



Yann ZIEGLER

PhD in Geophysics

(last update: June 10, 2020)

French & Swiss citizenship

y.ziegler@bristol.ac.uk

-  yannziegler.com
-  [Yann_Ziegler](#)
-  0000-0002-7188-1808
-  [yannziegler](#)

Skills _____

Languages

- FRENCH: mothertongue
- ENGLISH: fluent
- GERMAN: intermediate
- SPANISH: basic knowledge

More coming soon...

Computer

GNU/LINUX • MS WINDOWS

- ★ Python • C • Matlab • Bash shell
- TeX • HTML5/CSS3
- ★ Fortran • Javascript • PHP • W-Langage
- git • MySQL • parallel computing
- ☆ Mathematica • GMT
- Sys admin

Interests _____

Photography
Music playing
Drawing

Hiking
Swimming
Slacklining
Juggling
Tai ji quan

Amateur astronomy
Foreign languages learning
Exploring the world

IN BRIEF – My domain of interest covers the Earth global dynamics over various time scales, including but not limited to the influence of mantle anelasticity and rheology in general, Earth rotational eigenmodes (Chandler wobble, FCN, FICN), time-variable gravity and glacial isostatic adjustment. I work at the confluence of geophysics, geodesy and astronomy doing data analysis, numerical modelling and theoretical developments. I am currently working as a Research Associate in the GlobalMass project at the University of Bristol.

Scientific Experience

NOW SEPT 2019	RESEARCH ASSOCIATE – University of Bristol / Glaciology Centre GlobalMass ERC-funded project: attributing global sea level rise to its component parts, work package 2: solid Earth. Principal Investigator: Prof. Jonathan Bamber
SEPT 2018 OCT 2016	POSTDOCTORAL RESEARCHER – Paris Observatory / SYRTE Inner Earth parameters from the Bayesian inversion of VLBI and gravimetric data. Supervisor: Dr. Sébastien Lambert
JUN 2016 JAN 2013	PHD THESIS – Institut de Physique du Globe de Strasbourg (IPGS) “Earth rotation modelling and joint analysis of polar motion and gravimetric data.” Supervisors: Dr. Yves Rogister and Jacques Hinderer
OCT – NOV 2013	TEACHING ASSISTANT for Licence/Master/Engineering students Physics of the Earth • Physical geodesy • Potential field methods • C programming • Field work (electric and magnetic methods)
OCT – NOV 2013	Visiting PhD Student at the Earth Sciences Institute, Academia Sinica, Taiwan, in the frame of the Orchid project: “Influence of thermo-chemical structure in the lower mantle on rotational modes of the core and translational modes of the inner core”

Education

2009 – 2012	ENGINEERING SCHOOL in geophysics & MASTER in Earth Sciences École et Observatoire des Sciences de la Terre (EOST), France <i>summa cum laude</i>
2007 – 2010	LICENCE in Earth, Universe and Environment Sciences Geophysics speciality EOST, Strasbourg University, France <i>summa cum laude</i>

Internships

JUL – DEC 2012	Engineering internship – EOST, Strasbourg “Development of a Python software for the computation of strain rate fields through the inversion of geodetic data” Supervisor: Dr. Frédéric Masson
FEB – JUN 2012	Master internship – EOST, Strasbourg “Rheological behaviour of the Earth mantle between the seismic band and the post-glacial rebound” Supervisors: Dr. Yves Rogister and Jacques Hinderer

Publications

(reversed chronological order, most recent contributions at the top of each section;
submitted manuscripts in grey)

Peer-reviewed articles

1. **Ziegler, Y.**, Lambert, S.B. Nurul Huda, I., Bizouard, C., Rosat, S. (2020) Contribution of a joint Bayesian inversion of VLBI and gravimetric data to the estimation of the Free Inner Core and Outer Core Nutation resonance parameters, *Geophysical Journal International*, Volume 222, Issue 2, 20 April 2020, Pages 845–860, doi:10.1093/gji/ggaa181
2. Nurul Huda, I., Lambert, S.B., Bizouard, C., **Ziegler, Y.** (2020) Nutation terms adjustment and implication for the Earth rotation resonance parameters, *Geophysical Journal International*, Volume 220, Issue 2, 17 October 2019, Pages 759–767, doi:10.1093/gji/ggz468
3. Bizouard, C., Nurul Huda, I., **Ziegler, Y.**, Lambert, S.B. (2020) Frequency dependence of the polar motion resonance, submitted to *Geophysical Journal International*, Volume 205, Issue 1, 20 November 2019, Pages 753–758, doi:10.1093/gji/ggz463
4. **Ziegler, Y.**, Hinderer, J., Rogister, Y., Rosat, S. (2016) Estimation of the gravimetric pole tide by stacking long time-series of GGP superconducting gravimeters, *Geophysical Journal International*, Volume 205, Issue 1, 08 February 2016, Pages 77–88, doi:10.1093/gji/ggw007
5. Masson, F., Lehujeur, M., **Ziegler, Y.**, Doubre, C. (2014) Strain rate tensor in Iran from a new GPS velocity field, *Geophysical Journal International*, Volume 197, Issue 1, 29 January 2014, Pages 10–21, doi:10.1093/gji/ggt509

Peer-reviewed conference proceedings

1. **Ziegler, Y.**, Rogister, Y., Hinderer, J., Rosat, S. (2016) Chandler Wobble and Frequency Dependency of the Ratio Between Gravity Variation and Vertical Displacement for a Simple Earth Model with Maxwell or Burgers Rheologies. In: Freymueller J.T., Sánchez L. (eds) International Symposium on Earth and Environmental Sciences for Future Generations. *International Association of Geodesy Symposia*, vol 147. Springer, Cham. doi:10.1007/1345_2016_247

Other conference proceedings and articles

1. **Ziegler, Y.**, Lambert, S. B., Rosat, S., Bizouard, C. (2019) Toward reliable estimates of the free core and inner core parameters from a Bayesian inversion of VLBI and gravimetric data. International VLBI Service for Geodesy and Astrometry 2018 General Meeting Proceedings: “Global Geodesy and the Role of VGOS - Fundamental to Sustainable Development”, Eds. Kyla L. Armstrong, Karen D. Baver, Dirk Behrend, NASA/CP-2019-219039, p. 264–268
2. Lambert, S., Nurul-Huda, I., **Ziegler, Y.**, Richard, J.-Y., Liu, N., Gattano, C., Rosat, S., Bizouard, C. (2019) Measurement of Earth’s Nutation by VLBI: Direct Estimates from VLBI Delays and a Discussion on the Error. International VLBI Service for Geodesy and Astrometry 2018 General Meeting Proceedings: “Global Geodesy and the Role of VGOS - Fundamental to Sustainable Development”, Eds. Kyla L. Armstrong, Karen D. Baver, Dirk Behrend, NASA/CP-2019-219039, p. 204–208

3. Ziegler, Y., Lambert, S. B., Rosat, S., Bizouard, C. (2018) Free Core and Inner Core Parameters from a Joint Bayesian Inversion of VLBI and Gravimetric Data. Proceedings des Journées des Systèmes de Référence et de la Rotation de la Terre, submitted

Talks in international conferences

1. Nurul Huda, I., Bizouard, C., Ziegler, Y., Lambert, S. B. (2019) Estimation of Earth rotation resonance parameters through VLBI analysis. EGU General Assembly, Vienna, Austria, 04/2019.
2. Ziegler, Y., Lambert, S. B., Rosat, S., Bizouard, C. (2018) Toward reliable estimates of the free core and inner core parameters from a Bayesian inversion of VLBI and gravimetric data. IVS Meeting, Longyearbyen, Svalbard, Norway, 06/2018.
3. Lambert, S. B., Ziegler, Y., Nurul Huda, I., Richard, J.-Y., Liu, N., Gattano, C., Rosat, S., Bizouard, C. (2018) Earth's nutation: recent advances in improving the accuracy of their measurement by VLBI and in constraining the fluid and inner core resonances. EGU General Assembly, Vienna, Austria, 04/2018.
4. Lambert, S. B., Ziegler, Y., Rosat, S., Bizouard (2017) C. Earth Core and Inner Core: What Can We Learn From a Bayesian Inversion of Combined Nutation and Surface Gravimetry Data? AGU Fall meeting, San Francisco, USA, 12/2017.
5. Ziegler, Y., Lambert, S. B., Rosat, S., Bizouard, C. (2017) Free core and inner core nutations parameters from a bayesian analysis of VLBI and gravimetric data. Journées des Systèmes de Référence et de la Rotation Terrestre, Alicante, Spain, 09/2017.
6. Ziegler, Y., Rogister, Y., Hinderer, J., Rosat, S. (2015). Frequency dependency of the ratio between gravity variation and vertical displacement for an ellipsoidal rotating anelastic Earth. IUGG 26th General Assembly, Prague, Czech Republic, 07/2015.

Poster communications in international conferences

1. Bizouard, C., Nurul Huda, I., Ziegler, Y., Lambert, S. B. (2019) Frequency dependence of the polar motion resonance. EGU General Assembly, Vienna, Austria, 04/2019.
2. Lambert, S. B., Ziegler, Y., Rosat, S., Bizouard, C. (2017) Earth Core and Inner Core: What Can We Learn From a Bayesian Inversion of Combined Nutation and Surface Gravimetric Data? AGU Fall meeting, San Francisco, USA, 12/2017.
3. Ziegler, Y., Nurul Huda, I., Lambert, S. B., Rosat, S., Bizouard, C. (2017) Earth's Core and Inner Core Properties by Combination of Nutation and Surface Gravity Data. EGU General Assembly, Vienna, Austria, 04/2017.
4. Ziegler, Y., Hinderer, J., Rogister, Y., Rosat, S. (2015). Amplitude and phase of the gravimetric factor at the Chandler wobble frequency determined from GGP superconducting gravimeters. IUGG 26th General Assembly, Prague, Czech Republic, 07/2015.
5. Ziegler, Y., Masson, F. (2014). Strain Rate Tensor in the Euro-mediterranean Domain from GPS data. EGU General Assembly, Vienna, Austria, 04/2014.
6. Ziegler, Y., Hinderer, J., Rogister, Y., Rosat, S. (2013). Estimation of the gravimetric pole tide using GGP superconducting gravimeters. AGU Fall meeting, San Francisco, USA, 12/2013.

- Ziegler, Y., Legros, H., Rogister, Y., Rosat, S. (2011). Study of Parametric Resonance in Earth Nutation. IUGG 25th General Assembly, Melbourne, Australia, 07/2011.

Other publications and communications

Talks in national conferences

- Ziegler, Y., Rogister, Y., Hinderer, J. (2017). Étude du mouvement de Chandler et rhéologie du manteau terrestre. Colloque G2, Nice, France, 11/2017.
- Ziegler, Y., Hinderer, J., Rogister, Y., Rosat, S. (2017). Influence of the Earth mantle rheology on the Chandler wobble period and quality factor and on the gravity-to-height changes ratio under surface loading at intermediate timescales. Workshop IAG, Strasbourg, France, 10/2017.

Laboratory seminars

- Ziegler, Y. (2019) Deforming the anelastic Earth: geodynamics with a grain of rheology. Institut de Physique du Globe de Paris, invited seminar, 11/2019.
- Ziegler, Y. (2018) Des modes propres de la rotation de la Terre à la géodynamique profonde. Séminaire de labo Observatoire de Paris, 09/2018.

Thesis and dissertations

- Ziegler, Y. (2016) Earth rotation modelling and joint analysis of polar motion and gravimetric data. PhD thesis, IPGS/Univ. de Strasbourg, 178pp. (in French)
- Ziegler, Y. (2012) Development of a Python software for the computation of strain rate fields through the inversion of geodetic data. Engineer thesis, EOST/Univ. de Strasbourg, 52pp. (in French)
- Ziegler, Y. (2012) Rheological behaviour of the Earth mantle between the seismic band and the post-glacial rebound. Master thesis, EOST/Univ. de Strasbourg, 48pp. (in French)