

# Alexis GRIMAUD

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## Current

<b>CNRS Assistant Researcher</b>	October 2014 - Present
Collège de France, Paris	
Solid-State Chemistry and Energy Laboratory - UMR8260	
Visiting Scholar Massachusetts Institute of Technology	March 2017 - Present
Prof. Harry Tuller	

## Research Experience

<b>Massachusetts Institute of Technology, Cambridge, MA</b>	2012 - 2014
Advisor: Yang Shao-Horn	
<b>Institut of Condensed Matter Chemistry (ICMCB), Pessac, France</b>	2008 - 2011
Advisors: Jean-Claude Grenier, Fabrice Mauvy and Jean-Marc Bassat	

## Education

<b>University of Bordeaux, France</b>	2008 - 2011
Ph.D. in Materials Science and Chemistry	
<b>Graduate School of Chemistry, Biology and Physics of Bordeaux, France</b>	2005 - 2008
M.S. in Chemistry and Physics	
<b>Intensive two years course</b> preparing to the entrance examination to French "Grandes Ecoles", Lycée Chateaubriand, Rennes, France	2003 - 2005

## Research interest

My research interests are in the understanding of the physical properties of solids governing their electrochemical properties. More precisely, a special emphasis is paid to the determination of the mechanisms at play at the solid-liquid interface and the interplay existing between bulk properties not only of solids but also of electrolytes and surface reactivity for applications such as water splitting, batteries and other electrochemical energy storage devices.

## Key figures

H-index = 23, > 3400 citations (source Scopus July 2019)

Number of publications in peer-reviewed journals: 55

Including 6 articles published in Nature journals (6 as first author), 2 Angewandte Chemie (last author), 1 Advanced Energy Materials (last author), 1 Chemical Review (co-first author), 4 Energy & Environmental Science (1 last author)

### **Invited conferences (15)**

- International Battery Association (IBA), Slovenia, March 2020
- Materials Research Meeting (MRS-J), Materials Innovation for Sustainable Development Goals, Yokohama, Japan, December 2019
- IV International School-Conference of Young Scientists «Topical Problems of Modern electrochemistry and Electrochemical Materials Science», Moscou, Russia, September 2019
- XXI Mendeleev Congress on General and Applied Chemistry, Saint Petersburg, Russia, September 2019
- 2<sup>nd</sup> Global Forum on Advanced Materials and Technologies for Sustainable Development (GFMAT-2), Toronto, Canada, July 2019
- International Conference on Electroceramics, Lausanne, Switzerland, July 2019
- Materials for Today's Energy Challenge, Padova, Italy, June 2019
- nanoGE fall 2018 meeting, Torremolinos, Spain, October 2018
- ECS fall 2018, Cancun, Mexico, September 2018
- Redox Shields workshop, Marseille, France, September 2018
- 42<sup>nd</sup> International Conference and Expo on Advanced Ceramics and Composites, American Ceramics Society, Daytona Beach, USA, January 2018
- European Materials Research Society, Strasbourg, France, June 2017
- Material Research Society, Phoenix, USA, April 2017
- Nature Conference on Materials for Energy, Wuhan, China, June 2016
- Material Research Society, Boston, USA, November 2013

### **Invited lectures – Visiting professorship (9)**

- ZSW, Ulm, Germany, October 2019
- Visiting Professor, Osaka Prefecture University, Japan, Mai 2019
- Institut de Ciencia de Materials de Barcelona (ICMAB-CSIC), Barcelona, Spain, November 2018
- GDR Solar Fuels, Paris, Mai 2018
- University Paris Diderot, March 2018
- University of Ulm, Germany, February 2018
- Argonne National Laboratory, USA, August 2017
- University of Gottingen, Germany, March 2016
- University of Montpellier, France, August 2015

### **Awards**

2018 – French Society of Chemistry (SCF) – Prize of the Chemistry for Energy Division

2017 – French National Founding Agency (ANR) Young Researcher Award (JCJC)

### **On-going projects (total of approximately 550 k€)**

2018 – 2020 DIM RESPORE, equipment funding – Coordinator

2017 – 2020 MIDWAY, French ANR JCJC – Coordinator

2016 – 2019 ECCENTRIC, French ANR – Participant

### **Scientific responsibilities - Organization of scientific meetings**

2019 – present Deputy leader working group Battery Interface Genome (BIG) from the Battery2030+ Flagship (<http://battery2030project.eu/>)

2019 Chairman workshop “Water splitting/sustainable hydrogen production” area from the European research initiative Energy-X (area from the European research initiative Energy-X (<https://www.energy-x.eu>) – Brussels July 1-3 2019.

2019 – present Responsible of the group “Interface” of the French network on electrochemical energy storage (RS2E) (Labex STOREX-II)

- 2019 Member of the organizing committee IUPAC meeting 2019, Paris, France
- 2019 Scientific committee EMRS meeting Nice 2019, symposium Materials for Energy
- 2014 – present Scientific organization seminars Chemistry Institute, College de France, Paris

### Commissions of thrust

- 2019 – 2021 Advisory Board Chemical Science, Royal Society of Chemistry
- 2019 Reviewer for the United States – Israel Binational Science Foundation
- 2018 Reviewer for the FONDECYT – Chile funding agency
- 2017 Reviewer for the European Interest Group (EIG) CONCERT-Japan Joint Call
- 2017 Reviewer for internal proposal for the Commissariat à l’Energie Atomique (CEA)
- 2015 Reviewer for the French Funding agency Agence Nationale de la Recherche (ANR)
- Since 2014 Reviewer for international journals including Science, Nature Materials, Nature Energy, Nature Catalysis, Nature Communications, Journal of the American Chemical Society

### Supervision of graduate students and postdoctoral fellows

Has supervised or co-advised 5 graduate students and 6 postdoctoral researchers

### Teaching activities

- 2015 – 2018 Electrochemical energy storage and conversion devices, master program, University Paris 7 Diderot, France
- 2009 – 2011 Teaching assistant – Introduction to chemistry in solution, University of Bordeaux, France

### Membership of scientific societies

- 2018 – present Member, French Society of chemistry (SCF)
- 2012 – present Member, Materials Research Society
- 2016 – 2017 Member, The Electrochemical Society
- 2017 – present Member, International Society of Electrochemistry
- 2014 – present Member French Network on electrochemical energy conversion and storage (RS2E)
- 2014 – present Member European Research Institute ALISTORE-ERI

### Patent (1)

1. WO2017025337A1 “Adaptation device for adapting an UV-Vis cuvette to perform in-situ spectroanalytical measurements in a controlled atmosphere”, L. Lutz, D. Alves Dalla Corte, A. Grimaud, J.-M. Tarascon (August 2015)

### Complete list of publications (54)

55. Zhang, R., Pearce, P.E., Duan, Y., Dubouis, N., Marchandier, T. and **Grimaud, A.\***, *The importance of water structure and catalysts-electrolyte interface on the design of water splitting catalysts*, Chemistry of Materials, 2019, accepted, *Up and Coming Series*, invited perspective.
54. Pearce, P.E., Yang, C., Iadecolla, A., Rodriguez-Carvajal, J., Rousse, G., Dedryvère, R., Abakumov, A.M., Giaume, D., Deschamps, M., Tarascon, J.-M. and **Grimaud, A.\*** *Revealing the reactivity of the iridium trioxide intermediate for the oxygen evolution reaction in acidic media*, Chemistry of Materials, 2019, accepted.

53. Wu, T., Sun, S., Song, J., Xi, S., Du, Y., Bo, C., Sasangka, W.A., Liao, H., Gan, C.L., Zeng, L., Wang, H., Li, H. **Grimaud, A.\*** and Xu, J.J.\* *Fe-facilitated dynamic active site generation on spinel  $\text{CoAl}_2\text{O}_4$  with self-termination of surface reconstruction for water oxidation*, Nature Catalysis, 2019, accepted.
52. Dubouis, N. Park, C. Deschamps, M. Abdelghani-Idrissi, S. Colin, A. Salanne, M. Dzubiella,\* J. **Grimaud, A.\*** and Rotenberg, B.\* *Chasing aqueous biphasic systems from simple salts by exploring the  $\text{LiTFSI/LiCl/H}_2\text{O}$  phase diagram*, ACS Central Science, 54, 640-643, 2019.
51. **Grimaud, A.\*** *L'électrolyse de l'eau en quête de performance... et donc d'électrocatalyseurs*, L'Actualité chimique, mars 2019.
50. Zhang, R. Dubouis, M. Ben Osman, W. Yin, M.T. Sougrati, D. Alves Dalla Corte, D. Giaume and **Grimaud, A.\*** *Dissolution/precipitation equilibrium on the surface of iridium-based perovskites as oxygen evolution reaction catalysts in acidic media*, Angewandte Chemie International Edition, 58, 4571-4575, 2019.
49. Duan, Y., Sun, S., Sun, Y., Xi, S. Chi, X. Zhang, Q., Ren, X., Wang, J., Jun Hoong Ong, S., Du, Y., Gu, L. Salanne, **Grimaud, A.** and Xu, Z.J. *Mastering surface reconstruction of metastable spinel oxides for better water oxidation*, Advanced Materials, 31, 1807898, 2019.
48. Dubouis, N., Serva, A., Salager, E., Deschamps, M., Salanne, M. and **Grimaud, A.\*** *The fate of water at the electrochemical interfaces: electrochemical behavior of free water vs. coordinating water*, Journal of Physical Chemistry Letters, 9, 6683-6688, 2018.
47. Yang, C., Batuk, M., Jacquet, Q., Rouse, G., Yin, W., Zhang, L., Hadermann, J., Abakumov, A.M., Cibir, G., Chadwick, A., Tarascon, J.-M and **Grimaud, A.\*** *Revealing the pH dependent activities and surface instabilities for Ni-based electrocatalysts during the oxygen evolution reaction*, ACS Energy Letters, 3, 2884-2890, 2018.
46. Dubouis, N., Lemaire, P., Mirvaux, B., Salager, E., Deschamps, M. and **Grimaud, A.\*** *The role of hydrogen evolution reaction on the solid-electrolyte-interphase formation mechanism for "Water-in-Salt" electrolytes*, Energy and Environmental Science, 11, 3491-3499, 2018.
45. Yin, W., Mariyappan, S., **Grimaud, A.\*** and Tarascon, J.-M., *Rotating ring disk electrode for monitoring the oxygen release at high potentials in Li-rich layered oxides*, Journal of the Electrochemical Society, 165, A3326-A3333, 2018.
44. Azcarate, I., Costentin, C., Methivier, C., Robert-Laberty, C. and **Grimaud, A.\*** *Electron Transfer at the Metal Oxide/Electrolyte Interface: A Simple Methodology for Quantitative Kinetics Evaluation*, Journal of Physical Chemistry C, 122, 12761-12770, 2018.
43. **Grimaud, A.\*** Iadecola, A., Batuk, D., Saubanère, M., Abakumov, A.M., Freeland, J.W., Cabana, J., Li, H., Doublet, M.-L., Rouse, G. and Tarascon, J.-M, *Chemical activity of the peroxide/oxide redox couple: case study of  $\text{Ba}_5\text{Ru}_2\text{O}_{11}$  in aqueous and organic solvents*, Chemistry of Materials, 30, 3882-3893, 2018.
42. **Grimaud, A.\*** *Electrocatalysts: an eye on surface changes*, Nature Catalysis, 1, 242-243, 2018.

41. **Grimaud, A.\*** Yin, W., Lepoivre, F. and Tarascon, J.-M., *Controlling the specific CO<sub>2</sub> adsorption on electrochemically formed metallic copper surfaces*, Journal of the Electrochemical Society, 156, H163-H169, 2018.
40. Lin, W., **Grimaud, A.\*** Azcarate, I., Yang, C. and Tarascon, J.-M., *The electrochemical reduction of CO<sub>2</sub> mediated by quinone derivatives: Implication for Li-CO<sub>2</sub> battery*, Journal of Physical Chemistry C, 122, 6546-6554, 2018.
39. Lutz, L., Dachraoui, W., Demortière, A., Johnson, L.R., Bruce, P., **Grimaud, A.\*** and Tarascon, J.-M., *Operando monitoring of the solution-mediated discharge and charge processes in a Na-O<sub>2</sub> battery using liquid-electrochemical TEM*, Nano Letters, 18, 1280-1289, 2018.
38. Dubouis, N., Yang, C., Beer, R., Ries, L. Voiry, D. and **Grimaud, A.\*** *Interfacial interactions as an electrochemical tool to understand Mo-based catalysts for the hydrogen evolution reaction*, ACS Catalysis, 8, 828-836, 2018.
37. Lutz, L., Alves Dalla Corte, D., Chen, Y., Batuk, D., Johnson, L.R., Abakumov, A., Yate, L., Azaceta, E., Bruce, P.G., Tarascon, J.-M. and **Grimaud, A.\*** *The role of the electrode surface in Na-air batteries; insights in electro-chemical product formation and chemical growth of NaO<sub>2</sub>*, Advanced Energy Materials, 8, 1701581, 2018.
36. Yang, C., Laberty-Robert, C., Batuk, D., Cibir, A., Chadwick, A., Pimenta, V., Yin, W., Zhang, L., Tarascon, J.-M. and **Grimaud, A.\*** *Phosphate ion functionalization of perovskite surfaces for enhanced oxygen evolution reaction*, Journal of Physical Chemistry Letters, 8, 3466-3472, 2017.
35. Lutz, L., Alves Dalla Corte, D., Tang, M., Salager, E., Deschamps, M., **Grimaud, A.\*** Johnson, L., Bruce, P. and Tarascon, J.-M. *Role of electrolyte anions in the Na-O<sub>2</sub> battery: implications for NaO<sub>2</sub> solvation and the stability of the sodium solid electrolyte interphase in glyme-ethers*, Chemistry of Materials, 29, 6066-6075, 2017.
34. Yang, C., Fontaine, O., Tarascon, J.-M. and **Grimaud, A.\*** *Chemical recognition of active oxygen species on the surface of oxygen evolution reaction electrocatalysts*, Angewandte Chemie International Edition, 56, 8652-8656, 2017.
33. Blazquez-Alcover, I., Rousse, G., Alves Dalla Corte, D., Badot, J.C., **Grimaud, A.**, Rozier, P. and Tarascon, J.-M. *Improving ionic conductivity by Mg-doping of A<sub>2</sub>SnO<sub>3</sub> (A = Li<sup>+</sup>, Na<sup>+</sup>)*, Solid State Ionics, 308, 16-21, 2017.
32. Yang, C. and **Grimaud A.\*** *Factors controlling the redox activity of oxygen in perovskites: from theory to application for catalytic reactions*, Catalysts, 7, 149, 2017 (invited review).
31. **Grimaud, A.\*** *Batteries: beyond intercalation and conversion*, Nature Energy, 2, 17003, 2017.
30. Azaceta, E., Lutz, L., **Grimaud, A.**, Vicent-Luna, J. M., Hamad, S., Yate, L., Cabanero, G., Grande, H.-J., Anta, J. A., Tarascon, J.-M. and Tena-Zaera, R. *Electrochemical reduction of oxygen in aprotic ionic liquids containing metal cations: Na-O<sub>2</sub> system case study*, ChemSusChem, 107, 1616-1623, 2017.
29. Yin, W., **Grimaud, A.\*** Lepoivre, F., Yang, C. and Tarascon, J.-M., *Chemical vs electrochemical formation of Li<sub>2</sub>CO<sub>3</sub> as a discharge product in Li-O<sub>2</sub>/CO<sub>2</sub> batteries by controlling the superoxide intermediate*, Journal of Physical Chemistry Letters, 8(1), 214-222, 2017.

28. **Grimaud, A.\***, Demortière, A., Saubanère, M., Dachraoui, W., Duchamp, M., Doublet, M.-L. and Tarascon J.-M. *Activation of surface oxygen sites on an iridium-based model catalyst for the oxygen evolution reaction*, Nature Energy, 2, art. no. 16189, 2017.
27. Lutz, L., Yin, W., **Grimaud, A.\*** Alves Dalla Corte, D., Tang, M., Johnson, L., Azaceta, E., Sarou-Kanian, V., Naylor, A.J., Hamad, S., Anta, J.A., Salager, E., Tena-Zaera, R., Bruce, P. and Tarascon J.-M., *High capacity Na-O<sub>2</sub> batteries – Understanding the key parameters for solution-mediated discharge*, Journal of Physical Chemistry C, 120(36), 20068-20076, 2016.
26. **Grimaud, A.** and Tarascon, J.-M., *Batteries: Evolution and vision*, L'actualité chimique, 408-409, July 2016.
25. Lepoivre, F., **Grimaud, A.**, Larcher, D. and Tarascon J.-M. *Long-time and reliable gas monitoring in Li-O<sub>2</sub> batteries via a Swagelok derived electrochemical cell*, Journal of the Electrochemical Society, 163(6), A923-A929, 2016.
24. **Grimaud, A.**, Hong, W.T., Shao-Horn, Y. and Tarascon, J.-M. *Anionic redox processes for electrochemical devices*, Nature Materials, 15, 121-126, 2016.

**Prior to CNRS position:**

23. Han, B., # **Grimaud, A.**, # Giordano, L., Hong, W.T., Diaz-Morales, O., Lee, Y.-L., Hwang, J., Nenian, C., Stoerzinger, K., Yang, W., Koper, M.T.M. and Shao-Horn, Y. *Iron-based perovskites for catalyzing oxygen evolution reaction*, Journal of Physical Chemistry C, 122, 8445-8454, 2018 (# these authors contributed equally)
22. Hong, W.T., Stoerzinger, K.A., Lee, Y.-L., Giordano, L., **Grimaud, A.**, Johnson, A.M., Hwang, J., Crumlin, E.J., Yang, W. and Shao-Horn, Y., *Charge-transfer-energy-dependent oxygen evolution reaction mechanisms for perovskite oxides*, Energy and Environmental Science, 10, 2190-2200, 2017
21. **Grimaud, A.**, # Diaz-Morales, # O., Han, B., # Hong, W.T., Lee, Y.-L., Giordano, L., Stoerzinger, K., Koper, M.T.M. and Shao-Horn, Y. *Activating lattice oxygen redox reactions in metal oxides to catalyze oxygen evolution*, Nature Chemistry, 9, 457-465, 2017 (# these authors contributed equally)
20. Bachman, C.J., # Muy, S., # **Grimaud, A.**, # Chang, H.-H., Pour, N., Lux, S., Paschos, O., Maglia, F., Lupart, S., Lamp, P., Giordano, L. and Shao-Horn, Y. *A review of inorganic solid-state electrolytes for lithium batteries : mechanisms and properties governing ion conduction*, Chemical Reviews, 116, 140-162, 2016 (# these authors contributed equally)
19. Gauthier, M., # Carney, T. J., # **Grimaud, A.**, # Giordano, L., Pour, N., Chang, H.-H., Fenning, D. P., Paschos, O., Maglia, F., Lupart, S., Lamp, P. and Shao-Horn, Y. *The electrode-electrolyte interface in Li-ion batteries: Current understanding and new insights*, Journal of Physical Chemistry Letters, 6, 46-53-4672, 2015 (# these authors contributed equally)
18. Yao K. P. C., Risch M., Sayed S. Y. Lee Y.-L., Harding J. H., **Grimaud A.**, Pour N., Xu Z., Zhou J., Mansour A., Bardé F. and Shao-Horn Y. *Solid-state activation of Li<sub>2</sub>O<sub>2</sub> oxidation kinetics and implications for Li-O<sub>2</sub> batteries*, Energy and Environmental Science, 8, 2417-2426, 2015.

17. Hong, W. T.; Risch, M.; Stoerzinger, K. A.; **Grimaud, A.**; Suntivich, J. and Shao-Horn, Y. *Toward the rational design of transition metal oxides for oxygen electrocatalysts*, Energy and Environmental Science, 8, 1404-1427, 2015.
16. Lee, D., Lee, Y.-L., **Grimaud A.**, Hong, W. T., Biegalski M. D., Morgan D. and Shao-Horn Y. *Enhanced Oxygen Surface Exchange Kinetics and Stability on Epitaxial  $La_{0.8}Sr_{0.2}CoO_{3-\delta}$  Thin Films by  $La_{0.8}Sr_{0.2}MnO_{3-\delta}$  Decoration*, Journal of Physical Chemistry C, 118, 14326, 2014.
15. Lee, D.; Lee, Y.-L.; **Grimaud A.**; Hong W. T.; Biegalski M. D.; Morgan D. and Shao-Horn Y., *Strontium influence on the oxygen electrocatalysis of  $La_{2-x}Sr_xNiO_{4+\delta}$  ( $0.0 < x_{Sr} < 1.0$ ) thin films*, Journal of Materials Chemistry A, 2, 6480, 2014.
14. Yao K.P.C., Lu Y.-C., Amanchukwu, C. V.; Kwabi D. G.; Risch M.; Zhou J.; **Grimaud A.**, Hammond P. T.; Barde F. and Shao-Horn Y., *The Influence of Transition Metal Oxides on the Kinetics of  $Li_2O_2$  Oxidation for  $Li-O_2$  Batteries: High Activity of Chromium Oxides*, Physical Chemistry Chemical Physics, 13, 2297-2304, 2014.
13. **Grimaud A.**, Carlton C.E., Risch M., Hong W.T., May K.J. and Shao-Horn, Y., *Oxygen Evolution Activity and Stability of  $Ba_6Mn_5O_{16}$ ,  $Sr_4Mn_2CoO_9$  and  $Sr_6Co_5O_{15}$ : the Influence of Transition Metal Coordination*, Journal of the Physical Chemistry C, 117, 25926, 2013.
12. **Grimaud A.**, May K.J., Carlton C.E., Lee Y.-L., Risch M., Zhou J. and Shao-Horn Y., *Double Perovskite as a New Family of Highly Active Catalysts for Oxygen Evolution in Alkaline Solution*, Nature Communications, 4, art. no. 2439, 2013.
11. Lee D., **Grimaud A.**, Crumlin E.J., Mezghani K., Habib M.A., Feng Z., Hong W.T., Biegalski M.D., Christen H.M. and Shao-Horn, Y., *Strain Influence on Oxygen Electrocatalysis of the (100)-Oriented Epitaxial  $La_2NiO_{4+\delta}$  Thin Films at Elevated Temperatures*, Journal of Physical Chemistry C, 117, 18789, 2013.
10. Wang, L., Imashuku, S., **Grimaud, A.**, Lee, D., Mezghani, K., Habib, M. A. and Shao-Horn, Y., *Enhancing Oxygen Permeation of Electronically Short-Circuited Oxygen-Ion Conductors by Decorating with Mixed Ionic-Electronic Conducting Oxides*, ECS Electrochemistry Letters 2, F77, 2013.
9. Risch M., **Grimaud A.**, May K.J., Stoerzinger K.A., Chen T.J., Mansour A.N. and Shao-Horn Y., *Structural Changes of Cobalt-Based Perovskites upon Water Oxidation Investigated by EXAFS*, Journal of Physical Chemistry C, 117, 8628, 2013.
8. Yao K.P.C., Kwabi D.G., Quinlan R.A., Mansour A.N., **Grimaud A.**, Lee Y.-L., Lu Y.-C. and Shao-Horn, Y., *Thermal Stability of  $Li_2O_2$  and  $Li_2O$  for Li-air Batteries: In situ XRD and XPS Studies*, Journal of the Electrochemical Society, 160, A824-A831, 2013.
7. May K.J., Carlton C.E., Stoerzinger K.A., Risch M., Suntivich J., Lee Y.-L., **Grimaud A.** and Shao-Horn Y., *Influence of Oxygen Evolution during Water Oxidation on the Surface of Perovskite Oxide Catalysts*, Journal of Physical Chemistry Letters, 3, 22, 2012.
6. **Grimaud A.**, Bassat, J.-M, Mauvy, F., Pollet, M. Wattiaux, A., Weill, F., Marrony, M. and Grenier, J.-C., *Oxygen Reduction Reaction of  $PrBaCo_{2-x}Fe_xO_{5+\delta}$  compounds as  $H^+$ -SOFC cathode: Correlation with Physical Properties*, Journal of Material Chemistry A, 2, 3594, 2014.

5. Dailly J., Marrony M., Taillades G., Taillades-Jacquin M., **Grimaud A.**, Mauvy F., Louradour E. and Salmi J., *Evaluation of Proton Conducting BCY-based Anode Supporting Cells by Co-pressing Method: Up-scaling, Performances and Durability*, Journal of Power Sources, 255, 302, 2014.
4. Xia, T., Brüll, A., **Grimaud, A.**, Fourcade, S., Mauvy, F., Zhao, H., Grenier J-C and Bassat, J-M. *Optimization of the electrochemical performance of a Ni/Ce<sub>0.9</sub>Gd<sub>0.1</sub>O<sub>2-δ</sub>-impregnated La<sub>0.57</sub>Sr<sub>0.15</sub>TiO<sub>3</sub> anode in hydrogen*, Solid State Sciences, 35, 1, 2014.
3. **Grimaud A.**, Mauvy F., Bassat J.-M., Fourcade S., Marrony M. and Grenier J.-C., *Hydration and Transport Properties of the Pr<sub>2-x</sub>Sr<sub>x</sub>NiO<sub>4+δ</sub> Compounds as H<sup>+</sup>-SOFC Cathode*, Journal of Materials Chemistry, 22, 31, 2012.
2. **Grimaud A.**, Mauvy F., Bassat J.-M., Fourcade S., Rocheron L., Marrony M. and Grenier J.-C., *Hydration Properties and Rate Determining Steps of the Oxygen Reduction Reaction of Perovskite-related Oxides as H<sup>+</sup>-SOFC Cathode*, Journal of the Electrochemical Society, 159, 6, 2012.
1. **Grimaud A.**, Bassat J.-M., Mauvy F., Simon P., Canizares A., Rousseau B. and Grenier J.-C., *Transport Properties and in-situ Raman Spectroscopy Study of BaCe<sub>0.9</sub>Y<sub>0.1</sub>O<sub>3-δ</sub> as a Function of Water Partial Pressure*, Solid State Ionics, 191, 24, 2011.