

WELCOME TO THE CRS OCD FG NEWSLETTER

It is our great pleasure to bring you the latest edition of the newsletter of the Controlled Release Society Focus Group in Ocular Delivery (CRS OcD FG). This newsletter brings you our FG team, an interview with the winner of the 2021 CRS Young Investigator Award for Ocular Delivery, highlights of OcD FG activities, as well as key industry and academic news, and much more.

Do not forget to visit our FG [WEBPAGE](#) and to follow us on [Twitter](#) and [LinkedIn](#)!

Please submit an abstract to present your ocular drug delivery work at #CRS2022 in Montreal. Abstract submissions are due Monday, February 28, 2022 at this link: <https://crs2022.abstractcentral.com/>



OcD FG Leadership

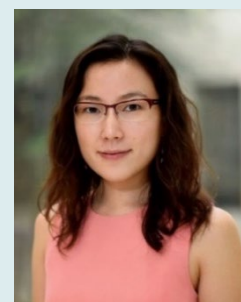
Chair

Qingguo Xu, DPhil, previous Vice Chair, is a Blick Scholar Associate Professor of Pharmaceutics and Ophthalmology at the Virginia Commonwealth University. He received a B.E. and M.E. in Polymer Materials and Engineering from Tianjin University, and DPhil in Materials Science from University of Oxford. Dr. Xu was a postdoc fellow and a research associate in the Wilmer Eye Institute at Johns Hopkins University. He has experience in materials science, drug delivery, nanotechnology, and physiochemical characterization of mucosal and tissue barriers to drug delivery systems. A significant portion of his current work has involved the design and development of new methods for safe, effective drug delivery to treat various eye diseases. Dr. Xu has authored about 30 research papers and 15 patents and patent applications, 3 of which have been licensed to companies for commercialization. These efforts have led to recognitions, including VCU Blick Scholar (2019), Young Investigator of CRS Ocular Delivery (2019), Ralph E. Powe Junior Faculty Award (2018), and AAPS-Genentech Innovation in Biotechnology Award (2013).



Vice Chair

Crystal Shin, PhD, previous Communications Chair, is an Assistant Professor in the Michael E. DeBakey Department of Surgery at Baylor College of Medicine. She earned her Ph.D. in Pharmaceutics from Purdue University. Crystal then joined the Department of Ophthalmology at Baylor College of Medicine as a postdoctoral associate. During this time she developed a novel ocular drug delivery system. Her current research interests focus on developing broadly applicable drug delivery systems with enhanced therapeutic efficacy by integrating nanotechnology and 3D fabrication. Dr. Shin is the recipient of the 2021 CRS Young Investigator Award.



Treasurer

Ravi Sheshala, PhD, is a Senior Lecturer at Universiti Teknologi MARA (UiTM) in Malaysia. He received a Ph.D. in Pharmaceutical Technology from Universiti Sains Malaysia (USM) in 2011, a M.Sc. in Pharmaceutical Technology from USM in 2006, and a Bachelor of Pharmacy-Jawaharlal Nehru Technological University (JNTU) In 2002. He also holds a Postgraduate Diploma in Drug Regulatory Affairs and Documentation from B.R. Nahta College of Pharmacy, India. His research interests include in situ gels and implants for ocular drug delivery, particularly polymeric biodegradable microspheres. He also has research interests In oral drug delivery, topical drug delivery, transdermal delivery, and periodontal delivery.



Communications Chair

Katelyn Swindle-Reilly, PhD, is an Assistant Professor in Biomedical Engineering, Chemical & Biomolecular Engineering, and Ophthalmology & Visual Sciences at The Ohio State University. She holds a Ph.D. and M.S. in Chemical Engineering from Washington University in St. Louis, as well as a B.S. in Chemical Engineering from Georgia Institute of Technology. Prior to joining Ohio State, she completed postdoctoral training in Biomedical Engineering at Saint Louis University and worked for Rochal Industries, a company that developed polymer-based materials for wound care. Her laboratory focuses on the design of polymeric biomaterials for soft tissue repair and drug delivery with applications in ophthalmology. She also serves as Chief Technology Officer of Vitranu, a startup that licensed her ocular drug delivery technologies from Ohio State.



Industry Representative

Bindhu Rayaprolu, PhD, is an Associate Director of Research & Development at Regeneron where she works on product development and drug delivery for biologics. Dr. Rayaprolu has held several other positions with pharmaceutical companies since receiving her Ph.D. in Pharmaceutical Sciences from Mercer University. She has expertise with micellar nanocarriers, parenterals, drug-excipient interactions, and regulatory approval of pharmaceutical products.



Academic Representative

Rocio Herrero Vanrell, PhD, is a Professor of Pharmaceutical Technology and Biopharmaceutics at the Faculty of Pharmacy (Complutense University, Madrid, Spain). She leads a multidisciplinary research group Pharmaceutical Innovation in Ophthalmology (UCM 920415) dedicated to the development and evaluation of novel ophthalmic formulations. Rocio received her Ph.D. in Pharmaceutical Technology at the Complutense University of Madrid (UCM). Dr. Herrero-Vanrell has worked as a postdoctoral fellow at the Schepens Eye Research Institute, Massachusetts Eye and Ear (Harvard Medical School, Boston, MA, EEUU) from 1992 to 1993. Her main research fields are ocular drug delivery with special expertise in microencapsulation of drugs (low molecular weight substances and biotechnological products) for the treatment of posterior segment diseases, innovation of ophthalmic formulations and development of novel formulations for the treatment of ophthalmic diseases specially dry eye and glaucoma.



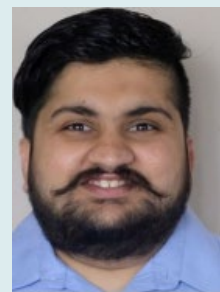
Postdoctoral Trainee Representative

Karim Soliman, PhD, is a postdoctoral researcher at McMaster University and Drug Development Lead of the C20/20 Innovation Hub. He was previously a Research Fellow at Re-Vana Therapeutics. He received his B. Pharm., M.S. and Ph.D. in Pharmaceutics from Cairo University. He received a post-graduate certificate in Health Venture Program and holds several certifications related to commercialization and entrepreneurship, including Venture Deals from Kauffman Fellows.



Graduate Trainee Representative

Mishra Deepakkumar, MPharm, is a Marie Curie Early Stage Researcher at Queen's University Belfast. He is a Ph.D. candidate in the School of Pharmacy doing research in the lab of Dr. Thakur Raghu Raj Singh. He completed his M. Pharm. from Institute of Chemical Technology Mumbai (2016) with pharmaceutical chemistry specialization and B. Pharm. from Gujarat Technological University (2013). Prior to joining the program at Queen's University he worked at the Regional Centre for Biotechnology: Gurgaon, Haryana, India. He has 13 peer-reviewed publications, mostly in the fields of ocular drug delivery and biofilm remediation.



Interview with the 2021 CRS OcD FG Young Investigator Awardee

Dr. Crystal Shin was the winner of 2021 CRS OcD FG Young Investigator Award. This interview with her is shared in the following question and answer format.

Q: Please tell us a little more about yourself.

A: I am originally from South Korea, but I've been in the US since 2000. I went to Purdue University in Indiana, and my undergraduate study was in Food Science. After that, I worked for a cookie company in Indianapolis as a Food Technologist before returning to Purdue for graduate school. I received my Ph.D. from Industrial and Physical Pharmacy, Purdue University. Then, I came to Baylor College of Medicine (BCM) in Houston, Texas, as a postdoc in the department of ophthalmology. During this time, I started working on developing ocular delivery systems. Currently, I'm an Assistant Professor in the Department of Surgery at BCM. In the CRS community, I serve as a vice chair in the Ocular Delivery Focus Group and as a member of the Diversity, Equity, and Inclusion Committee.

Q: What does it mean for you to receive this FG Young Investigator award?

A: When I was notified that I was the recipient of the Ocular Delivery Focus Group Young Investigator Award in 2021, I was elated! What a great feeling to know that our work was recognized by colleagues in the CRS community. I appreciate the CRS FGs' effort to recognize many junior faculty. This was an excellent opportunity to showcase our ongoing research, also raise awareness of a rare disease, retinoblastoma. During the virtual conference, I got to interact with colleagues interested in our work from all around the world, which was a bonus! I am very grateful for the award for its significance.

Q: How have CRS and the OcD benefited your career?

A: The CRS has been a community where I have a sense of belonging. Going to the CRS annual meeting was like a family reunion where I got to see friends and colleagues. I have always enjoyed attending the conference, then I got involved with the Young Scientist Committee (YSC) and the Ocular Delivery Focus Group (OcD FG). From my experiences, I met and got to work with brilliant, fun, and friendly researchers! I highly recommend getting involved, especially the YSC for trainees. And OcD FG, of course! Not because I am a vice-chair, OcD FG really is a great community to learn the latest ocular research and extend your network. Join us! :)

Q: Tell us a little more about the exciting work going on in your lab.

A: Our lab develops polymer-based ocular delivery systems to treat various ocular diseases, including retinoblastoma, ocular burn and scarring, and ocular infections. The delivery system we developed in our lab is a water-soluble polymeric film containing drugs in nano-sized reservoirs. When applied on the ocular surface, the film slowly dissolves while releasing the drug, which enhances the bioavailability. Besides ocular delivery systems, we also develop biomaterials for surgical applications such as wound dressings to prevent post-surgical infections and surgical meshes.

Q: Is there anything interesting that you do outside of ocular delivery?

A: I play the flute and am a part of the Shimmer Flute Choir in Houston. We perform 3-4 times a year in the Greater Houston area. I played the flute for a long time, but I had never seen alto and bass flutes until I joined the Shimmer. A few years ago, we recorded a Renaissance-themed Christmas album.

Highlights of 2021 CRS Virtual Annual Meeting

Although CRS 2021 was virtual, the work presented was outstanding! Presentations featured ocular drug delivery advances from academic research groups, startup companies, and pharmaceutical companies.

Dr. Ying Chau, The Hong Kong University of Science and Technology

Dr. Ashwin Parenky, Regeneron

Dr. Stefan Yohe, Genentech

Dr. Kyle Battiston, Ripple Therapeutics

Ms. Nadia Toffoletto, Instituto Superior Tecnico, University of Lisbon

The winner of the 2021 OcD FG

Trainee Award was Dr. David Waite.

The winner of the 2021 OcD FG

Young Investigator Award was Dr. Crystal Shin.

OcD FG Webinar Series

The OcD FG has been sponsoring virtual webinars from top ophthalmic researchers. Upcoming webinar information is posted on our LinkedIn and Twitter accounts.

Recent webinars featured:

Dr. Anuj Chauhan, Colorado School of Mines, "Ophthalmic Drug Delivery by Contact Lenses,"
11/11/2021

Dr. Sílvia Ligório Fialho, Fundação Ezequiel Dias (Ezequiel Dias Foundation), "Strategies for the treatment of ocular diseases: drug delivery and novel therapeutics," 12/9/2021

Dr. Christine A. Curcio, University of Alabama at Birmingham School of Medicine, "Soft Drusen in Age Related Macular Degeneration: Biology and Targeting," 2/2/2022

Please join us for upcoming webinars (to be announced soon)!

Exciting News in the Ocular Field

Translational News!

- FDA Approves First Generic of Restasis, February 2022. <https://www.fda.gov/news-events/press-announcements/fda-approves-first-generic-restasis>

- FDA Approves Genentech's Vabysmo, the First Bispecific Antibody for the Eye, to Treat Two Leading Causes of Vision Loss, January 2022.
<https://www.businesswire.com/news/home/20220128005009/en/FDA-Approves-Genentech%E2%80%99s-Vabysmo-the-First-Bispecific-Antibody-for-the-Eye-to-Treat-Two-Leading-Causes-of-Vision-Loss>
- FDA Approves Genentech's Susvimo for Wet AMD, October 2021.
<https://www.biopharminternational.com/view/fda-approves-genentech-s-susvimo-for-wet-amd>
- FDA approves XIPERE for treatment of macular edema associated with uveitis, October 2021.
<https://www.opthalmologytimes.com/view/fda-approves-xipere-for-treatment-of-macular-edema-associated-with-uveitis>

Recent Research Articles!

- "Intraocular implants loaded with A3R agonist rescue retinal ganglion cells from ischemic damage"
<https://doi.org/10.1016/j.jconrel.2022.02.001>
- "NIR-triggered drug delivery system for chemo-photothermal therapy of posterior capsule opacification" <https://doi.org/10.1016/j.jconrel.2021.09.030>
- "Retinal neuroprotection by controlled release of a VCP inhibitor from self-assembled nanoparticles"
<https://doi.org/10.1016/j.jconrel.2021.09.039>
- "In vitro dissolution testing models of ocular implants for posterior segment drug delivery"
<https://doi.org/10.1007/s13346-021-01043-z>

See you all in person at #CRS2022

<https://crs2022.abstractcentral.com/>



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