**Ron Blonder – CV, February 2017**

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**I.**

**A. Personal Details:**

Name: RON BLONDER

Date of Birth: 26/8/1969

Place of Birth: Israel

Gender: Female

**Contact Information:**

Mailing Address: Department of Science Teaching,

Weizmann Institute of Science, Rehovot, 76100, Israel.

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**B. Education:**

1993-1999 Ph.D. studies and research in chemistry (direct PhD program). Advisor: Prof. Itamar Willner, the Hebrew University of Jerusalem.

Thesis title: *"Control of Structure and Function of Biomaterials by External Triggering Signals"*.

1990-1993 B.Sc. in Chemistry with Distinction, the Hebrew University of Jerusalem.

2009-2010 Teaching certificate, Department of Science Teaching, Weizmann Institute of Science

**C. Employment History:**

2016-present The Weizmann Institute of Science, Associate Professor at the Department of Science Teaching, Head of the chemistry group.

2011- 2016 The Weizmann Institute of Science. Senior Scientist at the Department of Science Teaching.

2006-2010 The Weizmann Institute of Science. Research Associate (Amit) at the chemistry group in the Department of Science Teaching.

2001-2006 Hebrew University of Jerusalem. Chemistry Coordinator of the Belmonte Science Laboratories Center, at the Authority of the Community and Youth.

2005-2006 Hebrew University of Jerusalem. Director of the Belmonte science Laboratories center, Authority of the Community and Youth.

**E. Other Appointments:**

2017-present A member of the Editorial Advisory Board for the Journal of Chemical Education

2011-present A member of the Editorial Review Board of *Journal of Nano Education* (<http://www.aspbs.com/jne/>)

2011-present A member in the Chemistry Committee in the Ministry of Education.

2008-2014 A member in a committee of the Ministry of Science dealing with regional science laboratories centers for youth in Israel.

2008-Present Deputy of the Head of the National Chemistry Teachers’ Center at the Department of Science Teaching.

2008-Present Current teaching experience in the Weizmann Institute of Science, Fienberg School:

* Introduction to Materials and Nanotechnology
* Introduction to Science Education
* Nanotechnology: Bridging between Research and Class
* Primer Materials for Science Teaching (adaptation to education for the course of Prof. Lubomirski)
* Advanced Methods in Organic Synthesis (adaptation to education for the course of Prof. Hassner)
* Coordinator of chemistry teacher rotations in the chemistry laboratories
* Coordinator of the interdisciplinary seminar of the Rothschild-Weizmann program

1999-2001 Coordinator of the "young thinker" program and a member in the leading management team at the Branco Weiss Institute for the developing of thinking.

1993-1999 Assistant Teacher in the Chemistry Institute at the Hebrew University of Jerusalem, in the following courses: Advanced Organic Chemistry and Organic Physical Chemistry.

Tutor in the following laboratory courses: Basic Organic Chemistry, Advanced Organic Chemistry and Advanced Physical Chemistry, Physical-Organic Chemistry.

**F. International Recognition:**

Awards:

1990 – Dean award for B.Sc. Excellence

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1992 – Dean award for B.Sc. Excellence

1992 – “**Intel–Dean**” award for excellence in science studies

1993 – Rector award for M.Sc

1995 – “**Kaye**” Innovation award

1995 – “**Farkas**” award for outstanding research work in light induced processes.

1996 – “**Academic Women**” organization award.

1996 – “**Clore Scholarship**” on the basis of academic excellence (1996-1998)

1997 – “**Shlomiuk**” award for outstanding research study

2015 –“**Materials Research Society (MRS)** Foundation Grassroots Grant for educational innovation”

International organizing committees

1. Organizer and chairperson of chemical education session at the The 73th Meeting of the *Israel Chemical Society*, 2008, Jerusalem, Israel.

2. Member of the organizing committee of "The undergraduate laboratories: Traditional and Modern Approaches", *Sefad Scientific Workshops*, 2008, Sefad, Israel.

3. Organizer of the 3rd consortium meeting of the *European project PROFILES*, Ein-Gedi, Israel.

4. Member of the organizing committee of the 78th Meeting of the *Israel Chemical Society*, 2013, Tel-Aviv, Israel.

5. Member of the organizing committee of the the 33rd Israel Vacuum Society conference -IVS 2015, 2015, Weizmann Institute of Science, Rehovot, Israel

International meetings

***Invited talks:***

**Blonder, R.** (2005). Smoking cigarettes & water-pipes from a scientific point of view. (lecture). The 70th Meeting of the *Israel Chemical Society*, p.104, Tel-Aviv, Israel.

**Blonder, R.** (2006). Cognitive coaching as means of improving the teaching quality of laboratory instructors. (lecture). The 71th Meeting of the *Israel Chemical Society*, 2006, Tel-Aviv, Israel.

**Blonder, R.** (2007). Questions are the answer: Results of advanced inquiry laboratory activity. (seminar lecture). The Open University, Raanana, Israel.

**Blonder, R.** (2008). Open-ended laboratory experiments based on advanced instrumentation: Analyzing high-school students' inquiry questions. Sefad Scientific Workshops, 2008, Sefad, Israel.

**Blonder, R.** (2009). Challenges in the chemistry laboratory: Research about students’ questions. (seminar lecture). The Department of Science Teaching, The Weizamnn Institute of Science, Rehovot, Israel.

**Blonder, R.** (2009). Challenges in the chemistry laboratory: Research about students’ questions. (seminar lecture). The Department of Science Teaching, The Hebrew University of Jerusalem, Jerusalem, Israel.

**Blonder, R.**, & Rosenfeld, S. (2010). *“ekoloko”* the biggest virtual community in Israel: Children’s Informal Science Learning in a Multi-User Virtual Environment (seminar lecture). Department of Learning, Teaching & Supervision, University of Haifa, Haifa, Israel.

**Blonder, R.**, & Rosenfeld, S. (2010). *“ekoloko”* the biggest virtual community in Israel: Children’s Informal Science Learning in a Multi-User Virtual Environment (seminar lecture). Department of Netvision Institute for Internet Studies, Tel Aviv University, Tel Aviv, Israel.

**Blonder, R.** (2011). Atomic Force Microscopy: Connecting high school chemistry to the nanoworld. The 76th Meeting of the *Israel Chemical Society*, Tel-Aviv, Israel.

**Blonder, R.** (2013). Zooming into NanoEducation. The final conference of an EU project "*Nano -Tech Science Education"*. (Key note talk). Istanbul, Turkey.

**Blonder, R.** & Rap, S. (2014). Social networks for chemistry education. The 79th Meeting of the *Israel Chemical Society*, Tel-Aviv, Israel.

**Blonder, R.** & Sakhnini, S. (2014). Essential concepts of nanotechnology for high School and university undergraduates. Friday Institute for Educational Innovation

BB&T Multimedia Classroom. NCSU, NC, USA.

**Blonder, R.**, & Rap, S.,(2014). Learning discourse in social networks: Chemistry teaching on Facebook (lecture), *Social networks and learning: multidisciplinary aspects*. TheHebrew University of Jerusalem, Jerusalem, Israel.

**Blonder, R.,** & Rap, S.,(2015). Chemistry between chemistry teachers and students when they meet on the social networks (lecture), *Students, teachers and social networks multidisciplinary aspects*.Tel Aviv University, Tel-Aviv, Israel.

**Blonder, R.** & Benny, N. (2016). Interactions between chemistry teachers and a gifted student in a regular chemistry class. The 81th Meeting of the *Israel Chemical Society*, Tel-Aviv, Israel.

**Blonder, R.,** & Sakhnini, S. (February 2016). Participation of high school students in scientific conferences: The case study of NanoIsrael 2014. NanoIsrael 2016 Meeting, Tel-Aviv, Israel.

***Other presentations (in peer reviewed international selective conferences):***

**Blonder, R.** (2005). How to mediate between young people & advanced scientific equipment. (lecture). The 18th Biennial ChemEd Conference, p. 74, Vancouver, Canada.

**Blonder, R.** (2006). Harmful results of smoking cigarettes and water-pipes: A science laboratory for all. (poster). National Association for Research in Science Teaching (NARST) Annual International Conference, New Orleans, LA.

Ophir, E., **Blonder, R.**, Dover, S., Dekel, A. (2006). Are you tertiary ready? Experimental training towards university. (lecture). 5th international workshop on secondary school biology education, Heidelberg, Germany.

**Blonder, R.** (2007). Use of advanced equipments and instruments for inquiry experiments opens up new directions for students' questions. (poster). ESERA Malmö, Sweden.

**Blonder, R.** (2008). Using gas chromatography for inquiry experiment opens new directions for students' questions. (poster). The 73th Meeting of the Israel Chemical Society, 2008, Jerusalem, Israel.

Hofstein, A., Mamlok-Naaman, R., **Blonder, R.**, & Kipnis, M. (2008). Modules developed by the partners of PARSEL, NARST 2008 Annual Meeting, Impact of Science Education Research on Public Policy, Baltimore, USA.

**Blonder, R.**, Mamlok-Naaman, R., Hofstein, A. (2008). Teaching chemistry and science as relevant and popular for students at 8 European nations in the PARSEL project (lecture). 20th Biennial Conference on Chemical Education, Bloomington, Indiana.

**Blonder, R.** (2008). Small changes make the learning in the laboratory different (Lecture). 20th Biennial Conference on Chemical Education, Bloomington, Indiana.

**Blonder, R.** (2009). Small changes in the inquiry laboratory make a BIG different in the learning process (lecture). ESERA, Istanbul, Turkey.

Rosenfeld, S., & **Blonder, R.** (2009). When was the last time you saved a world? Children’s informal science learning in a Multi-User Virtual Environment (MUVE) (lecture). ESERA, Istanbul, Turkey.

**Blonder, R.**, Mamlok-Naaman, R., Hofstein, A. (2009). Open-ended laboratory xperiments based on advanced instrumentation: Analyzing high-school students' inquiry questions (lecture).2nd International Seminar on Research on Questioning, Aviero, Portugal

**Blonder, R.**, & Rosenfeld, S. (2010). When was the last time you saved a world? Children’s informal science learning in a multi-user virtual environment (MUVE) (lecture). Learning in the Technological Era: Chais Conference on Instructional Technologies Research, Raanana, Israel.

Tuvi-Arad, I., & **Blonder, R.** (2010). Continuous symmetry & chemistry teachers: learning advanced chemistry content through novel visualization tools (lecture).

*Learning in the Technological Era: The 5th Chais Conference on Instructional Technologies Research*, Raanana, Israel.

**Blonder, R.** (April 2010). Using a teaching model to enhance understanding of nanochemistry (lecture). 239th ACS National Meeting, San Francisco, CA.

Mamlok-Naaman, R., Hofstein, A., & **Blonder, R.** (August, 2010). A Three-stage Model for enhancing the PCK of chemistry teachers. ICCE 2010, Taipei, Taiwan.

**Blonder, R.**, Hofstein, A., R., Mamlok-Naaman (June 2010). A three-stage model for developing CK and PCK of chemistry teachers (lecture). The 10th European Conference on Research in Chemistry Education (ECRICE), Krakow, Poland.

**Blonder, R.** (September 2011). (Presenter and Symposium organizer).Teaching high-school teachers nanotechnology with a "user-friendly" teaching model In: *Introducing high-school teachers into the nano-era: Research into four nanoeducation programs*. ESERA, Lyon, France.

Mandler, D., Mamlok-Naaman, R., **Blonder, R.,** Hofstein, A. (September 2011). Chemistry in an environmental context: Research into a context-based learning approach. ESERA, Lyon, France.

Mamlok-Naaman, R., **Blonder, R.,** Levy Nahum, T., Hofstein, A. (September 2011). Design of a CPD model and inter-related teacher intervention towards teacher ownership. ESERA, Lyon, France.

**Blonder, R.,** Sakhnini, S. (July 2012). Nanotechnology: From teacher professional development to junior high school. ICCE/ECRICE, Rome, Italy.

**Blonder, R.** (April 2013). Organizer and presider of a symposium: Nanoeducation: Educational challenges with an emergent scientific field. National Association for Research in Science Teaching (NARST) Annual International Conference, Puerto Rico, USA.

**Blonder, R.** (April 2013). Nanotechnology as a vehicle for implementing non-traditional teaching methods in science education. National Association for Research in Science Teaching (NARST) Annual International Conference, Puerto Rico, USA.

**Blonder, R**., Hofstein, A., Mamlok-Naaman, R., & Rap, S. (September 2013). Using the inquiry laboratory in chemistry to teach asking question cognitive skill: A comparison between different sectors. ESERA, Cyprus.

Rap, S., & **Blonder, R.** (2014). Learning Science in Social Networks: Chemical Interactions on Facebook, *The 9th Chais Conference for the Study of Innovation and Learning Technologies* (lecture). Raanana, Israel.

**Blonder, R.,** & Sakhnini, S. (March 2014). Essential concepts of nanotechnology that should be taught in high school science. NanoIsrael 2014 Meeting, Tel-Aviv, Israel.

Sakhnini, S., & **Blonder, R.** (April 2014). What basic concepts of nanotechnology should be taught in school science. International Association for Research in Science Teaching (NARST) Annual International Conference, Pittsburgh, USA.

Rap, S., & **Blonder, R.** (April 2014). Learning science in social networks: Chemical interactions on Facebook. International Association for Research in Science Teaching (NARST) Annual International Conference, Pittsburgh, USA.

Benny, N., & **Blonder, R.** (April 2014). Interactions between high school science teachers and gifted students in a regular classroom. International Association for Research in Science Teaching (NARST) Annual International Conference, Pittsburgh, USA.

**Blonder, R.,** & Sakhnini, S. (April 2014). Basic concepts and applications for a nanotechnology curriculum based on a three-stage Delphi study of three communities of experts – teachers, researchers and industrial chemists. In: Symposium – Reconceptualizing high school chemistry based on authentic practices. International Association for Research in Science Teaching (NARST) Annual International Conference, Pittsburgh, USA.

**Blonder, R**., & Rap, S. (July, 2014). Learning Chemistry on Social Networks. ECRICE, Jyväskylä, Finland.

**Blonder, R.** & Cohen, S. (July, 2014). Improved accessibility for nanoscience instruction: A general program and its implementation. International Conference on Nanoscience + Technology (ICN+T), Vail, CO, USA.

Benny, N., & **Blonder, R.** (October, 2014). What happens when a gifted student comment: “Excuse me teacher, but you made a mistake…”?. ANEIS International Congress: Giftedness, Academic Acceleration as an Educational Response, Braga, Portugal.

**Blonder, R.,** & Sakhnini, S. (April 2015). Teaching Basic Nanotechnology Concepts in the Context of Nanotechnology Applications: Results of a Delphi Study. International Association for Research in Science Teaching (NARST) Annual International Conference, Chicago, USA.

**Blonder, R.,** & Rap, S. (April 2015). Science teachers using social networks: Self-efficacy and TPACK. International Association for Research in Science Teaching (NARST) Annual International Conference, Chicago, USA.

**Blonder, R**., Zemler, E., & Rosenfeld, S. (September 2015). The rationale of responsible research and innovation (RRI). ESERA, Helsinki.

# Rosenfeld, S., Rap, S., Sakhnini, S., Zemler, E., Barad, R., Shaham, A., Khatib, F., Bar-Dov, Z., & Blonder, R. (September 2015). Developing a RRI Module on the use of photovoltaic windows in schools: Design-based research. ESERA, Helsinki.

# Blonder, R. & Sakhnini, S. (September 2015). Using Nanotechnology Applications as a Context for Teaching Essential Nanoscale Science and Technology Concepts. ESERA, Helsinki.

# Rap, S., & Blonder, R. (September 2015). Science teachers using social networks: Self-efficacy and TPACK. ESERA, Helsinki.

# G. Scientific Productivity:

Tuvi-Arad I., **Blonder, R.** (2008).

Molecular symmetry, interactive visualization and chemistry teachers – a qualitative investigation of learning processes of advanced content by means of novel technological tools. Chais Research Center; 10,000 NIS.

Hofstein, A., Mamlok-Naaman, R., **Blonder, R.** (2008).

The influence of the inquiry laboratory program on the questioning abilities of different populations. Israel Science Foundation (ISF) grant, 80,000 INS for 3 years.

Mamlok-Naaman, R., **Blonder, R**., Shwartz, Y. (2010-2011).

National Chemistry Teachers’ Center, Ministry of Education, about 500,000 NIS.

Mamlok-Naaman, R., **Blonder, R**., Shwartz, Y. (2011-2012).

National Chemistry Teachers’ Center, Ministry of Education, about 500,000 NIS.

**Blonder, R.,** and Parchmann, I. (2012).

Exploring the implementation of nanochemistry into teacher training and professional development. Minerva-Weizmann Group Visit grant, 5,000 €.

Mamlok-Naaman, R., **Blonder, R**., Shwartz, Y. (2012-2013).

National Chemistry Teachers’ Center, Ministry of Education, about 500,000 NIS.

**Blonder, R.** (2012-2013).

Outreach efforts for the renewable energy project, Helmsley trust, 5,000$.

**Blonder, R.** (2013).

Irresistible (612367): Including Responsible Research and innovation in cutting Edge Science and Inquiry-based Science education to improve Teacher's Ability of Bridging Learning Environments. FP-7 Science in Society 2013-1, 279,000 € for 3 years.

**Blonder, R.,** & Cohen, S. (2013).

NanoEdu (543861): Nanotechnology Education. TEMPUS, VI framework project. 86,000 € for 3 years.

**Blonder, R.** (2013-2014).

Outreach efforts for the renewable energy project, Helmsley trust, 5,000$.

**Blonder, R**., & Shwartz, Y. (2014).

National Chemistry Teachers’ Center, Ministry of Education, about 400,000 NIS.

**Blonder, R.** (2014-2015).

Outreach efforts for the renewable energy project, Helmsley trust, 8,000$.

**Blonder, R**., & Shwartz, Y. (2014-2015).

National Chemistry Teachers’ Center, Ministry of Education, about 420,000 NIS.

**Blonder, R.,** & Cohen, S. R. (2015).
Goldschleger Foundation, supporting the IVS annual meeting that is organized in Weizmann, 12,000 NIS.

**Blonder, R.**, & Naaman, R. (2015).

Materials Research Society Foundation Grassroots Grant: “Would You Agree to Have Perovskite-based Photovoltaic Cells.”, 10,000$.

**Blonder, R.,** & Mamlok-Naaman, R. (2015).

The Trump Foundation: Establishing and operating communities of learners for chemistry teachers in Israel, 1,420,000 for 3 years.

**Blonder, R**. (2015-2016).

National Chemistry Teachers’ Center, Ministry of Education, about 800,000 NIS.

**Blonder, R.** (2016-2017).

National Chemistry Teachers’ Center, Ministry of Education, about 800,000 NIS.

**Blonder, R.** (2016-2017).

*Teva* program for career change of biology teachers to chemistry high school teachers, about 800,000NIS.

***Advising PhD Students***

Naama Benny (completed, 2016): Profiles of high-school chemistry teachers' perceived interactions with gifted students in a regular classroom

Shelley Rap (completed, 2016): Chemical interactions on Facebook

Sohair Sakhnini (completed, 2017): What essential nanoscale science and technology concepts and applications should be taught in high-school science?

Ruth Waldman: Professional development of chemistry teachers participating in communities of teachers

Yael Magor: Chemistry learning via on-line courses in different environments

# H. Patents:

1. United States Patent 5942388, Electrobiochemical method and system for the determination of an analyte which is a member of recognition pair in a liquid medium, and electrodes thereof.
2. United States Patent 6214205, Determination of an analyte in a liquid medium.
3. United States Patent 6350368, Electrochemical and photochemical electrodes and their use.
4. Scientific advisor of *"ekoloko" an educational Start-up.*(2007-2010): <http://play.ekoloko.com/ekoloko/login.html?language=en>

**I. Languages**

English: Reading (3), Writing (3), Speaking (2)

Hebrew: Reading (3), Writing (3), Speaking (3)