

CURRICULUM VITAE

• **Personal Details**

N. Gabriel Lemcoff

Date and place of birth: June 4th 1969, Buenos Aires, Argentina

Address telephone number at work: Chemistry Department, Ben-Gurion University of the Negev. 08-6461641

Address and telephone number at home: Kibbutz Yakum, 09-9524360.

• **Education**

B.Sc. - 1995 - Tel-Aviv University, Chemistry (Magna Cum Laude)

Ph.D.- 2002, Tel-Aviv University, Chemistry (Summa Cum Laude)

Name of advisor: Prof. Ben-Zion Fuchs

Title of thesis: "Novel Macromolecular Diacetal Systems"

• **Employment History**

Years: December 2015-

Full Professor

Ben-Gurion University of the Negev

Years: April 2011-November 2015

Associate Professor (Tenured)

Ben-Gurion University of the Negev

Years: August 2004- April 2011

Senior Lecturer

Ben-Gurion University of the Negev

Years: January 2002- August 2004

Postdoctoral Research Assistant

University of Illinois Urbana-Champaign; Department of Organic Chemistry,

Supervisor: Prof. Steven C. Zimmerman.

• **Professional Activities**

Positions in academic administration

2016- University Superior Promotions Committee

2016- Head of the NMR Committee

2012- University Senate Member

2012- University Senate Follow-up Committee

2012-2016 Head of Chemistry Department

2010-2012 Head of the Undergraduate Teaching Committee, Chemistry Department

2010-2012	Departmental Prizes Committee
2009-2013	Students' University Disciplinary Committee
2008-2012	Head of the NMR Committee
2005-2012	Undergraduate Teaching Committee

Professional functions outside universities/institutions

2013-	Steering Committee for the Chemistry "Marie Curie" Program for High School students in the Negev. (Institutions in the committee: City of Beer-Sheva, Rashi Foundation, Adama Agricultural Solutions Ltd., Chemistry Department BGU, Jusidman Program BGU).
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Significant professional consulting

2007-2010	Consultant for Eden Oils on chemical transformations of jojoba oils.
2014-2015	Consultant for Teva Industries on chemical patent issues.
2016	Consultant for ICL Industrial Products (Bromine Chemicals)

Ad-hoc reviewer for journals

Reviewer for major chemical journals, Main activities for:

ACS (JACS, JOC, Org. Lett., Organometallics, Inorg. Chem., Macromol., ACS Catalysis),
Wiley (Angew. Chem., Adv. Syn. Cat., Chem. Eur. J., Eur. J. Org. Chem., Eur. J. Inorg. Chem., Chem. Asian J., J. Polym. Sci. Part A),
RSC (Chem. Comm., Chem. Science, Dalton Trans., Poly. Chem., RSC Adv) and others.

Membership in professional/scientific societies

1995-2001/2005- Israeli Chemical Society
 1998-2001/2005- 2012 American Chemical Society

• Educational activities

(a) Courses taught

2005- 2009	Advanced Organic Chemistry Lab (3 rd Year Students). 10 hours/week.
2007-	Introduction to Chromatography (3 rd Year + MSc Students) 2 hours/week.
2008-2010	Selected Chapters in Physical Organic Chemistry (Graduate Course). 3 hours/week.
2009-2011	Advanced Organic Chemistry (3 rd Year + MSc Students). 3 hours/week.
2010-2016	Organic Chemistry Lab (2 nd Year Students). 6 hours/week.
2010-2013	Organometallics (3 rd Year + MSc Students) taught jointly with Prof. Ira Weinstock. 2 hours/week.
2010-2016	History, Methodology and Ethics in Science (3 rd Year + Graduate Students). 1 hour/week.
2011-2016	Physical Organic Chemistry (3 rd Year, 3 hours/week)
2015-	Organic Chemistry 1 (Marie Curie Program for High School Students/ 4 hours/week)
2016-	Advanced Organic Chemistry Lab (3 rd Year Students). 10 hours/week.

(b) Research students

1- Eyal Tzur, 'Novel methods in olefin metathesis', PhD 2005-2010 (Summa Cum Laude).

Currently Senior Lecturer at Sami Shamoon College of Engineering.

- 2- Meital Shema-Mizrachi, 'Mass transfer and catalysis in dendrimers with boronic acid end-groups', MSc 2004-2006, PhD 2006-2012.
Currently Teva Pharmaceutical Industries, R&D.
- 3- Olga Iliashevsky, 'Synthesis, development and applications of supported dendritic macromolecules', MSc 2004-2006, PhD 2006-2011.
Currently Technician Position at Chemical Engineering, BGU.
- 4- Sarit Yerushalmi, 'Novel synthetic methods and studies of substituted, macrocyclic and dendrimeric quinones', MSc 2005-2007, Co-supervisor Prof. S. Bittner.
'Multivalent dendritic quorum sensing molecules', PhD 2007-2014, Co-supervisor Prof. Michael Meijler.
Currently Senior Chemist, Eden Oils, Hatzerim.
- 5- Yuval Vidavsky, 'Novel polymer structures by olefin metathesis', MSc 2005-2007, PhD 2008-2012.
Currently Postdoctoral Researcher, Cornell University.
- 6- Charles E. Diesendruck, 'Homo and hetero bimetallic N-heterocyclic carbene catalytic complexes' MSc 2005-2007, PhD 2007-2011.
Currently Assistant Professor, Chemistry Faculty, Technion.
- 7- Dvora Berkovich-Berger, 'Acetal dynamic combinatorial libraries', PhD 2005-2011
Currently Israel Chemicals Ltd., R&D.
- 8- Anna Aharoni, 'New methods in catalysis: Mass transfer with dendritic catalysts and development of latent ruthenium olefin metathesis catalysts', PhD 2005-2011
Currently Teva Pharmaceutical Industries, R&D.
- 9- Liron Amir, 'Design synthesis and electropolymerization of hybrid pyrrole based compounds for use in biosensors', MSc 2006-2009. Co-supervisor Prof. R. Marks
- 10- Monique Bassomo, 'Novel bolaamphiphilic vesicles from castor oil for targeted drug delivery', PhD 2008-2014. Co-supervisor Prof. Sarina Grinberg.
- 11- Yakov Ginzburg, "Organic nanoparticles by olefin metathesis", MSc 2009-2011, PhD 2011-2016
Currently OnTarget Chemistry, R&D.
- 12- Efrat Levin "Novel Thiol Reactions and Light Guided Processes", MSc 2009-2011, PhD 2011-2016
Currently OnTarget Chemistry, R&D.
- 13- Aviel Anavi "Trifluorothioether ligands for latent olefin metathesis and Novel Thiol Reactions", MSc 2009-2011
Currently, PhD student, Weizmann, supervisor Prof. David Milstein
- 14- Elisa Ivry "Asymmetric Ruthenium olefin metathesis catalysts", MSc 2011-2013, PhD 2013-
- 15- Illya Rosenberg "Polymeric Organic Nanoparticles", MSc 2011-2013, PhD 2013-

- 16- Danielle Butilkov “Dendritic Catalysts”, MSc 2011-2013, PhD 2013-
- 17- Inbal Berkovich “Organometallic Nanoparticles”, PhD 2013-
- 18- Or Eivgi “New Chromatic Orthogonal Processes”, MSc 2013-2015, PhD 2015-
- 19- Victoria Kobernik “Organic Nanoparticles”, MSc 2014-
- 20- Gal Segalovich “Novel Photosensitive Catalysis”, MSc 2016-
- 21- Alexander Frenkel “DFT Analyses of Ruthenium Catalysts”, PhD 2016- Co-supervisor
Dr. Sebastian Kozuch

Postdoctoral Researchers

- Dr. Rajesh H. Tale, 2009-2010
- Dr. Sudheendran Mavila, 2012-2015, Currently Postdoctoral Researcher University of Colorado, Boulder.
- Dr. Sukdeb Saha, 2013-2016
- Dr. Revanath Sutar, 2014-
- Dr. Stefano Guidone, 2015-2016
- Dr. Srinivas Samala, 2015-2016
- Dr. Amar Mohite, 2016-

Summary: 12 PhD graduates, 13 MSc graduates.

Current group: 6 PhD students, 2 MSc students, 3 Postdoctoral researchers.

• **Awards, Citations, Honors, Fellowships**

2011 Dean’s Award for excellence in research

2008 Chairmen Innovative Work in Organometallic Chemistry Award, ICOMC XXIII,
Rennes, France

1998 Intel Graduate Excellence Award, Tel-Aviv University.

1997 Trotzky Scholarship, Tel-Aviv University.

1994 Undergraduate Excellence Prize, Chaim Langzman (in memoriam) prize.

• Scientific Publications

H-index, 21. Sum of the times cited, 1278; without self-citations, 1119. (ISI Dec 2016)

1. Frische, K.^{PD}; Greenwald, M.^S; Ashkenazi, E.^S; Lemcoff, N.G.^S; Abramson, S.^C; Golender, L.^C; Fuchs B.^{PI} “**New Supramolecular Hosts Systems. 4. Novel Diacetal Podands, Diazacrowns and Cryptands**” *Tetrahedron Letters*, **1995**, *36*, 9193-9196. (IF = 2.347, JR 25/59 – Q2, 23 citations)
2. Star, A.^S; Lemcoff, N.G.^S; Goldberg, I.^C; Fuchs, B.^{PI} “**A new class of heterobicyclic systems: dioxadiazadecalins**” *Tetrahedron Letters*, **1997**, *38*, 3573-3576. (IF = 2.347, JR 25/59 – Q2, 12 citations)
3. Star, A.^S; Goldberg, I.^C; Lemcoff, N.G.^S; Fuchs, B.^{PI} “**New supramolecular host systems. Part 11. The stereoisomeric diaminobutanediol and dioxadiazadecalin systems. Synthesis, structure, stereoelectronics, and conformation. Theory vs. experiment**” *European Journal of Organic Chemistry*, **1999**, *9*, 2033-2043. (IF = 3.068, JR 17/59 – Q2, 15 citations)
4. Grabarnik, M.^C; Lemcoff, N.G.^S; Madar, R.^S; Abramson, S.^C; Weinman, S.^T; Fuchs, B.^{PI} “**On Five- vs Six-membered Diacetal Formation from Threitol and the Intermediacy of Unusually Stable Protonated Species**” *Journal of Organic Chemistry*, **2000**, *65*, 1636-1642. (IF = 4.785, JR 7/59 – Q1, 12 citations)
5. Lemcoff, N.G.^S and Fuchs, B.^{PI} “**Toward Novel Polyacetals by Transacetalation Techniques: Dendrimeric Diacetals**” *Organic Letters* **2002**, *4*, 731-734. (IF = 6.732, JR 4/57 – Q1, 23 citations)
6. Abramson, S.^C; Ashkenazi, E.^S; Frische, K.^{PD}; Goldberg, I.^C; Golender, L.^C; Greenwald, M.^S; Lemcoff, N.G.^S; Madar, R.^S; Weinman, S.^T and Fuchs B.^{PI} “**Novel Podands and Macrocycles with Diacetal Tetraoxadecalin Cores**” *Chemistry – A European Journal*, **2003**, *9*, 6071-6082. (IF = 5.771, JR 24/163 – Q1, 5 citations)
7. Zimmerman, S.C.^{PI}; Schultz, L.G.^S; Lemcoff, N.G.^{PD} “**Monomolecular imprinting: Synthetic hosts via molecular imprinting inside of dendrimers**” *Polymer Preprints (American Chemical Society, Division of Polymer Chemistry)* **2003**, *44*, 466-467. (2 citations, Scifinder)
8. Zimmerman, S.C.^{PI} and Lemcoff N.G.^{PD} “**Synthetic hosts via molecular imprinting—are universal synthetic antibodies realistically possible?**” *Chemical Communications*, **2004**, *1*, 5-14. (IF = 6.567, JR 21/163 – Q1, 175 citations)
9. Lemcoff, N.G.^{PD}; Spurlin, T.A.^S; Gewirth, A.A.^C; Zimmerman, S.C.^{PI}; Beil, J.B.^S; Elmer, S.L.^S and Vandever, G.^S “**Organic Nanoparticles whose Size and Rigidity is Finely Tuned by Cross-linking the End-Groups of Dendrimers**” *Journal of the American Chemical Society*, **2004**, *126*, 11420-11421. (IF = 13.038, JR 10/163– Q1, 49 citations)
10. Beil, J.B.^S; Lemcoff, N.G.^{PD} and Zimmerman, S.C.^{PI} “**On the Nature of Dendrimer Cross-linking by Ring-Closing Metathesis**” *Journal of the American Chemical Society*, **2004**, *126*, 13576-13577. (IF = 13.038, JR 10/163– Q1, 38 citations)
11. Yerushalmi, S.^S; Lemcoff, N.G.^{PI} and Bittner, S.^{PI} “**Synthesis of 8, 9, and 10-Membered Nitrogen Containing Quinone-Fused Heterocycles**” *Synthesis*, **2007**, 239-242. (IF = 2.652, JR 21/59 – Q2, 8 citations)
12. Berkovich, D.^S; Abramson, S.^C; Grabarnik, M.^C; Golender, L.^C; Dagan, S.^C; Goldberg, I.^C; Weinman, S.^T; Lemcoff, N.G.^{PI} and Fuchs, B.^{PI} “**Polythiacrown Macro- and Gigantocycles with Chiral Diacetal Cores**” *European Journal of*

- Organic Chemistry, **2007**, *12*, 1957-1975. (IF = 3.068, JR 17/59 – Q2, 8 citations)
13. Elmer, S.L.^S; Lemcoff, N.G.^C and Zimmerman, S.C.^{PI} “**Exploring the Reversibility of the Ring-Closing Metathesis Mediated Cross-linking of Dendrimers**” *Macromolecules*, **2007**, *40*, 8114-8118. (IF = 5.554, JR 7/85 – Q1, 13 citations)
 14. Ben-Asuly A.^C; Tzur E.^S; Diesendruck C.^S; Sigalov M.^C, Goldberg I.^C; Lemcoff N.G.^{PI} “**A Thermally Switchable Latent Ruthenium Olefin Metathesis Catalyst**” *Organometallics*, **2008**, *27*, 811-813. (10th Most Accessed Paper January-March 2008) (IF = 4.186, JR 9/46 – Q1, 97 citations)
 15. Berkovich-Berger, D.^S and Lemcoff, N.G.^{PI} “**Facile Acetal Dynamic Combinatorial Library**” *Chemical Communications*, **2008**, *14*, 1686-1688. (IF = 6.567, JR 21/163 – Q1, 20 citations)
 16. Kost, T.^S; Sigalov, M.^C; Goldberg, I.^C; Ben-Asuly, A.^C and Lemcoff, N.G.^{PI} “**Latent Sulfur Chelated Ruthenium Catalysts: Steric Acceleration Effects on Olefin Metathesis**”, *Journal of Organometallic Chemistry*, **2008**, *693*, 2200-2203. (Top 20 Hottest Paper April-June 2008). (IF = 2.336, JR 15/46 – Q2, 60 citations)
 17. Tzur, E.^S; Ben-Asuly, A.^C; Diesendruck, C.E.^S; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Homodinuclear Ruthenium Catalysts for Dimer Ring-Closing Metathesis**”, *Angewandte Chemie Int. Ed.*, **2008**, *34*, 6422-6425. (IF = 11.709, JR 11/163 – Q1, 31 citations)
 18. Shema-Mizrachi, M.^S; Aharoni, A.^S; Iliashevsky, O.^S; and Lemcoff N.G.^{PI} “**Towards Control of Dendrimer Properties by Reversible Exchange of Termini: Synthesis and Characterization of Diverse Porphyrin Dendrimers**” *Israel Journal of Chemistry*, **2009**, *49*, 1-8. (Invited paper). (IF = 2.425, JR 64/163 – Q2, 3 citations)
 19. Diesendruck, C.E.^S; Vidavsky, Y.^S Ben-Asuly, A.^C; and Lemcoff, N.G.^{PI} “**A Latent S-Chelated Ruthenium Benzylidene Initiator for Ring-Opening Metathesis Polymerization**” *Journal of Polymer Science Part A: Chemistry*, **2009**, *47*, 4209-4213. (IF = 3.114, JR 18/85 – Q1, 46 citations)
 20. Iliashevsky, O.^S; Amir, L.^S; Glaser, R.^C; Marks, R.^C and Lemcoff N.G.^{PI} “**Synthesis, characterization and protein-binding properties of supported dendrons**” *Journal of Materials Chemistry*, **2009**, *19*, 6616–6622. (IF = 6.626, JR 22/251 – Q1, 5 citations)
 21. Ben-Asuly, A.^C; Aharoni, A.^S; Diesendruck, C. E.^S; Vidavsky, Y.^S; Goldberg, I.^C; Straub, B. F.^C and Lemcoff, N. G.^{PI}; “**Photoactivation of Ruthenium Olefin Metathesis Initiators**” *Organometallics*, **2009**, *28*, 4652–4655. (IF = 4.186, JR 9/46 – Q1, 57 citations)
 22. Diesendruck, C. E.^S; Tzur, E.^S; Ben-Asuly, A.^C; Vidavsky, Y.^S; Goldberg, I.^C; Straub, B. F.^{PI} and Lemcoff, N. G.^{PI} “**Predicting the *Cis-Trans* Dichloro Configuration of Group 15-16 Chelated Ruthenium Olefin Metathesis Complexes: A DFT and Experimental Study**” *Inorganic Chemistry*, **2009**, *48*, 10819-10825. *Inorganic Chemistry*, **2009**, *48*, 10819-10825. (IF = 4.82, JR 4/46 – Q1, 60 citations)
 23. Diesendruck, C. E.; Tzur, E. and Lemcoff, N.G.^{PI} “**The Versatile Alkylidene Moiety in Ruthenium Olefin Metathesis Catalysts**” Invited Microreview for the *European Journal of Inorganic Chemistry*, **2009**, *28*, 4185-4203. (*Cover Page*). (IF = 2.686, JR 12/46 – Q2, 66 citations)
 24. Sigalov, M.^{PI}; Lemcoff, N.G.^C; Shainyan, B.^C; Chipanina, N.^C; and Aksamentova T.^C “**Enol Forms of 1,3-indandione, Their Stabilization by Ionic Hydrogen Bonding and Zwitter-ion Assisted Interconversion**” *European Journal of*

- Organic Chemistry, **2010**, *14*, 2800-2811. (IF = 3.068, JR 17/59 – Q2, 6 citations)
25. Berkovich-Berger, D.^S; Lemcoff, N.G.^{PI}; Abramson, S.^C; Grabarnik, M.^C; Weinman, S.^T; and Fuchs, B.^{PI} “**Oligomerization of 1,2-Ethanedithiol: An Expedient Approach to Oligothiaethylenethioglycols**” Chemistry – a European Journal, **2010**, *16*, 6365-6373. (IF = 5.771, JR 24/163 – Q1, 3 citations)
 26. Diesendruck, C.E.^S; Ben-Asuly, A.^C; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Dimer Ring-Closing Metathesis**” *Invited contribution*, Chimica Oggi, **2010**, *28*, 15-18. (IF = 0.538, JR 142/163 – Q4, 3 citations)
 27. Diesendruck, C.E.^S; Iliashevsky, O.^S; Ben-Asuly, A.^C; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Latent and Switchable Olefin Metathesis Catalysts**” Macromolecular Symposia, **2010**, *293*, 33–38. (19 citations, not indexed)
 28. Tzur, E.^S; Goldberg, I.^C; Ben-Asuly, A.^C; Szadkowska, A.^S; Makal, A.^S; Woźniak, K.^S; Grela, K.^{PI} and Lemcoff N. G.^{PI} “**Studies on Electronic Effects on O -, N- and S- Chelated Ruthenium Olefin Metathesis Catalysts**” Chemistry – a European Journal, **2010**, *16*, 8726-8737. (IF = 5.771, JR 24/163 – Q1, 47 citations)
 29. Vidavsky, Y.^S and Lemcoff, N.G.^{PI} “**Light-Induced Metathesis**” Beilstein Journal of Organic Chemistry, **2010**, *6*, 1106-1119. (IF = 2.697, JR 20/59 – Q2, 29 citations)
 30. Aharoni, A.^S; Vidavsky, Y.^S; Diesendruck, C.E.^S; Ben-Asuly, A.^C; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Ligand Isomerization in Sulfur Chelated Ruthenium Benzylidenes**” Organometallics, **2011**, 1607-1615. (IF = 4.186, JR 12/59 – Q1, 35 citations)
 31. Lexer, C.^S; Burtscher, D.^S; Perner, P.^S; Tzur, E.^S; Lemcoff, N.G.^{PI} and Slugovc, C.^{PI} “**Olefin Metathesis Catalyst Bearing a Chelating Phosphine Ligand**” Journal of Organometallic Chemistry, **2011**, *696*, 2466-2470. (IF = 2.336, JR 15/46 – Q2, 16 citations)
 32. Ginzburg, Y.^S; Anaby, A.^S; Vidavsky, Y.^S; Diesendruck, C.E.^S; Ben-Asuly, A.^C; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Widening the Latency Gap in Chelated Ruthenium Olefin Metathesis Catalysts**” Organometallics, **2011**, *30*, 3430-3437. (IF = 4.186, JR 12/59 – Q1, 32 citations)
 33. Shema-Mizrachi, M.^S; Pavan, G. M.^{PD}; Levin, E.^S; Danani, A.^C and Lemcoff, N. G.^{PI} “**Catalytic Chameleon Dendrimers**” Journal of the American Chemical Society, **2011**, 14359–14367. (13.038, JR 10/163 – Q1, 28 citations)
 34. Vidavsky, Y.^S; Anaby, A.^S and Lemcoff, N.G.^{PI} “**Chelating Alkylidene Ligands as Pacifiers for Ruthenium Catalysed Olefin Metathesis**” Dalton Transactions, **2012**, *41*, 32-43. (IF = 4.177, JR 10/46 – Q1, 65 citations)
 35. Zakon, Y.^S; Lemcoff, N.G.^C; Marmur, A.^C and Zeiri, Y.^{PI} “**Adhesion of Standard Explosive Particles to Model Surfaces**” Journal of Physical Chemistry C, **2012**, *116*, 22815-22822. (IF = 4.509, JR 40/271 – Q1, 6 citations)
 36. Levin, E.^S; Anaby, A.^S; Diesendruck, C.E.^S; Berkovich-Berger, D.^S; Fuchs, B.^C and Lemcoff N.G.^{PI} “**Oligomerisation Reactions of Beta Substituted Thiols in Water**” RSC Advances, **2013**, *3*, 1735-1738. (IF = 3.289, JR 49/163 – Q1, 2 citations)
 37. Villalonga-Barber, C.^{PI}; Vallianatou, K.^S; Georgakopoulos, S.^{PD}; Steele, B.R.^S; Micha-Screttas, M.^S; Levin, E.^S and Lemcoff, N.G.^{PI} “**Synthesis, characterisation, electronic spectra and electrochemical investigation of ferrocenyl-terminated dendrimers**” Tetrahedron, **2013**, *69*, 3885-3895. (IF = 2.645, JR 22/59 – Q2, 1 citation)
 38. Mavila, S.^{PD}; Diesendruck, C.E.^S; Linde, S.^S; Amir, L.^S; Shikler, R.^C and Lemcoff, N.G.^{PI} “**Polycyclooctadiene complexes of rhodium(I): direct access**

- to organometallic nanoparticles” *Angewandte Chemie Int. Ed.*, **2013**, *52*, 5767-5770. (IF = 11.709, JR 11/163 – Q1, 26 citations)
39. Melamed-Yerushalmi, S.^S; Buck, M. E.^S; Lynn, D. M.^C; Lemcoff, N. G.^{PI} and Meijler, M. M.^{PI} “**Multivalent Attenuation of Quorum Sensing in *Staphylococcus aureus***” *Chemical Communications*, **2013**, *49*, 5177-5179. (IF = 6.567, JR 21/163 – Q1, 5 citations)
 40. Bai, Y.; Xing, H.^S; Vincil, G. A.^S; Lee, J.^S; Henderson, E.^S; Lu, Y.; Lemcoff, N.G.^C and Zimmerman, S.C.^{PI} “**Practical Synthesis of Water-soluble Organic Nanoparticles with a Single Reactive Group and a Functional Carrier Scaffold**” *Chemical Science*, **2014**, *5*, 2862-2868. (IF = 9.144, JR 14/163 – Q1, 13 citations)
 41. Mavila, S.^{PD}; Rozenberg, I.^S and Lemcoff, N.G.^{PI} “**A general approach to mono- and bimetallic organometallic nanoparticles**” *Chemical Science*, **2014**, *5*, 4196-4203. (IF = 9.144, JR 14/163 – Q1, 16 citations)
 42. Tzur, E.^{PI}; Ivry, E.^S; Diesendruck, C.E.^C; Vidavsky, Y.^S; Goldberg, I.^C and Lemcoff, N.G.^C “**Stability and activity of cis-dichloro ruthenium olefin metathesis precatalysts bearing chelating sulfur alkylidenes**” *Journal of Organometallic Chemistry*, **2014**, *769*, 24-28. (IF = 2.336, JR 15/46 – Q2, 6 citations)
 43. Butilkov, D.^S and Lemcoff, N.G.^{PI} “**Jojoba oil olefin metathesis: a valuable source for bio-renewable materials**” *Green Chemistry*, **2014**, *16*, 4728-4733. (IF = 8.506, JR 16/163 – Q1, 6 citations)
 44. Eivgi, O.^S; Levin, E.^S and Lemcoff, N.G.^{PI} “**Modulation of Photodeprotection by the Sunscreen Protocol**” *Organic Letters*, **2015**, *17*, 740-743. (IF = 6.732, JR 4/59 – Q1, 2 citations)
 45. Ivry, E.^S; Ben-Asuly, A.^C; Goldberg, I.^C and Lemcoff, N.G.^{PI} “**Amino Acids as Chiral Anionic Ligands for Ruthenium Based Asymmetric Olefin Metathesis**” *Chemical Communications*, **2015**, *51*, 3870-3873. (IF = 6.567, JR 21/163 – Q1, 5 citations)
 46. Levin, E.^S; Mavila, S.^{PD}; Eivgi, O.^S; Tzur, E.^C and Lemcoff, N.G.^{PI} “**Regioselective chromatic orthogonality with light activated metathesis catalysts**” *Angewandte Chemie Int. Ed.*, **2015**, *54*, 12384-12388. (IF = 11.709, JR 11/163 – Q1, 4 citations)
 47. Levin, E.^S; Ivry, E.^S; Diesendruck, C.E.^C and Lemcoff, N.G.^{PI} “**Water in N-Heterocyclic Carbene Assisted Catalysis**” *Chemical Reviews*, **2015**, *115*, 4607-4692. (IF=37.369, JR 1/163 – Q1, 44 citations)
 48. Saha, S.^{PD}; Rosenberg, I.^S and Lemcoff, N.G.^{PI} “**Synthesis of Furanyl β -diketone Based Heteroleptic Ir(III) Complexes and Studies of Their Photo-Luminescence Properties**” *Zeitschrift für Anorganische und Allgemeine Chemie*, **2015**, 2460-2465, Invited Contribution (Special Issue, IF = 1.261, JR 31/46 - Q3).
 49. Vidavsky, Y.^S; Navon, Y.^S; Ginzburg, Y.^S; Gottlieb, M.^{PI} and Lemcoff, N.G.^{PI} “**Thermal properties of ruthenium alkylidene polymerized DCPD**” *Beilstein Journal of Organic Chemistry*, **2015**, *11*, 1469–1474. (Special Issue on Olefin Metathesis, IF=2.697, JR 20/59 – Q2, 1 citation).
 50. Ewonkem, M. B.;^{PI} Grinberg, S.;^C Lemcoff, N. G.;^C Shaubi, E.;^C Linder, C.;^C Heldman, E.^C “**Newly synthesized bolaamphiphiles from castor oil and their aggregated morphologies for potential use in drug delivery**” *Tetrahedron* **2015**, *71*, 8557-8571. (IF = 2.645, JR 22/59 – Q2)
 51. Mavila, S.^{PD}; Eivgi, O.^S; Berkovich, I.^S and Lemcoff, N.G.^{PI} “**Intramolecular Cross-linking Methodologies for the Synthesis of Polymer Nanoparticles**” *Chemical Reviews*, **2016**, *116*, 878-961. (IF=37.369, JR 1/163 – Q1, 29 citations)

52. Sutar, R. L.^{PD}; Levin, E.^S; Butilkov, D.^S; Goldberg, I.^C; Reany, O.^C and Lemcoff, N.G.^{PI} **“A Light Activated Olefin Metathesis Catalyst Equipped with a Chromatic Orthogonal Self-Destruct Function”** *Angewandte Chemie Int. Ed.*, **2016**, *55*, 764-767. (IF = 11.261, JR 13/157 – Q1, 1 citation)
53. Berkovich, I.^S; Mavila, S.^{PD}; Iliashevsky, O.^C; Kozuch, S.^C and Lemcoff, N.G.^{PI} **“Single-chain polybutadiene organometallic nanoparticles: An experimental and theoretical study”** *Chemical Science* **2016**, *7*, 1773-1778. (IF = 9.144, JR 14/163 – Q1, 2 citations)
54. Saha, S.,^{PD} Ginzburg, Y.,^S Rozenberg, I.,^S Iliashevsky, O.,^T Ben-Asuly, A.^C and Lemcoff, N.G.,^{PI} **Cross-linked ROMP polymers based on odourless dicyclopentadiene derivatives**, *Polym. Chem.*, **2016**, *7*, 3071-3075. (IF = 5.687, JR 4/85 – Q1)
55. Sengupta, S.,^{PD} Loutaty, R.,^S Petel, K.,^S Levin, E.,^S Lemcoff, N. G.,^C Golan, Y.^{PI} **The effect of short chain thiol ligand additives on chemical bath deposition of lead sulphide thin films: the unique behaviour of 1,2-ethanedithiol**, *CrystEngComm*, **2016**, *18*, 9122-9129. (IF = 3.849, JR 38/163 – Q1)

Book Chapters:

1. Ginzburg, Y.; Lemcoff, N.G., **Hoveyda Type Olefin Metathesis Complexes** (pp. 437-451), *Olefin Metathesis Theory and Practice*, Edited by Karol Grela, **2014**, John Wiley & Sons.
2. Mavila, S.; Lemcoff, N.G., **N-Heterocyclic Carbene-Ruthenium Complexes: A Striking Breakthrough in Metathesis Reactions** (pp. 307-340), *N-Heterocyclic Carbenes - Effective Tools for Organometallic Synthesis*, Edited by Steven P. Nolan, **2014**, Wiley-VCH Verlag GmbH & Co. KGaA.
3. Tzur, E.; Lemcoff, N.G., **Latent Ruthenium Olefin Metathesis Catalysts For ROMP** (pp. 283-312), *Handbook of Metathesis*, 2nd Edition, Volume 3, Edited by Robert H. Grubbs and Ezat Khosravi, **2015**, Wiley-VCH Verlag GmbH & Co. KGaA.

• Lectures and Presentations at Meetings and Invited Seminars

Invited lectures at conferences/meetings

February, 2005	70 th Israel Chemical Society Meeting, Tel-Aviv, Israel “Intramolecular Cross-links in Dendrimers”
April, 2005	COST WG meeting, Bonn, Germany “Conceiving Macrocyclic, Polymeric and Dendrimeric Systems with Chiral Diacetal Type Cores”
May, 2005	Minerva workshop, Ohalo, Israel “Organic Nanoparticles by Intramolecular Cross-links in Dendrimers”
May, 2007	Sackler Award Lecture, Tel-Aviv, Israel “Bimetallic Ruthenium Olefin Metathesis”

February, 2008	73 rd Israel Chemical Society Meeting, Jerusalem, Israel “A Switch on Olefin Metathesis”
May, 2008	COST WG meeting, University of Twente, Netherlands “Acetal Dynamic Combinatorial Libraries”
July, 2008	38 th International Conference on Coordination Chemistry, Jerusalem “Olefin Metathesis Switches”
February, 2009	74 th Israel Chemical Society Meeting, Tel-Aviv, Israel “Dimer Ring Closing Olefin Metathesis”
July, 2009	10 th FIGIPAS Meeting in Inorganic Chemistry, Palermo, Italy “Dimer Ring Closing Reactions”
August, 2009	ISOM XVIII (Olefin Metathesis), Leipzig, Germany “Latent and Switchable Ruthenium Olefin Metathesis Catalysts”
January, 2010	75 th Israel Chemical Society Meeting, Tel-Aviv, Israel “Olefin Metathesis: An Extraordinary Reaction”
May, 2010	International Conference on Systems Chemistry, Dead Sea, Israel “New Reactions with Thiols. An Original Entry to Dynamic Combinatorial Chemistry?”
June, 2010	Israel Polymer and Plastics Society Meeting, Beer-Sheva, Israel “Novel polymerization methods: ring-opening metathesis polymerizations and the use of latent catalysts”
April, 2011	EICC-1: First EuCheMS Inorganic Chemistry Conference Manchester, UK. “Pacifying Ruthenium Olefin Metathesis Catalysts with Sulfur Chelates”
July, 2011	ISOM IXX (Olefin Metathesis), Rennes, France “Insights on cis-dichloro ruthenium alkylidenes as olefin metathesis catalysts”
December, 2011	Frontiers in Organic Chemistry – Italy-Israel Conference, Tel-Aviv “Pacifying Ruthenium Olefin Metathesis Catalysts with Sulfur Chelates”
August, 2012	244 th American Chemical Society Meeting, N-Heterocyclic Carbenes in Catalysis Symposium, Philadelphia, USA “New Methodologies in Olefin Metathesis: Dimer Ring Closing Reactions and Switchable Catalysts”
February, 2013	78 th Meeting of the Israel Chemical Society, Tel-Aviv, Israel. “New Methodologies in Olefin Metathesis”
June, 2013	8 th International Dendrimer Symposium, Madrid, Spain. “Catalytic Chameleon Dendrimers”
August, 2013	15 th Asian Chemical Congress, Singapore. “Using NHCs for Novel Ru Olefin Metathesis and Materials”

February, 2014	Functional Polymeric Materials Conference, Cancun, Mexico. “Organometallic Nanoparticles”
September, 2014	1 st Sino-Israel Bilateral Workshop and International Symposium on Organometallics and Homogeneous Catalysis, Beijing, China. “Organometallic Nanoparticles”
February, 2015	80 th Meeting of the Israel Chemical Society, Tel Aviv, Israel. “Organometallic Nanoparticles”
May, 2015	Plenary Speaker at the 7 th Cristofor I. Simionescu Symposium “Frontiers in Macromolecular and Supramolecular Science,” May 31-June 7, Romanian Academy in Bucharest and “Petru Poni” Institute of Macromolecular Chemistry in Iasi (2 Lectures). “From Olefin Metathesis to Organometallic Nanoparticles; A Journey in Chemical Discovery”
December, 2015	44th annual meeting of the Israel Polymer and Plastics Society, Jerusalem, Israel “Light Activated ROMP Catalysts and Polymers: From Basic Science to Applications”
February, 2016	The 81 st Annual Meeting of the Israel Chemical Society, Tel-Aviv, Israel. “Guiding Chemistry with Light”
June, 2016	“Schulich Symposium on Recent Advances in Organic Synthesis”, Haifa, Israel. Plenary Lecture. “How Slow (Latent) Catalysts Became (more) Useful by Using Light”
June, 2016	“Agilent Symposium on Uses of GC and GC-MS”, Beer-Sheva, Israel “GC-MS in Modern Chemical Research: An Instrumental Instrument”
November, 2016	“NSFC-ISF Workshop – Frontiers of Molecular Design: Synthesis and Catalysis”, Technion, Israel “Modifying Ruthenium Olefin Metathesis Catalysts to Achieve New Reactivities”

Seminar presentations at Universities and Institutions

November, 2005	Bar-Ilan University, Israel
December, 2005	Technion, Israel
February, 2006	Chemada Inc., Israel
May, 2006	Weizmann Institute, Israel
March, 2007	University of Buenos Aires, Argentina
April, 2007	Tel-Aviv University, Israel
June, 2007	Hebrew University of Jerusalem, Israel
July, 2007	University of Utah, United States of America

May, 2008	University of Heidelberg, Germany
November, 2008	Biotechnology Department, BGU, Israel
December, 2008	Institute of Chemical Research of Catalonia (ICIQ), Tarragona, Spain
December, 2008	Laboratoire de Chimie de Coordination CNRS, Toulouse, France
September, 2009	University of Buenos Aires, Argentina
March, 2010	University of Cadiz, Spain
March, 2010	Instituto de Investigaciones Químicas, CSIC, Sevilla, Spain
May, 2010	Casali Institute, Hebrew University of Jerusalem
March, 2011	University of Illinois, Urbana-Champaign, USA
March, 2011	Purdue University, USA
March 2011	University of Illinois, Chicago, USA
June 2012	Bar Ilan University, Israel
November 2013	Tel-Aviv University, Israel
October 2014	University of Illinois, Urbana-Champaign, USA
November 2014	University of Sussex, England
November 2014	Durham University, England
November 2014	University of Edinburgh, Scotland
November 2014	University of Strathclyde, Glasgow, Scotland
November 2014	University of St. Andrews, Scotland
October 2015	Institut für Anorganische und Analytische Chemie Westfälische Wilhelms-Universität Münster, Germany
December 2015	Technion Institute of Technology, Israel
April 2016	University of Illinois, Urbana-Champaign, USA
October 2016	Technische Universität Braunschweig, Braunschweig, Germany

• Patents

1. Vidavsky, Y.; Aharoni, A. and Lemcoff, N.G. Filed P-9965-USP//Title: ARTIFICIAL MARBLE AND METHODS. App. No. 61/016,582 **2008**.
2. Ben-Asuly, A. and Lemcoff, N.G. Sulfur chelated ruthenium compounds useful as olefin metathesis catalysts. U.S. Pat. Appl. Publ. **2010**, US 2010113722 A1 20100506.
3. Saha, S.; Ginzburg, Y.; Ben-Asuly, A. and Lemcoff, N.G. Filed Three-Dimensional Inkjet Printing Using Dicyclopentadiene Compounds Polymerizable By Ring-Opening Metathesis Polymerization. US Provisional Patent Application **2015** No. 62/244,381.
4. Saha, S.; Ginzburg, Y.; Ben-Asuly, A. and Lemcoff, N.G. Filed Dicyclopentadiene Derivatives and Polymers Thereof. US Provisional Patent Application **2015** No. 62/244,297.

• Research Grants (US\$) - N. G. Lemcoff Principal Investigator

2004 Toman Start-up Grant. (140,000)

2005-2008 Israel Science Foundation, Personal Research Grant (180,000)

2006 Israel Science Foundation, New Faculty Equipment Grant (128,000)

2005-2008 Industrial Research Grant, Caesar Stone (46,000)

2005-2007 Binational Science Foundation Start-up Grant (Israel-USA) (60,000)
In collaboration with Prof. Illya Zharov, University of Utah

2007-2008 German-Israeli Foundation, Young Scientist Grant (32,000)

2008-2010 Edmond J. Safra Research Grant (2,000,000)
In collaboration with Gonen Ashkenasy, Michael Meijler, Ashraf Brik, Nurit Ashkenasy and Lital Alfonta, Ben-Gurion University of the Negev

2009-2011 Mafat Research Grant (73,000)
In collaboration with Prof. Yuval Golan and Dr. Amir Berman, BGU

2009 ISF Institutional Equipment Grant (480,000) for purchase of NMR
In collaboration with Prof. Daniel Kost and Prof. Ira Weinstock, BGU

2008-2009 Industrial Research Grant, Eden Oils (40,000), with Prof. Sarina Grinberg

2009-2013 Israel Science Foundation, Personal Research Grant (235,000)

2014 Bromine Chemicals (ICL) Industrial Research Grant (15,000)

2011-2015 Binational Science Foundation (188,000), with Prof. Steven C. Zimmerman

2011-2015 US Army and MAFAT Research Grants (140,000), In collaboration with Prof. Yuval Golan and Dr. Amir Berman, BGU

2014-2015 Makhteshim-Agan (Adama) Industrial Research Grant (20,000)

2014-2017 Printel Magnet – (~100,000 / y for our research group), in collaboration with Industry and Academia.

2013-2017 FTA Research Grant– (6,500,000), in collaboration with group of 12 researchers, project leader Prof. Gabby Sarusi

2014-2018 Israel Science Foundation, Personal Research Grant (320,000)

2015-2019 Binational Science Foundation (180,000), with Prof. Steven C. Zimmerman

2015-2018 FIRST Grant (Bikura), Israel Science Foundation (315,000), with Dr. Ofer Reany

2016 ISF Institutional Equipment Grant (250,000) for purchase of single crystal X-ray equipment. In collaboration with Prof. Doron Pappo and Prof. Ira Weinstock, BGU

• Synopsis of research

Current research in our group is mainly devoted to the synthesis, characterization and analysis of novel macromolecular synthetic compounds, such as polymers and dendrimers, as well as new catalysts and reactions to produce them. Thus, our main goal is to investigate and better understand the breach between small molecules and nanoscopic structures. As a modern organic synthetic research group, we are involved in every aspect of the study of macromolecules and the methods to produce them. We devise not only new types of macromolecules and catalysts, but also new monomers, cross-linked networks, single-chain organic nanoparticles, oligomers, and we also actively study the properties of these molecules, such as mass transfer within the polymeric structure, internal cross-link effects, catalytic properties and structure-activity relationships. During the last years of research we have achieved important breakthroughs in the field of ruthenium metathesis catalysis, especially in two areas: latent catalysts and homobimetallic catalysts. Our work in latent catalysts is based on the development of strongly chelating bidentate benzylidenes. We do this by using mainly sulfur, but also, nitrogen, phosphorous and selenium as the chelating atoms. By strongly chelating the benzylidene to the metal we obtain catalysts that are inert at room temperature and active when heated. We were also able to tune the activation temperature by modifying the steric environment around the heteroatom. The new catalysts afforded important insights regarding the mechanism of the reaction, and specifically the cis-trans isomeric interplay. We have also discovered a novel route for the photoactivation of the catalysts by a remarkable photoisomerization mechanism, and we are intensively working in the use of our dormant catalysts to make new polymeric architectures. We have recently used the useful photoisomerization property of our catalysts to achieve chromatic orthogonality in a catalytic process, where the order of the color of light irradiation determines which final product is obtained. In an expansion of this concept, the use of molecular “sunscreens” was recently used in our group to achieve selective photo-cleavage of alcohol protecting groups by a single light source.

In the area of bimetallic catalysis, the advancement of a two-centered ruthenium catalyst allowed us to develop a new specific reaction: dimer ring closing metathesis (DRCM). In contrast to current state of the art olefin metathesis catalysts that afford either ring-closing, cross, or ring-opening polymerization metathesis reactions, we envisioned that if two catalytic centers were held at the appropriate distance a cyclodimerization reaction may be preferred over other intra or intermolecular reactions. Indeed, we were able to achieve high

yields of cyclodimers, which may in the future be used as important intermediates for perfume (musk type) products or pharmaceuticals.

Another active research project in our group deals with the use of dendritic catalysts to promote selective reactions by an original 'mass transfer' protocol devised by us. Dendrimers are a special class of polymers. They are monodisperse (all the molecules are the same with respect to their molecular weight) and their architecture is hyperbranched, as opposed to the more usual linear polymers. One of their main attributes is the availability of multiple end groups symmetrically branching out from the core. The goal of this research effort is to design and create novel catalytic dendrimer assemblies capable of bringing about specific mass transfer of substrates from the macromolecule periphery to its catalytic core. Such dendrimers will benefit from the capacity of substituents located on the surface to backfold and move adjacent to the core where the catalysis occurs. The terminal substituents will be thoughtfully chosen to reversibly "trap" (bond) substrates and naturally bring them close to the catalytic center, causing both increased rates and selectivity for specific reactions. The selectivity will be determined by the type of end-group chosen for the dendrimer, while the reactivity will be determined by the type of catalytic core used. Our first efforts were published under the concept of "Chameleon" dendrimers; here different dendritic reactivities were achieved depending on the reversible transesterification of the surrounding diols. Our ongoing efforts are taking this a step further by changing the type of core and reactions used and combining the reversible chemistry used with the type of substrate which is being transformed.

Continuing on the polymer area, we have recently embarked on the study of novel organometallic nanoparticles, formed through the single chain collapse of polycyclooctadiene based polymers and copolymers with different metal ions. We are currently intensely studying and trying to better understand the architectural, functional and catalytic properties of this important type of polymeric structures. Our latest findings have already produced surprising results, such as the change of electrochemical behavior of the materials and unexpected catalytic properties dependent on the chain collapse. One of the most exciting recent developments in our research is the combination of photochemistry with the latent catalysts we have developed. Many important publications in this area have already "seen the light" in our group, and we expect that our ability to use molecular 'sunscreen' filters and novel orthogonal chromatic pathways will enable the development of all-photochemical methods to achieve complex synthesis of natural products.

One of my main motivations as an educator, researcher and scientist is the development of young minds and to pass on to my students my passion for science. I have been fortunate to recruit a large and very talented group and this has allowed us to run the research projects detailed above, for this I would like to acknowledge my coworkers. During my 12 years as independent researcher I have been fortunate to work with more than 20 talented students, twelve of which have already received their Doctorate degrees and are actively engaged in their independent careers.

As a final point, just to emphasize how important it is for us to keep in touch with the community, we carried out a chemistry workshop for children from 1st to 4th grade at the "Round-Table" community center in Beer-Sheva. During the seven meetings we organized we would have two one hour activities for the children where we tried to transmit to them our fascination for chemistry and science. In addition, I have given science and chemistry related lectures in different schools (elementary to high-school level) and also at the Science-Café organized by the University, in order to share the beauty of chemistry with the younger generation and public in general. During my tenure as Department Head I also started the Marie-Curie Chemistry Program for Gifted High School Students. This program allows High School pupils to study all the obligatory courses of first year chemistry at the University and is a testament to our commitment for the promotion of Science and our firm connection with our surrounding society. The program has been a great success and is strongly supported by the Rashi Foundation, Adama Agricultural Solutions Ltd., the Ministry of Education and the City of Beer-Sheva. I see in this important program the foundation for the formation of future Israeli scientists in general and chemists in particular at a time where science education in Israel is facing severe challenges.