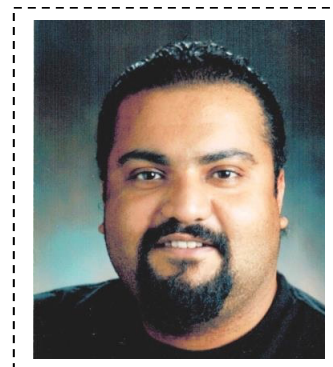


CV (Curriculum Vitae)

| | | | | |
|--|-------|------|------------------------------|----------------------------------|
| Name in full: | | | | Gender |
| KHOSLA AJIT - | | | | F (M) |
| FAMILY First Middle | | | | |
| Date of Birth | | | Professional Work Experience | |
| 24 | / | 11 | / | 1978 43 |
| Day | Month | Year | Age | 15 Years (Industry and Academia) |
| Mailing address: | | | | |
| School of Advanced Materials and Nanotechnology, Building G, South Campus, No. 266, Xinglong Section, Xifeng Road, Chang'an District, Xi'an, Shaanxi Province, China. Postcode: 710126 | | | | |
| Phone: +86-199-2990-2691. Email: ajitkhosla@xidian.edu.cn | | | | |



| | | |
|--|---|--|
| Academic History (degree obtained, name of school) / Starting with admission to a university | | |
| Ph. D Engineering Science, School of Engineering Science, Simon Fraser University, CANADA | From | Month/Year 09/2007 |
| | To | Month/Year 02/2011 |
| M.Sc Nanotechnology and Microfabrication, University of Wales, Bangor, UNITED KINGDOM | From | Month/Year 08/2002 |
| | To | Month/Year 07/2004 |
| B.S Electronics & Physics, University of Jammu, INDIA | From | Month/Year 09/1998 |
| | To | Month/Year 06/2002 |
| Occupational History | From ~ To | [Mth/Yr ~ Mth/Yr] Position /Institution |
| | May 2022- Present | Distinguished Professor (Huashan Scholar), School of Advanced Materials and Nanotechnology, Xidian University, Xi'an, Shaanxi Province, CHINA. |
| | May 2015 – March 2022 | Professor, Department of Mechanical Systems Engineering, Yamagata University, Yonezawa, JAPAN |
| | September 2013 to April 2015 | Chief Technology Officer, Lab 177 Inc, Ontario, CANADA |
| | October 2012 to August 2013 | Post-Doctoral Fellow, Concordia University, Montreal, CANADA |
| | January 2012 to September 2012 | Post-Doctoral Fellow, Simon Fraser University, CANADA |
| | February 2008 to September 2010 | Research Fellow, British Columbia Cancer Agency, Surrey Memorial Hospital, Surrey, CANADA |
| | August 2004 to September 2007 | Fabrication Engineer, Arm Ltd., Cambridge, UK |
| Research interests | Micro-nano Fabricated Sensors and Systems for Healthcare and Environmental Monitoring, Hybrid Materials, Sustainability, 3D printed sensors and actuators, Flexible sensors and flexible electronics. | |
| Affiliated academic societies | 1. ECS: Electrochemical Society 2. IEEE: The Institute of Electrical and Electronics Engineers 3. ACS: American Chemical Society 4. SPIE: Society of Photo-Optical Instrumentation Engineers | |
| Official executive positions in the academic societies, etc. | <u>Founding Editor in Chief: ECS Sensors Plus</u> <u>Co-Editor in Chief: ECS Advances</u> <u>Technical Editor:</u> 1) The Journal of Electrochemical Society; 2) Journal of Solid-State Science and Technology <u>Electrochemical Society:</u> Past immediate Chair of Sensor Division Member of the ECS: 1. Publications subcommittee 2. Interface Advisory Board 3. Sensor Division Outstanding Achievement Award: subcommittee 4. 2023 Gordon E. Moore Award – subcommittee 5. Sensor Division Member at Large 6. <u>Conference Chair:</u> The First International Conference on Technologies for Smart Green Connected Societies-2021 (ICTSGS-1) 7. <u>Conference Chair:</u> 4DMS-4D Materials and Systems-2018 8. <u>Conference Organizer:</u> ECS- Recent Advances in Sensor Systems 9. <u>Conference Co-organizer:</u> SPIE-Smart Structures and Materials | |

(2) List of Publications and other Achievements

1. Original Papers

[Peer-Reviewed Journals-Total 125]

Publication conventions as it relates to students and trainees:

Students are usually listed before professors and industry researchers. First author is normally the student or postdoctoral fellow who did most of the groundwork and wrote the first draft. In rare case professors are first authors if they did most of the groundwork and wrote the manuscript.

Google Scholar: <https://scholar.google.com/citations?user=BKBZUE4AAAAJ&hl=en>

1. Vishal Chaudhary, Pradeep Bhadola, Ajeet Kaushik, Mohammad Khalid, Ajit Khosla. "Assessing temporal correlation in environmental risk factors to design efficient area-specific COVID-19 regulations: Delhi based case study" Scientific Reports Accepted July 15, 2022
2. Diksha Pathania, Sunil Kumar, Pankaj Thakur, Vishal Chaudhary, Ajeet Kaushik, Rajender S. Varma, Hidemitsu Furukawa, Mamta Sharma &
3. Ajit Khosla. "Essential oil-mediated biocompatible magnesium nanoparticles with enhanced antibacterial, antifungal, and photocatalytic efficacies." Sci Rep **12**, 11431 (2022). <https://doi.org/10.1038/s41598-022-14984-3>
4. Preethika Murugan, Ramila D. Nagarajan, Ashok K. Sundramoorthy, Dhanraj Ganapathy, Raji Atchudan, Deepak Nallaswamy and Ajit Khosla. "Electrochemical Detection of H₂O₂ Using an Activated Glassy Carbon Electrode." ECS Sens. Plus **1** 034401 (2022). <https://doi.org/10.1149/2754-2726/ac7c78>
5. J. Shivakumara, C. Manjunatha, R. Hari Krishna, S. Ashoka, G. Gousiya Bhanu, B. Manmadha Rao, B. Venkateswarlu, Chikkahanumantharayappa and Ajit Khosla. "Study the effect of Zn²⁺ co-doping on the structural and optical properties of CdSiO₃:Eu³⁺ phosphor." Appl. Phys. A **128**, 645 (2022). <https://doi.org/10.1007/s00339-022-05773-w>
6. Vishal, Chaudhary, Ajeet Kumar Kaushik, Hidemitsu Furukawa, and Ajit Khosla. "Towards 5th generation ai and iot driven sustainable intelligent sensors based on 2d mxenes and borophene." ECS Sensors Plus (2022). <https://doi.org/10.1149/2754-2726/ac5ac6>
7. Jayshree Annamalai, Preethika Murugan, Dhanraj Ganapathy, Deepak Nallaswamy, Raji Atchudan, Sandeep Arya, Ajit Khosla, Seetharaman Barathi, and Ashok K. Sundramoorthy. "Synthesis of various dimensional metal organic frameworks (MOFs) and their hybrid composites for emerging applications—a review." Chemosphere (2022): 134184. <https://doi.org/10.1016/j.chemosphere.2022.134184>
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9. Boyu Zhang, Dingze Lu, Zhennan Wang, Kiran Kumar Kondamareddy, Min Zhou, Ajit Khosla, Xinyu Zhang et al. "Highly Efficient Photocatalytic Hydrogen Production Performance for 2D/0D g-C₃N₄/ZnO. 5CdO. 5S with g-C₃N₄ as a Transport Medium for Photogenerated Charge Carriers." Journal of The Electrochemical Society **169**, no. 4 (2022): 046512. <https://doi.org/10.1149/1945-7111/ac6452>
10. Sudo, Ikuma, Jun Ogawa, Yosuke Watanabe, Ajit Khosla, Masaru Kawakami, and Hidemitsu Furukawa. "Local Discrimination Based on Piezoelectric Sensing in Robots Composed of Soft Matter with Different Physical Properties." Journal of Robotics and Mechatronics **34**, no. 2 (2022): 339-350. <https://doi.org/10.20965/jrm.2022.p0339>
11. Sara Eskandarinezhad, Irshad Ahmad Wani, Ajit Khosla, and Tokeer Ahmad. "Metal and Metal Oxide Nanoparticles/Nanocomposites as Electrochemical Biosensors for Cancer Detection." Journal of The Electrochemical Society (2022). <https://doi.org/10.1149/1945-7111/ac6076>
12. R Jerome, Brahmari Shetty, Dhanraj Ganapathy, Preethika Murugan, Raji Atchudan, Dhamodharan Umaphathy, Ajit Khosla, Ashok Kumar Sundramoorthy "Thermally Expanded Graphite Incorporated with PEDOT: PSS Based Anode for Microbial Fuel Cells with High Bioelectricity Production" 2022, Journal of The Electrochemical Society. <https://doi.org/10.1149/1945-7111/ac4b23>
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14. Yen-Lin Chu, Sheng-Joue Young, Tung-Te Chu, Ajit Khosla, Kuei-Yuan Chiang, Liang-Wen Ji "Improvement of the UV-Sensing Performance of Ga-Doped ZnO Nanostructures via a Wet Chemical Solution at Room Temperature." ECS Journal of Solid State Science and Technology **10**, no. 12 (2021): 127001. <https://doi.org/10.1149/2162-8777/ac3e43>

15. Vandana Nagal, Virendra Kumar, Marya Khan, and Suliman Yousef Al Omar, Nirmalya Tripathy, Kedar Singh, and Ajit Khosla, Naushad Ahmad, and Hafiz, Aurangzeb Khurram and Rafiq Ahmad, "A highly sensitive uric acid biosensor based on vertically arranged ZnO nanorods on a ZnO nanoparticle-seeded electrode", *New J. Chem.*, 2021, volume 45, issue 40, 18863-18870. <http://dx.doi.org/10.1039/D1NJ03744G>
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22. Vandana Nagal, Virendra Kumar, Rafiq Ahmad, Marya Khan, Zishan H. Khan, Kedar Singh, Hidemitsu Furukawa, Ajit Khosla, Yoon Bong Hahn and A.K. Hafiz "Review-Emerging Applications of g-C₃N₄ Films in Perovskite-Based Solar Cells" Accepted Manuscript online 21 May 2021. <https://doi.org/10.1149/2162-8777/ac040b>
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24. Vandana Nagal et al 2021 *ECS J. Solid State Sci. Technol.* 10 096002. <https://doi.org/10.1149/2162-8777/ac2078>
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- Biosensor for Glucose Detection". *Journal of the Electrochemical Society* 168, no. 1 (2021): 017501 <https://doi.org/10.1149/19457111/abd515>
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 113. Sam Kassegne, Kee Moon, Pablo Martín-Ramos, Mohammad Majzoub, Gunay Öztürk, Krishna Desai, Mihir Parikh, Bao Nguyen, Ajit Khosla, and Pedro Chamorro-Posada. "Organic MEMS/NEMS-based high-efficiency 3D ITOless flexible photovoltaic cells." *Journal of Micromechanics and Microengineering* 22, no. 11 (2012): 115015. <https://doi.org/10.1088/0960-1317/22/11/115015>
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2. Books

1. Ajit Khosla and Dongsoo Kim, Editors (2015). “Optical Imaging Devices: New Technologies and Applications.” ISBN 9781498710992 - CAT# K25045, CRC Press. Oct 16, 2015, 238 pp.
2. Mai Kodama, Yumiko Takita, Hideaki Tamate, Azusa Saito, Jin Gong, Masato Makino, Ajit Khosla, Masaru Kawakami, and Hidemitsu Furukawa (2017). “Future Foods: Novel Soft Meals Developed by 3D Printing.” ISBN 978-953-51-3552-4, Print ISBN 978-953-51-3551-7, October 4, 2017. doi:10.5772/intechopen.70652.
3. Bonnie L Gray, and. "Microfabrication and applications of nanoparticle doped conductive polymers." *Nanoelectron Nanowires Mol Electron Nanodevices* 227, no. 10 (2010).
4. Ajit Khosla, Irshad Ahmad Wani, Nadeem Lone “Metallic, Magnetic and Carbon-Based Nanomaterials: Synthesis and Biomedical Applications” ECS-Wiley. Publication Date Fall 2022
5. Ajit Khosla “3D printed Devices: Sensors and Actuators” ECS-Wiley. Publication Date Fall 2022

3. Keynote Talks

Invited Keynote Talks:

1. Ajit Khosla (2019). “AI Powered Sensors and Systems.” 5th IEEE International Conference on Applied System Innovation, IEEE ICASI 2019, April 11-15, 2019, Fukuoka, Japan
2. Ajit Khosla (2018). “4D Printing, Materials and Systems.” IEEE Conference on Knowledge Innovation and Invention 2018 (ICKII 2018), Jeju Island, South Korea, July 23-27, 2018.
3. Ajit Khosla (2018). “Ubiquitous Sensors and Systems for Internet of Things.” Emerging Technologies 2018 Conference, Whistler, Canada, May 9-11, 2018.
4. Ajit Khosla (2018). “Challenges in Flexible Ubiquitous Sensors and Systems for Internet of Things (IoT).” IEEE 4th International Conference on Applied System Innovation 2018 (IEEE ICASI 2018), April 13-17, 2018.
5. Ajit Khosla (2017). “3D printed flexible Sensors Systems and devices.” 2017 IEEE International Conference on Innovation, Communication and

Engineering (IEEE ICICE 2017), November 17-20, 2017.

6. Ajit Khosla (2017). "Fabrication and Applications of Nano-particle Doped Nano-Micro-Patternable Multi-Functional Polymers." 2017 IEEE International Conference on Applied System Innovation, Sapporo, Japan, May 13-17, 2017.
7. Ajit Khosla (2017). "Micro-nano Sensors, Systems and Devices for Precision Medicine." SPIE Smart Structures/NDE, Portland, Oregon, USA, March 25-29, 2017.
8. Ajit Khosla (2016). "Beyond Lithium-Ion-next generation batteries." SPIE Smart Structures/NDE, Las Vegas, Nevada, USA, March 20-24, 2016.
9. Ajit Khosla (2013). "200 years of electrical impedance spectroscopy (EIS) in healthcare: progress and challenges." SPIE Smart Structures and Materials and Nondestructive Evaluation and Health Monitoring, San Diego, California, USA, March 10-14, 2013.

4. Teaching Experience

Language of Instruction: English (Courses taught in last 10 years)

1. Introduction to Engineering
2. Ethics for Engineers
3. Microelectronics
4. Project management and Report writing
5. Scientific writing and Literature review
6. Semiconductor Devices
7. Wearable sensors and electronics
8. Introduction to Sensors and Actuators
9. Micro and nano fabrication
10. Advanced Sensor Systems

6. Students, Post Docs and Technicians

PhD students: 6

Master's students: 12

Bachelors: 18

Post Docs: 8

Technicians: 2

7. Awards or Prizes

1. Simon Fraser University Dean's Convocation Medal 2012
2. Graduate Fellowship-Dean of Graduate Studies 2011
3. Graduate Fellowship-Dean of Graduate Studies 2010
4. Graduate Fellowship-Dean of Graduate Studies 2009
5. Graduate Fellowship-Dean of Graduate Studies 2008

6. Patents

* Please indicate your contribution fraction of each intellectual property in percentage after your name.

| S.N. | | |
|------|--------------------------------|---|
| 1. | Country that grants the patent | United States |
| | Patent number | US8557385B2 |
| | Patent name | Electrically conductive, thermosetting elastomeric material and uses therefor |

| | | |
|-----------|----------------------------------|--|
| | Application date | 2008-11-12 |
| | Applicant | Ajit Khosla (50%) , Bonnie Lynne Gray |
| | Inventor | Ajit Khosla, Bonnie Lynne Gray |
| | owner | Simon Fraser University |
| | Legal status | Granted, Active |
| | Changing/ licensing/transferring | None |
| 2. | Country that grants the patent | United States |
| | Patent number | US20170301441A1 |
| | Patent name | Compositions Including Magnetic Materials |
| | Application date | 2009-12-18 |
| | Applicant | Bonnie Gray, Daniel B. Leznoff, Jasmine L. Korcok, Ajit Khosla (25%) |
| | Inventor | Bonnie Gray, Daniel B. Leznoff, Jasmine L. Korcok, Ajit Khosla |
| | owner | Simon Fraser University |
| | Legal status | Abandoned |
| | Changing/ licensing/transferring | None |
| 3. | Country that grants the patent | United States |
| | Patent number | US10345234B2 |
| | Patent name | Methods for fabricating morphologically transformed nano-structures (MTNS) and tunable nanocomposite polymer materials, and devices using such materials |
| | Application date | 2013-03-15 |
| | Applicant | Muthukumaran Packirisamy, Jayan Ozhikandathil, Ajit Khosla (25%) |
| | Inventor | Muthukumaran Packirisamy, Jayan Ozhikandathil, Ajit Khosla |
| | owner | Concordia University |
| | Legal status | Granted, Active |
| | Changing/ licensing/transferring | None |
| 4. | Country that grants the patent | United States |
| | Patent number | PCT/CA2021/000007 |
| | Patent name | Immobilization of Insoluble Particles in Polymer |
| | Application date | 22 January 2021 |
| | Applicant | David T. M. Stevens, Ajit Khosla (25%) , Bonnie Gray, Daniel Leznoff and Hidemitsu Furukawa |
| | Inventor | David T. M. Stevens, Ajit Khosla, Bonnie Gray, Daniel Leznoff and Hidemitsu Furukawa |
| | owner | Simon Fraser University |
| | Legal status | Filed |
| | Changing/ licensing/transferring | None |

7. Received Funds/Grant

| S.N. | | |
|------|-------------------------------------|---|
| 1. | Project name | 3D printed materials, clothing, and coatings for self-sterilizing PPE and OCE (Phase 1-6months) |
| | Start time | 20101217 |
| | Ending time | 20210617 |
| | Funding Agency | NSERC-JSPS |
| | Total amount of budget | \$200000 |
| | Number of participants participants | Ajit Khosla, Bonnie Grey, Daniel Leznoff, Lisa Grey |

| | | |
|----|-------------------------------------|--|
| | Responsibility | Co- Principal Investigator |
| 2. | Project name | 3D Printable Vapochromic Sensing Materials (4months) |
| | Start time | 20190107 |
| | Ending time | 20190428 |
| | Funding Agency | MITACS Global Link |
| | Total amount of budget | \$ 15000 |
| | Number of participants participants | Ajit Khosla and Bonnie Gray |
| | Responsibility | Principal Investigator |
| 3. | Project name | Smart Materials Based Robot with Machine Learning: Development of Autonomous Printer and Scanner System |
| | Start time | 20170401 |
| | Ending time | 20210331 |
| | Funding Agency | JSPS |
| | Total amount of budget | \$60000 |
| | Number of participants participants | Ajit Khosla |
| | Responsibility | Principal Investigator |
| 4. | Project name | Innovative Socialization of Organic Functional Ultimate Materials Oriented Toward Soft-matter Robotics |
| | Start time | 20160401 |
| | Ending time | 20210331 |
| | Funding Agency | COI, JST |
| | Total amount of budget | \$300000 |
| | Number of participants participants | Ajit Khosla, Hidemitsu Furukawa |
| | Responsibility | Co-Principal Investigator |
| 5. | Project name | Center of Kansei-oriented Digital Fabrication |
| | Start time | 20150401 |
| | Ending time | 20200331 |
| | Funding Agency | JST, COI |
| | Total amount of budget | \$200000 |
| | Number of participants participants | Ajit Khosla, Hidemitsu Furukawa |
| | Responsibility | Co-Principal Investigator |
| 6. | Project name | Development, characterization, and demonstration of highly flexible hard magnetic nanocomposite polymers |
| | Start time | 20190101(exact date) |
| | Ending time | 20191201(exact date) |
| | Funding Agency | NSERC Idea to Innovation |
| | Total amount of budget | \$125,000 |
| | Number of participants participants | Ajit Khosla, Bonnie Grey |
| | Responsibility | Co-Principal Investigator |
| 7. | Project name | Nanointegrated breast cancer Screening System |
| | Start time | 20130115 |
| | Ending time | 20150115 |
| | Funding Agency | IRAP |

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| | Total amount of budget | \$1,000,000 |
| | Number of participants participants | Ajit Khosla |
| | Responsibility | Principal Investigator |
| 8. | Project name | Faabrication of micromagnets. |
| | Start time | 20110701 |
| | Ending time | 20120631 |
| | Funding Agency | Industrial gift grant- Neo Materials |
| | Total amount of budget | \$25,000 |
| | Number of participants participants | Ajit Khosla |
| | Responsibility | Principal Investigator |