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<https://orcid.org/0000-0002-4030-7651>

SKILLS

- Thesis supervision
- Academic research
- Module management
- University lecturing
- Research project management
- Publication of scholarly articles
- Multidisciplinary teamwork
- Course designing
- Funding acquisition
- Strategic planning
- Digital learning tools
- Lecture/seminar planning
- MS Office
- Academic advising
- Designing examinations
- Academic writing
- Mentoring students
- Project supervision
- Research proposal writing
- Analytical Laboratory Techniques with data interpretation.

PERSONAL DETAILS

Date of Birth / Age: 27/04/1972

Promy Virk Lopes

PROFESSIONAL SUMMARY

Respected academic with 20 years' experience of facilitating student learning. Drives student engagement and comprehension to meet established learning outcomes. Clear and concise communicator with expertise in moderating group discussions. Leads and supervises in-depth research projects on **Environmental pollution/ Aquatic toxicology**. Accustomed to collaborate with department faculty to support academic programs and multidisciplinary outreach.

WORK HISTORY

Associate professor 05/2018 - Current
Department of Zoology ,King Saud University - Riyadh, Saudi Arabia

- Taught courses for undergraduate and graduate levels in **Environmental Science, Ecology, Aquaculture, Fishery Resources, General Zoology and Genetics**.
- Monitored emerging trends and technologies in subject field to innovate teaching and learning practices. Enhanced learning outcomes by implementing interactive teaching methods. Managed administrative tasks related to coursework, exams and records keeping.
- Advised graduate students on thesis topics, providing guidance throughout their study process. Supervised master's and doctoral candidates' research work, ensuring high standard of scholarship.
- Conducted lectures, seminars and practical workshops for comprehensive student development.
- Collaborated with colleagues on interdisciplinary research projects, fostering intellectual growth. Led research projects to enhance academic knowledge in the field.
- Published numerous scholarly articles with extensive research and analysis.

Assistant professor 11/2007 - 05/2017
Department of Zoology, King Saud University - Riyadh, Saudi Arabia

- Taught courses Taught courses for undergraduate and graduate levels in Environmental Science, Ecology, Aquaculture, Fishery Resources, General Zoology and Genetics. Fostered an inclusive learning environment for all students, promoting diversity and inclusion. Helped students to achieve target grades through continuous curricular support and motivation.
- Developed multidisciplinary approaches to education, ensuring high-quality teaching, research and student experiences.
- Worked closely with professors to support collaborative research for course progression.

Nationality: Indian
Marital Status: Married
Gender: Female
Religion: Christian
Passport: U0672198

LANGUAGES

English
Fluent
Hindi
Fluent

- Published multiple research papers in top-tier academic journals.
- Collaborated with colleagues for interdisciplinary research projects.
- Supervised research projects for graduate students with theses writing.

Secondary school Biology teacher 05/2002 - 11/2007
New Middle East International School - Riyadh, Saudi Arabia

- **Taught Biology for O' Levels and A' Levels (GCE – Edexcel)**
- Designed innovative assessment tools for evaluating student's comprehension of course material effectively. Encouraged critical thinking and scientific enquiry by integrating practical experiments into lessons.
- Fostered an inclusive classroom environment, promoting respect and collaboration amongst students. Implemented engaging lesson plans for effective delivery of biology curriculum. Maintained up-to-date knowledge of the national curriculum **for GCSE Biology**, ensuring accurate instruction. Organized Biology field trips to zoos and museums for multiple classes. Increased **A-Level** uptake by relating biology to everyday life.

Teaching assistant , College of Fisheries 04/2001 – 10/2001
G.B. Pant University of Agriculture and Technology - Pantnagar, India

- Taught courses in **Aquaculture Engineering, Fish Disease and Diagnosis, Limnology and Marine Biology** for the bachelor's and master's (Fisheries) program.
- Assisted in lesson planning for effective curriculum delivery.
- Prepared engaging, effective learning materials to boost stimulation and encourage further academic interest.

Senior research fellow 08/1999 – 03/2001
Panjab Agricultural University - Ludhiana, India

- Worked on a project funded by the Indian Council of Agricultural Research (ICAR)Scheme: **“Use of agro-industrial by-products in cost-effective carp feed”**.
- Conducted comprehensive literature reviews to identify gaps in current knowledge. Presented findings at national conferences, increasing profile of institution.
- Collaborated with other academics on interdisciplinary projects for wider reach. Kept abreast of developments in the field through continual professional development activities.
- .Organized seminars and workshops with leading academics in the field.

PUBLICATIONS

Publications in peer reviewed journals
2025

1.Norah Raqi Al-Otaibi,,**Promy Virk**, Rasha Elsayim, Mohammed Elbagir Amin, Asma Mudhahi Alshammari, Alanoud Tariq Al Sudairi,Nada Ali Almohawis, Dalia Fouad Ibrahim, Manal A. Awad , Abdel-Basit Al-Odayni ,Gadah Albasher(2024). A Facile Biodegradation

of Polystyrene Microplastics by *Bacillus subtilis*. Green Processing and Synthesis.14: 20240153.

<https://doi.org/10.1515/gps-2024-0153>

2. May Al-Barqi, **Promy Virk***, Manal Ahmed Awad, Manal Qayyadh Saad Alanazi, Khalid Ortashi. Putative Remedial Effect of Zinc Oxide Nanoparticles on the Apoptotic Response in Nile Tilapia Exposed to Potential Micro Plastics in Sewage Effluent. Pakistan Journal of Zoology(Accepted)

2024

1. Alenazi, A.; **Virk, P.**; Almoqhem, R.; Alsharidah, A.; Al-Ghadi, M.Q.; Aljabr, W.; Alasmari, F.; Albasher, G. The Efficacy of Hispidin and Magnesium Nanoparticles against Zearalenone-Induced Fungal Toxicity Causing Polycystic Ovarian Syndrome in Rats. Biomedicines 2024, 12, 943. <https://doi.org/10.3390/biomedicines12050943>

2. M. Alqahtani, **P. Virk**, K. Alfaki, W. Alqahtani, G. Albasher (2024) The Role of Chitosan in Mitigating Tert-butylhydroquinone Induced Cognitive Impairment and Neurotoxicity in a Rat Model. European Review for Medical and Pharmacological Sciences. 28(9): 3318-3329. https://doi.org/10.26355/eurev_202405_36178.

2023

1) Khawlah Sultan Alotaibi,, Mai Elobeid , **Promy Virk**, Manal Ahmed Awad ,Malak Abdullah Al-Qahtani ,, Doaa Mohamed Elnagar(2023) Plausible effect of hesperetin and nano-hesperetin against bisphenol-A induced hepatotoxicity in a rat model. Arabian Journal of Chemistry17(2), 105563<https://doi.org/10.1016/j.arabjc.2023.105563>.

2)Norah M. AlMulhim, **Promy Virk**, Abdelwahab A Abdelwarith, Fadwa M. AlKhulaifi,(2023)Effect of incorporation of Spirulina platensis into fish diets, on growth performance and biochemical composition of Nile Tilapia, Oreochromis niloticus,The Egyptian Journal of Aquatic Research, <https://doi.org/10.1016/j.ejar.2023.08.008>

3) Manal A. Awad, **Promy Virk**, Awatif A. Hendi,, Khalid Mustafa Ortashi,, Najla AlMasoud,and Taghrid S. Alomar(2023). Role of Biosynthesized Silver Nanoparticles with Trigonella foenum-graecum Seeds in Wastewater Treatment. Processes 2023, 11, 2394.<https://doi.org/10.3390/pr11082394>

4) Manal Qayyadh Alanazi, **Promy Virk**, Seham Soliman Alterary, Manal Awad, Zubair Ahmad, Abdulrehman M. Albadri, KalidM. Ortashi, Mohieldeen Mahgoub A. Ahmed, Mohamed Ismail Ali Yousef, Mai Elobeid, Ebtesam Abdullah Al-Qahtani(2023).Effect of potential microplastics in sewage effluent on Nile Tilapia and photocatalytic remediation with zinc oxide nanoparticles.Environmental Pollution,Volume 332, 121946 <https://doi.org/10.1016/j.envpol.2023.121946>.

5) Awad, Manal A., Meznah M. Alanazi, Awatif A. Hendi, **Promy Virk**, Albandari W. Alrowaily, Taghreed Bahloul, Fatimah Al-Abbas, Fatma Aouaini, and Khalid M. O. Ortashi. 2023. "Synthesis of Nano-Crystalline Whiskers of Cheese and Their Efficacy against Cadmium Toxicity" Crystals 13, no. 7: 1013. <https://doi.org/10.3390/cryst13071013>

6)Malak Abdullah Al-Qahtani, **Promy Virk**, Manal Awad, Mai Elobeid, Khawlah Sultan Alotaibi(2023).Attenuation of di(2-ethylhexyl)phthalate-induced hepatic and renal toxicity by naringin nanoparticles in a rat model. Green Processing and Synthesis. vol. 12, no. 1, 2023, pp. 20228122. <https://doi.org/10.1515/gps-2022-8122>

7) Munira Abdullah Rashed Alqahtani, **Promy Virk**, Dalia Fouad(2023) Attenuating Effect of Spirulina (Arthrospira platensis) against Di (2-ethylhexyl) Phthalate Induced Toxicity in Wistar Rat. Environmental

Pollutants and Bioavailability. 35:1, 2197154.

<https://doi.org/10.1080/26395940.2023.2197154>

8) **Promy Virk**, Manal A. Awad, Meznah M. Alanazi, Awatif A. Hendi, Mai Elobeid, Khalid M. Ortashi, Albandari W. Alrowaily, Taghreed Bahloul, Fatma Aouaini (2023) Putative anti-proliferative effect of Indian mustard (*Brassica juncea*) seed and its nano formulation" Green Processing and Synthesis.12(1), pp. 20228119.

<https://doi.org/10.1515/gps-2022-8119>

9) **Promy Virk**, Manal A. Awad, Sarah Saleh Abdu-Ilah Alsaif, Awatif A. Hendi, Mai Elobeid, Khalid Ortashi, Rabia Qindeel, Manal F. El-Khadragy, Hany M. Yehia, Mohamed Ferkry Serag EL-DIN, Hatem Ali Salama(2023).Green synthesis of Moringa oleifera leaf nanoparticles and an assessment of their therapeutic potential, Journal of King Saud University - Science,35(3),102576,

<https://doi.org/10.1016/j.jksus.2023.102576>

10) Awatif A. Hendi, Manal.A. Awad,Meznah M. Alanazi, **Promy Virk**, Albandari W. Alrowaily ,Taghreed Bahloul, Nada M Merghani, Fatma Aouaini, Basma Hagmusa.(2023) Phytomediated synthesis of bimetallic Ag/Au nanoparticles using orange peel extract and assessment of their antibacterial and anticancer potential. Journal of King Saud University – Science 35 (2023) 102510. <https://doi.org/10.1016/j.jksus.2022.102510>
2022

1) Manal A. Awad, Meznah M. Alanazi , Awatif A. Hendi , **Promy Virk** , Albandari W. Alrowaily ,Taghreed Bahloul , Fatehia S. Alhakami, Fatma Aouaini and Eiman Mamoun Ibrahim.(2022). Potential Role of ‘Green’ Synthesized Titanium Dioxide Nanoparticles in Photocatalytic Applications.Crystals, 12, 1639. <https://doi.org/10.3390/cryst12111639>

2)Shahid Mahboob, Zubair Ahmed, H.F. Alkahem Al-Balawi, Khalid A Al-Ghanim, **Promy Virk**, N Al-Mulham, F. Al-Misned, Ecogenotoxicological studies for an early toxicity screening and monitoring in *Epinephelus chlorostigma* and *Scambrum commerson*, Journal of King Saud University - Science, 34(7),2022,102265.<https://doi.org/10.1016/j.jksus.2022.102265>..

3)**Promy Virk**, Sarah Turif Abdulhadi Alajmi, Manal Awad, Mai Elobeid, Khalid M.O. Ortashi, Atheer Mohammed Asiri, Nada M. Merghani, Dalia Fouad,(2022)Attenuating effect of Indian mustard (*Brassica juncea*) seed and its nano formulation on arsenic induced-oxidative stress and associated genotoxicity in rat. ,Journal of King Saud University - Science, 34(6)2022,102134,
<https://doi.org/10.1016/j.jksus.2022.102134>.

4) **Promy Virk**, Manal A. Awad, Mai Elobeid, Khalid M.O. Ortashi, Nada M. Merghani, Manal F. El-Khadragy, Anti-proliferative and biocidal effect of watermelon (*Citrullus lanatus*) seed extract and its nanoformulation, Materials Letters, 325,2022,132809,
<https://doi.org/10.1016/j.matlet.2022.132809>.

5) Hendi AA, **Virk P**, Awad MA, Elobeid M, Ortashi KMO, Alanazi MM, Alkallas FH, Almoneef MM, Abdou MA. In Silico Studies on Zinc Oxide Based Nanostructured Oil Carriers with Seed Extracts of *Nigella sativa* and *Pimpinella anisum* as Potential Inhibitors of 3CL Protease of SARS-CoV-

Molecules.20224;27(13):4301.[doi:10.3390/molecules27134301](https://doi.org/10.3390/molecules27134301).PMID:35807545;PMCID: MC9268682.

6) S. Mahboob, Z. Ahmed, M. Farooq Khan, **Promy Virk**, N. Al-Mulhm, Almohannad A.A. Baabbad,(2022)Ecogenotoxicological studies for an early toxicity screening and monitoring in *Epinephelus chlorostigma* and *Scambrum commerson*, Saudi Journal of Biological Sciences, <https://doi.org/10.1016/j.sjbs.2021.12.064>

7)Shahid Mahboob, Zubair Ahmed, Muhammad Farooq Khan, **Promy Virk**, N. Al-Mulhm, Almohannad A.A. Baabbad,(2022)Assessment of heavy metals pollution in seawater and sediments in the Arabian Gulf, near Dammam, Saudi Arabia, Journal of King Saud University - Science,34(1).Volume 34, Issue

1.<https://doi.org/10.1016/j.jksus.2021.101677>

8) Mai A. Elobeid, Manal A. Awad, **Promy Virk**, Khalid M. Ortashi, Nada M. Merghani, Atheer M. Asiri, and Emadeldin Abdeljabar Ali Bashir.(2022)Synthesis and characterization of noble metal/metal oxide nanoparticles and their potential anti-diabetic effect on biochemical parameters and wound healing. Green Processing and Synthesis, 11,1106-115. <https://doi.org/10.1515/gps-2022-0010>

2021

1)Asiri, A.M., Elobeid, M., **Virk, P.** et al. (2021)Ameliorative effect of resveratrol and its nano-formulation on estrogenicity and apoptosis induced by low dose of zearalenone in male Wistar rats. Journal of Materials Research. <https://doi.org/10.1557/s43578-021-00425-w>

2)Al-Ghamdi, Nouf Abdallah Mreat, **Virk Promy**, Hendi, Awatif, Awad, Manal and Elobeid, Mai. "Antioxidant potential of bulk and nanoparticles of naringenin against cadmium-induced oxidative stress in Nile tilapia, Oreochromis niloticus: " Green Processing and Synthesis, vol. 10, no. 1, 2021, pp. 392-402

3)**Promy Virk**, Manal A. Awad, Mai Elobeid, Khalid M.O. Ortashi, Atheer Mohammed Asiri, Azza Hagmusa,(2021)A facile encapsulated nanofabrication of desert locust and its therapeutic benefits, Materials Letters,291:129503

2020

1)**P.Virk**,N.A.Al-mukhaizeem,S.HamadBinMorebah,D.Fouad, M.Elobeid.(2020) Protective Effect of Resveratrol Against Toxicity Induced by the Mycotoxin, Zearalenone in a Rat Model.Food and Chemical Toxicology 146:111840.

<https://doi.org/10.1016/j.fct.2020.111840>

2)A. Mohmmad Monadi Al-Enazi, **P. Virk**, A. Hindi, M.Elobeid, R.Qindeel.(2020) Protective effect of probiotic bacteria and its nanoformulation against cad-mium-induced oxidative stress in male Wistar rat, Journal of King Saud University – Science,(In press)

<https://doi.org/10.1016/j.jksus.2020.08.011>

3) Nada E. Eisa, Shaffa Almansour, Ibtessam A. Alnaim, Amira M. Ali, Eman Algrafy,Khalid M. Ortashi, Manal A. Awad*, **Promy Virk**, Awatif A. Hendi, and Fahd Z. Eissa(2020). Eco-synthesis and characterization of titanium

nanoparticles: Testing its cytotoxicity and antibacterial effects. Green Processing and Synthesis, 9(1):462–468. <https://doi.org/10.1515/gps-2020-0045>

2019

1)Nouf Alharbi, Mai Elobeid and **Promy Virk** (2019). Protective Effect of Quercetin Treatment against Cadmium-Induced Oxidative Stress in a Male Rat Model. Pakistan J. Zool., 51(6) 2287-2296.

2) Manal A. Awad , Nada E. Eisa ,**Promy. Virk**., Awatif A. Hendi , Khalid M.O.O. Ortashi ,AbdAlla S.A. Mahgoub., Mai A. Elobeid , Fahd Z. Eissa

(2019).Green synthesis of gold nanoparticles: Preparation, characterization, cytotoxicity, and anti-bacterial activities. Materials Letters. 256, 126608.

2018

- 1) **Promy Virk** (2018). Antidiabetic Activity of Green Gold - Silver Nanocomposite with *Trigonella foenum graecum* L. Seeds Extract on Streptozotocin-Induced Diabetic Rats. *Pakistan Journal of Zooogy*, 50(2), pp 711-71.
- 2) Awatif A. Hendi1, Manal A. Awad, **P. Virk**, Khalid Ortashi, and Fatheah Hakami. Potential of Gold Nanoparticles as Antioxidants in Diabetic Mice. *Journal of Computational and Theoretical Nanoscience*.15(4), 1307-1311.

2017

- 1) **Promy Virk**, Mai Elobeid, Manal A Awad, Awatif A Hendi, Khalid MO Ortashi, Muzammil Iqbal Siddiqui (2017). Characterization of Nanorosemary and Encapsulated Rosemary Nanoparticles and their Effect on the Lead Induced Toxicity in Wistar Rats. *Journal of Environmental Biology*. 38(6):1333-1340.
- 2) Manal A Awad, Awatif A Hendi, **P Virk**, Khalid MO Ortashi, Mai A Elobeid, Nada M Merghani, Muzzammil I Siddiqui and EM Ibrahim (2017). Preparation, characterization and antibacterial effects of eco-friendly gold nanorods. *Tropical Journal of Pharmaceutical Research* February 2017; 16 (2): 1319-1326.

2016

- 1) Aminah Ali Al-Sakran, **Promy Virk**, Sherifa Shaker Hamad, Mai Elobeid, Muzammil Iqbal Siddiqui, Sawson Omer, Nada Mohammed Mirghani (2016). Histopathological Effects on the Testis and Liver of Adult Male Carp, *Cyprinus carpio carpio* exposed to graded concentrations of waterborne Bisphenol A. *Tropical Journal of Pharmaceutical Research*.15 (1): 73-80

2015

- 1) Abeer A. Al-habash, Khadiga G. Adham, **Promy Virk** (2015) Bioaccumulation and Ecological Risk Assessment of Heavy Metals in the Soil and Wild Rats in Riyadh, Saudi Arabia. *Journal of Life Sciences Research*.2(4):86-92.
- 2) Khadiga G. Adham, Manal H. Farhood, Maha H. Daghestani, Nadia A. Aleisa, Ahlam A. Alkhalifa, Maha H. El Amin, **Promy Virk**, Mai A. Al-Obeid and Eman M. H. Al-Humaidhi (2015). Metabolic Response To Subacute And Subchronic Iron Overload In A Rat Model. *Acta Biologica Hungarica* 66(4): 361–373.
- 3) Wedaad Saeed AlQahtani and **Promy Virk** (2015). Effect of calcium supplementation on lead-induced genotoxicity and bioaccumulation in suckling Wistar rats. *Toxicological & Environmental Chemistry*. DOI: [10.1080/02772248.2015.1070853](https://doi.org/10.1080/02772248.2015.1070853). To link to this article: <http://dx.doi.org/10.1080/02772248.2015.1070853>
- 4) Weddad Refaiea Al-Otaibi, **Promy Virk**, Mai Elobeid (2015). “Ameliorative potential of stem bromelain on lead-induced toxicity in Wistar rats” *Acta Biologica Hungarica* 66 (2): 149-160.
- 5) Maryam El-Enazy, **Promy Virk**, Mai Elobeid and Muzammil Iqbal Siddiqui (2015) Ameliorative effects of *Rosmarinus officinalis* leaf extract and Vitamin C on Cadmium-Induced Oxidative Stress in Nile Tilapia, *Oreochromis niloticus*. *Journal of Environmental Biology* 36:1401-1408.

2014

- 1) **Promy Virk**, Amena Ali M Al-Sakran, Mai A Elobeid. Effect of Bisphenol A on the Levels of Vitellogenin and Metallothionein in Adult Male Carp, *Cyprinus carpio carpio* Linnaeus, 1758. *Tropical Journal of Pharmaceutical Research*.13 (7): 1107-1112.

2013

- 1) **Promy Virk**, Mai A. Elobeid, Sherifa Hamad, Zainab Korany, Maha Al-Amin, Maha Daghestani, Sawsan Omer, Ebtisam AlOlayan, Muzammil Iqbal Siddiqui and Nada Mohammed Mirghani. 2013. Ameliorative effects of *Embilica officinalis* and *Rosmarinus officinalis* on cadmium-induced oxidative stress in Wistar rats. *Journal of Medicinal Plants Research*. 7(14), 805-818.
- 2) Zeinab K Hassan, Maha H Elamin, Sawsan Omer, Maha Daghestani, Ebtisam Al-Olayan, Mai A Elobeid, **Promy Virk**. 2013. Oleuropein induces apoptosis via p53 pathway on breast cancer cells. *Asian Pacific J Cancer Prev, Asian Pac J Cancer Prev*, 14 (11):6739-6742.
- 3) Maha El Amin, **Promy Virk**, Mai A Elobeid, Zainab Mohammed Almarhoon, Zeinab Korany Hassan, Sawsan Ali Omer, Nada Mohammed Merghani, Maha Hassan Daghestani and Ebtisam Mohammed Al Olayan. 2013. Anti-diabetic effect of *Murraya koenigii* (L) and *Olea europaea* (L) leaf extracts on streptozotocin induced diabetic rats. *Pak. J. Pharm. Sci.* 26 (2), 359-365.
- 4) Maha H. Elamin, Maha H. Daghestani, Sawsan A. Omer, Mai A Elobeid, **Promy Virk**, Ebtisam M. Al-Olayan, Zeinab K. Hassan, Osama B. Mohammed, Abdelilah Aboussekhra. 2013. Olive oil oleuropein has anti-breast cancer properties with higher efficiency on ER-negative cells. *Food and Chemical Toxicology*. 53:310-316.
- 5) Maha H. Elamin, Zeinab K. Hassan, Sawsan A. Omer, Maha H. Daghestani, Ebtisam M. Al-Olayan, **Promy Virk**, Mai A Elobeid and Osama B. Mohammed. 2013. Apoptotic and antiproliferative activity of olive oil hydroxytyrosol on breast cancer cells. *Journal of Medicinal Plants Research*. 7 (32), 2420-2428.

2012

- 1) Zeinab K Hassan, Maha H Elamin, Maha H Daghestani, Sawsan A Omer, Ebtisam M Al-Olayan, Mai A Elobeid, **Promy Virk**, Osama B Mohammed. 2012. Oleuropein Induces Anti-metastatic Effects in Breast Cancer. *Asian Pacific J Cancer Prev*. 13(9), 4555-4559.
- 2) Mai A Elobeid, Zainab M Almarhoon, **Promy Virk**, Zeinab K Hassan, Sawsan Ali Omer, Maha ElAmin, Maha H. Daghestani, Ebtisam AlOlayan. 2012. Biphenol A Detection in Various Brands of Drinking Bottled Water Using Gas Chromatography Mass Spectrometer in Riyadh, Saudi Arabia. *Tropical Journal of Pharmaceutical Research*. 13(3), 455-459.
- 3) Sawsan A. Omer, Mai A. Elobeid, M.H. Elamin, Z K. Hassan, **P. Virk**, M.H. Daghestani, Ebtisam Al-Olayan, Nadia A. Al-Eisa, Z M Almarhoon. 2012. Toxicity of Olive Leaves (*Olea europaea*) in Wistar Albino Rats. *Asian Journal of Animal and Veterinary Advances*. 7(11), 1175-1182.
- 4) Zeinab K. Hassan, Mai A. Elobeid, **Promy Virk**, Sawsan A. Omer, Maha ElAmin, Maha H. Daghestani, and Ebtisam M. AlOlayan. 2012. Bisphenol A Induces Hepatotoxicity through Oxidative Stress in Rat Model. *Oxidative Medicine and Cellular Longevity*. 2012, 194829-194835. doi:10.1155/2012/194829.
- 5) Sawsan A. Omer, Mai A. Elobeid, Dalia Fouad, Maha H Daghestani, Ebtisam Al-Olayan, Maha H. Elamin, **Promy Virk**, Ameera El-Mahassna. 2012. Cadmium Bioaccumulation and Toxicity in Tilapia Fish (*Oreochromis niloticus*). *Journal of Animal and Veterinary Advances*. 11(10), 1601-1606.
- 6) Maha Hasan Daghestani, **Promy Virk** and Ayman EL-Meghawry EL-Kenawy.(2012) Metabolic and Histological Effects of Different Polyunsaturated Fat Types in the Diet: Omega-3 and Omega-6.*Pak. J. Nutr.*, 11 (4): 313-321

2011, 2004, 2003

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May Naser Joma, **Promy Virk**, and Mai A Elobeid. (2011). Cytochrome P450 as a Biomarker of Benzo-a-Pyrene Pollution in Tilapia (*Oreochromis niloticus*) and Catfish (*Pangasius sutchi*). International Journal of Environmental Science and Engineering Research. 2 (1), 15-22.

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Dhawan ,A., Kaur, V .I and **Virk,P** (2004) Non-conventional fish feed resources: An overview . The International Collective in Support of Fishworkers (ICSF) 23: 10 - 11. January-February.

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Virk,P. and Saxena,P.K (2003) Potential of Amaranthus seeds in supplementary feed and its impact on growth in some carps. Bioresource Technology 86(2003) 25-27.

PATENTS

1) **Moringa oleifera nanoparticles.4-4-23.**

Manal Ahmed Gasmelseed Awad,**Promy Virk**,Mai Abdelrahman Elobeid WageallaSarah Saleh Abdulla AlsaifAwatif Ahmed HENDIKhalid Mustafa Osman OrtashiRabia Qindeel

Patent no:US11617719B1.<https://patents.google.com/patent/US11617719B1/en>

2)**Fabrication of probiotics nanowhiskers using cheese. 31-12- 2019**

Promy Virk, Manal Ahmed Gasmelseed Awad, Mai Abdelrahman Elobeid, Khalid Mustafa Osman Ortashi, Awatif Ahmed Hendi. Patent number:

10517905.<https://patents.justia.com/patent/10517905>

3) Synthesis of probiotic nanoparticles. 30-7-2019. Promy Virk, Manal Ahmed Gasmelseed Awad, Amnah El-Enazy, Awatif Ahmed Hendi, Mai Abdelrahman Elobeid Wagealla, Rabia Qindeel. Patent number:10363218.

<http://patft.uspto.gov/netacgi/nph>.

4) Synthesis of mustard seed nanoparticles 3-9-2019. Manal Ahmed Gasmelseed Awad, **Promy Virk**, Rabia Qindeel, Khalid Mustafa Osman Ortashi, Mai Abdelrahman Elobeid. Patent number: 10398744.

<http://patft.uspto.gov/netacgi/nph>.

5) Fish food composition. 7-2-2017.

Muzzammil Iqbal Siddiqui, **Promy Virk**, Mohammad Iqbal Siddiqui. Patent number: 9560866.<http://patft.uspto.gov/netacgi/nph>.

6)Synthesis of Naringenin Nanoparticles. 28-4-2016. Promy Virk, Nouf Abdullah Mureet Al-Ghamdi, Manal Ahmed GasmAl-Seed Awad, Mai AbdelRahman Elobeid Wagealla, Awatif Ahmed Hindi, Lulwah Saleh Mohammed Al-Hassan. Patent number: 9622984.

<http://www.google.com/patents/US9622984>

7) Synthesis of Hesperetin Nanoparticles. 10-5-2016. Mai AbdelRahman Elobeid Wagealla, Lulwah Saleh Mohammed AlHassan, Manal Ahmed GasmAlSeed Awad, Nouf Abdullah Mureet Al-Ghamdi, **Promy Virk**, Awatif Ahmed Hindi, Patent Law Building, Manassas, VA, USA. Patent number: 9700512. <http://ipv4.google.com/patents/US9700512>

8) Method of preparing Rosemary Nanoparticles and Encapsulated Rosemary Nanoparticles. 28-5-2015. Manal Ahmed GasmAlSeed Awad, , Awatif Ahmed Hindi, **Promy Virk**, , Mai Abdel Rahman Elobeid Wagealla.Patent number: 9480656. <https://www.google.com/patents/US9480656>

9) Synthesis of Nanoparticles of Metals Metal Oxide using Plant Seeds Extract. 28-9-2015. Manal Ahmed GasmAlSeed Awad, Awatif Ahmed Hindi, Mai AbdelRahman Elobeid Wagealla, Khalid Mustafa OsmanOrtashi, **Promy Virk**.Patent number: 9428399.<https://www.google.com/patents/US9428399>

10) Method of Treating Diabetic Wounds using Biosynthetic Nanoparticles. 7-

10-2015. Manal Ahmed GasmalSeed Awad, Awatif Ahmed Hindi, Mai AbdelRahman Elobeid Wagealla, **Promy Virk**, Khalid Mustafa Osman Ortashi. Patent number: 9974749.

<https://patents.google.com/patent/US20170100338A1/en>

EDUCATION

Doctor of Philosophy: Fisheries/Zoology, 01/1997 – 11/2000

Dept. of Fisheries, Punjab Agricultural University – Ludhiana – Merit

- **Awarded Merit Scholarship** through the course of study from 1997 to 2000.
- Course Work in **Cell Biology, Reproductive Physiology, Animal and Molecular Biochemistry, Fish Biology, Fish Production, Aquaculture, Animal/Fish Nutrition.**
- **Title of Thesis:** *"Studies on the utilization of non-conventional feed resources in fish feed."*

Name of Supervisor: Late Prof. P.K. Saxena , **Dept. of Fisheries, Punjab Agricultural University, Ludhiana, India.**

Master of Science (Honour's School): Zoology, 08/1993 – 05/1996

Punjab University – Chandigarh, India – Merit

- Coursework in **Developmental Biology, Molecular Biology, Cell Biology, Endocrinology, Physiology, Aquatic Biology, Environmental Science, Ecology, Biochemistry, Immunology.**
- **Specialization in Reproductive Physiology.**
- **Title of Thesis:** "Toxic effects of organochlorine pesticide, Endosulfan on the ovary of *Heteropneustes fossilis* (Bloch)."
- **Name of Supervisor:** Prof. M.L. Sareen , Dept. Of Zoology, **Punjab University, Chandigarh, India.**

Bachelor's degree: Science, 08/1990 – 05/1993

Maharishi Dayanand Saraswati University – Ajmer, India – Distinction

Graduated from Sophia Girls College, **Ajmer, India.**

- Coursework in English, Botany, Chemistry and Zoology.

Senior Secondary : Zoology, Botany, Chemistry, Physics, 07/1988 – 05/1990

St. Bede's College – Shimla, India

- Coursework in English, Botany, Chemistry, Physics and Zoology.

High School Diploma: English, Hindi, Science, Mathematics, Economics, Social Science, 03/1986 – 03/1988

St. Mary's Convent High School – Naintal, India – Merit

- Course of study in Hindi, English, Social Science, Economics, Science and Mathematics.
- Graduated under the curriculum of Indian Certificate of Secondary Education (10th Grade.) Board, New Delhi, India.

RESEARCH INTERESTS

Have been actively working in the field of **Environmental Science and Aquatic Toxicology** since 2012. Have mentored graduate students since 2010.

Worked as a Co-I in various projects

- National Plan for Science and Technology, Riyadh, Saudi Arabia, '*Role of Oleuropin and Hydroxytyrosol in breast cancer Prevention and Treatment*' from February/2011 to 2013.
- Research group project no. RGP-VPP-033 and Research Group Project No. RGPVPP-074, from 2010-2015, funded by the Deanship of Scientific Research at King Saud University, Riyadh.
- project funded by Ministry of Higher Education, Saudi Arabia. Genetic changes in fish /shellfish as a result of anthropogenic activities in the Arabian Gulf and Red Sea, Kingdom of Saudi Arabia(2019 to 2022). Research Groups Program Grant no. (RGP-1443-0047) funded by Deanship of Scientific Research at Princess Nourah bint Abdulrahman University, Riyadh, Saudi Arabia.

Worked as a PI in a Research Group No.: RG-1441-311 funded by Deanship of Scientific Research at King Saud University, RIYADH(April 2020 to May 2022).

Current Research interests

Most of my research over the past few years has focused on experimental studies on fish /rat model. In addition, the role of natural antioxidants/nutraceuticals in combating Environmental pollution and the pathogenesis of toxins particularly, oxidative stress has been an integral part of the research projects. Several natural compounds such as plant extracts along with probiotics have been explored for their remedial potential. In the recent years, I have been working on the use of 'green technology' in nanoscience to be explored as a remedial approach in combating pollution. My research interests clearly map onto the following current research themes in **Environmental Science/ Toxicology**;

- classic, emerging, and bioactive contaminants such as in humans and the environment by target analysis, suspect and non-target screening, and effect-directed analysis investigation of the mode of action of contaminants from molecular initiating event to adverse outcomes.
- My envisaged future research plans include the exposure and assessment of emerging pollutants in the environment such as plasticizers, micro plastics, antibiotics and 'forever chemicals';PFAs

Furthermore, exploring sustainable remedial strategies using nanotechnology and biodegradation.

Currently supervising the following Ph.D theses; Main supervisor

- ❖ Efficacy of *Bacillus subtilis* and Selenium nanoparticles against Microplastic induced Hepatotoxicity in male Rats
- ❖ Biological efficacy of *Bifidobacterium* spp in alleviating microplastic induced toxicity in Human Kidney epithelial cell line
- ❖ Biodegradative and Antioxidative efficacy of *Aspergillus* species against Microplastic induced toxicity in male rat.
- ❖ Efficacy of C Phycocyanin in Alleviating toxicity induced by Microcystin LR in male albino rats
- ❖ Detection and removal of antibiotics in wastewater using cellulose nanocrystals.

COMMITTEE WORK

Have been actively working as a Rapporteur/ Member of the following Department Committees:

- Academic Accreditation Committee
- ISO Committee
- Examination Committee
- Statistics Committee
- Lab maintenance and Purchase
- Lab Safety Committees

CONFERENCE / SYMPOSIA

- Oral talk at the National Symposia on Fish Health Management and Sustainable Aquaculture. G.B. Pant University of Agriculture and Technology, Pantnagar, India, **November 2000. Certificate of Appreciation for paper presentation**
- Oral talk , "Effect of Calcium Supplementation on Lead-Induced Genotoxicity and Bioaccumulation in Suckling Wistar Rats" in The 7th International Conference on Environmental Science and Technology, 2014, Houston, Texas, USA, **June 9-13, 2014. Also chaired a session on Human Exposure in the same conference.**

HOBBIES AND INTEREST

- Cooking, Music, Travelling and Reading

REFERENCES

References available upon request.