CURRICULUM VITAE

ROGER M. LEBLANC
PROFESSOR

DEPARTMENT OF CHEMISTRY
UNIVERSITY OF MIAMI

November 20, 2024

PERSONAL

1. Name: Roger M. Leblanc

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5. Current Academic Rank: Professor

6. Primary Department: Chemistry

7. Secondary or Joint Appointments:

   Professor (Second Appointment); Department of Dermatology and Cutaneous Surgery; School of Medicine, University of Miami, FL, USA

   Professor (Second Appointment); Department of Physics; University of Miami, Coral Gables, FL, USA

8. Citizenship: United States

9. Visa Type (if non-citizen):

HIGHER EDUCATION

10. Institutional (institution; degree; date conferred):

Degree	Institution	Country	Discipline	Year
Ph.D.	Université Laval	Canada	Physical Chemistry	1968
B.Sc.	Université Laval	Canada	Chemistry	1964

11. Non-Institutional (description; dates):

12. Certification, licensure (description; board or agency; dates):

EXPERIENCE

13. Academic (institutions; rank/status; dates):

2013 – 2021 : Chairman
Department of Chemistry
University of Miami, Coral Gables, FL, USA

2005 - ...	:	Senior Fellow of the University of Miami Center on Aging (COA) University of Miami, Coral Gables, FL, USA
1994 - ...	:	Professor (Physical Chemistry) Department of Chemistry University of Miami, Coral Gables, FL, USA
1995 - ...	:	Professor (Second Appointment) Department of Dermatology and Cutaneous Surgery School of Medicine, University of Miami, Coral Gables, FL, USA
1996 - ...	:	Professor (Second Appointment) Department of Physics University of Miami, Coral Gables, FL, USA
1998 – 2002	:	Director University of Miami Center for Advanced Microscopy (UMCAM) University of Miami, Coral Gables, FL, USA
1999 - 2002	:	Center Investigator HIEHS Marine and Freshwater Biomedical Science Center Rosenstiel School of Marine and Atmospheric Science University of Miami, Coral Gables, FL, USA
1994 - 2002	:	Chairman Department of Chemistry, University of Miami, Coral Gables, FL, USA
1970-1993	:	Professor (Physical Chemistry) Department of Chemistry and Biology Université du Québec à Trois-Rivières
1992	:	Visiting Professor (4 months) Center for Surface Science & Engineering University of Florida, Gainesville, FL, USA
1991	:	Visiting Professor (3 months) Centre de Recherche Paul Pascal/CNRS Université Bordeaux I, Pessac, France
1981-1991	:	Director Photobiophysics Research Center Université du Québec à Trois-Rivières
1971-1975	:	Chairman Department of Chemistry and Biology Université du Québec à Trois-Rivières
1972-1993	:	Masters' Supervisor Department of Physics Université du Québec à Trois-Rivières

1980-1993 : Ph.D. Supervisor
Department of Chemistry
Université Laval

1973-1993 : Ph.D. Supervisor
Department of Biophysics
Université de Sherbrooke

14. Non-academic (employers; title; responsibilities; dates):

15. Military (branch; rank; responsibilities; dates):

PUBLICATIONS [author(s) (in actual precedence of authorship); title; publisher or journal name; date (current year first); page number]

TOTAL: 624; listed below: Last 5 years

2025 TOTAL (4)

624. Nepal, R.C.; Seven, E.S,; Leblanc, R.M.; Chusuei, C.C. An electrochemical dopamine assay with cobalt oxide palatinose carbon dots. *Molecules* **2025**, 30, 413.

623. Veliz, E.A.; Yoham, A.; Drandarov, A.; Abad, E.L.; Hollweg, M.H.; Shanbhag, V.; Leblanc, R.M.; Vanni, S.; Graham, R.M. Cytotoxic effects of methoxy-substituted chalcones on glioblastoma stem cells: Computational target prediction and therapeutic insights: *Results in Chemistry* **2025**, 14, 102122.

622. Chou, B.; Krishna, K.; Durkee, H.; Tribin, F.E.; Ahmed, A.; Lai, J.; Aguilar, M.C.; Ferreira, B.C.L.B., Leblanc, R.M.; Flynn Jr.H.W.; Amescua, G.; Parel, J.M.; Mille, D. Photodynamic Antimicrobial Therapy with Erythrosin B, Eosin Y, and Rose Bengal for the Inhibition of Fungal Keratitis Isolates: An In vitro Study. *Journal of Photochemistry & Photobiology, B: Biology* **2025**, 263, 113090.

621. Ferreira, C. L. B.; Durkee, H.A.; Aston, L.; Gonzalez, L.; Ahmed, A.; Navia, C.; Tribin, F.E; Aǵuilar, M.; Gonzalez, A.; Ruǵǵeri, M.; Manns, F.; Amescua, G.; Parel, J-M.; Leblanc, R.M. Effect of Concentration on Singlet Oxygen Generation from Xanthene-based Photosensitizer. *J. Photochemical & Photobiology, A: Chemistry* **2025**, 461, 116167.

2024 TOTAL (12)

620. Zhang, W.; Chen, J.; Pérez, M.; Mtteo L.C,; Leblanc, R.M. Prospect in Alzheimer's Disease Integrative Therapy Targeting both Amyloid-β and Tau, *Neural Regeneration Research* (September 30, Submitted).

619. Ferreira, C. L. B.; Hannard, M.; Lozano-Garcia, M.; Aston, L.; Tejeda, G.; Domena, J.B.; Bernard, B.; Chen, J.; Bartoli, M.; Rech Tondin, A.R.; Zhou, Y.; Scorzari, A.; Perrone, C.; Tagliaferro, A.; Deo, S.; Daunert, S.; Dumont, C.; Leblanc, R.M. Investigating the significancy of thiol functionalities in SARS-CoV-2 using carbon dots for viral inhibition. *ACS Applied Materials & Interfaces* **2024**, 16 (43), 58439-58451.

618. Parveg, A.S., Zhou, Y., Leblanc, R.M. and Ratner, A. Effects of Gel-like Carbon Dots (G-CDs) and Surfactant (Span80) on the Droplet Combustion Dynamics of Liquid Fuels. *Fuel* **2024**, 381, p.133385.

617. Fu, S., Zheng, A., Wang, L., Chen, J., Zhao, B., Zhang, X., McKenzie, V.A., Yang, Z., Leblanc, R.M., Prabhakar, R. and Zhang, F. Tuneable redox-responsive albumin-hitchhiking drug delivery to tumours for cancer treatment. *Journal of Materials Chemistry B*. **2024**, 12, 6563-6569.

616. Zhang, W.; Smith, N.; Zhou, Y.; McGee, C.M.; Bartoli, M; Fu, S.; Chen, J.; Domena, *J.B.;* Joji,*A.;* Bedendo, A.; Claure, M.L.; Burr, H.*;* Ly, G.; Cilingir, E.K.; Tagliaferro, *A.; D.; Eliezer,* D.; Veliz, E.A.; Zhang, F.; Wang*, C.; Leblanc *, R.M. Carbon dots as dual inhibitors for Alzheimer's tau and amyloid beta aggregation. *Acta Biomaterialia* **2024**, 183, 341-355.

615. Chen, J.; Li, F.; Zhao, B.; Gu, J.; Brejcha, N.M.; Bartoli, M.; Zhang, W.; Zhou, Y.; Fu, S.; Domena, J. D.; Zafar, F.; Zhang, F.; Tagliaferro, A.; Verde, F.; Zhang, F.; Zhang, Y.; Leblanc, R. M. Gene Transfection Efficiency Improvement with Lipid Conjugated Cationic Carbon Dots. *ACS Appl. Mater. Interfaces* **2024**, 16, 21, 27087-27101.

614. Domena, J. B.; Ferreira, B. C. L. B.; Chen, J.; Bartoli, M.; Tagliaferro, A.; Vanni, S.; Graham, R. M.; Leblanc, R. M. The art of simplicity: Water-soluble porphyrin-like carbon dots self-assemble into mesmerizing red glow. *Colloids Surf B Biointerfaces* **2024**, 113719.

613. Mintz, K. J.; Poleunis, C.; Ferreira, B. C. L. B.; Sampson, R.; Delcorte, A.; Leblanc, R. M. Localized States in Carbon Dots: Structural and Optical Investigation of Three Systems with Varying Degrees of Carbonization. *Carbon* **2024**, 222, 118906.

612. Kirbas Cilingir, E.; Besbinar, O.; Giro, L.; Bartoli, M.; Hueso, J. L.; Mintz, K. J.; Aydogan, Y.; Garber, J. M.; Turktas, M.; Ekim, O.; Ceylan, A.; Unal, M. A.; Ensoy, M.; Arı, F.; Ozgenç Çinar, O.; Ozturk, B. I.; Gokce, C.; Cansaran-Duman, D.; Braun, M.; Wachtveitl, J.; Santamaria, J.; Delogu, L. G.; Tagliaferro, A.; Yilmazer, A.; Leblanc, R. M. Small Warriors of Nature: Novel Red Emissive Chlorophyllin Carbon Dots Harnessing Fenton-Fueled Ferroptosis for In Vitro and In Vivo Cancer Treatment. *Small* **2024**, 2309283.

611. Sabol, A.; Zhou, Y.; Zhang, W.; Ferreira, B. C. L. B.; Chen, J.; Leblanc, R. M.; Catenazzi, A. Carbon Nitride Dots Do Not Impair the Growth, Development, and Telomere Length of Tadpoles. *Science of The Total Environment* **2024**, 916, 170176.

610. Milenković, I.; Borišev, M.; Zhou, Y.; Spasić, S. Z.; Spasić, D.; Leblanc, R. M.; Radotić, K. Non-toxic orange carbon dots stimulate photosynthesis and CO_2 assimilation in hydroponically cultivated green beans. *Functional Plant Biology* **2024**, 51, FP23164.

609. Milenković, I., Zhou, Y. Q., Borišev, M., Serafim, L. F., Chen, J. Y., ElMetwally, A. E., Spasić, S. Z.; Algarra, M.; Yuso, M. V. M; Prabhakar, R.; Leblanc. R. M.; Radotić, K. Modeling of orange carbon dots-CO_2 interaction and its effects on photosynthesis and productivity in maize and green beans. *Journal of Environmental Informatics* **2024**, 43, 80-91.

2023 TOTAL (10)

608. Seven, E.S; Cilingir, E.K; Bartoli, M.; Zhou, Y.; Sampson, R.; Shi, W.; Peng, Z.; Pandey, R.R.; Chusuei, C.; Tagliaferro, A.; Vanni, S.; Graham, R.M.; Seven, Y.B.; Leblanc, R.M. Hydrothermal vs microwave nanoarchitechtonics of carbon dots significantly affects the structure, physicochemical properties, and anti-cancer activity against a specific neuroblastoma cell line. *Journal of Colloid and Interface Science* **2023**, 630, 306-321.

607. Domena, J. B.; Ferreira, B. C. L. B.; Chen, J.; Bartoli, M.; Tagliaferro, A.; Vanni, S.; Graham, R. M.; Leblanc, R. M. The Art of Simplicity: Water-Soluble Porphyrin-Like Carbon Dots Self-Assemble into Mesmerizing Red Glow. *Colloids Surf B Biointerfaces* **2023**, 113719.

606. Domena, J. B.; Ferreira, B. C. L. B.; Cilingir, E. K.; Zhou, Y.; Chen, J.; Johnson, Q. R.; Chauhan, B. P. S.; Bartoli, M.; Tagliaferro, A.; Vanni, S.; Graham, R. M.; Leblanc, R. M. Advancing Glioblastoma Imaging: Exploring the Potential of Organic Fluorophore-Based Red Emissive Carbon Dots. *J Colloid Interface Sci* **2023**, *650*, 1619–1637.

605. Jambi, S. M. S.; Chen, J.; Zhang, W.; Fu, S.; Zhou, Y.; Domena, J. B.; Brejcha, N. M.; Zhang, F.; Leblanc, R. M. Synthesis and Characterization of Carbon Dots Derived from Compounds Containing Thioureas and Thiazole Rings. *Colloids Surf A Physicochem Eng Asp* **2023**, *669*.

604. Zhang, W.; Chen, J.; Gu, J.; Bartoli, M.; Domena, J. B.; Zhou, Y.; C.L.B. Ferreira, B.; Kirbas Cilingir, E.; McGee, C. M.; Sampson, R.; Arduino, C.; Tagliaferro, A.; Leblanc, R. M. Nano-Carrier for Gene Delivery and Bioimaging Based on Pentaetheylenehexamine Modified Carbon Dots. *J Colloid Interface Sci* **2023**, *639*, 180–192.

603. Vallejo, F. A.; Sigdel, G.; Veliz, E. A.; Leblanc, R. M.; Vanni, S.; Graham, R. M. Carbon Dots in Treatment of Pediatric Brain Tumors: Past, Present, and Future Directions. *International Journal of Molecular Sciences* **2023**, *24* (11), 9562.

602. Parikh, K.; Seven, E.; Luca, E.; Mitchell, G.; LeBlanc, R.; Seven, Y. Glucose Carbon Dots Cross the Blood-Brain Barrier and Preferentially Target Spinal. Neurons. **2023**, *38* (S1).

601. Chen, J.; Li, F.; Gu, J.; Zhang, X.; Bartoli, M.; Domena, J. B.; Zhou, Y.; Zhang, W.; Paulino, V.; C.L.B. Ferreira, B.; Michael Brejcha, N.; Luo, L.; Arduino, C.; Verde, F.; Zhang, F.; Zhang, F.; Tagliaferro, A.; Olivier, J. H.; Zhang, Y.; Leblanc, R. M. Cancer Cells Inhibition by Cationic Carbon Dots Targeting the Cellular Nucleus. *J Colloid Interface Sci* **2023**, *637*, 193–206.

600. Abdi, B.; Mofidfar, M.; Hassanpour, F.; Kirbas Cilingir, E.; Kalajahi, S. K.; Milani, P. H.; Ghanbarzadeh, M.; Fadel, D.; Barnett, M.; Ta, C. N.; Leblanc, R. M.; Chauhan, A.; Abbasi, F. Therapeutic Contact Lenses for the Treatment of Corneal and Ocular Surface Diseases: Advances in Extended and Targeted Drug Delivery. *Int J Pharm* **2023**, *638*, 122740.

599. Domena, J. B.; Celebic, E.; Ferreira, B. C. L. B.; Zhou, Y.; Zhang, W.; Chen, J.; Bartoli, M.; Tagliaferro, A.; Johnson, Q.; Chauhan, B. P. S.; Paulino, V.; Olivier, J. H.; Leblanc, R. M. Investigation into Red Emission and Its Applications: Solvatochromic N-Doped Red Emissive Carbon Dots with Solvent Polarity Sensing and Solid-State Fluorescent Nanocomposite Thin Films. *Molecules* **2023**, *28* (4), 1755.

2022 TOTAL (15)

598. Adre, E.; Durkee, H.; Arboleda, A.; Alawa, K.; Maestre, J.; Mintz, K. J.; Leblanc, R. M.; Amescua, G.; Parel, J. M.; Miller, D. Rose Bengal and Riboflavin Mediated Photodynamic Antimicrobial Therapy Against Selected South Florida Nocardia Keratitis Isolates. Transl. *Vis. Sci. Technol*. **2022**, 11 (1), 29.

597. Shi, W.; Han, Q.; Wu, J.; Ji, C.; Zhou, Y.; Li, S.; Gao, L.; Leblanc, R. M.; Peng, Z. Synthesis Mechanisms, Structural Models, and Photothermal Therapy Applications of Top-Down Carbon Dots from Carbon Powder, Graphite, Graphene, and Carbon Nanotubes. Int. *J. Mol. Sci*. **2022**, 23 (3), 1456.

596. Wu, J.; Chen, G.; Jia, Y.; Ji, C.; Wang, Y.; Zhou, Y.; Leblanc, R. M.; Peng, Z. Carbon Dot Composites for Bioapplications: A Review. *J. Mater. Chem. B* **2022**, 10 (6), 843–869.

595. Veliz, E. A.; Kaplina, A.; Hettiarachchi, S. D.; Yoham, A. L.; Matta, C.; Safar, S.; Sankaran, M.; Abadi, E. L.; Cilingir, E. K.; Vallejo, F. A.; Walters, W. M.; Vanni, S.; Leblanc, R. M.; Graham, R. M. Chalcones as Anti-Glioblastoma Stem Cell Agent Alone or as Nanoparticle Formulation Using Carbon Dots as Nanocarrier. *Pharmaceutics* **2022**, 14 (7), 1465.

594. Zhou, Y.; Kandel, N.; Bartoli, M.; Serafim, L. F.; ElMetwally, A. E.; Falkenberg, S. M.; Paredes, X. E.; Nelson, C. J.; Smith, N.; Padovano, E.; Zhang, W.; Mintz, K. J.; Ferreira, B. C. L. B.; Cilingir, E. K.; Chen, J.; Shah, S. K.; Prabhakar, R.; Tagliaferro, A.; Wang, C.; Leblanc, R. M. Structure-Activity Relationship of Carbon Nitride Dots in Inhibiting Tau Aggregation. *Carbon N. Y*. **2022**, 193, 1–16.

593. Ji, C.; Han, Q.; Zhou, Y.; Wu, J.; Shi, W.; Gao, L.; Leblanc, R. M.; Peng, Z. Phenylenediamine-Derived near Infrared Carbon Dots: The Kilogram-Scale Preparation, Formation Process, Photoluminescence Tuning Mechanism and Application as Red Phosphors. *Carbon N. Y*. **2022**, 192, 198–208.

592. Seven, E. S.; Kirbas Cilingir, E.; Bartoli, M.; Zhou, Y.; Sampson, R.; Shi, W.; Peng, Z.; Ram Pandey, R.; Chusuei, C. C.; Tagliaferro, A.; Vanni, S.; Graham, R. M.; Seven, Y. B.; Leblanc, R. M. Hydrothermal vs Microwave Nanoarchitechtonics of Carbon Dots Significantly Affects the Structure, Physicochemical Properties, and Anti-Cancer Activity against a Specific Neuroblastoma Cell Line. *J. Colloid Interface Sci*. **2022**, 630 (Pt A), 306–321.

591. Wang, C.; Zhou, Y.; Ewuola, C.; Akinleye, T.; Hasegawa, T.; Leblanc, R. M. Determine Both the Conformation and Orientation of a Specific Residue in α-Synuclein (61–95) Even in Monolayer by 13C Isotopic Label and p-Polarized Multiple-Angle Incidence Resolution Spectrometry (PMAIRS). *Anal. Sci.* **2022**, 38 (7), 935–940.

590. Paudyal, S.; Sigdel, G.; Shah, S. K.; Sharma, S. K.; Grubb, J. D.; Micic, M.; Caseli, L.; Leblanc, R. M. Interfacial Behavior of Proteinase K Enzyme at Air-Saline Subphase. *J. Colloid Interface Sci*. **2022**, 616, 701–708.

589. Paudyal, S.; Vallejo, F. A.; Cilingir, E. K.; Zhou, Y.; Mintz, K. J.; Pressman, Y.; Gu, J.; Vanni, S.; Graham, R. M.; Leblanc, R. M. DFMO Carbon Dots for Treatment of Neuroblastoma and Bioimaging. *ACS Appl. Bio Mater*. **2022**, 5 (7), 3300–3309.

588. Zhang, W.; Kandel, N.; Zhou, Y.; Smith, N.; C.L.B. Ferreira, B.; Perez, M.; Claure, M. L.; Mintz, K. J.; Wang, C.; Leblanc, R. M. Drug Delivery of Memantine with Carbon Dots for Alzheimer's Disease: Blood–Brain Barrier Penetration and Inhibition of Tau Aggregation. *J. Colloid Interface Sci*. **2022**, 617, 20–31.

587. Kirbas Cilingir, E.; Sankaran, M.; Garber, J. M.; Vallejo, F. A.; Bartoli, M.; Tagliaferro, A.; Vanni, S.; Graham, R. M.; Leblanc, R. M. Surface Modification of Carbon Nitride Dots by Nanoarchitectonics for Better Drug Loading and Higher Cancer Selectivity. *Nanoscale* **2022**, 14 (27), 9686–9701.

586. Elmetwally, A. E.; Sayed, M. S.; Zhou, Y.; Domena, J. B.; Shim, J. J.; Leblanc, R. M.; Knecht, M. R.; Bachas, L. G. Photocatalytic Partial Oxidation of 5-Hydroxymethylfurfural to 2,5-Diformylfuran Using Exfoliated g-C3N4/Pd Nanoarchitectures. *J. Phys. Chem. C* **2022**, 126 (37), 15671–15684.

585. Zhou, Y.; Zhang, W.; Leblanc, R. M. Structure-Property-Activity Relationships in Carbon Dots. *J. Phys. Chem. B* **2022**, 126 (51), 10777–10796 (Editor request for a "Perspective article").

584. Zhou, Y.; Chen, J.; Kirbas Cilingir, E.; Zhang, W.; Gonzalez, L.; Perez, S.; Davila, A.; Brejcha, N.; Gu, J.; Shi, W.; Domena, J. B.; Ferreira, B. C. L. B.; Zhang, F.; Vallejo, F. A.; Toledo, D.; Liyanage, P. Y.; Graham, R. M.; Dallman, J.; Peng, Z.; Agatemor, C.; Catenazzi, A.; Leblanc, R. M. An Insight into Embryogenesis Interruption by Carbon Nitride Dots: Can They Be Nucleobase Analogs? *Nanoscale* **2022**, 14 (47), 17607–17624.

2021 TOTAL (24)

583. Mintz, K.J.; Kirbas Cilingir, E.; Nagaro, G.; Paudyal, S.; Zhou, Y.; Khadka, D.; Huang, S.;Graham, G.; Leblanc, R. M. Development of red-emissive carbon dot for bioimaging through a building block approach: Fundamental and applied studies. *Bioconjugate Chemistry* **2021, 33, 1, 226–237**.

582. Ferreira, B. C. L. B.; Liyanage, P. Y.; Leblanc, R. M. Drug Loading of Anthracycline Antibiotics on Carbon Dots Using Circular Dichroism Spectrometry. *Analytical Chemistry* **2021**, 93, 44, 14773–14777.

581. Chusuei, C. C.; Clark, C. J.; Pandey, R. R.; Williams, E. T.; Shuxteau, C.; Seven, E. S.; Leblanc, R. M. Graphene Defects in Saccharide Carbon Dots Govern Electrochemical Sensitivity. *Electroanalysis* **2021**, 33, 2261-2266.

580. Ji, C.; Zhou, Y.; Shi, W.; Wu, J.; Han, Q.; Zhao, T.; Leblanc, R. M.; Peng, Z. Facile and Sensitive Detection of Nitrogen-Containing Organic Bases with Near Infrared C-Dots Derived Assays. *Nanomaterials* **2021**, 11 (10), 2607.

579. Zhou, Y.; ElMetwally, A. E.; Chen, J.; Shi, W.; Cilingir, E. K.; Walters, B.; Mintz, K. J.; Martin, C.; Ferreira, B. C. L. B.; Zhang, W.; Hettiarachchi, S. D.; Serafim, L. F.; Blackwelder, P. L.; Wikramanayake, A. H.; Peng, Z.; Leblanc, R. M. Gel-like carbon dots: A high-performance future photocatalyst. *Journal of Colloid and Interface Science* **2021**, 599, 519–532.

577. Mintz, K. J.; Leblanc, R. M. The use of nanotechnology to combat liver cancer: Progress and perspectives. Biochimica et Biophysica Acta (BBA) - *Reviews on Cancer* **2021**, 1876, 188621.

576. Martinez, J. D.; Arrieta, E.; Naranjo, A.; Monsalve, P.; Mintz, K. J.; Peterson, J.; Arboleda, A.; Durkee, H.; Aguilar, M. C.; Pelaez, D.; Dubovy, S. R.; Miller, D.; Leblanc, R.; Amescua, G.; Parel, J.-M. Rose Bengal Photodynamic Antimicrobial Therapy: A Pilot Safety Study. *Cornea* **2021**, 40 (8), 1036-1043.

575. Sharma, S. K.; Poudel Sharma, S.; Leblanc, R. M. Methods of detection of β-galactosidase enzyme in living cells. *Enzyme and Microbial Technology* **2021**, 150, 109885.

574. Färkkilä, S. M. A.; Kiers, E. T.; Jaaniso, R.; Mäeorg, U.; Leblanc, R. M. Treseder, K. K.; Kang, Z.; Tedersoo, L. Fluorescent nanoparticles as tools in ecology and physiology. *Biological Reviews* **2021**, 96, 2392-2424.

573. Kirbas Cilingir, E.; Seven, E. S.; Zhou, Y.; Walters, B. M.; Mintz, K. J.; Pandey, R. R.; Wikramanayake, A. H.; Chusuei, C. C.; Vanni, S.; Graham, R. M.; Leblanc, R. M. Metformin derived carbon dots: Highly biocompatible fluorescent nanomaterials as mitochondrial targeting and blood-brain barrier penetrating biomarkers. *Journal of Colloid and Interface Science* **2021**, 592, 485-497.

572. da Silva, R. L. C. G.; Sharma, S. K.; Paudyal, S.; Mintz, K. J.; Leblanc, R. M.; Caseli, L. Surface Chemistry Studies on the Formation of Mixed Stearic Acid/Phenylalanine Dehydrogenase Langmuir and Langmuir–Blodgett Films. *Langmuir* **2021**, 37, 7771-7779.

571. Oztan, C. Y.; Hamawandi, B.; Zhou, Y.; Ballikaya, S.; Toprak, M. S.; Leblanc, R. M.; Coverstone, V.; Celik, E. Thermoelectric performance of Cu_2Se doped with rapidly synthesized gel-like carbon dots. *Journal of Alloys and Compounds* **2021**, 864, 157916.

570. Milenković, I.; Borišev, M.; Zhou, Y.; Spasić, S. Z.; Leblanc, R. M.; Radotić, K. Photosynthesis Enhancement in Maize via Nontoxic Orange Carbon Dots. *Journal of Agricultural and Food Chemistry* **2021**, 69, 5446-5451.

569. Ferreira, M.; Sharma, S. K.; Paudyal, S.; Leblanc, R. M. Interfacial behavior of Lactate Oxidase at Air-Subphase interface. *Journal of Colloid and Interface Science* **2021**, 589, 173-178.

568. Oztan, C.; Ginzburg, E.; Akin, M.; Zhou, Y.; Leblanc, R. M.; Coverstone, V. 3D printed ABS/paraffin hybrid rocket fuels with carbon dots for superior combustion performance. *Combustion and Flame* **2021**, 225, 428-434.

567. Mintz, K. J.; Bartoli, M.; Rovere, M.; Zhou, Y.; Hettiarachchi, S. D.; Paudyal, S.; Chen, J.; Domena, J. B.; Liyanage, P. Y.; Sampson, R.; Khadka, D.; Pandey, R. R.; Huang, S.; Chusuei, C. C.; Tagliaferro, A.; Leblanc, R. M. A deep investigation into the structure of carbon dots. *Carbon* **2021**, 173, 433-447.

566. Arumov, A.; Liyanage, P. Y.; Trabolsi, A.; Roberts, E. R.; Li, L.; Ferreira, B. C. L. B.; Gao, Z.; Ban, Y.; Newsam, A. D.; Taggart, M. W.; Vega, F.; Bilbao, D.; Leblanc, R. M.; Schatz, J. H. Optimized Doxorubicin Chemotherapy for Diffuse Large B-cell Lymphoma Exploits Nanocarrier Delivery to Transferrin Receptors. *Cancer Research* **2021**, 81, 763-775.

565. Formiga, F. R.; Leblanc, R.; de Souza Rebouças, J.; Farias, L. P.; de Oliveira, R. N.; Pena, L. Ivermectin: an award-winning drug with expected antiviral activity against COVID-19. *Journal of Controlled Release* **2021**, 329, 758-761.

564. Zhang, W.; Sigdel, G.; Mintz, K. J.; Seven, E. S.; Zhou, Y.; Wang, C.; Leblanc, R. M. Carbon Dots: A Future Blood-Brain Barrier Penetrating Nanomedicine and Drug Nanocarrier. *Int J Nanomedicine* **2021**, 16, 5003-5016.

563. DuMez, R.; Miyanji, E. H.; Corado-Santiago, L.; Barrameda, B.; Zhou, Y.; Hettiarachchi, S. D.; Leblanc, R. M.; Skromne, I. In vivo characterization of carbon dots–bone interactions: toward the development of bone-specific nanocarriers for drug delivery. *Drug Delivery* **2021**, 28, 1281-1289.

562. Seven, E. S.; Seven, Y. B.; Zhou, Y.; Poudel-Sharma, S.; Diaz-Rucco, J. J.; Kirbas Cilingir, E.; Mitchell, G. S.; Van Dyken, J. D.; Leblanc, R. M. Crossing the blood–brain barrier with carbon dots: uptake mechanism and in vivo cargo delivery. *Nanoscale Advances* **2021**, 3, 3942-3953.

561. Hettiarachchi, S. D.; Kirbas Cilingir, E.; Maklouf, H.; Seven, E. S.; Paudyal, S.; Vanni, S.; Graham, R. M.; Leblanc, R. M. pH and redox triggered doxorubicin release from covalently linked carbon dots conjugates. *Nanoscale* **2021**, 13, 5507-5518.

560. Peterson, J. C.; Arrieta, E.; Ruggeri, M.; Silgado, J. D.; Mintz, K. J.; Weisson, E. H.; Leblanc, R. M.; Kochevar, I.; Manns, F.; Parel, J.-M. Detection of singlet oxygen luminescence for experimental corneal rose bengal photodynamic antimicrobial therapy. *Biomed. Opt. Express* **2021**, 12, 272-287.

559. Hettiarachchi, S. D.; Leblanc, R. M. Dual targeting nano-approaches for Alzheimer's disease etiology. *Neural Regen Res* **2021**, 16, 119-120.

2020 TOTAL (13)

558. Arumov, A.; Liyanage, P. Y.; Trabolsi, A.; Roberts, E. R.; Ferreira, B. C. L. B.; Newsam, A. D.; Bilbao, D.; Leblanc, R. M.; Schatz, J. H. R-Nanochop Incorporating a TFR1-Targeted Doxorubicin Nanocarrier Is Superior to R-CHOP in a PDX Model of Diffuse Large B-Cell Lymphoma. *Blood* **2020**, 136, 43.

557. Arumov, A.; Liyanage, P. Y.; Trabolsi, A.; Roberts, E. R.; Ferreira, B.; Bilbao, D.; Leblanc, R. M.; Schatz, J. H. Abstract PO-48: Cytotoxic mechanism of a novel transferrin receptor-targeting chemotherapeutic nanocarrier for use in diffuse large B-cell lymphoma. **2020**, 1 (3 Supplement), PO-48-PO-48.

556. Yoham, A. L.; Matta, C. M.; Safar, S. B.; Sankaran, M.; Kaplina, A.; Hettiarachchi, S. D.; Veliz, E. A.; Leblanc, R. M.; Vanni, S.; Graham, R. M. Targeted Delivery of Anti-Cancer Chalcone Drugs for Glioblastoma Multiforme Using Carbon Dots as Nanocarrier. *Journal of the American College of Surgeons* **2020**, 231 (4), S180.

555. Zhou, Y.; Chen, J.; Miloserdov, N.; Zhang, W.; Mintz, K. J.; Ferreira, B. L. C. B.; Micic, M.; Li, S.; Peng, Z.; Leblanc, R. M. Versatile drug nanocarrier assembly via conjugation of distinct carbon dots. *Moroccan Journal of Chemstry* **2020**, *8*, 994-1007.

554. Peng, Z.; Ji, C.; Zhou, Y.; Zhao, T.; Leblanc, R. M. Polyethylene glycol (PEG) derived carbon dots: Preparation and applications. *Appl. Mater. Today* **2020**. *20*, 100677.

553. Ji, C.; Zhou, Y.; Leblanc, R. M.; Peng, Z. Recent developments of carbon dots in biosensing: A review. *ACS Sensors* **2020**, 2724-2741.

552. Peng, Z.; Zhou, Y.; Ji, C.; Pardo, J.; Mintz, K. J.; Pandey, R. R.; Chusuei, C. C.; Graham, R. M.; Yan, G.; Leblanc, R. M. Facile synthesis of "boron-doped" carbon dots and their applications in visible-light-driven photocatalytic degradation of organic dyes. *Nanomaterials* **2020**, *10*, 1560-1576.

551. Zhou, Y.; Mintz, K. J.; Cheng, L.; Chen, J.; Ferreira, B. L. C. B.; Hettiarachchi, S. D.; Liyanage, P. Y.; Seven, E. S.; Miloserdov, N.; Pandey, R. R.; Quiroga, B.; Blackwelder, P. L.; Chusuei, C. C.; Li, S.; Peng, Z.; Leblanc, R. M. Direct conjugation of distinct carbon dots as Lego-like building blocks for the assembly of versatile drug nanocarriers. *J. Colloid Interaface Sci.* **2020**, *576*, 412-425.

550. Liyanage, P. Y.; Zhou, Y.; Al-Youbi, A. O.; Bashammakh, A. S.; El-Shahawi, M. S.; Vanni, S.; Graham, R. M.; Leblanc, R. M. Pediatric glioblastoma target-specific efficient delivery of gemcitabine across the blood–brain barrier via carbon nitride dots. *Nanoscale* **2020**, 12, 7927-7938.

549. Oztan, Y. C.; Nawafleh, N.; Zhou, Y.; Liyanage, P. Y.; Hettiarachchi, S. D.; Seven, E. S.; Leblanc, R. M.; Ouhtit, A.; Celik, E. Recent advances on utilization of bioprinting for tumor modeling. *Bioprinting* **2020**, 18, e00079-e00085.

548. da Silva, R. L. C. G.; Sharma, S. K.; Paudyal, S.; Mintz, K. J.; Caseli, L.; Leblanc, R. M. Surface chemistry studies of the native phenylalanine dehydrogenase Langmuir monolayer at the air/aqueous NaCl interface. *J. Colloid Interface Sci.* **2020**, 560, 458-466.

547. Peng, Z.; Zhao, T.; Zhou, Y.; Li, S.; Li, J.; Leblanc, R. M. Bone tissue engineering via carbon-based nanomaterials. *Adv. Healthc. Mater.* **2020**, 9, 1901495-1901524.

546. Paudyal, S.; Sharma, S. K.; da Silva, R. L. C. G.; Mintz, K. J.; Liyanage, P. Y.; Al-Youbi, A. O.; Bashammakh, A. S.; El-Shahawi, M. S.; Leblanc, R. M. Tyrosinase enzyme Langmuir monolayer: Surface chemistry and spectroscopic study. *J. Colloid Interface Sci.* **2020**, 564, 254-263.

16. Books and monographs published:

[1] Li, S.; Peng, Z.; Han, X.; Leblanc. R. M. "Interactions between graphene oxide and biomolecules from surface chemistry and spectroscopy". The American Chemical Society (ACS) Symposium Series volume titled "Recent progress in surface and colloids chemistry with biological applications". *ACS Symposium Series*, 2015, Vol. 1215, Chapter 3, 43-64.

[2]. Peng, Z., Li, S.; Han, X.; Al-Youbi, A. O.; Bashammakh, A. S.; El-Shahawi, M. S.; Leblanc, R. M. "Recent progress towards the spectroscopic analysis of biomacromolecule-nanoparticle interactions". *Comprehensive Supramolecular Chemistry II*, Elsevier, 2016.

[3]. Ezzati, N.; Asadi, E.; Leblanc, R. M.; Ezzati, M. H.; Sharma, S. K. Chapter 11 – "Other applications of polyaniline-based blends, composites, and nanocomposites A2" - Visakh, P.M. In *Polyaniline blends, composites, and nanocomposites*, Pina, C. D.; Falletta, E., Eds. Elsevier: 2018; pp 279-303.

[4]. DeRose, J. A.; Leblanc, R. M. Chapter 22 - Protein and molecular assembly monolayer and multilayer film studies with scanning probe microscopy. In *Micelles: Microemulsions, and Monolayers: Science and Technology*, Marcell Dekker, Inc: 2018.

17. Juried or refereed journal article and exhibitions:

In 2022, one has reviewed 129 manuscripts for peer-reviewed journals, including Langmuir, Angewandte Chemie, ACS Applied Materials and Interfaces, and The Journal of Physical Chemistry.

18. Other works, publications, and abstracts:

19. Other works <u>accepted</u> for publication:

<u>PROFESSIONAL</u>

20. Funded Research Performed (include all grants received in the last five years, identifying the principal investigator and the amounts and dates of the awards):

Florida Department of Health (PI: R. M. Leblanc) "Nanoarchitectonics of carbon dots as a combinational drugs multi target systems for treating progression of Alzheimer's disease"	2023-2024	$52,536
National Science Foundation (PI: R. M. Leblanc) "Carbon Dot-Based Transformative COVID-19 Therapy"	2020-2023	$300,000
National Institute of Health (co-PI: R. M. Leblanc) "Nanoparticle-based drug delivery targeting the respiratory neural network"	2021-2023	$166,940

National Science Foundation (PI: R. M. Leblanc) 2018-2022 $410,439
"Development of nontoxic carbon dots as bone-specific carrier for drug delivery"

Florida Department of Health (co-PI: R. M. Leblanc) 2021-2023 $247,000
"Carbon dot derivative for biomodal imaging and targeted drug delivery to pediatric high-grade gliomas"

Department of Education (PI: R. M. Leblanc) 2021-2022 $15,000
"MDC DoEd STEM EngInE collaboration"

National Institute of Health (co-PI: R. M. Leblanc) 2017-2022 $364,213
"Testing the therapeutic potential of carbon nanodots in bone mineralization diseases"

Bcured (co-PI: R. M. Leblanc) 2020-2022 $50,000
"Targeted delivery of novel bis-chalcone using carbon nitride as nanocarrier"

Florida Department of Health (co-PI: R. M. Leblanc) 2023-2024 $100,000
"Nanoarchitectonics of Carbon Dots as a Combinational Drugs Multi Target Systems for Treating Progression of Alzheimer's Disease"

21. Editorial responsibilities:

Associate Editor

1993-2004 : Canadian Journal of Botany

1998-present : Colloids and Surfaces B: Biointerfaces

EDITORIAL BOARD:

2023-present : Frontiers in Drug Delivery (Hepatic Drug Delivery)

2022-present : Current Material Science

2019-present : World Journal of Cancer Science and Therapy

2019-present : Journal of Oleo Science

2019-present : Annals of Translational Medicine

2014-present : Journal of Parkinson's Disease and Alzheimer's Disease

2010-present : International Journal of Analytical Chemistry

2007-present : The Open Inorganic Chemistry Journal

2007-present : Recent Patents on Material Science

1996-2000 : Journal of Biological Systems

22. Professional and Honorary Organizations (member; officer; date)

PHI BETA DELTA The National Honor Society for International Scholars: Member

	as an outstanding Faculty/Chair/Administrator Scholar.	1996
SIGMA XI	University of Miami Chapter Sigma Xi. The Scientific Research Society.	1995
BOUCHET	The Bouchet Honor Society: Member based on the noteworthy achievements as a scholar and exemplar of the Bouchet Society's mission, and for having shown commitment to ensuring excellence and equity in graduate education.	2023
NSF	Reviewer member of the NSF Biosensing Program on December 16-17	2024
NSF	Reviewer member of the NSF Biomaterials Program on January 30-31	2025

23. Honors and Awards:

In 2024, scientific organization has nominated my name as "Best Research Award" at the upcoming International Research Award. One is on Atomic Molecular and Optical Physics from the Organization Committee. It was stated that your "outstanding contribution to the field has set you apart as an exemplary candidate for this prestigious honor" (email Feb 13, 2024). Others are the International Research Awards on New Science Inventions, the International Award on Reenforced Polymers, International Research Award on Sciences, Health and Engineering, and International Research Data Analysis Excellence Awards in the category of the Strategy International data breakthrough Excellence Award (Email Feb. 27, 2024) All these nominations were based on the publication from my research group entitled "Localized states in carbon dots: Structural and optical investigation of three systems with varying degrees of carbonization. Mintz et al. Carbon 2024, 222, 118906".

A second publication has been picked up by the Organizational Committee of the Inventions Awards Team as the "Best Research Awards" (e-mail May 10, 2024, June 7, 2024, and Sept. 22, 2024) related to the "Carbon dots as dual inhibitors for Alzheimer's tau and amyloid beta aggregation. Zhang et al. Acta Biomater. 2024,15;183:341-355". A third publication was also selected as "Best Research Award" by the Organizing Committee (email Sept. 13, 2024). The publication refers to "The art of simplicity: Water-soluble porphyrin-like carbon dots self-assemble into mesmerizing red glow. Domena et al. Colloids Surf B Biointerfaces 2024, 113719, 1-10". A fourth publication has been selected this year although it has been publishing in 2021 with the title "Facile and Sensitive Detection of Nitrogen-Containing Organic Bases with Near Infrared C-dots derived Assays" Ji et al. Nanomaterials 2021, 11, 2607, 15 pages, with an IF of 12.6.

The Honors and Awards I have received are listed as following:

- Nominee for the Provost award for faculty Excellence and Impact in the category of Lifetime Achievement 2024
- Award for my paper entitled "Interactions between carbon nanomaterials and biomolecules" from *Journal of Oleo Science* because it was their most cited paper from 2016-2019 2019
- Faculty Mentor of the Year Award (UM graduate school faculty) 2013-2014
- Cooper Fellowship from the College of Arts & Sciences at the University of Miami in recognition of the excellence in contributing to the core missions of scholarship, teaching and service 2011-2013
- The "2006 Florida Award" of the American Chemical Society (in recognition 2006

of the significant and meritorious achievements of prominent Florida Scientists) Presented at the FAME2006 on May 12.

- The Society of Physical Chemists of Serbia awards Professor Roger M. Leblanc Honorary Membership of the Society for his contribution to the development of Physical Chemistry (Presented on September 26, 2002) 2002

- Provost's Award for Scholarly Activity (In recognition for excellence in research, March 5th, presented by the Provost) 2002

- Corresponding Member of the Societe Royale des Sciences de Liege, Belgique (Presented on January 24, 2002) 2002

- Research Grant Award from the Society of Cosmetic Chemists, Florida Chapter (In recognition for his innovative research work on photoacoustic spectroscopy applied to skin) 1999

- Excellence in chemistry. The Chemistry Department and the College of Arts 1999

and Sciences recognizes Professor Roger M. Leblanc for Exemplary Scientific Advancements and Departmental Leadership

- PLAQUE presented to Professor Roger Leblanc in recognition and appreciation for contributions to the chemistry department as chairman (April 5, presented by the Chemistry Club) 1997

- ROGER M. LEBLANC SCHOLARSHIP (In recognition of Dr. Roger M. Leblanc's exceptional contribution for the development of graduate studies in Biophysics. This scholarship was instituted in his name at the University of Québec at Trois-Rivières) 1993

- GOVERNOR GENERAL MEDAL (The commemorative medal for the 125th anniversary of the Confederation of Canada is conferred in recognition of significant contribution to compatriots, community and to Canada, by Governor General of Canada) 1993

- HONORARY PROFESSOR OF JILIN UNIVERSITY (Jilin Changchun, P.R. of China) 1992

- JOHN-LABATT LIMITED AWARD OF THE CANADIAN SOCIETY FOR CHEMISTRY (In recognition of outstanding achievement in the field of biochemical or organic chemical research with particular emphasis on biological systems) 1992

- UNIVERSITY MERIT MEDAL (First recipient of University Merit Medal among 350 professors of all disciplines at the University of Québec at Trois-Rivières, for excellent academic activities) 1987

- BARRINGER AWARD FROM THE SPECTROSCOPY SOCIETY OF CANADA (In recognition for the distinguished achievement in the application of spectroscopy and/or development of spectroscopic instrumentation) 1983

- NORANDA AWARD FROM THE CHEMICAL INSTITUTE OF CANADA (In eecognition of distinguished contribution in the field of Physical Chemistry for a scientist who has not reached the age of 40) 1982

- FELLOW OF THE CHEMICAL INSTITUTE OF CANADA 1980

- VINCENT PRIZE FROM FRENCH-CANADIAN ASSOCIATION FOR ADVANCEMENT OF SCIENCES (ACFAS) 1978

- FELLOW OF THE NATURAL SCIENCES AND ENGINEERING RESEARCH COUNCIL OF CANADA

- Postdoctoral Fellow
  1968-1970
- Postgraduate Fellow
  1964-1968

- SCHOLARSHIP FROM YOUTH MINISTRY OF QUEBEC
  1964-1968

- SIR WILLIAM PRICE AWARD
  1963-1965

- ALLIED CHEMICAL PRIZE
  1962-1963

- FRANCE GOVERNMENT PRIZE
  1962-1963

1. Invited by the Nobel Prize Committee for Chemistry to submit proposals annually for the award of the Nobel Prize in Chemistry from 2005 to present.

2. WHOS'S WHO
   - Who's who in America
   - Who's who in American Education
   - Who's who in the East
   - Who's who in the South and Southeast
   - Who's who at the Frontier Science and Technology
   - Who's who in Science and Engineering
   - Who's who of Professionals
   - American Men and Women of Science
   - Dictionary of International Biography
   - Empire Who's who among Executives and Professionals
   - International Directory of Distinguished Leadership
   - Five Thousand Personalities of the World
   - Outstanding People of the 21th Century

24. Post-Doctoral Fellowships:

Postdoctoral Fellow	Davy Faraday Research Lab., The Royal Institution of Great Britain(London), Supervisor: Prof. G. Porter, F.R.S.	England	Physical Chemistry	1968-1970

25. Other Professional Activities (e.g., papers presented; performances; conference proceedings; seminar or conference panel member; catalogue work; etc.):

CONFERENCE PRESENTATIONS (TOTAL: 519); listed below: last 5 years

2025 (TOTAL: 4)

519. Leblanc, R.M. Thirty nine International Conference on Solution Chemistry (ICSC), Monastir, Tunesia (September 14-17: Plenary lecture)

518. Leblanc, R.M. Advances and Challenges Luminescent Nanomaterials, Ottawa, Canada (June 15-19: Plenary lecture)

517. Leblanc, R.M. ISyDNA Conference, Marrakech, Morocco (May 7-9: Plenary lecture)

516. Leblanc, R.M. Nursing Nation, virtual (February 26: Invited lecture)

2024 (TOTAL: 5)

515. Leblanc, R.M. "Application of Carbon Dots as Advanced Nanomaterials". World Congress on Nanoscience and Nanotechnology Nanotech 2024. (November 10th -11th, zoom, plenary lecture)

514. Leblanc, R.M. "Carbon Dots as Novel Drug Delivery Systems in Modern Medical Healthcare." 3rd International Forum on Biomaterials (BiomatForum 2024, London, GB, May 09-11, plenary lecture).

513. Leblanc, R.M. "Carbon Dots as Drug Delivery in Oncology." Advanced Materials and Sustainable Energy (Prague, Czech Republic, May 20-21, keynote lecture).

512. Joji, A.; Leblanc, R.M., "Photophysical Properties of Exosome". NanoFlorida 2024, International Conference (Tallahassee, FL, April 19-20, poster).

511. Leblanc, R.M. Carbon Dots as a Novel Drug Delivery System". international Conference on Biomaterials". (Athens, Greece, June 18-19, plenary lecture).

2023 (TOTAL: 13)

510. Zhang, W.; Leblanc, R. M., "Congo red-derived carbon dots as dual inhibitors of tau and Aβ aggregation in Alzheimer's disease." 2023 MRS Fall Meeting & Exhibit, Boston, MS, USA (Nov 2023, plenary lecture).

509. Leblanc, R. M., "Carbon Dots as Novel Drug Delivery Systems in Modern Medical Healthcare." Advanced Nano Organic Delivery Systems. Nano-D2S-2023 (Nov 2023, plenary lecture).

508. Chen, J.; Leblanc, R. M., "Cationic Carbon Dots and Their Applications in Cancer Cells Inhibition as well as Gene Delivery." Southeastern Regional Meeting (SERMACS) 2023, NC, USA (Oct 2023, plenary lecture).

507. Joji, A.; Chapalamadugu, K., Cilingir, E. K.; Leblanc, R. M., "Understanding a combination nanocarrier platform for the treatment of pancreatic cancer." COMBIVET & OH-BOOST joint Conference 2023 (Sep 2023, poster presentation).

506. Leblanc, R. M., "Applications of Carbon Dots as Advanced Nanomaterials." Nanotechnologies and Nanomaterials NANO-2023, Bukovel, Ukraine (Aug 2023, plenary lecture).

505. Shah, S. K.; Leblanc, R. M., "Photocatalytic Degradation of Organic Pollutant Using Carbon Dots." International Chemical Congress, Nepal Chemical Society (May 2023, poster presentation).

504. Leblanc, R. M., "Carbon Dots as Materials for Solar Energy.", 3rd International School on Advanced Materials InSAM'3, COS'ONE of Ouarzazate, Morocco (May 2023) (in-person, plenary lecture).

503. Leblanc, R. M., "Synthesis, Characterization and Application of Carbon Dots. "IV International Conference on Materials Science and Engineering, Houston, TX, USA (Apr 2023, plenary lecture).

502. Seven, E.S.; Seven, Y. B.; Graham, R. M., Leblanc, R. M., "Hydrothermal vs microwave nanoarchitechtonics of blood-brain barrier crossing and neuron targeting carbon dots with anti-cancer activity against a specific neuroblastoma cell line." APS Summit 2023 (Apr 2023, poster presentation).

501. Parikh, K.; Seven, E. S.; Luca, E.; Mitchell, G.; Leblanc, R. M., Seven, Y. B., "Glucose Carbon Dots Cross the Blood-Brain Barrier and Preferentially Target Spinal Neurons." APS Summit 2023 (Apr 2023, poster presentation).

500. Leblanc, R. M., "Synthesis, Characterization and Application of Carbon Dots.: 3rd Edition Academia International Webinar on Materials Science & Engineering (Mar 2023, plenary lecture).

499. Leblanc, R. M., "Versatile Carbon Dots as Nano-biomaterials in Modern Medicine.", International Forum on Biomaterials. BIOMATFORUM 2023 (Feb 2023, plenary lecture).

498. Milenkovic, I.; Zhou, Y.; Leblanc, R. M., "Effect of Orange-Carbon Dots on Plants." 26th Congress of the Society of Chemists and Technologists of Macedonia (SCTM), Macedonia (Feb 2023, poster presentation).

497. Durkee, H.; Ziebarth, N. M.; Martinez, J. D.; Leblanc, R. M.; Amescua, G.; Flynn Jr., H. W.; Miller, D.; Parel, J. M., "Rose Bengal Photodynamic Antimicrobial Therapy to Treat Fungal Keratitis" Bascom Palmer Eye Institute (BPEI) Research Retreat 2023 (Feb 2023, poster presentation).

2022 (TOTAL: 12)

496. Leblanc, R. M., "Carbon Dots as Novel Drug Delivery Systems in Modern Medical Healthcare." Radiation Biology Lecture Series/Department of Radiation Oncology/UHealth (Sylvester Comprehensive Cancer Center, University of Miami, October 2022, in-person, seminar).

495. Mollick, R.; Zhou, Y.; Leblanc, R. M., "An Experimental Investigation on the Stability of Gel-Like Carbon Dot Based Nanofluids." ASME 2022 (Apr 2022).

494. Leblanc, R. M., "A Talk about Scientific Research". Fulbright sponsorship program 2022 (Nepal, in-person, July-Aug 2022, meeting).

493. Zhang, W.; Leblanc, R. M., "Drug delivery of memantine with carbon dots for Alzheimer's disease: blood–brain barrier penetration and inhibition of tau aggregation." ACS Fall 2022 (Aug 2022).

492. Peterson, J. C.; Ferreira, B. C. L. B.; Parel, J. M.; Leblanc, R. M., "Improving Rose Bengal Photodynamic Antimicrobial Therapy efficacy by validating predictive model." ARVO 2022 (Sep 2022).

491. Leblanc, R. M., "Carbon Dots as Versatile Drug Nanocarriers in Modern Medicine." BioMaterial World Forums-2022 (BioMat-2022, Spain, Virtual, March 2022, plenary lecture).

490. Leblanc, R. M., "Carbon Dots as Novel Cargo for Drug Delivery in Modern Medical Healthcare." World Congress on Sciences and Applied Sciences 2022 (WCSAS 2022, Qatar, Virtual, March 2022, plenary lecture).

489. Leblanc, R. M., "Solution State Applications of Carbon Dots." 37th International Conference on Solution Chemistry 2022 (37ICSC, Colombia, Virtual, July 2022, plenary lecture).

488. Leblanc, R. M., "Carbon Dots as Novel Cargo for Drug Delivery in Modern Medical Healthcare." 16th International Conference on Fundamental and Applied Aspects of Physical Chemistry 2022 (Serbia, Virtual, October 2022, plenary lecture).

487. Leblanc, R. M., "Carbon Dots as Novel Cargo for Drug Delivery in Modern Medical Healthcare." 2nd Edition Academia International Webinar on: Materials Science & Engineering (United Kingdom, Virtual, November 2022, keynote)

486. Leblanc, R. M., "Novel Carbon Dots Materials with Dielectric and Thermoelectric Properties". The Seventh International Symposium on Dielectric Materials and Applications (ISyDMA'7, Poland, Virtual, December 2022, plenary lecture).

485. Leblanc, R. M., "Carbon Dots as Novel Cargo for Drug Delivery in Modern Medical Healthcare." The 12th Annual Meeting of the Middle Eastern Association for Cancer Research (Virtual, Morocco, December 2022, keynote lecture).

2021 (TOTAL 10)

484. Leblanc, R. M., "A Promissing Nanoparticle for Biological Applications that Needs a Thorough Characterization to Have a Real Chance of Making a Breakthrough". Sample Treatment 2021 (Virtual, November 16th, 2021, plenary lecture).

483. Leblanc, R. M., "Carbon Dots: A High-Performance Future Photocatalyst". Global Summit on Catalysis, Chemical Engineering and Technology (GSCCET2021) (Virtual, November 8th, 2021, plenary lecture).

482. Leblanc, R. M., "Carbon dots as Versatile Drug Nanocarriers in Modern Medicine". Carbon, Graphene, 0D, 1D, and 2D Materials (Virtual, July 22-23, 2021, plenary lecture).

481. Leblanc, R. M., "Carbon Dots as Versatile Drug Nanocarriers in Modern Medicine". 3rd Global Virtual Summit on "Advances in Materials Physics and Chemistry Science" (Virtual, July 22-23, 2021, plenary lecture).

480. Leblanc, R. M., "Versatile Carbon Dots: Syntheses, Characterizations and Applications". 7th International Conference on Mechanical Structures and Smart Materials (ICMSSM2021) (Virtual, June 15, 2021, plenary lecture).

479. Leblanc, R. M., "Versatile Carbon Dots: Syntheses, Characterizations and Applications". Webinar 2021 Scientific Program 33rd Nano Congress for Future Advancements & 12th World Congress on Chemistry (Virtual, April 28, 2021, plenary lecture).

478. Leblanc, R. M., Carbon dots as Versatile Drug Nanocarriers in Modern Medicine". 2nd Global Virtual Summit on Advances in Materials, Physics and Chemistry Science (Virtual, February 18-19, 2021, plenary lecture).

477. Mintz, K.; Leblanc, R. M., "A Promissing nanoparticle for Biological Applications that Needs a Thorough Characterization to Have a Real Chance of Making a Breakthrough". 5th International Caparic Christmas Conference on Sample Treatment 2021 (Virtual, November 15-18, paper).

476. Milenkovic, I.; Zhou, Y.; Leblanc, R.M., "Influence of Orange Carbon Dots on Antioxidative Activity in Maize". The Frontiers of Science and Technology in Crop Breeding and Production" (Virtual, June 8-9, 2021, abstract)

475. Zhou, Y.; Leblanc, R. M., "Experimental Investigation of the Changes in Combustion Behavior of Jet-A Fuel Droplets Due to the Addition of Carbon Dots (CDs)". Central States Section of the Combustion Institute (Virtual, May 24–26, 2021, abstract).

2020 (TOTAL 14)

474. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". 3rd International Conference on Chemistry and Chemical Engineering (Virtual, December 7-8, 2020, plenary lecture).

473. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". The 10th annual meeting of the Middle-Eastern Association for Cancer Research (MEACR) (Virtual, December 5-6, 2020, plenary lecture).

472. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". The 7th Global Conference on Polymer and Composite Materials (PCM 2020) & (GNN 2020) The 2nd International Conference on Graphene and Novel Nanomaterials (Virtual, November 1-4, 2020, plenary lecture).

471. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". International Webinar on Nanomaterials 2020: Current Trends and Future Technologies of Nanomaterials (Virtual, October 31, 2020, plenary lecture).

470. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". Webinar on Nanotechnology (Virtual, October 21-22, 2020, plenary lecture).

469. Mintz, K. J.; Leblanc, R. M., "A deep investigation into the structure of carbon dots". NanoFlorida 2020 (Virtual, September 25, 2020, poster presentation).

468. Leblanc, R. M., "Carbon dots as versatile drug nanocarriers in modern medicine". International Webinar on Pharmacy and Pharma networks (Virtual, September 21-22, 2020, plenary lecture).

467. Leblanc, R. M., "Carbon dots: New biomaterials in surface science". Global Virtual Summit on Advances in Materials, Physics and Chemistry Science (Virtual, September 11-12, 2020, plenary lecture).

466. Leblanc, R. M., "Carbon dots as novel vehicle for drug delivery in modern medical healthcare". 17th International Conference on Nanosciences & Nanotechnologies (NN20) (Virtual, July 7-10, 2020, plenary lecture).

465. Leblanc, R. M., "Nanoparticle as a novel topic in surface science". 14th International Summer Schools on Nanosciences & Nanotechnologies, Organic Electronics & Nanomedicine (ISSON20) (Virtual, July 4-11, 2020, plenary lecture).

464. Leblanc, R. M., "Carbon dots as novel vehicle for drug delivery in modern medical healthcare". Global Virtual Conference on Bio-Nano Innovation (BioNano 2020) (Virtual, June 6, 2020, plenary lecture).

463. Leblanc, R. M., "Physicochemical characterization of a novel carbon nanomaterial: Carbon dots". The Fifth International Symposium on Dielectric Materials and Applications (ISyDMA'5) (Virtual, April 15-17, 2020, plenary lecture).

462. Mintz, K. J.; Leblanc, R. M., "Optimization of carbon dots' emission wavelength for biological applications". American Chemical Society National Meeting (Virtual, cancelled from Philadelphia, PA, USA, March 22-26, 2020, poster presentation, https://doi.org/10.1021/scimeetings.0c00887).

461. Mintz, K. J.; Leblanc, R. M., "Preparation of red emissive carbon dots to optimize their applications". University of Miami Graduate and Postdoctoral Research Symposium (Coral Gables, FL, USA, March 5, 2020, poster presentation).

TEACHING

26. Teaching Awards Received:

    Provost's Award for Scholarly Activity (In recognition for excellence in research, March 5th, 2002 presented by the Provost)

27. Teaching Specialization (Note briefly courses taught, new courses developed, innovative or experimental teaching etc.):

    CHM 103: Chemistry for Life Sciences

    CHM 111: General Chemistry (Honors)

    CHM 331: Physical Chemistry for Pre-med Students

    CHM 360: Physical Chemistry I

    CHM 575: Principles of Spectroscopic Techniques (Graduate level)

    CHM 675: Surface Chemistry (Graduate level)

28. Thesis and Dissertation Advising/Post-doctoral student supervision (chairman or committee member; topic; student name; date):

POST-DOCTORAL SUPERVISION (last 5 years)

Zhou, Yiqun, Ph.D. August 2019 – August 2020.

MASTERS AND DOCTORATES (last 5 years) as Supervisor

ZHANG, Wei. "Carbon Dots for Drug Delivery and Treatment of Alzheimer's Disease" Ph.D. (Chemistry), 2024.

PAUDYAL, Suraj. "Investigation of Interfacial behavior of biological enzymes and use of carbon dots for treatment of neuroblastoma". Ph.D. (Chemistry), 2024.

FERREIRA, Braulio Carreea de Loureiro Bernardes. "Exploring the propoerties of carbon dots and photosensitizers in biomedicine". Ph.D. (Chemistry), 2024.

DOMENA, Justin B. "The hourney of red emissive carbon dots: from concenpt to application". Ph.D (Chemistry), 2024.

CILINGIR, Emel Kirbas. "Nanoarchitectonics of carbon dots: a study of the multifunctional chemical toolbox for improved drug delivery and bioimaging systems". Ph.D. (Chemistry), 2023.

MARSEILLE, Marie. "The Prospect Use of Carbon Dots in Skin Care". M.Sc. (Chemistry), 2023.

SEVEN, Elif Sezin. "Development of Carbon Dots and their conjugates targeting central nervous system". Ph.D. (Chemistry), 2021.

MINTZ, Keenan Josiah. "A Proposed Model Explaining the Photophysical and Microscopic Properties of Carbon Dots". Ph.D. (Chemistry), 2021

LIYANAGE, Piumi Yasodha. "Carbon nitride dots synthesis and optimization for biomedical applications in imaging, sensing and targeted therapeutic delivery". Ph.D. (Chemistry), 2020.

HETTIARACHCHI, Sajini Deepashika. "Carbon dots based nano-deliveries for brain diseases". Ph.D. (Chemistry), 2020.

ZHOU, Yiqun. "Carbon dots: From lab synthesis to unique applications". Ph.D. (Chemistry), 2019.

SERVICE

29. University Committee and Administrative Responsibilities:

    1) Member of the Center on Aging.

    2) Member of the University Honors Graduation Committee to review undergraduate magna and summa thesis.

    3) Member of the Committee to select the candidate to the Visiting Assistant position for the HHMI program.

    4) Member of the Education Ministry Committee (Quebec) for the selection of the candidate to the prize of Excellence in Research for 2018.

30. Community Activities: Last 5 years

1. Department, College, and University committees:

A. Research Programs (last 5 years):

1) Evaluation of scientific projects in Serbia (2011-2014)

B. Promotion and Tenure:

1) Reviewed Dr. Digambara Patra's file for promotion to Full Professor with tenure in the Department of Chemistry in the Faculty of Arts and Sciences at American University of Beirut, Lebanon.

2) Reviewed Dr. Jean-Hubert Olivier file for promotion to Full Professor with tenure in the Department of Chemistry in the Faculty of Arts and Sciences at the University of Miami, FL.

3) Reviewed Dr. V. Prakash Reddy file for promotion to the rank of Full Professor in the Department of Chemistry, Missouri University of Science and Technology, MO.

4) Reviewed Dr. Daniel Riemer file for promotion to the rank of Associate Professor with tenure in the Department of Marine Geology and Geophysics at the Rosenstiel Marine School and Atmospheric Science, UM.

5) Reviewed Dr. Alexander Rezvin's file for promotion from associate to Full Professor in the Department of Chemistry, University of California Davis, CA.

6) Reviewed Dr. Digambara Patra's files for promotion from assistant to Associate Professor in the Department of Chemistry, American University of Beirut, Riah El-Solh, Beirut Lebanon.

7) Reviewed Dr. Pamela Reid's file for promotion to the rank of Full Professor in the Department of Marine Geology and Geophysics at the Rosenstiel Marine School and Atmospheric Science, UM.

8) Reviewed Dr. Bingqian Xu's file for promotion to the rank of Associate Professor with tenure; Faculty of Engineering, University of Georgia, Athens, Georgia.

9) Reviewed Dr. V. Moy's file for promotion to the rank of Professor in the Department of Physiology and Biophysics, University of Miami, Miller School of Medicine.

10) Reviewed Dr. Swadeshmukul Santra file for promotion to Full Professor with tenure in the Nanoscience Technology Center at the University of Central Florida, Orlando, FL.

11) Reviewed Dr. Andrew G. Tennyson file for tenure and promotion to the rank of Associate Professor in the Department of Chemistry at Clemson University, Clemson, SC.

12) Reviewed Dr. Nick Kotov file for promotion to Full Professor with tenure in the Department of Mechanical Engineering and Materials Science, Biomedical Engineering and Chemistry at Duke University, Durham, NC.

Member of committees (NSF[1], NSERC[2], FONDS FCAR[3] AND NRC[4])

2012-present : Excellence Prize of the Fonds de Recherche Nature et Technologies (Quebec)

2012	:	1st International Colloids and Materials Symposium
2012	:	IC ANMBES
2011	:	NSF US-China ASBIT

1 National Sciences Foundation (U.S.A.)
2 Natural Sciences and Engineering Research Council of Canada
3 Formation de Chercheurs et L'Aide à la Recherche
4 National Research Council of Canada