



Cite this: *J. Mater. Chem. B*, 2021, 9, 6932

DOI: 10.1039/d1tb90133h

rsc.li/materials-b

Contributors to the Emerging Investigators 2021 issue

Our 2021 Emerging Investigators themed issues gather together some of the best research being conducted by scientists in the early stages of their independent careers. Each contributor was recommended as they are carrying out work with the potential to influence future directions in materials chemistry. Congratulations to all of the researchers featured; we hope you enjoy reading this issue.



Juan M. Artes Vivancos is an assistant professor in the Department of Chemistry at the University of Massachusetts Lowell. After obtaining a PhD from the University of Barcelona working in single-molecule biophysics, he was a postdoctoral associate in the ECE Department of the University of California, Davis, developing new electrical methods for detecting oligonucleotides. He was awarded an individual Marie Skłodowska-Curie and a Human Frontiers postdoctoral fellowship to learn physicochemical optical techniques and nonlinear ultrafast spectroscopies to study biological processes. His research interests range from single-molecule biophysics and electrical nanobiosensors to developing new microscopy and spectroscopy techniques that provide high spatiotemporal resolution. When he is not having fun in the lab,

he also enjoys reading sci-fi, playing guitar and capoeira.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB01141C



Anna Blocki, PhD, joined the Chinese University of Hong Kong (CUHK) in February 2018 as an Assistant Professor at the Institute for Tissue Engineering and Regenerative Medicine (iTERM) and the School of Biomedical Sciences (SBS). Her current work focuses on developing innovative approaches to modulate diseased microenvironments and guide healing and regenerative processes. Prof. Blocki received her PhD from the National University of Singapore (NUS) in 2013. Following that, she carried out her first postdoctoral appointment at the Agency for Science Technology and Research (A*STAR), Singapore.

In 2015, Prof. Blocki was able to secure a competitive postdoctoral fellowship from the Charité Universitätsklinikum Berlin, where she worked before joining CUHK.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00268F



Arun Richard Chandrasekaran is a research scientist at the RNA Institute of the University at Albany, State University of New York (SUNY) at Albany. He received his BSc in Zoology from the American College (Madurai, India), his MTech in Nanoscience from the University of Madras (Chennai, India) and a PhD in Chemistry from New York University, where he worked with Prof. Nadrian Seeman on self-assembled DNA nanostructures. His current research focuses on creating functional DNA

Profile

devices for applications in biosensing, drug delivery and molecular computation. He has a keen interest in science communication, has written for the magazine *The Scientist* and runs the blog *Stranded*.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00300C



Kelong Fan received his PhD degree in cell biology from the Institute of Biophysics, Chinese Academy of Sciences in 2014. After this, he stayed to further pursue 3 years of postdoctoral training and 2 years of associate professor work experience before attaining a full professor position in 2019. He is interested in exploring the novel functions and applications of nanozymes in biomedicine, with his top priorities being the design of functional nanozymes by learning from nature and to develop novel strategies for disease therapeutics. He now serves as an Associate Editor of *Exploration* and a Guest Editor of *Frontiers in Chemistry*.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00720C



Jing Feng received her PhD in inorganic chemistry from the Changchun Institute of Applied Chemistry (CIAC), Chinese Academy of Sciences (CAS) in 2009. Currently, she is working as a professor in Prof. Hongjie Zhang's group at CIAC, CAS. Her research interests focus on the design and synthesis of rare earth luminescent materials and nanocomposites for sensing, detection and biomedical applications.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00337B



Prof. Lingyan Feng received her PhD degree in Chemistry from the Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, China. Then, she joined ICS-8 as Alexander von Humboldt Research Fellow at Forschungszentrum Jülich, Germany. She is now a full Professor of Special Appointment (Eastern Scholar) at the Materials Genome Institute, Shanghai

University. Her current scientific interest is focused on bio-functional materials and the self-assembly of biomolecules, nucleic acid molecular recognition and biosensor design using smart materials.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00683E



Catherine Fromen is an Assistant Professor in the Department of Chemical and Biomolecular Engineering at the University of Delaware. Originally a Massachusetts native, she received her BS and PhD in Chemical Engineering from the University of Rochester and North Carolina State University, respectively, and performed postdoctoral studies at the University of Michigan. She joined Univ. Delaware in 2017, where her research group focuses on applying biomaterials and engineering principles to make improvements in inhalable medicines to better treat patients with pulmonary conditions. She loves working with students, travelling, scuba diving and going on hikes with her fiancé and pandemic puppy, Beaker.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00982F



Dr Donald Richieri Griffin started as an Assistant Professor in the Departments of Biomedical Engineering and Chemical Engineering at the University of Virginia in 2017. He received a PhD degree in Biomedical Engineering from UC Los Angeles in 2011 under the mentorship of Prof. Andrea Kasko, followed by a post-doctoral fellowship under Prof. Tatiana Segura. Dr Griffin's research investigates microporous annealed particle (MAP) scaffolds as a translational platform for *in situ* tissue generation and regeneration. In addition to his academic career, Dr Griffin co-founded a company in 2014, Tempo Therapeutics, which is focused on the commercialization of the MAP technology.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00715G



Dr Jinshan Guo is a full Professor in the School of Basic Medical Sciences, Southern Medical University. He

obtained his bachelor's degree from the Department of Materials Science and Technology from Shandong University in 2005 and his doctoral degree in Polymer Chemistry and Physics from the Changchun Institute of Applied Chemistry (CIAC), Chinese Academy of Science (CAS) in 2011. After graduating, he went to the University of Texas at Arlington, then Pennsylvania State University and Harvard University in USA for post-doctoral research. Dr Guo has also worked at an American medical device startup company as a Senior Research Scientist. Dr Guo has contributed to two FDA approved products: the ElaSkin liquid bandage and citrate-based CITRELOCK tendon interference screw. Dr Guo's research focuses on methodologies for developing biodegradable polymers and biomaterials and their application in regenerative medicine as tissue adhesives and orthopedic biomaterials.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00847A



Ximin He is an assistant professor of Materials Science and Engineering at the University of California, Los Angeles (UCLA). Dr He was a postdoctoral fellow at the Wyss Institute of Bioinspired Engineering and the School of Engineering and Applied Science at Harvard University. She received her PhD in Chemistry from the University of Cambridge. Dr He's research focuses on bioinspired soft materials and their applications in biomedicine, energy, the environment and robotics. She is the

recipient of the National Science Foundation CAREER award, the Air Force Office of Scientific Research Young Investigator Program award, the CIFAR Global Scholar program, the International Society of Bionic Engineering Outstanding Youth Award, the Society of Engineering Science Young Investigator Medal, the 3M Non-tenured Faculty Award, the Hellman Fellows Award, *etc.* Her research on bioinspired tough hydrogels, phototropic, phototactic, homeostatic and anti-icing materials has garnered a number of regional and international awards and has been featured in >100 international news outlets.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00739D



Dr Xinling Liu obtained his PhD degree in Physical Chemistry from the Shanghai Institute of Ceramics, Chinese Academy of Sciences (SICCAS) in 2013. After postdoctoral research at Shanghai University and Kanagawa University, he joined the College of Chemistry and Materials Science at Shanghai Normal University in 2018 and became an associate professor. His current research is focused on the design of chiral inorganic nanomaterials and their chiroptical properties in spectroscopic analysis (Raman, circular dichroism and circularly polarized luminescence).

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00983D



Ping'an Ma was born in Jilin, China, in 1982. He received his BS degree in Biology in 2005 from Northeast Normal University and his PhD degree in Biochemistry in 2010 from Northeast Normal University. After graduation, he became an Assistant Professor in Prof. Jun Lin's group and was promoted to Professor in 2020. His research focuses on the synthesis and application of multifunctional inorganic nanoparticles for bioapplication, particularly the design and mechanism of platinum-based anti-cancer drugs.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB01001H



Dr Amiral Popat is an Associate Professor and Director of Research at the School of Pharmacy of the University of Queensland. He obtained his PhD in Nanomedicine from the Australian Institute for Bioengineering and Nanotechnology, the

University of Queensland, Australia in 2012. His group's research focuses on the development of stimuli responsive nanomaterials to overcome multiple biological barriers for precision medicine, in particular the development of smart oral drug delivery systems for the treatment of IBD, diabetes and cancer. Currently, (2020–2021) he is serving as the president of the Australian Controlled Release Society (AusCRS) and as an academic board member of the CRS focus group on nanoscale delivery.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB01430G



Yun Qian received his MD degree from Shanghai Jiao Tong University in 2019. He is member of the Royal Society of Chemistry and the Chinese Society for Biomaterials, community board member of *Materials Horizons*, editor for *Frontiers in Pharmacology*, *Advanced Materials Proceedings* and *Video Proceedings of Advanced Materials*, and youth editorial board member of *Advanced Fiber Materials* and the *Chinese Journal of Biomedical Engineering*. He is presiding over the Youth Talent Promotion Project of the China Association for Science and Technology, National Natural Science Foundation of China, and the Shanghai Sailing Program. He was awarded Second Prize at the National Science and Technology Awards (2020). His research focuses on soft tissue injury and regeneration, neural nanomedicine, neural pharmacology and molecular neuroscience.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging

Investigators collection can be read at DOI: 10.1039/D1TB00686J



Yuan Ping obtained his PhD degree from the National University of Singapore. He pursued his postdoctoral training at the Singapore Institute of Materials Research and Engineering, University of Melbourne, and Nanyang Technological University.

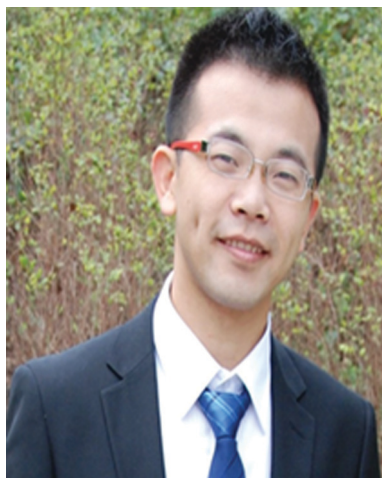
He became a principal investigator at the College of Pharmaceutical Sciences, Zhejiang University, where he established his own research group in 2017 and was promoted to tenured associated professor in 2020. His primary research interests focus on biomaterials for the controlled delivery of biomacromolecules for therapeutic genome editing. As a corresponding author, he has published more than 30 papers in prestigious journals including *PNAS*, *Science Advances*, *Advanced Materials* etc.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00742D



Bernhard V. K. J. Schmidt completed his PhD in 2013 with Prof. Barner-Kowollik at the Karlsruhe Institute of Technology and a Postdoc with Prof. Hawker at the University of California, Santa Barbara. Afterwards, he joined the department of Prof. Antonietti at the Max Planck Institute of Colloids and Interfaces as a Group Leader and finished his Habilitation in 2020. Since 2019, he has been a Lecturer in Synthetic Polymer Chemistry at the University of Glasgow. His research focusses on block copolymer self-assembly, metal-organic framework/polymer hybrids and carbon nitride/polymer hybrid materials.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00628B



Dr Wen Shi received his BS degree in Pharmacy from Huazhong University of Science and Technology in 2009 and obtained his PhD in Pharmaceutical

Sciences from the University of Nebraska Medical Center (UNMC) in 2015. His doctoral research was focused on the development of biodegradable polymer-peptide conjugates for cancer imaging and drug delivery. He worked for over two years as a Senior Scientist at Wuxi Biologics and then joined the Duan Lab in January 2018 as a Postdoctoral Research Fellow. He is now an instructor at UNMC and his research interests are in the development of hydrogel-based materials for 3D culture, regenerative medicine, disease modeling and drug delivery.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00156F



Yujun Song is currently a professor at the College of Engineering and Applied Sciences, Nanjing University. He received his BS from Wuhan University in 2005 and his PhD from the Changchun Institute of Applied Chemistry, Chinese Academy of Sciences (CAS) in 2011. He then worked as a postdoctoral researcher at Houston Methodist Hospital, Weill Cornell Medical College (USA) from 2011 to 2015. In early 2016, he joined Nanjing University. His current research is focused on biofunctional materials and microfluidics for translational medicine.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00671A



Dr Chor Yong Tay is currently an Assistant Professor in the School of Materials Science and Engineering (MSE) and the School of Biological Sciences (SBS) at Nanyang Technological University (NTU), Singapore. He received his PhD from MSE at NTU. He was a Lee Kwan Yew Postdoctoral Fellow in the Department of Chemical and Biomolecular Engineering at the National University of Singapore from 2012–2015. His research integrates materials chemistry, engineering and biological principles toward the design of advanced functional biomaterials for therapeutics, disease modelling and regenerative medicine, and the basic understanding of cell-material interactions, such as redox biology and mechanobiology.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00458A



Fan Wang obtained her bachelor's degree from Lanzhou University in 2012 and then she received her PhD degree in

Profile

inorganic chemistry from the University of the Chinese Academy of Sciences in China in 2017. From 2017 to 2019, she worked as a research assistant professor at the Changchun Institute of Applied Chemistry. In 2020, she was promoted to research associate professor and now she is focusing on the synthesis and biomedical applications of bio-inorganic composite materials.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00725D



Yue (Jessica) Wang received her BS in Chemistry and PhD in Inorganic Chemistry in 2008 and 2014, respectively. She was a member of the research staff at Fibron Technologies, Inc. in the years 2008–2009. She carried out postdoctoral research at Stanford University between 2014–2017. Dr Wang is currently an Assistant Professor of Materials Science and Engineering at the University of California, Merced. She is the recipient of the NSF-CAREER and Beckman Young Investigator awards. Her research focuses on bio-inspired, multi-functional and mechanically adaptive soft materials.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00877C

Tianjin University in 2009. In the same year, she joined Prof. Jinli Zhang and Wei Li's group at Tianjin University and received her PhD degree in 2014. During 2011–2013, she studied in Prof. Yi Lu's group at the University of Illinois at Urbana-Champaign as a joint PhD student. She then joined Prof. Hui Wei's group as a postdoctoral fellow from 2015–2018 and now is a research associate professor. Her research interests are focused on the rational design and synthesis of functional nanomaterials (such as nanozymes) and their biomedical applications.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00964H

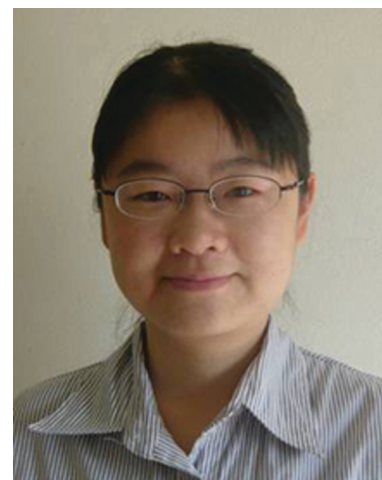


Yinghui Wang received her BSc degree in Chemistry from Jilin Normal University in 2006 and her PhD degree in condensed matter physics from the Changchun Institute of Optics, Fine Mechanics and Physics, Chinese Academy of Sciences in 2011. In the same year, she was granted the CAS Presidential Scholarship Award. Then, she worked as a postdoctoral researcher at the University of Amsterdam, Netherlands. She subsequently joined the group of Prof. Hongjie Zhang at the Changchun Institute of Applied Chemistry, Chinese Academy of Sciences (CAS). She is working as an associate professor at the Changchun Institute of Applied Chemistry, CAS. Her research interests focus on the design and synthesis of inorganic functional materials and their bioapplications.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00694K

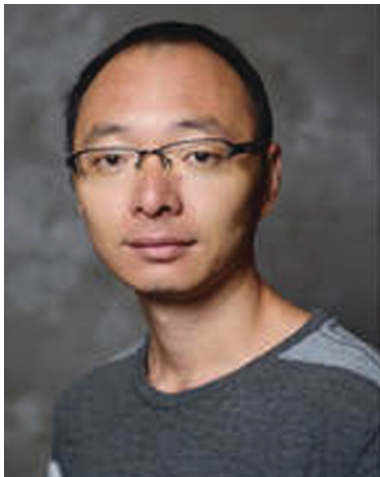


Jiangjixing Wu is a Research Associate Professor in the College of Engineering and Applied Sciences at Nanjing University. She received her BS degree from



Yi-Cheun Yeh is an Assistant Professor in the Institute of Polymer Science and Engineering at National Taiwan University. She received her BS and MS in Chemistry from National Taiwan Normal University. She pursued her PhD in Chemistry at the University of Massachusetts at Amherst under the guidance of Prof. Vincent Rotello. Upon graduation, she moved to Philadelphia to perform her postdoctoral studies in the polymeric biomaterials laboratory of Prof. Jason Burdick. Presently, her laboratory focuses on engineering the interface between materials and biology and spans the areas of nanoparticles, biomaterials and biofabrication.

Her contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00980J



Dr Chao Zhao is an Assistant Professor in the Department of Chemical and Biological Engineering at the University of Alabama. He received his PhD degree in Chemical and Biomolecular Engineering from the University of Akron in 2013.

He was a postdoctoral fellow at the University of Michigan from 2013–2016 and at Harvard Medical School from 2016–2018. He joined the University of Alabama as an Assistant Professor in July 2018. His research focuses on polymer drug delivery systems, in particular for small hydrophilic molecules, and polymer scaffolds for tissue engineering. His work has been broadcasted in Boston 25 News and highlighted in 30+ national and international news agencies. At this early stage of his faculty career, he has been awarded the NIH Research Enhancement Award, the University of Alabama RGC Level 1 Award, an Alabama Transportation Institute grant and a U.S. Department of Education GAANN grant.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00730K



Chunlei Zhu received his BS from Jilin University in 2008 and his PhD from the Institute of Chemistry, Chinese Academy of Sciences in 2013 with Prof. Shu Wang. He then conducted his postdoctoral research with Prof. Younan Xia at the Georgia Institute of Technology from 2014 to 2017 and Prof. Ben Zhong Tang at the Hong Kong University of Science and Technology from 2017 to 2018. He started his independent academic career in the College of Chemistry at Nankai University in 2018. His current research interests include the design and fabrication of functional organic and/or polymeric materials for biomedical applications.

His contribution to the 2021 *Journal of Materials Chemistry B* Emerging Investigators collection can be read at DOI: 10.1039/D1TB00843A