J. Erskine Love Chair in ChBE, Georgia Institute of Technology

479: Carboxymethyl cellulose dissolving microneedles containing tetracycline for acne vulgaris treatment

Maria Galleri, Queen's University Belfast Co-Authors: Qonita Anjani - Postdoctoral, Queen's University Belfast; Ryan Donnelly - Professor, Queen's University Belfast

480: In-Situ Forming Implant: Impact of PLGA-Grade and Drug Load on the Drug Release and PLGA Degradation

Michael Uwe Hartig, University of Bonn Co-Authors: Jan Appelhaus - PhD Student, University Bonn; Marc Vollenbröker - Director, Farco Pharma GmbH; Alf Lamprecht - Professor, University Bonn

481: Microneedle for Rapid and Sustained Delivery of Acetaminophen and Caffeine for Migraine Therapy Harsha Jain, *College of Pharmacy, University of Iowa*

482: Enhancing the storage stability and delivery of extracellular vesicles by using microneedles

Won Ho Jang, Sungkyunkwan University

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483: SCISSOR for in vitro evaluation and modeling of high concentration mAb formulation SC absorption

Alexander Josowitz, PhD, Regeneron Pharmaceuticals Co-Authors: Amardeep Bhalla - Executive Director, Regeneron Pharmaceuticals Inc; Divya Lakshmi - Associate Scientist, Regeneron Pharmaceuticals Inc; Saber Meamardoost - Staff Computational Scientist, Regeneron Pharmaceuticals Inc; Bindhu Rayaprolu - Director, Regeneron Pharmaceuticals Inc

486: Dissolving Microneedle Patch for Localized Photodynamic Therapy in Oral Carcinoma

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487: Redox responsive nanogels for mucosal drug delivery Krishan Kumar, *POLYMAT-UPV/EHU*

Co-Authors: Marcelo Calderón - Professor, POLYMAT; Hayam Elzeiny -PhD, POLYMAT; Soledad Orellano - Post Doctoral Researcher, POLYMAT; Jakes Udabe - PhD, POLYMAT

488: Development of a Novel Dry Powder Inhaler for Semaglutide: Freeze-Drying Micronization and PK study Kangseok Lee, PhD, Hanmi Pharm. Co., Ltd.

Co-Authors: Hyukjun Cho - Assistant Professor, Keimyung University; Hotaek Im - Vice President, Hanmi pharm. Co., Ltd.; TaekKwan Kwon -Group Leader, Hanmi pharm. Co., Ltd.; Hyunwoo Yu - Researcher, Hanmi pharm. Co., Ltd.; Jiwon Beak - Researcher, Hanmi pharm. Co., Ltd.

489: Impact of quantitative differences in carbomer on drug release from diclofenac sodium topical gels

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490: In situ forming implants: effect of drug-polymer-solvent interplay on PLGA degradation

Mckenzie Roy, The University of Connecticut Co-Authors: Diane Burgess - Professor, The University of Connecticut

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492: Antimicrobial Chitosan-PVA Cryogels with Tailored Nanosilver for Treating Infected Wounds

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493: Lidocaine and Pelubiprofen Eutectic Mixture for Enhanced Endodermal Delivery in Topical Formulations

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494: Developing Long-Term Drug Delivery Systems Using Polyethylene Vinyl Acetate and Loratadine

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495: Enhanced Transdermal Permeation of Diclofenac Sodium using Mango Seed Kernel Starch Nanoparticles

Sesha Rajeswari Talluri, MS, Ernest Mario School of Pharmacy Co-Authors: Bozena Michniak Kohn - Professor, Ernest Mario School of Pharmacy,Rutgers University

496: Molecular Dynamics Investigation of Poloxamer/Alginate Hydrogel with Neomycin Sulfate

Joseph Tanfani, Saint Joseph's University Co-Authors: Kamal Jonnalagadda - Professor, Saint Joseph's University

497: Development of a transdermal Edaravone patch as a novel parenteral therapeutic system for ALS

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Co-Authors: Masahiro Hayashi - General Manager, Shima Trading Co., LTD.; Yuri Ikeda - Student, Faculty of Pharmacy, Osaka Ohtani University; Takashi Maoka - Head of office, Research Institute for Production Development; Akihiro Matsumoto - associate professor, Faculty of Pharmacy, Osaka Ohtani University; Masahiro Murakami - professor, Faculty of Pharmacy, Osaka Ohtani University; Sakura Okada - Student, Faculty of Pharmacy, Osaka Ohtani University; Yuji Saeki - Chief, Shima Trading Co., LTD.

498: Modulation of hair growth by topical drug delivery enhanced by STAR particles

Mi Ran Woo, PhD, Georgia Institute of Technology Co-Authors: Mark Prausnitz - Regents Professor, Georgia Institute of Technology

499: Innovations in Hollow Tube Implants for Targeted Drug Delivery Systems

Bernard McCaffrey, PhD, Thermo Fisher Scientific Co-Authors: Lucivan Barros - Senior Application Specialist, Thermo Fisher Scientific

500: Unlocking the Potential of Needle-Free Jet Injectors for Intradermal Delivery of Nanoparticles

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501: Amplifying Dual-Drug Microspheres Capacity via Formulation Optimization and Computational Simulation

Xiaolong Zhan, M.Pharm., University of Helsinki Co-Authors: Jouni Hirvonen - Professor, University of Helsinki; Wei Li -Lecturer, University of Helsinki

503: Finite Element Modelling of Hollow Microneedle Insertion and Intradermal Drug Delivery

Prateek Ranjan Yadav, University College Dublin Co-Authors: Eoin D. O. Ceabhaill - University College Dublin; Aisling Ni Annaidh - University College Dublin; Wenting Su - University College Dublin

504: An emulsion-based microneedle formulation for transdermal delivery of peptide therapeutics.

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505: Development and Evaluation of a Terbinafine Hydrochloride Film Forming Solution for Athlete's Foot

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Mumbai; Supriya Shidhaye - Vivekanand Education Society's College of Pharmacy, Mumbai

506: Electrosprayed Dry Powder Inhaler (DPI) Formulations of Bevacizumab for the Treatment of NSCLC

Fangyuan Zhang, University College London Co-Authors: Gareth Williams - UCL School of Pharmacy; Karolina Dziemidowicz - UCL School of Pharmacy

507: Insights from Drug Development: Surveying Challenges & Outcomes for Large-Volume Subcutaneous Drugs

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508: Impact of Gelling Agent on Physicochemical and Q3 Properties of Clobetasol Propionate Gels

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509: Ex vivo platform using viable human skin to study subcutaneous administration of macromolecules Si Gou, University of Geneva

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510: Comparative ex vivo permeability through healthy and inflamed skin hydrophilic and hydrophobic > 500 Da drugs using lipid-based nanovesicles

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